

**2018 Summer Flounder and Black Sea Bass Recreational Specifications
Environmental Assessment, Regulatory Impact Review, and
Initial Regulatory Flexibility Act Analysis**

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**Prepared by the
Mid-Atlantic Fishery Management Council
in cooperation with the
National Marine Fisheries Service**

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1. EXECUTIVE SUMMARY

This document was prepared by the Mid-Atlantic Fishery Management Council (the Council) in consultation with the National Marine Fisheries Service (NMFS). This document was developed in accordance with all applicable laws and statutes as described in section 8.

The purpose of the management action described in this document is to establish the 2018 recreational management measures for summer flounder and black sea bass. For summer flounder, this action would continue the use of conservation equivalency to manage the recreational summer flounder fishery and modify the non-preferred coastwide measures and precautionary default measures (possession limit, minimum size limit, and season) associated with conservation equivalency. For black sea bass, this action would modify the recreational management measures for black sea bass caught in federal waters (3-200 miles at sea) or by federal permit holders for the management unit north of Cape Hatteras, NC. The proposed measures are provided in more detail in section 5.0. This action does not propose modifications to recreational measures for scup, as the Council and Board have determined that the federal measures for scup should remain *status quo* in 2018.

Recreational management measures are necessary to prevent overfishing and to ensure that the recreational annual catch limits (ACLs) are not exceeded. The actions described in this document do not include changes to any other management measures for summer flounder or black sea bass, nor do they include any changes to the scup fishery within the same Fishery Management Plan (FMP).

1.1. Summary of Alternatives

This document details all evaluated management alternatives and their expected impacts on several components of the environment. Alternatives for summer flounder and black sea bass are summarized below and in Box ES-1, and described in more detail in sections 5.1 and 5.2.

1.1.1. Summer Flounder Alternatives

Three alternatives are considered for summer flounder recreational management in 2018: no action (alternative 1A, non-preferred), revised coastwide measures (alternative 1B, non-preferred), and conservation equivalency, i.e., a combination of state- and region-specific measures that in combination would constrain coastwide harvest to the RHL (alternative 1C, preferred). As described in more detail in section 4.2, each year, the Council and Atlantic States Marine Fisheries Commission's (ASMFC) Summer Flounder, Scup and Black Sea Bass Management Board (Board) select either coastwide measures (identical possession limit, size limit, and season in all states and in federal waters) or conservation equivalency, which allows individual states to set customized measures within guidelines agreed to by the Board. Under conservation equivalency, federal measures are waived. Conservation equivalency does not roll over from year to year and therefore must be re-implemented each year if selected by the Council and Board.

The no action alternative for summer flounder in 2018 is not equivalent to *status quo* management. Conservation equivalency was implemented in 2017, however, if no action is taken, this strategy would not roll over into 2018 according to the provisions of the Summer Flounder, Scup, and Black Sea Bass FMP. When conservation equivalency is implemented, the non-preferred coastwide measures are waived in favor of the state measures only through the current year. Thus,

a no action alternative would result in the fishery reverting to the non-preferred coastwide measures implemented under the summer flounder recreational measures final rule for 2017 (82 FR 31491; July 7, 2017). This is not desirable as it is inconsistent with the Council's intention to allow conservation equivalency to continue to allow states the flexibility to meet the needs of their stakeholders while constraining harvest to the 2018 RHL. *Status quo* management, on the other hand, would mean continuation of conservation equivalency as configured in 2017. *Status quo* is conceptually similar to the preferred alternative (alternative 1C), although the details of implementation (i.e., specific state/regional measures) may vary.

Alternative 1B for summer flounder includes a set of coastwide measures identified by the Council and Board at their December joint meeting as "non-preferred coastwide measures." These measures are analyzed in this specifications package, and in the event that conservation equivalency is approved, would become the coastwide measures that are written into the federal regulations and waived in favor of state measures. In the event that conservation equivalency is not approved, the Council and Board intend these measures to be the coastwide measures that would apply in all states and in federal waters. The coastwide measures under this alternative are slightly different from those that would be in effect under alternative 1A (no action).

Alternative 1C is the preferred alternative, which is a continuation of conservation equivalency in 2018. This strategy allows individual states and multi-state regions to develop measures that are the best for their state or region under the constraints imposed by the annual RHL and Board decisions regarding the distribution of recreational harvest.

These alternatives are summarized in Box ES-1.

1.1.2. Black Sea Bass Alternatives

Three alternatives are considered for black sea bass recreational management in 2018: no action (alternative 2A, non-preferred), revised federal measures (alternative 2B, preferred), and coastwide measures (alternative 2C, non-preferred). Each year, the Council and Board set preferred federal water measures (size, season and possession limits) that generally apply to the southern region states (Delaware – North Carolina, north of Hatteras) and to all federal for-hire permit holders regardless of where they are fishing, if more conservative than state measures. These federal measures alone are not intended to be implemented coastwide as doing so would not be expected to constrain harvest to the RHL. These measures are developed under the assumption that the northern region states of Massachusetts – New Jersey will implement appropriate measures for northern state waters as specified under the ASMFC's approval of ad-hoc management approach. These federal water measures roll over from one year to the next unless the Council and Board recommend a change.

Since federal water measures roll over, the "no action" alternative for black sea bass, alternative 2A, in 2018 is equivalent to *status quo* management for federal water measures. The non-preferred *status quo* federal water measures have not changed since 2015.

Alternative 2B is the preferred alternative and includes a modified set of federal waters measures recommended by the Council and Board at their December 2017 meeting. These measures represent a liberalization from the *status quo* federal waters measures by removing the current September 22 – October 21 closure and retaining the existing size and possession limits.

Alternative 2C includes a set of “backstop” measures that would apply coastwide and are intended to constrain coastwide landings to the RHL. These measures would only be implemented if states failed to implement measures necessary to constrain or reduce landings to the RHL as specified under regional management.

These alternatives are summarized in Box ES-1.

Box ES-1: Summary of 2018 summer flounder and black sea bass recreational management alternatives considered in this document.				
Species	Alternative	Possession Limit	Size Limit	Season
Summer Flounder	Alternative 1A: (Non-Preferred: No Action)	4 fish	19 inches	June 1 - September 15
	Alternative 1B: (Non-Preferred: Coastwide Measures)	4 fish	19 inches	May 15-September 15
	Alternative 1C: (Preferred: Conservation Equivalency)	State- or region-specific (with associated precautionary default measures including 2 fish possession limit, 20 inch size limit, and July 1 - August 31 open season)		
Black Sea Bass	Alternative 2A: (Non-Preferred: No action/ <i>status quo</i>)	15	12.5 inches	May 15 – Sept. 21, Oct. 22 – Dec. 31
	Alternative 2B: (Preferred: Revised Federal Measures)	15	12.5 inches	May 15 – December 31
	Alternative 2C: (Non-Preferred: Coastwide Measures)	5	14	May 15 – September 15

1.2. Summary of Impacts

The following section presents a qualitative summary of expected impacts by alternative and cumulatively for all alternatives (Box ES-2). The impacts of each alternative are described in detail in section 7.0. For all VECs, consideration was given to how recreational fishing effort is likely to change under each alternative.

1.2.1. Impacts of Summer Flounder Alternatives

Target and Non-Target Species

All three alternatives for summer flounder are expected to result in moderate positive impacts on summer flounder in 2018, relative to current conditions (Box ES-2). All three alternatives are expected constrain harvest to the RHL in 2018, contributing to the overall management program that is intended to prevent overfishing and prevent the stock from becoming overfished, resulting in positive impacts on the summer flounder stock.

Among the three alternatives, alternative 1A is expected to have slightly higher positive impacts on summer flounder compared to alternatives 1B and 1C given that 1A is slightly more conservative than necessary and thus is likely to result in slightly lower effort and harvest levels

compared to the other two alternatives. Alternative 1B and 1C are expected to result in similar impacts on summer flounder since they are designed to achieve the same level of harvest in 2018.

For non-target species, no meaningful impacts are expected as the result of measures proposed in this document, relative to the current condition of the non-target resources. As described in section 7.1.1, hook and line gear (the predominant recreational gear) is relatively selective and recreational fishermen have some ability to change fishing methods or locations to avoid incidental catch. In addition, most non-target species are managed under their own regulations for total removals and not all incidental catch is released dead. Any minor changes in recreational fishing effort for summer flounder are thus not expected to result in measurable changes to the stock status of non-target species, and all three alternatives would have equally negligible impacts on non-target species (Box ES-2; section 7.1.1).

Physical Habitat

Hook and line gear used to prosecute the recreational summer flounder fishery is believed to have minimal impacts on habitat; however, hook and line gear does occasionally contact the bottom, and none of the alternatives are expected to result in any improvements to current habitat conditions. Continued fishing effort may limit the recovery potential of some of the currently degraded areas. Thus, all three alternatives for summer flounder are expected to have slight negative impacts on habitat, although such impacts would be expected to be very small in magnitude.

Among the three summer flounder alternatives, none are meaningfully different from each other in terms of expected impacts on habitat. All three alternatives are likely to result in the same magnitude of possible slight negative impacts to habitat given small amounts of interaction with hook and line gear and a small impact on the recovery potential for habitat in the affected area (Box ES-2; section 7.1.2).

Protected Resources

Protected species interactions with hook and line gear have been documented for several species of large whales (ESA listed or MMPA protected), sea turtles, Atlantic sturgeon, and bottlenose dolphins. However, relative to other gear types, such as fixed gear, hook and line gear represents a low source serious injury or mortality to these species.

Under all alternatives, recreational fishing effort and participation for the 2018 fishing year is expected to be similar to patterns observed in 2017, with possible slight changes in seasonal distribution of effort along the coast for alternatives 1A and 1B, and an expected slight increase in effort under alternative 1C. None of these changes are expected to substantially change the prosecution of the fishery compared to recent conditions.

For ESA-listed species, any action that could result in take of ESA-listed species is expected to have negative impacts, including actions that reduce interactions. Based on this information, and taking into consideration available information on hook and line interaction risks to ESA listed species provided in section 6.3, impacts to ESA listed species are expected to be slight negative.

Under the MMPA, the impacts of the proposed alternatives would vary based on the stock condition of each protected species and the potential for each alternative to impact fishing effort. Some non-ESA listed marine mammal stocks/species populations are at optimum sustainable

levels, while others are not. The impacts of each alternative on non-ESA listed MMPA protected species are likely to range from slight negative to slight positive, depending on the species.

Overall, all alternatives are expected to have slight positive to slight negative impacts on protected resources, with slight negative to slight positive impacts likely on non-ESA listed marine mammals and slight negative impacts likely for ESA-listed species. The direction and magnitude of these impacts are expected to be similar for all three alternatives, as recreational fishing effort is not expected to substantially differ between alternatives since harvest will be constrained to the same RHL under each option (Box ES-2; section 7.1.3).

Human Communities/Socioeconomic

Alternatives 1A and 1B would implement coastwide management measures for summer flounder (the same possession limit, size limit, and season in all states and federal waters). This would be a departure from the current system of conservation equivalency that has been in place for many years and would require some states to change their measures. Although on a coastwide basis overall effort would be expected to remain about the same, the social and economic impacts would vary by state depending on the necessary changes in each state. Coastwide measures under alternatives 1A and 1B would represent a decrease in the open season for most states, resulting in reduced fishing opportunities and slight to moderate negative economic impacts, depending on the state. Alternative 1A would require slightly more restrictive coastwide measures compared to alternative 1B, and therefore would result in slightly higher negative socioeconomic impacts.

Alternative 1C is a continuation of conservation equivalency, which allows individual states and regions to implement customized management measures. This alternative would also allow for a slight liberalization in measures from the *status quo*. This would have moderate positive social and economic impacts as each state would be able to set measures that best meet the needs of their stakeholders under the existing management constraints for 2018.

Among all three alternatives, alternative 1A would have the most negative impacts, followed by alternative 1B. Alternative 1C would result in moderately more positive impacts than both other alternatives (Box ES-2; section 7.1.4).

1.2.2. Impacts of Black Sea Bass Alternatives

Target and Non-Target Species

All three alternatives for black sea bass are expected to result in moderate positive impacts on black sea bass in 2018, relative to current conditions (Box ES-2). All three alternatives are expected constrain harvest to the RHL in 2018, contributing to the overall management program that is intended to prevent overfishing and prevent the stock from becoming overfished, resulting in positive impacts on the black sea bass stock.

The alternatives are unlikely to have a meaningful impact on non-target species caught in the recreational black sea bass fishery. Most of the species that are caught on directed black sea bass trips have a positive stock status; those that do not are not caught in significant quantities, and removals are accounted for and constrained by ACLs and AMs or other recreational management measures for those species. Given that recreational effort is not expected to change substantially under any of the alternatives, impacts on non-target species are expected to be negligible compared to recent conditions.

There is very little difference between the alternatives, particularly between 2A and 2B, with respect to potential changes in fishing effort and biological impacts on black sea bass and non-target resources. This action merely shifts recreational fishing effort temporally within the year primarily through changes in the fishing season. However, if the amount of fishing access created by modifications to the season is considered to have a slight impact to varying degrees between alternatives; the greatest potential for a slightly more positive impact on black sea bass and non-target species is associated with Alternative 2C (non-preferred), followed by Alternative 2A (no action/*status quo*), and finally Alternative 2B (preferred) (Box ES-2; section 7.2.1).

Physical Habitat

The recreational black sea bass fishery is primarily conducted with hook and line gear, which only minimally interacts with and affects physical habitat, if at all. The black sea bass fishery operates in areas that have been fished for many years, for a variety of species and with a variety of gear types. Modifications to the recreational fishing season and resulting potential changes in fishing effort under the alternatives in this action are unlikely to further degrade habitat beyond its current state. However, none of the alternatives are expected to result in any improvements to current habitat conditions, and continued fishing effort may limit the recovery potential of some currently degraded areas. Thus, all three alternatives are expected to have slight negative impacts on habitat.

Among the three black sea bass alternatives, none are meaningfully different from each other in terms of expected impacts on habitat. All three alternatives are likely to result in the same magnitude of possible slight negative impacts to habitat given small amounts of interaction with hook and line gear and a small impact on the recovery potential for habitat in the affected area (Box ES-2; section 7.2.2).

Protected Resources

Protected species interactions with hook and line gear have been documented for several species of large whales (ESA listed or MMPA protected), sea turtles, Atlantic sturgeon, and bottlenose dolphins. However, relative to other gear types, such as fixed gear, hook and line gear represents a low source serious injury or mortality to any large whale species.

Under all three alternatives, coastwide recreational fishing effort and participation for the 2018 fishing year is expected to be similar to patterns observed in 2017, with possible changes in seasonal distribution of effort along the coast for alternatives 2A and 2C, and a potential slight increase in effort under alternative 2B. None of these changes are expected to substantially change the prosecution of the fishery compared to recent conditions.

For ESA-listed species, any action that has the risk to result in take of ESA-listed species is expected to have negative impacts, including actions that reduce interactions. Based on this information, and taking into consideration available information on hook and line interaction risks to ESA listed species provided in section 6.3, impacts to ESA listed species are expected to be slight negative.

Under the MMPA, the impacts of the proposed alternatives would vary based on the stock condition of each protected species and the potential for each alternative to impact fishing effort. Some non-ESA listed marine mammal stocks/species populations are at optimum sustainable levels, while others are not. The impacts of each alternative on non-ESA listed MMPA protected species are likely to range from slight negative to slight positive, depending on the species.

Overall, all alternatives are expected to have slight positive to slight negative impacts on protected resources, with slight negative to slight positive impacts likely on non-ESA listed marine mammals and slight negative impacts likely for ESA-listed species. The direction and magnitude of these impacts are expected to be similar for all three alternatives, as fishing effort is not expected to substantially differ between alternatives since harvest will be constrained to the same RHL under each option (Box ES-2; section 7.2.3).

Human Communities/Socioeconomic

Alternative 2A would retain the existing federal water measures that have been in place since 2015. These federal water measures work in conjunction with state water measures to constrain the coastwide harvest to the RHL and generally apply to the southern region states of Delaware through North Carolina. If management measures in both state and federal waters remain *status quo*, it is expected that fishing practices would remain unchanged and there would be no socioeconomic impact compared to current conditions.

Alternative 2B represents a liberalization from the *status quo* federal waters measures by removing the current September 22 – October 21 closure and retaining the existing size and possession limits. Due to recent action taken by the Board, the RHL was allocated to three regions (MA-NY; NJ; DE-NC) based on exploitable biomass and harvest history. The southern region allocation would allow the states in this region to liberalize their management measures while still constraining harvest to their 2018 allocation. This proposed action is designed to create more fishing opportunity and access for recreational fishermen, particularly for the southern region states of Delaware through North Carolina which will likely implement these preferred federal waters measures. This alternative also reduces conflicts between federal/state waters regulations and allows states more flexibility in setting their measures. Alternative 2B is expected to result in slight positive socioeconomic impacts overall and moderate socioeconomic impacts for the southern region states of Delaware to North Carolina.

Alternative 2C would implement coastwide management measures that would apply to both state and federal waters. These measures would only be implemented if states failed to implement appropriate measures to constrain harvest to the RHL. If these measures were to be implemented, it would result in the largest departure of management measures when compared to recent measures. Implementing one set of coastwide measures would have differential and disproportionate impacts and would result in socioeconomic impacts that range from a slight positive to moderately negative, depending upon the state.

Among all three alternatives, alternative 2C would have the most negative impacts, followed by alternative 2A. Alternative 2B would result in moderately more positive impacts than both other alternatives (Box ES-2; section 7.2.4).

Box ES-2. Summary of the expected impacts of alternatives considered in this document, relative to current conditions. A minus sign (-) signifies a negative impact, a plus sign (+) signifies a positive impact, and zero (0) indicates no impact. “sl” indicates a minor effect.

	Alternative	Target and Non-Target Species	Physical Environment/ Habitat/EFH	ESA-Listed Protected Species (endangered or threatened)	MMPA Protected Species (not also ESA listed)	Human Communities (Socio-economic)
Summer Flounder	Alt. 1A (Non-Preferred: No Action)	Moderate + (target); No impact (non-target)	Slight -	Slight -	Slight - to Slight +	Slight - to Moderate -
	Alt. 1B (Non-Preferred: Revised Coastwide Measures)	Moderate + (target); No impact (non-target)	Slight -	Slight -	Slight - to Slight +	Slight - to Moderate -
	Alt 1C (Preferred: Conservation Equivalency)	Moderate + (target); No impact (non-target)	Slight -	Slight -	Slight - to Slight +	Moderate +
Black Sea Bass	Alt. 2A (Non-Preferred: No Action)	Slight + (target); No impact (non-target)	Slight -	Slight -	Slight - to Slight +	No Impact
	Alt. 2B	Slight + (target); No impact (non-target)	Slight -	Slight -	Slight - to Slight +	Slight +
	Alt. 2C	Slight + (target); No impact (non-target)	Slight -	Slight -	Slight - to Slight +	Slight + to Moderate -

1.2.3. Cumulative Impacts and Conclusions

The Council analyzed the impacts of the alternatives presented in this document on the biological environment, physical habitat, protected species, and human communities. When the proposed action (i.e., the set of preferred alternatives) is considered in conjunction with all other impacts from past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative; therefore, there are no significant cumulative effects on the human environment associated with the proposed action (section 7.3).

A description of the expected environmental impacts, as well as any cumulative impacts resulting from each of the alternatives considered in this document, are provided in section 7. The preferred alternatives are not associated with significant impacts to the biological, socioeconomic, or physical environment individually or in conjunction with other actions; therefore, a “Finding of No Significant Impact” is warranted.

2. LIST OF ACRONYMS AND ABBREVIATIONS

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
ACT	Annual Catch Target
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
AO	Administrative Order
AP	Advisory Panel
ASM	At Sea Monitoring Program
ASMFC	Atlantic States Marine Fisheries Commission
ATGTRS	Atlantic Trawl Gear Take Reduction Strategy
ATGTRT	Atlantic Trawl Gear Take Reduction Team
ASSRT	Atlantic Sturgeon Status Review Team
BMSY	Biomass at MSY
Board	ASMFC Summer Flounder, Scup, and Black Sea Bass Management Board
CEA	Cumulative Effects Analysis
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
Commission	Atlantic States Marine Fisheries Commission
Council	Mid-Atlantic Fishery Management Council
CPUE	Catch Per Unit Effort
CV	Coefficient of Variation
DPS	Distinct Population Segment
DPSWG	Data Poor Stocks Working Group
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act
F	Fishing Mortality Rate
F _{MSY}	Fishing Mortality Rate at Maximum Sustainable Yield
FMP	Fishery Management Plan
FR	Federal Register
FONSI	Finding of No Significant Impact
GARFO	Greater Atlantic Regional Fisheries Office
GOM	Gulf of Maine
IRFA	Initial Regulatory Flexibility Analysis
ITS	Incidental Take Statement
LOF	List of Fisheries
MAFMC	Mid-Atlantic Fishery Management Council
MC	Monitoring Committee
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistical Survey
MRIP	Marine Recreational Information Program
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum Sustainable Yield
NAO	National Oceanic and Atmospheric Administration Administrative Order
NEFSC	Northeast Fisheries Science Center
NEFOP	Northeast Fisheries Observer Program
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration

OFL	Overfishing Limit
OY	Optimum Yield
PBR	Potential Biological Removal
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RHL	Recreational Harvest Limit
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SBA	Small Business Administration
SI	Serious Injury
SSB	Spawning Stock Biomass
SSB _{MSY}	Spawning Stock Biomass at Maximum Sustainable Yield
SSC	Scientific and Statistical Committee
STDN	Sea Turtle Disentanglement Network
TC	Technical Committee
USFWS	United States Fish and Wildlife Service
VECs	Valued Ecosystem Components
VTR	Vessel Trip Report

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As discussed previously, fishing effort on a coastwide basis is expected to be very similar among the three alternatives since all alternatives, either alone or in conjunction with state water measures, are expected to constrain harvest to the 2018 RHL. However, when evaluating the alternatives at a state or regional level,

there are differences in the expected socioeconomic impacts. Alternatives 2A and 2B would implement federal water measures that generally apply to the states of Delaware through North Carolina and work in conjunction with state water measures implemented from New Jersey through Massachusetts to constrain the coastwide harvest to the RHL; while alternative 2C would implement coastwide measures that would apply to both federal and state waters...... 79

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4. INTRODUCTION AND BACKGROUND

4.1 Purpose and Need for the Action

The purpose of this action is to implement recreational management measures for summer flounder and black sea bass for the 2018 fishing year. This action is needed to prevent the fisheries from exceeding the 2018 recreational harvest limits (RHLs) for each species, which are designed to prevent overfishing and ensure that recreational ACLs are not exceeded.

Recreational catch and landings limits for 2018 were set for summer flounder in 2016 (MAFMC 2016b; 81 FR 93842, December 22, 2016). For black sea bass, 2018 limits were set in 2017 (MAFMC 2017b; 82 FR 24078, May 25, 2017). Recreational measures for 2018 were not developed via either of these prior actions, as the Council and Board wait to review recreational fishery performance in the current year prior to recommending measures for the following year. This action proposes recreational measures for summer flounder and black sea bass that are expected to constrain recreational harvest to the 2018 RHL of 4.42 million pounds for summer flounder and 3.66 million pounds for black sea bass.

For summer flounder, this action is needed to continue the use of conservation equivalency to manage the recreational fishery in 2018. Summer flounder conservation equivalency does not roll over in the regulations and must be re-specified each year. The Council and Board chose to continue the use of conservation equivalency to allow for more customized measures at a state or regional level that are likely to meet the needs of anglers in each area, compared to coastwide measures which would be advantageous to anglers in some areas and unnecessarily restrictive in others.

For black sea bass, this action is needed to modify the federal management measures in 2018 based on the recommendations of the Council and Board. The Council and Board are recommending a modification to the recreational black sea bass season in federal waters while retaining the existing size and possession limits. The recommended federal water measures are as follows: a season from May 15 – December 31, a 15 fish possession limit and a 12.5 inch TL minimum size limit. This modification would remove the current closure from September 22 – October 21. This was recommended to provide for increased management flexibility for individual states or regions to craft measures to coincide with the federal waters season, minimize recreational discards during the closed season, and provide for increased opportunities to harvest black sea bass when they are highly available to recreational anglers.

This document was developed in accordance with the MSA¹ and the National Environmental Policy Act (NEPA), the former being the primary domestic legislation governing fisheries management in the U.S. Exclusive Economic Zone (EEZ). Failure to specify management measures that constrain catch to prevent overfishing would be inconsistent with the National Standards under the MSA. This document was also developed in accordance with the Summer Flounder, Scup, and Black Sea Bass FMP, which details the management regime for these fisheries. The FMP and subsequent amendments are available at: <http://www.mafmc.org>.

¹ MSA portions retained plus revisions made by the MSA Reauthorization Act of 2006.

The Environmental Assessment (EA) contained in this document examines the impacts of the management alternatives on the human environment. Aspects of the human environment that are likely to be directly or indirectly affected by the actions proposed in this document are described as valued ecosystem components (VECs; Beanlands and Duinker 1984). VECs make up the affected environment and are defined as the managed species (i.e., summer flounder and black sea bass) and non-target species; physical habitat, including essential fish habitat (EFH) for the managed species and non-target species; species protected under the ESA and/or the MMPA; and human communities (i.e., the social and economic aspects of the environment). The impacts of the alternatives are evaluated with respect to these VECs.

4.2 The Recreational Specifications Process

Summer flounder and black sea bass are cooperatively managed by the Council and the Atlantic States Marine Fisheries Commission (ASMFC). The Council and ASMFC's Summer Flounder, Scup, and Black Sea Bass Management Board (the Board) meet jointly each year to consider the recommendations of the Council's Scientific and Statistical Committee (SSC) and the Monitoring Committee (MC), as well as input from Advisory Panel members, and other information, before making recommendations for management measures for these species. The Council submits these recommendations to the NMFS Greater Atlantic Regional Administrator to consider for implementation. The Regional Administrator will review the recommendations in this document and may revise them, if necessary, to achieve FMP objectives and to meet statutory requirements.

Summer flounder and black sea bass catch and landings limits (i.e., specifications) are established on an annual basis for up to three years at a time, based on stock size projections for upcoming years and advice from the SSC and MC. As described above, 2018 catch and landings limits for summer flounder were revised in 2016 for the 2017-2018 fishing years, based on analysis described in the 2017-2018 Summer Flounder Supplemental Environmental Assessment (SEA or "Supplemental EA") completed in November 2016 (MAFMC 2016b). The current (revised) 2018 recreational harvest limit (RHL) is 4.42 million pounds, as published in the final rule dated December 22, 2016 (81 FR 93842).² Black sea bass catch and landings limits for 2017-2018 were set in 2017 and analyzed in the 2017-2018 Black Sea Bass Specifications Environmental Assessment (MAFMC 2017b) and published via final rule on May 25, 2017 (82 FR 24078). More details about the specifications process for annual catch and landings limits, including the specific basis for the 2018 summer flounder and black sea bass RHLs, can be found in the above referenced specifications documents.

For each fishing year, the Council and the Board identify combinations of recreational management measures (possession limits, size limits, seasons) that are likely to result in achieving, but not exceeding, the annual RHL. Each management measure, or combination of measures, provide mechanisms to control fishing effort and constrain harvest to the RHL. For example, shortening the season length would likely lead to fewer recreational trips for the target species, lower fishing effort, and a reduction in harvest (fish kept). Possession limits likewise limit the total amount of fish that can be kept by anglers. Minimum sizes allow for fish to grow to certain size and reach maturity prior to being removed from the population. While discarding may occur to the possession limit, size limit, or season restrictions, for summer flounder and black sea bass, the

² Available at: <https://www.federalregister.gov/d/2016-30876>.

assumed recreational discard mortality rates are 10% and 15%, respectively. Thus, fish discarded in the recreational fishery due to regulations have a high probability of surviving and contributing to current and future biomass.

Unlike fishery catch and landings limits, recreational measures are typically set for the single upcoming fishing year. For summer flounder and black sea bass, specific recreational management measures are typically considered several months after the catch and landings limits are approved for the upcoming fishing year (or years). This is because recreational catch and landings data from the Marine Recreational Information Program (MRIP) is lagged and becomes available in two-month “waves.” The Council has determined that recommendations need to be made late in the year to allow for consideration of the most recent information possible. Thus, the specific recreational measures designed to achieve the 2018 RHLs for these species were not analyzed in previous specifications documents that considered the overall catch and landings limits.

Summer Flounder Recreational Measures

For summer flounder, the Council and Board choose annually between two management strategies: coastwide measures (i.e., identical possession, size, and seasonal limits for each state and for federal waters) or conservation equivalency (i.e., a combination of state- and region-specific measures that in combination would constrain coastwide harvest to the RHL), as detailed below.

Each year since 2001, the recreational summer flounder fishery has been managed under conservation equivalency, where individual states or regions recommend to NMFS, through the Board, measures that are the conservation equivalent of a set of “non-preferred” coastwide measures. If NMFS agrees with the Board’s assessment, those measures are approved, following the provisions established in Framework Adjustment 2 to the FMP (MAFMC 2001). Under conservation equivalency, NMFS waives the federal recreational measures that would otherwise apply in federal waters, or to vessels holding a federal recreational summer flounder permit. Federally permitted vessels, as well as vessels fishing in federal waters, are then subject to the recreational fishing measures implemented by the state in which they land.

To constrain recreational landings to the overall RHL, the Board established conservation equivalency guidelines that require each state to determine and implement an appropriate possession limit, size limit, and season to achieve the landings target for each state. Framework 6 to the FMP (MAFMC 2006) allows for regional conservation equivalency, where groups of adjacent states may form voluntary regions and develop the same regulations for all states within the region, designed to achieve a pooled regional recreational harvest target. The Commission requires each state or region to submit its conservation equivalency proposal early in the relevant recreational fishing year. The Commission’s Summer Flounder, Scup, and Black Sea Bass Technical Committee (TC) then evaluates the proposals and advises the Board of each proposal’s consistency with respect to achieving the state or region landings target and the coastwide recreational harvest limit. After the Technical Committee evaluation, the Board meets to approve or disapprove each proposal.

The combination of state or regional measures must be “equivalent,” in terms of conservation (i.e., expected to not exceed the RHL), to a set of “non-preferred coastwide measures,” which are recommended by the Council and the Board each year. The non-preferred coastwide measures must consist of a minimum fish size, possession limit, and season that if implemented on a

coastwide basis, would be expected to constrain harvest to the RHL. These non-preferred measures are written into the federal regulations, but waived in favor of the state or region-specific measures.

The FMP also requires that the Council and Commission specify “precautionary default” measures when conservation equivalency is recommended. These are defined as the set of measures that would achieve at least the highest percent reduction in landings for any state, and would be required to be implemented by any state that either does not submit a summer flounder management proposal or whose measures do not achieve the required reduction. These measures are intended to be unappealing for any state to implement to deter states from deviating from the conservation equivalency guidelines. Any states or regions assigned the precautionary default measures would be allowed to re-submit revised management measures. In this case, the Commission would notify NMFS of any resubmitted proposals that were approved after publication of the final rule implementing the recreational specifications. NMFS would then publish a notice in the *Federal Register* to notify the public of any changes to a state’s management measures.

Black Sea Bass Recreational Measures

Unlike summer flounder, recreational black sea bass regulations do not include the ability to implement true conservation equivalency. Instead, the Council and Board in recent years have jointly recommended only federal measures, while state measures have been developed by the individual states and approved by the Board as part of a larger strategy known as "ad hoc regional management." Typically, the southern states of Delaware through North Carolina implement measures that are identical to the federal measures, while the northern states of New Jersey through Massachusetts develop measures that differ among northern states and differ from federal and southern states measures.

Ad hoc regional management in recent years has been implemented via various addenda to the Commission's FMP that have determined how recreational harvest should be distributed in each year and how state regulations should be modified. In 2017, state measures were implemented under the provisions of Addendum XXVIII to the Commission's FMP. For 2018, the Commission approved Addendum XXX, which established regional allocations of the 2018 RHL based on a combination of exploitable biomass based on the benchmark stock assessment and harvest history. Three management regions were established and are defined as Massachusetts through New York, New Jersey as a state-specific region, and Delaware through North Carolina; their respective allocations of the 2018 coastwide RHL are 61.35%, 30.24%, and 8.41%. States within each region will be collectively responsible for managing harvest and will develop recreational management measures to achieve their regional allocation. The existing southern region states of Delaware through North Carolina could continue to set measures that are consistent with the preferred federal waters measures, or they could implement alternative measures that would constrain harvest to their regional allocation as defined under Addendum XXX.

In addition to the federal waters measures recommendation discussed above, the Council and Board also recommend a set of “backstop” measures that would apply coastwide and are intended to constrain coastwide landings to the RHL. These measures would only be implemented if states failed to implement measures necessary to constrain or reduce landings to the RHL as specified under ad-hoc management.

4.3 Basis for the Proposed Measures

The proposed measures described in sections 5.1 and 5.2 are designed to achieve but not exceed the 2018 RHL for each species (Table 1). The 2018 summer flounder RHL is 4.42 million pounds, as analyzed in the 2017-2018 Summer Flounder Specifications SEA. This represents a 17% increase relative to the 2017 summer flounder RHL. The 2018 black sea bass RHL is 3.66 million pounds, as analyzed in the 2017-2018 Black Sea Bass Specifications EA. This represents a 15% decrease relative to the 2017 RHL of 4.29 million pounds. The basis for the preferred alternative for each species is described below.

Table 1: 2017-2018 catch and landings limits for summer flounder and black sea bass, in millions of pounds.

	Summer Flounder		Black Sea Bass	
	2017	2018	2017	2018
Acceptable Biological Catch (mil lb)	11.30	13.23	10.47	8.94
Commercial Quota (mil lb)	5.66	6.63	4.12	3.52
Recreational Harvest Limit (mil lb)	3.77	4.42	4.29	3.66

Based on preliminary MRIP data,³ 2017 summer flounder landings were estimated to be 3.10 million pounds, which is 82% of the 2017 RHL and 70% of the 2018 RHL. Thus, a theoretical 42% liberalization in landings (in pounds) would be possible to achieve the 2018 RHL, assuming similar effort, availability, and angler success in 2018 as in 2017. However, the Council and Board moved in December 2017 to cap the overall coastwide liberalization to 17% relative to the 2017 harvest projection available at the time, which, was 3.23 million pounds based on data through August 2017. Thus, the Council and Board's intention is to cap the projected harvest at 3.78 million pounds, with the understanding that fishery conditions and catch rates in 2018 may vary and thus result in a different (higher or lower) actual harvest. More details on the basis and justification for this target can be found in section 5.1.2.

Based on preliminary MRIP data³ through wave 6 (November-December), 2017 recreational black sea bass harvest is estimated to be 3.93 million pounds or 2.10 million fish. Projected 2017 harvest is 8% lower than the 2017 RHL. This would be the first time recreational black sea bass harvest has been under the RHL since 2011. When evaluating the projected 2017 harvest compared to the 2018 RHL of 3.66 million pounds, an approximate 6.9% reduction in harvest would be needed in 2018 using the traditional protocol of evaluating the prior year harvest to the following year RHL.

The MC/TC have been working on alternative methods for calculating recreational adjustments to help improve and stabilize the recreational specification setting process. While not yet finalized, these alternative methods include accounting for uncertainty in the recreational harvest point estimates, data smoothing to account for highly uncertain estimates at the regional, state or wave level, and methods to account for projected changes in availability of black sea bass and associated implications for recreational catch. For example, in evaluating the 2017 black sea bass harvest estimates, the MC/TC agreed to use a smoothed harvest estimate for the 2016 New York wave 6 estimate for 2017 harvest projections and in evaluating the 2017 coastwide harvest to the 2018 RHL. In addition, the TC/MC applied a similar approach for New Jersey's preliminary 2017 wave

³ As of February 16, 2018. Available from: <http://www.st.nmfs.noaa.gov/recreational-fisheries/access-data/run-a-data-query/queries/index>.

3 estimate. These smoothing analyses using the preliminary 2017 MRIP harvest information produce a 2017 coastwide harvest estimate of 3.55 million pounds. This harvest estimate is 17% below the 2017 RHL and 3% below the 2018 RHL.

The preferred measures identified in this document were recommended by the Council and Board after they considered the advice of the MC/TC and the Council and Commission's joint Advisory Panels. Conservation equivalency for summer flounder was recommended at the joint December 2017 meeting. The configuration of regional conservation equivalency and the specific state measures are under development by the Board in early 2018. Black sea bass federal measures were proposed at the December 2017 meeting; however, a decision was postponed until February 2018 in order to consider the outcome of the Board's approval of Addendum XXX when determining federal measures. Federal measures were approved by the Council at their February 2018 meeting.

Accountability Measures

Accountability measures (AMs) are measures that are implemented if the commercial or recreational ACL is exceeded. A summary of the regulations associated with the summer flounder and black sea bass recreational AMs is presented here. More details on these requirements can be found in the regulations at: <http://www.greateratlantic.fisheries.noaa.gov/regs/fr.html>.

In 2013, the Council modified the recreational accountability measures (AMs) for Mid-Atlantic species through an Omnibus Recreational Accountability Measures Amendment (MAFMC 2011). This amendment removed the in-season closure authority for the summer flounder, scup, and black sea bass recreational fisheries that was previously held by the NMFS Regional Administrator.

The modified recreational AMs are as follows: the 3-year recreational sector ACL is evaluated against a 3-year moving average of total catch. Both landings and dead discards are evaluated in determining if the 3-year average recreational sector ACL has been exceeded. Recreational AMs are tied to stock status, and though paybacks may be required in some circumstances, any potential payback amounts would be scaled relative to biomass, as described below. If the recreational ACL is exceeded, the appropriate AM will be determined based on the following criteria:

1. If the stock is overfished ($B < \frac{1}{2} B_{MSY}$), under a rebuilding plan, or the stock status is unknown: The exact amount, in pounds, by which the most recent year's recreational ACL has been exceeded, will be deducted in the following fishing year, or as soon as possible once catch data are available.
2. If biomass is above the threshold, but below the target ($\frac{1}{2} B_{MSY} < B < B_{MSY}$), and the stock is not under a rebuilding plan:
 - a. If only the recreational ACL has been exceeded, then adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measure and conditions that precipitated the overage.
 - b. If the Acceptable Biological Catch ($ABC = \text{recreational ACL} + \text{commercial ACL}$) is exceeded in addition to the recreational ACL, then a single year deduction will be made as a payback, scaled based on stock biomass. The calculation for the payback amount in this case is: $(\text{overage amount}) * (B_{msy} - B) / \frac{1}{2} B_{msy}$.

3. If biomass is above the target ($B > B_{MSY}$): Adjustments to the recreational management measures (bag, size, and seasonal limits) would be made in the following year, or as soon as possible once catch data are available. These adjustments would take into account the performance of the measure and conditions that precipitated the overage.

For summer flounder, AMs have not been triggered for the recreational fishery based on a comparison of average 2014-2016 catch to the 2014-2016 average ACL. Although there was a slight (4%) overage of the recreational ACL in 2014, and a more moderate (12%) overage in 2016, recreational catch was substantially below the recreational ACL in 2015 (35%), resulting in a 3-year average of catch that is below the 3-year average ACL.

For black sea bass, based on a comparison of the 3-year average ACL to the 3-year average of catch, as described above, recreational AMs would typically be triggered for application given the current circumstances. The 2014-2016 average recreational catch (5.34 million lb) exceeded the 2014-2016 average recreational ACL (3.11 million lb). The AM triggered in this case would include adjustments to the recreational management measures (bag, size, and season) with additional considerations for the performance of recent recreational adjustments and the conditions that resulted in overages. However, these ACLs were implemented prior to the updated information provided in the benchmark assessment regarding the current stock status and condition of the resource. Thus, the MC noted that applying additional constraints of an AM is unnecessary in this case. The 2015 terminal year estimates from the stock assessment indicate spawning stock biomass (SSB) is 2.3 times higher than the target and 4.6 times higher than the threshold and fishing mortality is 25% below the $F_{MSY\ PROXY}$. In addition, the high recreational catch estimates from 2012 – 2015 were incorporated in the stock assessment and the population continued to grow and stock status did not change. The 2017 recreational ACL and RHL are 53% and 52% higher, respectively, than those implemented in 2016 and are more reflective of the current stock condition.

As part of evaluating the AMs, the MC is responsible for considering the “conditions that precipitated the overage”. In July 2017, MC comments⁴ on this issue indicated the 2012 – 2016 recreational overages occurred when the black sea bass stock was rapidly expanding and availability to recreational anglers was very high. At the same time, due to the lack of an approved stock assessment, the RHLs were set at levels not reflective of the large and increasing stock abundance. Had the benchmark assessment been available to set specifications, RHLs would likely have been significantly higher, and overages would likely not have occurred to the same degree.

5. MANAGEMENT ALTERNATIVES

The alternatives described below propose recreational management measures for summer flounder and black sea bass in 2018, based on the recommendations of the Council and Board. Comprehensive descriptions of the regulations for these fisheries, as detailed in the Code of Federal Regulations (CFR), are available through the NMFS Greater Atlantic Regional Fisheries Office (GARFO) website: <http://www.greateratlantic.fisheries.noaa.gov/>.

⁴ See http://www.mafmc.org/s/Tab08_BSB-Specifications-Review.pdf.

5.1 Summer Flounder Alternatives

This document describes three alternatives for summer flounder recreational management in 2018: no action, revised coastwide measures, and conservation equivalency, as described in sections 5.1.1-5.1.3. The management measures associated with each of the alternatives are shown in Table 2. Under the management programs detailed in the FMP, the no action alternative is not equivalent to *status quo* management, given that conservation equivalency does not roll over in the regulations from year to year. Summer flounder conservation equivalency is currently implemented for 2017 but not for 2018. For each of the alternatives, measures are provisional and may be adjusted by NMFS in the 2018 recreational specifications final rule.

Table 2: Summer flounder recreational management measures for 2018 associated with each alternative.

	Possession Limit	Size Limit	Season
Alternative 1A (Non-Preferred: 2017 Coastwide Measures)	4 fish	19 inches	June 1 - September 15
Alternative 1B (Non-Preferred: Revised Coastwide Measures)	4 fish	19 inches	May 15- September 15
Alternative 1C (Preferred: Conservation Equivalency)	State- or region-specific		

5.1.1. Alternative 1A (Non-Preferred: No Action/previously adopted coastwide measures)

Under alternative 1A, no action would be taken to adjust the 2018 summer flounder recreational measures or implement conservation equivalency in 2018. Taking no action under this alternative is not equivalent to the *status quo*, but rather would result in reverting to previously adopted non-preferred coastwide measures. Because conservation equivalency would not be in effect in 2018, the management measures in effect would be the coastwide measures adopted by the Council and Board in December 2016 for the 2017 fishing year. These non-preferred coastwide measures remain written into the regulations until they are modified, whereas conservation equivalency is approved only within a single fishing year. The coastwide measures approved in December 2016 are currently written into the federal regulations at 50 CFR §648.104-106, but are waived through December 31, 2017.

Under the no action alternative, these previously adopted coastwide measures would take effect, including a **19-inch minimum size limit, a 4 fish possession limit, and an open season from June 1-September 15**. These measures were adopted by the Council and Board in December 2016 and designed to achieve but not exceed the 2017 RHL. This recommendation is described in the April 2017 SIR for 2017 summer flounder recreational management (MAFMC 2017a). The measures were designed to achieve a RHL of 3.77 million pounds in 2017, based on a reduction in landings that was projected to be necessary between 2016 and 2017.

Due to the complexity of state and regional measures, which often vary by fishing mode and time of the year, it is not possible to predict the impacts of coastwide measures with a high degree of confidence. The MC thus used proxy estimates based on what would be expected to achieve a

reduction in the high-harvest states of Connecticut, New York, and New Jersey, which had regionally consistent size and possession limits in 2016. The MC and TC's analysis of MRIP data from 2014-2016 suggested that these non-preferred coastwide measures (19-inch size limit, 4 fish, June 1-September 15) would constrain recreational landings to the overall 2017 RHL.

Under a "no action" scenario, these measures in 2018 and would be enforced on a coastwide basis, both for federal waters and state waters from Massachusetts through North Carolina.

5.1.2. Alternative 1B (Non-Preferred: revised non-preferred coastwide measures)

Alternative 1B is similar to alternative 1A in that coastwide measures would be implemented for all states and in federal waters; however, the specific measures would differ. Alternative 1B is based on a more recent Council and Board recommendation and includes a liberalization of 15 days in the open season relative to the measures under alternative 1A. The revised non-preferred coastwide measures under this alternative include a minimum size of **19 inches, a possession limit of 4 fish, and an open season from May 15-September 15**. These measures were adopted by the Council and Board at their December 2017 meeting as part of the conservation equivalency process that requires identifying coastwide measures to be implemented in the event that NMFS is unable to approve conservation equivalency.

Despite a larger theoretical liberalization possible for 2018 (see section 4.3), the Council and Board approved a maximum liberalization in harvest of 17% relative to 2017 projected harvest. This maximum liberalization applies to both non-preferred coastwide measures (this alternative) and to state and regional measures under conservation equivalency (alternative 1C). At the time of the December joint meeting, based on data through wave 4 (August 2017), coastwide projected harvest was 3.23 million pounds. The Council and Board agreed that projected liberalizations should not exceed 17% on a coastwide basis, which is the percent change between the 2017 and 2018 RHL. The Council and Board motion thus indicates their intent that management measures should result in no more than a 17% increase relative to 3.23 million pounds (i.e., measures should restrict harvest to 3.78 million pounds).

This cap was approved for several reasons. First, the Council and Board have concerns regarding the stock status for summer flounder, as overfishing is occurring and the stock biomass is close to the overfished threshold (see section 6.1.1). Although the stock assessment projects an increase in biomass between 2017 and 2018, resulting in an increase in the RHL in 2018, the stock assessment projections have shown a pattern in recent years of overestimating biomass in subsequent years. Thus, the concern is that the projected increase in biomass in 2018 may not be realized. There were no updated projections completed in 2017 and thus the basis for the 2018 RHL is the 2016 stock assessment update. The only additional scientific information reviewed since the 2016 update included fishery independent survey indices through 2016, which did not show evidence of recent strong recruitment or a substantial rebound in the stock.

In addition, recreational summer flounder harvest has varied substantially despite very similar or identical management measures in place over 2014-2016. In 2017, measures were restricted to achieve a necessary reduction in harvest. However, estimated harvest for 2017 appears to be much lower than predicted when 2017 measures were set. Preliminary harvest estimates for 2017 indicate very low levels of harvest and effort for summer flounder, well below those of a typical recent year. The Council and Board are concerned that this is an indication of poor availability due to declining stock status, and/or factors that reduced effort in 2017 that may or may not be present

in 2018. Because of the uncertainty in predicting how availability, effort, and success rates might change in 2018, and how the resulting harvest estimates may vary, the Council and Board chose to limit the liberalization in order to avoid overages that would lead to larger cuts in 2019 if harvest rebounds in 2018.

Consistent with this approach, the non-preferred coastwide measures under this alternative would be expected to result in approximately a 17% increase relative to 2017 projected harvest. Due to the MC's concerns that 2017 harvest was anomalously low, 2016-2017 average catch rates were used in the projections to calculate expected catch under these measures.

5.1.3. Alternative 1C (Preferred: Conservation Equivalency)

Alternative 1C, the Council-preferred option, would extend conservation equivalency into 2018. As described in section 4.2, this strategy allows individual states or multi-state regions to customize recreational management measures within certain overall constraints specified by the Board, to constrain harvest to the RHL. Conservation equivalency in 2018 is expected to be similar to the *status quo* as represented by 2017 management, with some relatively minor adjustments possible to state and regional management measures.

This document does not propose any specific preferred management measures at the state or regional level, only an overall management strategy for 2018 and a set of precautionary default measures for non-compliant states. The use of conservation equivalency allows for customized measures at a state or regional level that are likely to meet the needs of anglers in each area, as opposed to coastwide measures which would be advantageous to anglers in some areas and unnecessarily restrictive in others. The management strategy proposed for summer flounder in 2018 is the same as that applied in 2017, except with the potential for moderately more liberal management measures applied in individual states and regions to constrain landings to the 2018 RHL. The state-specific measures for 2018 are currently being developed by the ASMFC and will be detailed in a letter to GARFO certifying that the combination of state and regional measures will constrain landings to the 2018 RHL.

The Council and Board recommended that the 2018 summer flounder fishery be managed under conservation equivalency at their December 2017 meeting, after considering the advice of the MC and the Council and Commission's Summer Flounder, Scup, and Black Sea Bass Advisory Panels. As described in section 5.1.2, based on preliminary MRIP data, a theoretical 42% liberalization in landings would be possible to achieve the 2018 RHL, assuming similar effort, availability, and angler success in 2018. However, for the reasons described under alternative 1B, the Council and Board approved a cap in coastwide liberalization of 17% relative to projected harvest at the time of the decision.

In December 2017, the Board Conservation determined that conservation equivalency in 2018 will be based on the continuation of Addendum XXVIII to the Commission's FMP (ASMFC 2017) which was approved in 2017 with an option for a one-year extension into 2018. This decision maintains the use of regional conservation equivalency for the 2018 recreational summer flounder fishery. The summer flounder regions, which are continued from 2016 and 2017, are: Massachusetts; Rhode Island; Connecticut through New York; New Jersey; Delaware through Virginia; and North Carolina.

Through the Commission’s process, each state (individually or as part of a region) has developed a conservation equivalency proposal for minor modifications to the 2018 measures that would not exceed a 17% liberalization in any state, per the terms of the Council and Board's decision described above. All states/regions except for North Carolina submitted a proposal for potential modified measures in 2018. Some states or regions proposed more than one option for modified measures for 2018; the final set of measures would be chosen by a given state/region based on feedback from their stakeholders following approval of the broader set of options by the TC and Board. The TC evaluated state/regional proposals in January 2018 and advised the Board of each proposal’s consistency with respect to achieving the state or regional landings target and the coastwide RHL. At their February 2018 meeting, the Board approved these state proposals per the TC's recommendations. Each state/region will then take steps to finalize their 2018 measures within the bounds of the Board's approval of state proposals.

The approved management program for 2018 also allows for the continuation of the Delaware Bay specific management measures for New Jersey anglers west of the COLREGS line,⁵ first implemented by New Jersey in 2016.

The exact state, or region-specific, measures implemented under conservation equivalency are still being finalized; however, none of the proposed measures are expected to compromise the previously implemented catch and landings limits for this species, which were considered in the 2016 SEA.

As part of the conservation equivalency strategy, the Council and Board approved a set of precautionary default measures that would be imposed by the Board in any state or region that did not abide by the conservation equivalency guidelines (i.e., did not implement the agreed upon adjustments or implemented measures not expected to achieve a sufficient reduction). For 2018, the Council and Board recommended no changes to the precautionary default measures used in 2017, which include a 20.0-inch TL minimum size, 2-fish per person possession limit, and open season of July 1-August 31. The MC recommended these measures as being sufficiently precautionary to deter states from not implementing the required management strategy.

5.2 Black Sea Bass Alternatives

This document describes three alternatives for black sea bass recreational management in 2018: no action (alternative 2A, non-preferred), revised federal measures (alternative 2B, preferred), and coastwide measures (alternative 2C, non-preferred), as described in sections 5.2.1-5.2.3. The management measures associated with each of these alternatives are shown in Table 3. Under the management programs detailed in the FMP, the "no action" alternative is equivalent to *status quo* management since federal water measures roll over for black sea bass. For each of the alternatives, measures are provisional and may be adjusted by NMFS in the 2018 recreational specifications final rule.

⁵ COLREGS lines of demarcation delineate those waters “upon which mariners shall comply with the International Regulations for Preventing Collisions at Sea, 1972” (commonly called 72 COLREGS) and those “waters upon which mariners shall comply with the Inland Navigation Rules.” The line for Delaware Bay is defined as “A line drawn from Cape May Light to Refuge Light; thence to the northernmost extremity of Cape Henlopen” (see 33 CFR 80.503).

Table 3: Black sea bass recreational management measures for 2018 associated with each alternative.

Species	Alternative	Possession Limit	Size Limit	Season
Black Sea Bass	Alternative 2A: (Non-Preferred: No action/ <i>status quo</i>)	15	12.5 inches	May 15 – Sept. 21, Oct. 22 – Dec. 31
	Alternative 2B: (Preferred: Revised Federal Measures)	15	12.5 inches	May 15 – December 31
	Alternative 2C: (Non-Preferred: Coastwide Measures)	5	14	May 15 – September 15

5.2.1 Alternative 2A (Non-Preferred: No Action/*Status Quo*)

Alternative 2A would involve taking no action to modify the federal measures for black sea bass, meaning that the federal measures currently in the regulations would apply in 2018. These include a minimum size of 12.5 inches total length, a possession limit of 15 fish, and open seasons from May 15-September 21 and October 22-December 31. These federal measures have remained unchanged since 2015 and would remain in place until replaced by updated measures.

In recent years, these federal measures have been implemented in combination with a range of state-specific measures in the northern states to collectively constrain harvest to the RHL. If implemented alone, these federal measures would not be expected to constrain harvest to the RHL; thus, these federal measures are intended to be implemented in conjunction with state measures that are designed to ensure that the coastwide RHL is not exceeded. If the states, through the Commission process, failed to propose a set of measures for the northern states that would achieve the necessary level of conservation, then the *status quo* federal measures under this alternative would not be expected to achieve the requirements of the FMP.

5.2.2 Alternative 2B (Preferred: Revised Federal Measures)

Alternative 2B is the preferred alternative and includes a modified set of federal waters measures recommended by the Council and Board at their December 2017 meeting. These preferred federal waters measures represent a liberalization from the *status quo* federal waters measures by removing the current September 22 – October 21 closure and retaining the existing size and possession limits. Therefore, the measures associated with this alternative include a minimum size of 12.5 inches total length, a possession limit of 15 fish, and open season from May 15-December 31.

As with alternative 2A, these measures would be implemented in combination with a range of state or regional-specific measures to collectively constrain harvest to the RHL. If implemented alone, these federal measures would not be expected to constrain harvest to the RHL; thus, these federal measures are intended to be implemented in conjunction with state measures that are designed to ensure that the coastwide RHL is not exceeded. As mentioned in Section 4.2, since the implementation of ad-hoc regional management these federal water measures generally apply to the southern region states (Delaware-North Carolina) and to all federal for-hire permit holders regardless of where they are fishing, if more conservative than state measures.

The Council and Board recommended the removal of the existing fall closure for a variety of reasons. For example, the current fall closure occurs at a time when many northern states are open which results in angler confusion and non-compliance, state/federal water transit issues (e.g. Block Island), and permitting problems for federal party/charter permit holders. This closure also takes place when black sea bass are available to anglers in the states from New Jersey through North Carolina and likely concentrates fishing effort right before the closure in September and then when the fishery re-opens in October. In addition, since many northern region states develop measures that align with the federal season, the closure limits states' abilities to craft management measures to open state waters in an effort to provide continuity of fishing opportunities when setting seasons (e.g., open black sea bass once summer flounder season ends).

Since the measures associated with this alternative represent a liberalization in the season from the *status quo* alternative, an analysis was conducted to evaluate the potential harvest implications of this alternative. The analysis used the 2016-2017 MRIP harvest data from the southern region states of Delaware-North Carolina to calculate the average harvest per day by wave to determine the projected percent liberalization associated with opening one day per wave for federal waters/the southern region states. Based on this analysis, the projected 2018 harvest for the southern region states under the measures associated with alternative 2B would be 285,352 pounds or 190,108 fish. This would be a 23% increase in the projected harvest for the southern region states when compared to the projected harvest expected under the current federal water measures (232,072 pounds and 154,612 fish). This projected harvest would account for 7.8% of 2018 RHL, an increase of 1.5% compared to harvest under the current federal measures.

As discussed in Section 4.2, the Board recently approved Addendum XXX to the FMP which established regional allocations of the RHL. The northern region of Massachusetts through New York was allocated 61.35% of the RHL, or 2.25 million pounds in 2018; the state-specific region of New Jersey was allocated 30.24%, or 1.11 million pounds in 2018; and the southern region of Delaware through North Carolina (north of Cape Hatteras) was allocated 8.41% of the RHL, or 0.31 million pounds. The regions are responsible for developing recreational management measures that will constrain the regions harvest to the designated allocation. The 2018 southern region allocation is greater than the projected 2018 harvest for the southern region under the preferred federal water measures (307,964 pound allocation; 285,352 projected harvest). However, it is anticipated the southern region states will implement the preferred federal water measures even though they have ability to liberalize beyond those measures given the higher allocation. As mentioned above, the preferred federal water measures would represent a liberalization from the current measures, but overall recreational effort and harvest would change very little since these measures only apply to the southern region states which account for 5.5% of the coastwide harvest from 2013-2017. The majority of the recreational black sea bass effort and harvest occurs in the states of Massachusetts through New Jersey and, while measures for 2018 are not yet finalized, will likely implement management measures similar to those in 2017 given the preliminary 2017 harvest estimates and the declining 2018 RHL to 3.66 million pounds.

5.2.3 Alternative 2C (Non-Preferred: Coastwide Measures)

Alternative 2C includes a set of “backstop” measures that would apply coastwide and are intended to constrain coastwide landings to the RHL. In some cases when a reduction is necessary, and the Council and Board recommend the reduction be taken by adjusting state water measures, NMFS has requested the Council and Board develop backstop measures. These measures would only be

implemented if states failed to implement measures necessary to constrain or reduce landings to the RHL as specified under ad-hoc management. The measures associated with this alternative include a minimum size of 14.0 inches total length, a possession limit of 5 fish, and open season from May 15-September 15.

An analysis was conducted to determine if implementing the measures associated with this alternative on a coastwide basis would constrain coastwide harvest to the 2018 RHL. MRIP harvest and size frequency data by state and wave from 2016-2017 were used to smooth the variability in the landing estimates from one state and year to the next. A bag/season/size interaction analysis was then conducted separately for the northern region (MA-NJ) and southern region (DE-NC) and then combined to determine total recreational harvest. The projected 2018 coastwide harvest under alternative 2C would be 3.62 million lb or 1.96 million fish. The projected harvest would be 1.2% below the 2018 RHL of 3.66 million lb. This analysis also indicates these measures would likely disproportionately negatively impact some states given the size, distribution and availability differences along the coast. For example, the recreational black sea bass harvest for southern region states would potentially decline by over 67% if these measures were implemented.

Alternative 2C is not preferred because the establishment of coastwide measures conflicts with the Council and Board's intention to provide states/regions the ability to implement management measures that are most appropriate and representative of their respective fisheries, while still constraining harvest to their regional allocation and to the RHL. The coastwide measures under alternative 2C were deemed by the Council and Board to be unnecessarily constraining to some states.

6. DESCRIPTION OF THE AFFECTED ENVIRONMENT

The affected environment consists of those physical, biological, and human components of the environment expected to experience impacts if any of the actions considered in this document were to be implemented. This document focuses on four aspects of the affected environment, which are defined as valued ecosystem components (VECs).

The VECs include:

- Managed species (i.e. summer flounder and black sea bass) and non-target species
- Physical habitat
- Protected species
- Human communities

The following sections describe the recent condition of the VECs.

6.1 Managed Species and Non-Target Species

The following sections briefly describe the recent biological conditions of the summer flounder and black sea bass stocks and other stocks commonly caught in recreational fisheries targeting those species.

6.1.1. Summer Flounder

The management unit for summer flounder (*Paralichthys dentatus*) consists of the U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border.

Summer flounder are a demersal flatfish which spawn during the fall and winter over the open ocean over 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 throughout the range of the species during spring, summer, and fall. Adult summer flounder exhibit strong 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.

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

Spawning occurs during autumn and early winter, and the larvae are transported toward coastal areas by prevailing water currents. Development of post larvae and juveniles occurs primarily within bays and estuarine areas. Most fish are sexually mature by age 2. Summer flounder exhibit sexual dimorphism by size; most of the largest fish are females. Females can attain lengths over 90 cm (36 in) and weights up to 11.8 kg (26 lbs.; NEFSC 2011c). Recent NEFSC trawl survey data indicate that while female summer flounder grow faster (reaching a larger size at the same age), the sexes attain about the same maximum age (currently 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, personal communication, January 2017).

The most recent stock assessment update for summer flounder was completed in July 2016 (Terceiro 2016). This update indicated that the summer flounder stock was not overfished, but overfishing was occurring in 2015 relative to the biological reference points from the 2013 assessment. The fishing mortality rate in 2015 was estimated to be 0.390, 26% above the fishing mortality threshold reference point of 0.309. SSB was estimated to be 36,151 mt in 2015, 58% of the SSB target of 62,396 mt, and 16% above the SSB threshold of 31,198 mt. Due to a number of consecutive years of below average recruitment and higher than anticipated fishing mortality rates, summer flounder SSB has steadily declined from its peak in 2003 (Figure 1). The 2016 update shows that recruitment of age 0 fish was below the time series average (41 million fish at age 0; 1982-2015) each year from 2010 through 2015. Recruitment has also been overestimated in several of the most recent years. For example, in the 2015 update, 2014 recruitment appeared average, but has since been adjusted downward with the most recent update. Recruitment in 2015 is also estimated to be below average at 23 million fish (Terceiro 2016).

A data update completed in 2017 with catch, landings, and survey data through 2016 indicates that there is little likelihood that a substantial change in stock status occurred since the 2016 assessment update (Terceiro 2017a).

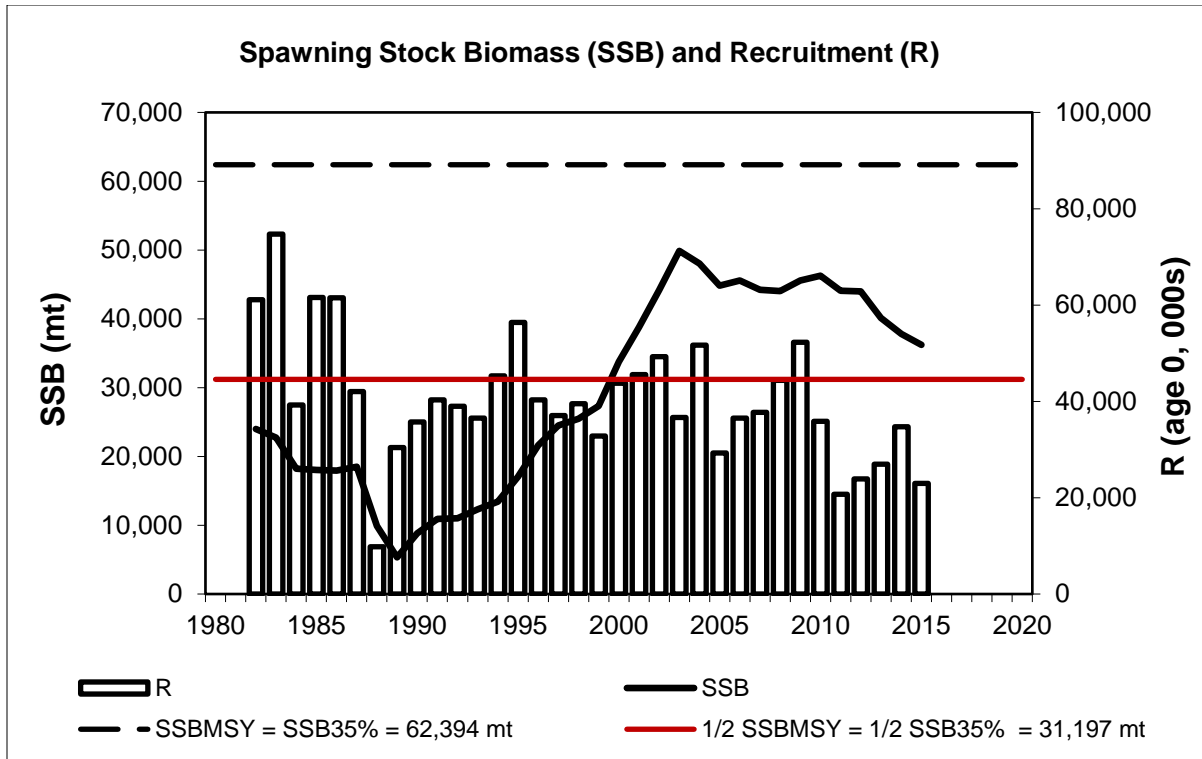


Figure 1: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars) by calendar year, 1982-2015. The horizontal dashed line is the 2013 SAW 57 biomass target reference point proxy, the horizontal red line is the biomass threshold reference point proxy (Terceiro 2016).

6.1.2. Black Sea Bass

Black sea bass are protogynous hermaphrodites, meaning the majority are born females and some individuals later transition to males. Black sea bass are commonly associated with physical structures such as reefs, although they utilize a variety of habitats including open bottom. Both their protogynous life history and structure-orienting behavior have posed challenges for prior analytical assessments of this species. The 2016 benchmark stock assessment working group (NEFSC 2017) spent a great deal of time analyzing and simulating various datasets to gain a better understanding on how these life history characteristics impact the assessment and the black sea bass population.

Regarding the protogynous life history, results indicate the stock is more robust to exploitation than previously thought due to factors such as a sex ratio that is not highly skewed and the contribution of secondary males to spawning success. Typical protogynous hermaphrodites start as nearly all females and transition with age and size to nearly all males. This makes these species highly susceptible to overexploitation as a fishery selectively removes the larger males, therefore increasing sex change rates and reducing productivity. Age data from the NEFSC winter and spring trawl survey indicates sex ratios within the north Atlantic black sea bass stock (Cape Hatteras, NC to Canada) are not as highly skewed with a female to male ratio of 70/30 for the youngest and smallest sea bass and a 45/65 ratio for the largest and oldest sea bass. A simulation model was also developed (Blaylock and Shepherd 2016) that evaluated black sea bass vulnerability to fisheries

exploitation given its unique life history characteristics. Results from this analysis highlight the importance of secondary males, and therefore less reliance on dominant males, in the spawning success of sea bass. This spawning characteristic of north Atlantic black sea bass is more similar to a typical gonochoristic species (e.g., summer flounder or scup) and therefore improves its resiliency to exploitation compared to other species with a typical protogynous life history. As a result of this information, SSB calculations were defined as combined male and female mature biomass.

Most stock assessments of mid-Atlantic species rely heavily on data collected during the NEFSC's biannual bottom trawl survey and other state conducted fishery independent trawl surveys. A closer examination of trawl catches from these surveys shows there is no significant difference in the number or length frequency of sea bass caught near physical habitat (e.g. reefs) or up to distances 11 miles from the physical habitat, indicating trawl surveys are viable surveys that can be appropriately used as tuning indices in the stock assessment.

The northern stock of black sea bass (i.e., black sea bass north of Cape Hatteras, North Carolina) was under a rebuilding plan from 2000 until 2009. Black sea bass were declared rebuilt based on the findings of the Data Poor Stocks Working Group (DPSWG), which performed a benchmark stock assessment for black sea bass in 2008 (DPSWG 2009).

The most recent benchmark stock assessment for black sea bass was completed in December 2016. This assessment indicated that the black sea bass stock north of Cape Hatteras, NC was not overfished and overfishing was not occurring in 2015. SSB averaged around 6 million pounds from the late 1980's and early 1990's and then steadily increased from 1997 to 2002 when it reached 18.7 million pounds. There was then a decline in SSB until 2007 (8.9 million pounds), followed by a steady increase through 2015 with SSB at its highest level estimated (Figure 2). The model-estimated SSB in 2015 was 48.89 million pounds (22,176 mt), 2.3 times SSB at maximum sustainable yield, $SSB_{MSY} = 21.31$ million pounds (9,667 mt).

The fishing mortality rate (F) in 2015 was 0.27, below the fishing mortality threshold reference point ($F_{MSY\ PROXY} = F_{40\%}$) of 0.36 (NEFSC 2017). Fishing mortality was very high in the early 1990's, typically greater than 1.0, but declined and stabilized after 1997 once black sea bass was added to the FMP. Fishing mortality has been below the $F_{MSY\ PROXY}$ reference point for the last five years (Figure 3). Model estimated recruitment was relatively constant throughout the time series except for large peaks from the 1999 and 2011 year classes. Average recruitment from 1989 – 2015 was 24.3 million fish with the 1999 year class estimated at 37.3 million fish and the 2011 year class estimated at 68.9 million fish. Since 2012, recruitment has been average with the latest cohort (2014 year class) estimated to be 24.9 million fish.

A data update (i.e. updated catch, landings, and survey indices through 2016) was conducted in 2017 and indicates that black sea bass biomass continues to be high, and the 2015 year class appears to be above average.

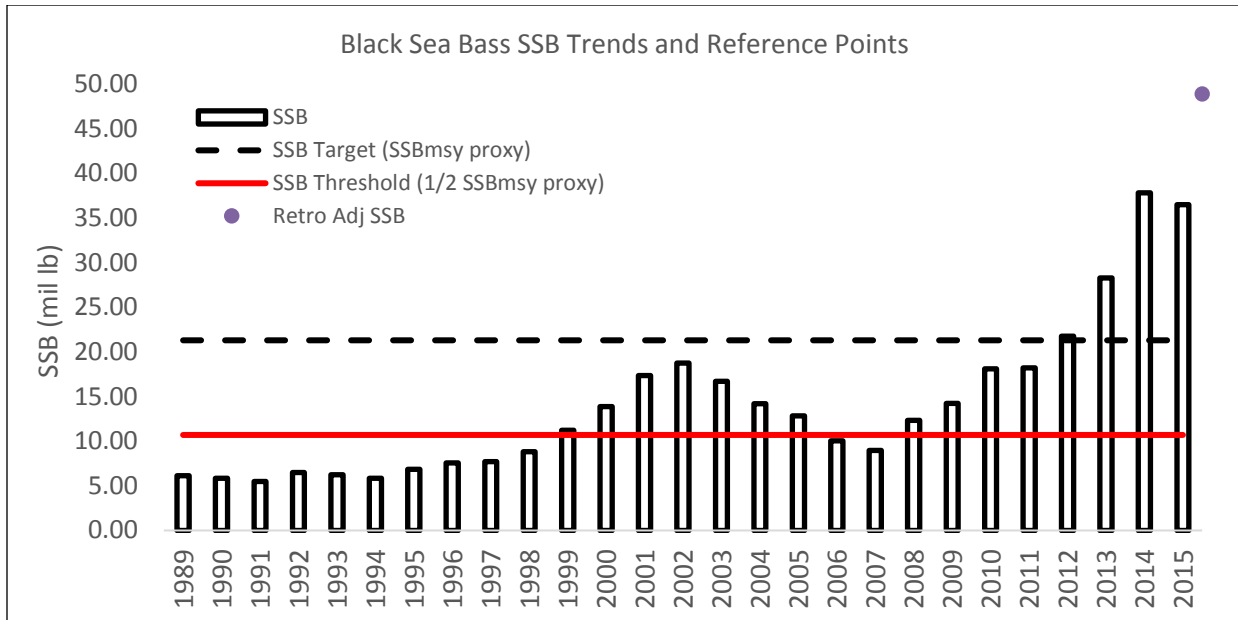


Figure 2: Spawning stock biomass, both mature male and female biomass, of black sea bass from 1989 to 2015 and biomass reference points from the 2016 benchmark stock assessment (NEFSC 2017). The 2015 retro-adjusted spawning stock biomass value was generated to correct for the retrospective bias present in the assessment model and is used as the estimate to compare to the reference points.

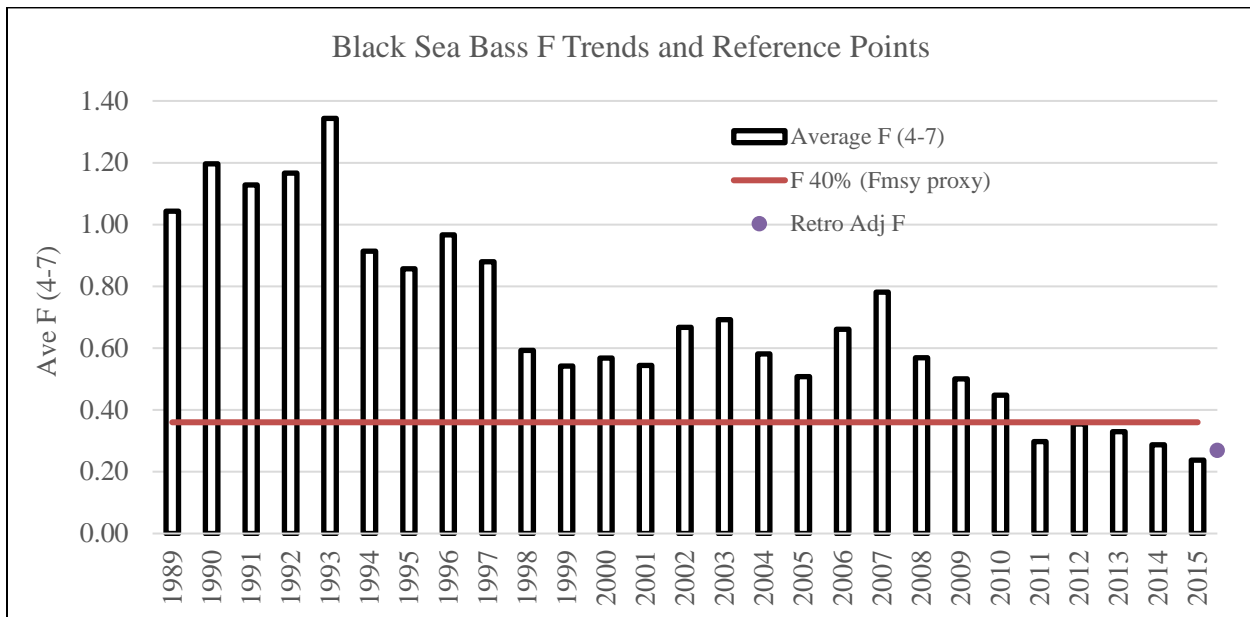


Figure 3: Fishing mortality rate on black sea bass ages 4-7 and the $F_{MSY PROXY}$ reference point from the 2016 benchmark stock assessment (NEFSC 2017). The 2015 retro-adjusted fishing mortality rate value was generated to correct for the retrospective bias present in the assessment model and is used as the estimate to compare to the reference points.

6.1.3. Non-Target Species

Non-target species are those species caught incidentally while targeting other species. Non-target species may be retained or discarded.

It is difficult to develop quantitative estimates of either catch or discard estimates for non-target species within recreational fisheries. The mixed nature of many recreational fisheries means that defining a directed summer flounder or black sea bass trip can be problematic and subjective. In addition, the data available from MRIP can be highly variable, while Vessel Trip Reports (VTRs) required for party/charter vessels include self-reported data that only covers the for-hire sector of the recreational fishery.

For this analysis, a "species guild" approach was used to examine what non-target species interactions may take place within the recreational summer flounder and black sea bass fisheries. This approach was used in the 2016 black sea bass benchmark stock assessment (NEFSC 2017), using an analysis of species commonly encountered with black sea bass based on a species similarity index. This analysis identified species that were caught together on 5% or more of recreational trips. As described in the assessment, scup, summer flounder, sea robins, Atlantic croaker, and tautog were highly correlated with black sea bass and were included in the black sea bass species guild.

For summer flounder, a similar analysis was conducted using the same methodology. Sea robins, black sea bass, and bluefish were highly correlated with summer flounder in the recreational fishery (J. Brust, pers. comm., January 2018).

The stock status and management status of these species are briefly described below, with additional emphasis on scup given its management under the same FMP as summer flounder and black sea bass.

Management measures for the Mid-Atlantic Council-managed species (summer flounder, scup, black sea bass, and bluefish) include AMs to address ACL overages through reductions in landings limits in following years. AMs for all these species take discards into account. These measures help to mitigate negative impacts from discards in these recreational fisheries, and other fisheries.

Scup

The most recent benchmark stock assessment for scup took place in 2015 and included data through 2014 (NEFSC 2015). A stock assessment update was conducted in 2017 with catch and survey data through 2016. The update assessment found that scup was not overfished and overfishing was not occurring in 2016 relative to the biological reference points from the 2015 benchmark assessment (Terceiro 2017b).

The fishing mortality rate (F) in 2016 was 0.139, which is 37% below the fishing mortality threshold reference point ($F_{MSY\ PROXY} = F_{40\%}$) of 0.220 (Terceiro 2017b). Fishing mortality was very high in the 1980's and mid-1990's, typically greater than 1.0, but declined in 1995 and has stabilized since 2001. Fishing mortality has been below the $F_{MSY\ PROXY}$ reference point for the last 17 years (Figure 4).

SSB was very low and averaged around 19.38 million pounds from the early 1980's and late 1990's and then steadily increased from 2000 to a peak in 2011 when it reached 513.80 million pounds. SSB has declined since its peak in 2011 but remains very high and increased slightly in 2016. The

model-estimated SSB in 2016 was 396.60 million pounds (179,898 mt), 2.1 times SSB at maximum sustainable yield, $SSB_{MSY} = 192.47$ million pounds (87,302 mt). The average recruitment from 1984 to 2016 is 121 million fish at age 0. The 2015 year class is currently estimated to be large at 252 million fish, while the 2016 year class is currently estimated to be below average at 65 million fish (Figure 5).

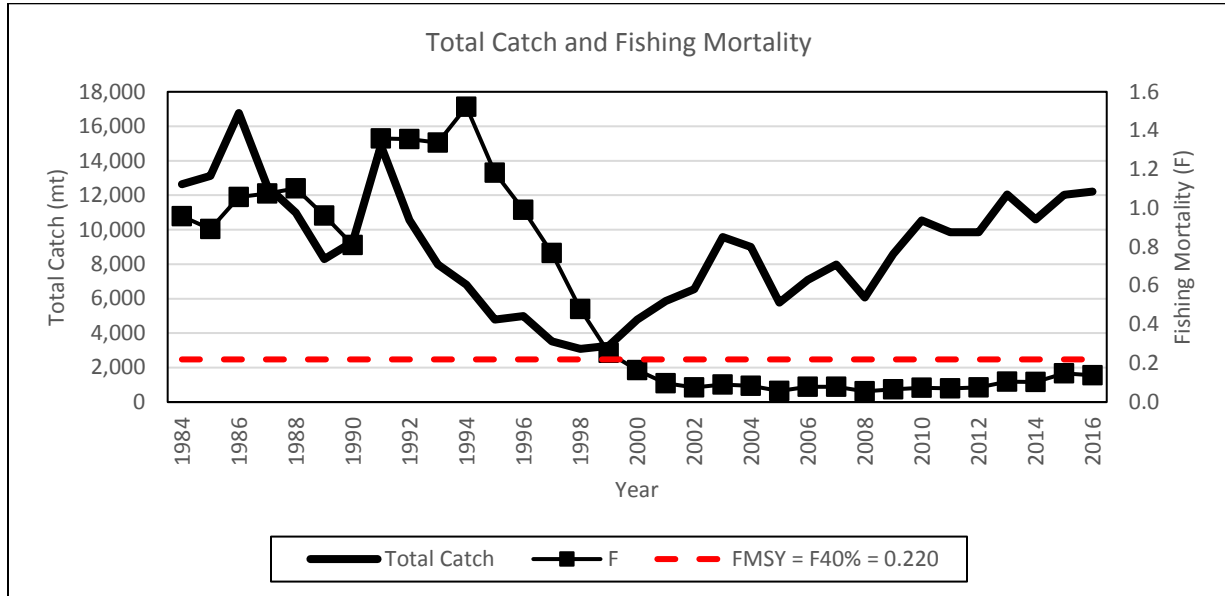


Figure 4: Total fishery catch and fishing mortality (F at age 3) for scup from the 2017 stock assessment update (Terceiro 2017b). The horizontal dashed line is the F_{MSY} proxy = $F_{40\%} = 0.220$ (NEFSC 2015).

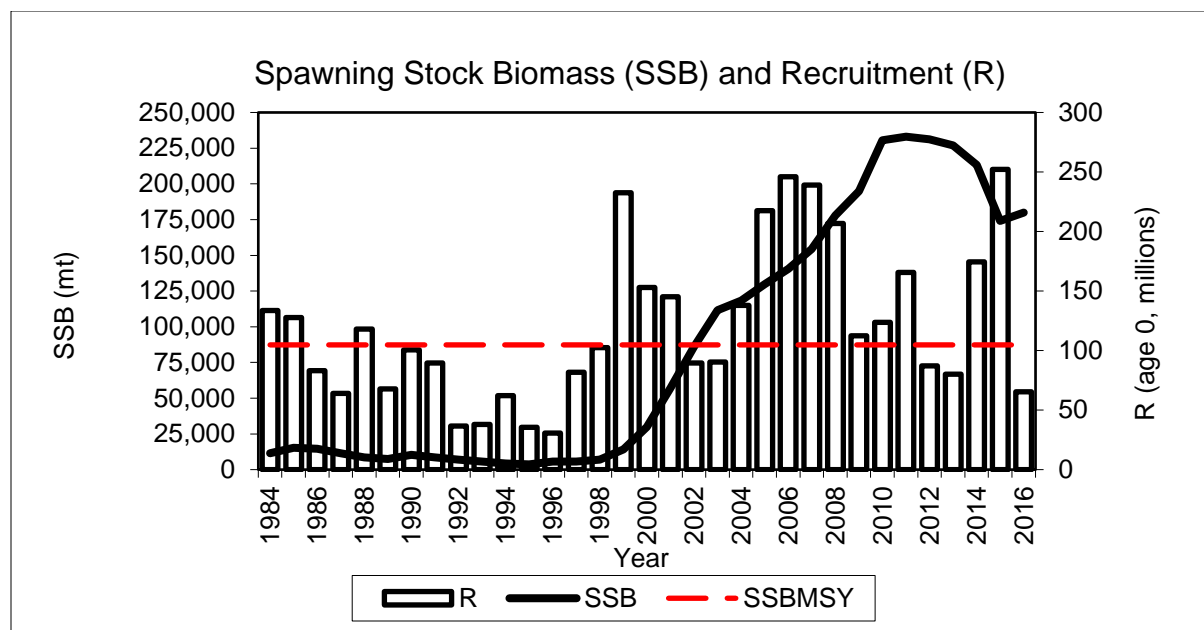


Figure 5: Spawning Stock Biomass (SSB; solid line) and Recruitment (R at age 0; vertical bars) for scup from the 2017 update stock assessment (Terceiro 2017b). The horizontal dashed line is the SSB_{MSY} proxy = $SSB_{40\%}$ = 87,302 mt (NEFSC 2015).

Other Non-Target Species

Other non-target species identified in the guild analysis for the target species in this action (summer flounder and black sea bass) include bluefish, sea robins, tautog, and Atlantic croaker.

Bluefish is jointly managed by the MAFMC and the ASMFC. The latest bluefish benchmark stock assessment was peer reviewed and approved for use by management in June 2015. Results from this assessment indicate that the bluefish stock was not overfished and overfishing was not occurring in 2014. SSB was 190.77 million pounds (86,534 mt) in 2014 (85 percent of the biomass target of SSB_{MSY} proxy = $SSB_{35\%SPR}$ = 223.42 million pounds or 101,343 mt). SSB declined since the beginning of the time series, from a high of 340.90 million pounds (154,633 mt) in 1985 to a low of 116.34 million pounds (52,774 mt) in 1997, before increasing again. Average SSB for the 1985-2014 time series is 175.15 million pounds (79,449 mt). Fully-selected fishing mortality in 2014 was estimated to be 0.157, below the F threshold (F_{MSY} proxy = $F_{35\%SPR}$ = 0.19). Fully selected F peaked in 1987 at 0.477 and then declined gradually since then, with a time series average of 0.284 (MAFMC 2017c).

Northern and striped sea robins have not been assessed, therefore their overfished and overfishing status is unknown. Sea robins are not managed directly at the federal or state level.

Tautog is managed by the ASMFC. While tautog have been managed on a coastwide basis from Massachusetts through Virginia, tagging data suggest strong site fidelity across years with limited north-south movement and some seasonal inshore-offshore migrations. In the northern part of their range, adult tautog move from offshore wintering grounds in the spring to nearshore spawning and feeding areas, where they remain until late fall when the reverse migration occurs as water temperatures drop. Populations in the southern region may undergo shorter distance seasonal

migrations, while in the southern-most part of the range they may not undergo seasonal migrations at all. Based on this information, the stock assessment is conducted at a regional level. The latest assessment in 2016 (ASMFC 2016) assessed four regions (Massachusetts/Rhode Island, Long Island Sound, New Jersey/New York Bight, and Delaware/Maryland/Virginia) using landings and index data through 2015. The stock status for each region is described in Table 3.

Table 3: Current tautog fishing mortality and biomass targets and thresholds for each assessed region. Source: 2016 Tautog Assessment Update (ASMFC).

Region	F _{target}	F _{threshold}	F _{3yravg}	SSB _{target}	SSB _{threshold}	SSB ₂₀₁₅	Status
MA/RI	0.28	0.49	0.23	3,631 mt	2,723 mt	2,196 mt	Not overfished, overfishing not occurring
Long Island Sound	0.28	0.49	0.51	2,865 mt	2,148 mt	1,603 mt	Overfished, overfishing
New Jersey/New York Bight	0.20	0.34	0.54	3,154 mt	2,351 mt	1,809 mt	Overfished, overfishing
DE/MD/VA	0.16	0.24	0.16	1,919 mt	1,447 mt	621 mt	Overfished, overfishing not occurring

Atlantic croaker is managed by the ASMFC. In May 2017, the Commission’s South Atlantic State/Federal Fisheries Management Board received the findings of the 2017 Atlantic Croaker Benchmark Stock Assessment and Peer Review Report (ASMFC 2017). While the assessment was not endorsed by an independent panel of fisheries scientists for management use, the panel agreed with the general results of the assessment that immediate management actions are not necessary. The panel recommended continued use of the annual "traffic light analysis" established in 2014 to monitor fishery and resource trends, and implement management measures as needed. This analysis assigns a color (red, yellow, or green) to categorize relative levels of indicators of the condition of the fish population (abundance metric) or fishery (harvest metric). For example, as harvest increases relative to its long-term mean, the proportion of green in a given year will increase and as harvest decreases, the amount of red in that year will increase. Under the Addendum II to Amendment 1 for Atlantic Croaker, state-specific management action would be initiated when the proportion of red exceeds the specified thresholds (for both harvest and abundance) over three consecutive years. A key issue causing uncertainty in the Atlantic croaker assessment results was the disagreement between recent trends in harvest and fishery independent indices of abundance. Recent harvest numbers are declining while estimated abundance from fishery independent surveys is increasing (ASMFC 2017).

6.2 Physical Environment and Essential Fish Habitat

The physical, chemical, biological, and geological components of benthic and pelagic environments are important aspects of habitat for marine species and have implications for reproduction, growth, and survival of marine species. The following sections briefly describe key aspects of physical habitats which may be impacted by the alternatives considered in this document. This information is drawn from Stevenson et al. (2004), unless otherwise noted.

6.2.1 Physical Environment

Summer flounder and black sea bass inhabit the northeast U.S. shelf ecosystem, which includes the area from the Gulf of Maine south to Cape Hatteras, extending seaward from the coast to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream. The northeast shelf ecosystem includes the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope.

The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with a patchwork of various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and strong currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, North Carolina.

The continental slope begins at the continental shelf break and continues eastward with increasing depth until it becomes the continental rise. It is fairly homogenous, with exceptions at the shelf break, some of the canyons, the Hudson Shelf Valley, and in areas of glacially rafted hard bottom. The continental shelf in this region was shaped largely by sea level fluctuations caused by past ice ages. The shelf's basic morphology and sediments derive from the retreat of the last ice sheet and the subsequent rise in sea level. Currents and waves have since modified this basic structure.

Shelf and slope waters of the Mid-Atlantic Bight have a slow southwestward flow that is occasionally interrupted by warm core rings or meanders from the Gulf Stream. On average, shelf water moves parallel to bathymetry isobars at speeds of 5 - 10 cm/s at the surface and 2 cm/s or less at the bottom. Storm events can cause much more energetic variations in flow. Tidal currents on the inner shelf have a higher flow rate of 20 cm/s that increases to 100 cm/s near inlets.

The shelf slopes gently from shore out to between 100 and 200 km offshore where it transforms to the slope (100 - 200 m water depth) at the shelf break. Numerous canyons incise the slope and some cut up onto the shelf itself. The primary morphological features of the shelf include shelf valleys and channels, shoal massifs, scarps, and sand ridges and swales. Most of these structures are relic except for some sand ridges and smaller sand-formed features. Shelf valleys and slope canyons were formed by rivers of glacier outwash that deposited sediments on the outer shelf edge as they entered the ocean. Most valleys cut about 10 m into the shelf; however, the Hudson Shelf Valley is about 35 m deep. The valleys were partially filled as the glacier melted and retreated across the shelf. The glacier also left behind a lengthy scarp near the shelf break from Chesapeake Bay north to the eastern end of Long Island. Shoal retreat massifs were produced by extensive deposition at a cape or estuary mouth. Massifs were also formed as estuaries retreated across the shelf.

Some sand ridges are more modern in origin than the shelf's glaciated morphology. Their formation is not well understood; however, they appear to develop from the sediments that erode from the shore face. They maintain their shape, so it is assumed that they are in equilibrium with modern current and storm regimes. They are usually grouped, with heights of about 10 m, lengths of 10 - 50 km and spacing of 2 km. Ridges are usually oriented at a slight angle towards shore, running in length from northeast to southwest. The seaward face usually has the steepest slope. Sand ridges are often covered with smaller similar forms such as sand waves, megaripples, and ripples. Swales occur between sand ridges. Since ridges are higher than the adjacent swales, they

are exposed to more energy from water currents and experience more sediment mobility than swales. Ridges tend to contain less fine sand, silt and clay while relatively sheltered swales contain more of the finer particles. Swales have greater benthic macrofaunal density, species richness and biomass, due in part to the increased abundance of detrital food and the less physically rigorous conditions.

Sand waves are usually found in patches of 5 - 10 with heights of about 2 m, lengths of 50 - 100 m and 1 - 2 km between patches. Sand waves are primarily found on the inner shelf, and often observed on sides of sand ridges. They may remain intact over several seasons. Megaripples occur on sand waves or separately on the inner or central shelf. During the winter storm season, they may cover as much as 15% of the inner shelf. They tend to form in large patches and usually have lengths of 3 - 5 m with heights of 0.5 - 1 m. Megaripples tend to survive for less than a season. They can form during a storm and reshape the upper 50 - 100 cm of the sediments within a few hours. Ripples are also found everywhere on the shelf and appear or disappear within hours or days, depending upon storms and currents. Ripples usually have lengths of about 1 - 150 cm and heights of a few centimeters.

Sediments are uniformly distributed over the shelf in this region. A sheet of sand and gravel varying in thickness from 0 - 10 m covers most of the shelf. The mean bottom flow from the constant southwesterly current is not fast enough to move sand, so sediment transport must be episodic. Net sediment movement is in the same southwesterly direction as the current. The sands are mostly medium to coarse grains, with finer sand in the Hudson Shelf Valley and on the outer shelf. Mud is rare over most of the shelf, but is common in the Hudson Shelf Valley. Occasionally relic estuarine mud deposits are re-exposed in the swales between sand ridges. Fine sediment content increases rapidly at the shelf break, which is sometimes called the “mud line,” and sediments are 70 - 100% fine on the slope. On the slope, silty sand, silt, and clay predominate (Stevenson et al. 2004).

Greene et al. (2010) identified and described Ecological Marine Units (EMUs) in New England and the Mid-Atlantic based on sediment type, seabed form (a combination of slope and relative depth)⁶, and benthic organisms.⁷ According to this classification scheme, the sediment composition off New England and the Mid-Atlantic is about 68% sand, 26% gravel, and 6% silt/mud. The seafloor is classified as about 52% flat, 26% depression, 19% slope, and 3% steep (Table 3).

Artificial reefs are another significant Mid-Atlantic habitat. These localized areas of hard structure were formed by shipwrecks, lost cargoes, disposed solid materials, shoreline jetties and groins, submerged pipelines, cables, and other materials (Steimle and Zetlin 2000). While some of these materials were deposited specifically for use as fish habitat, most have an alternative primary purpose; however, they have all become an integral part of the coastal and shelf ecosystem. In general, reefs are important for attachment sites, shelter, and food for many species, and fish predators such as tunas may be attracted by prey aggregations, or may be behaviorally attracted to the reef structure.

⁶ Seabed form contains the categories of depression, mid flat, high flat, low slope, side slope, high slope, and steep slope.

⁷ See Greene et al. 2010 for a description of the methodology used to define EMUs.

Like all the world's oceans, the western North Atlantic is experiencing changes to the physical environment as a result of global climate change. These changes include warming temperatures; sea level rise; ocean acidification; changes in stream flow, ocean circulation, and sediment deposition; and increased frequency, intensity, and duration of extreme climate events. These changes in physical habitat can impact the metabolic rate and other biological processes of marine species. As such, these changes have implications for the distribution and productivity of many marine species. Several studies demonstrate that the distribution and productivity of several species in the Mid-Atlantic have changed over time, likely because of changes in physical habitat conditions such as temperature (e.g. Weinberg 2005, Lucey and Nye 2010, Nye et al. 2011, Pinsky et al. 2013, Gaichas et al. 2015).

Table 4: Composition of Ecological Marine Units (EMUs) off New England and the Mid-Atlantic (Greene et al. 2010). EMUs which account for less than 1% of the surface area of these regions are not shown.

Ecological Marine Unit	Percent Coverage
High Flat Sand	13%
Moderate Flat Sand	10%
High Flat Gravel	8%
Side Slope Sand	6%
Somewhat Deep Flat Sand	5%
Low Slope Sand	5%
Moderate Depression Sand	4%
Very Shallow Flat Sand	4%
Side Slope Silt/Mud	4%
Moderate Flat Gravel	4%
Deeper Depression Sand	4%
Shallow Depression Sand	3%
Very Shallow Depression Sand	3%
Deeper Depression Gravel	3%
Shallow Flat Sand	3%
Steep Sand	3%
Side Slope Gravel	3%
High Flat Silt/Mud	2%
Shallow Depression Gravel	2%
Low Slope Gravel	2%
Moderate Depression Gravel	2%
Somewhat Deep Depression Sand	2%
Deeper Flat Sand	1%
Shallow Flat Gravel	1%
Deep Depression Gravel	1%
Deepest Depression Sand	1%
Very Shallow Depression Gravel	1%

6.2.2 Essential Fish Habitat (EFH)

The MSA defines EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity” (MSA section 3). The MSA requires that Councils describe and identify EFH for managed species and “minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat” (MSA section 303 (a)(7)).

The broad definition of EFH has led the Mid-Atlantic and the New England Fishery Management Councils to identify EFH throughout most of the Northeast U.S. Shelf Ecosystem, ranging from areas out to the shelf break to wetlands, streams, and rivers. Table 4 summarizes EFH in the northeast shelf ecosystem for federally-managed species and life stages that are vulnerable to bottom tending fishing gear.

Table 5: Essential Fish Habitat descriptions for federally-managed species/life stages that are vulnerable to bottom tending fishing gear in the U.S. northeast shelf ecosystem.

Species	Life Stage	Geographic Area of EFH	Depth (meters)	Bottom Type
American plaice	juvenile	GOM, including estuaries from Passamaquoddy Bay to Saco Bay, ME and from Massachusetts Bay to Cape Cod Bay	45 - 150	Fine grained sediments, sand, or gravel
American plaice	adult	GOM, including estuaries from Passamaquoddy Bay to Saco Bay, ME and from Massachusetts Bay to Cape Cod Bay	45 - 175	Fine grained sediments, sand, or gravel
Atlantic cod	juvenile	GOM, GB, eastern portion of continental shelf off SNE, these estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	25 - 75	Cobble or gravel
Atlantic cod	adult	GOM, GB, eastern portion of continental shelf off SNE, these estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	10 - 150	Rocks, pebbles, or gravel
Atl halibut	juvenile	GOM and GB	20 - 60	Sand, gravel, or clay
Atl halibut	adult	GOM and GB	100 - 700	Sand, gravel, or clay
Barndoor skate	juvenile/ adult	Eastern GOM, GB, SNE, Mid-Atlantic Bight to Hudson Canyon	10-750, most < 150	Mud, gravel, and sand
Black sea bass	juvenile	GOM to Cape Hatteras, NC, including estuaries from Buzzards Bay to Long Island Sound, Gardiners Bay, Barnegat Bay to Chesapeake Bay, Tangier/ Pocomoke Sound, and James River	1 - 38	Rough bottom, shellfish/ eelgrass beds, manmade structures, offshore clam beds, and shell patches
Black sea bass	adult	GOM to Cape Hatteras, NC, including Buzzards Bay, Narragansett Bay, Gardiners Bay, Great South Bay, Barnegat Bay to Chesapeake Bay, and James River	20 - 50	Structured habitats (natural and manmade), sand and shell substrates preferred
Clearnose skate	juvenile/ adult	GOM, along continental shelf to Cape Hatteras, NC, including the estuaries from Hudson River/Raritan Bay south to the Chesapeake Bay mainstem	0 – 500, most < 111	Soft bottom and rocky or gravelly bottom
Haddock	juvenile	GB, GOM, and Mid-Atlantic south to Delaware Bay	35 - 100	Pebble and gravel

Species	Life Stage	Geographic Area of EFH	Depth (meters)	Bottom Type
Haddock	adult	GB, eastern side of Nantucket Shoals, and throughout GOM	40 - 150	Broken ground, pebbles, smooth hard sand, and smooth areas between rocky patches
Little skate	juvenile/ adult	GB through Mid-Atlantic Bight to Cape Hatteras, NC; includes estuaries from Buzzards Bay south to mainstem Chesapeake Bay	0-137, most 73 - 91	Sandy or gravelly substrate or mud
Ocean pout	eggs	GOM, GB, SNE, and Mid-Atlantic south to Delaware Bay, including the following estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay and Cape Cod Bay	<50	Generally sheltered nests in hard bottom in holes or crevices
Ocean pout	juvenile	GOM, GB, SNE, Mid-Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts Bay, and Cape Cod Bay	< 50	Close proximity to hard bottom nesting areas
Ocean pout	adult	GOM, GB, SNE, Mid-Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay, MA Bay, Boston Harbor, and Cape Cod Bay	< 80	Smooth bottom near rocks or algae
Pollock	adult	GOME, GB, SNE, and Mid-Atlantic south to New Jersey and the following estuaries: Passamaquoddy Bay, Damariscotta R., MA Bay, Cape Cod Bay, Long Island Sound	15 – 365	Hard bottom habitats including artificial reefs
Red hake	juvenile	GOM, GB, continental shelf off SNE, and Mid-Atlantic south to Cape Hatteras, including the following estuaries: Passamaquoddy Bay to Saco Bay, Great Bay, MA Bay to Cape Cod Bay; Buzzards Bay to CT River, Hudson River, Raritan Bay, and Chesapeake Bay	< 100	Shell fragments, including areas with an abundance of live scallops
Red hake	adult	GOM, GB, continental shelf off SNE, Mid-Atlantic south to Cape Hatteras, these estuaries: Passamaquoddy Bay to Saco Bay, Great Bay, MA Bay to Cape Cod Bay; Buzzards Bay to CT River, Hudson River, Raritan Bay, Delaware Bay, and Chesapeake Bay	10 - 130	In sand and mud, in depressions
Redfish	juvenile	GOM, southern edge of GB	25 - 400	Silt, mud, or hard bottom
Redfish	adult	GOM, southern edge of GB	50 - 350	Silt, mud, or hard bottom
Rosette skate	juvenile/ adult	Nantucket shoals and southern edge of GB to Cape Hatteras, NC	33-530, most 74-274	Soft substrate, including sand/mud bottoms
Scup	juvenile/ adult	GOM to Cape Hatteras, NC, including the following estuaries: MA Bay, Cape Cod Bay to Long Island Sound, Gardiners Bay to Delaware inland bays, and Chesapeake Bay	0-38 for juv 2-185 for adult	Demersal waters north of Cape Hatteras and inshore estuaries (various substrate types)
Silver hake	juvenile	GOM, GB, continental shelf off SNE, Mid-Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Casco Bay, ME, MA Bay to Cape Cod Bay	20 – 270	All substrate types
Summer Flounder	juvenile/ adult	GOM to Florida – estuarine and over continental shelf to shelf break	0-250	Demersal/estuarine waters, varied substrates. Mostly inshore in summer and offshore in winter.

Species	Life Stage	Geographic Area of EFH	Depth (meters)	Bottom Type
Smooth skate	juvenile/ adult	Offshore banks of GOM	31–874, most 110- 457	Soft mud (silt and clay), sand, broken shells, gravel and pebbles
Thorny skate	juvenile/ adult	GOM and GB	18-2000, most 111- 366	Sand, gravel, broken shell, pebbles, and soft mud
Tilefish	juvenile/ adult	Outer continental shelf and slope from the U.S./Canadian boundary to the Virginia/North Carolina boundary	100 - 300	Burrows in clay (some may be semi-hardened into rock)
White hake	juvenile	GOM, southern edge of GB, SNE to Mid-Atlantic and the following estuaries: Passamaquoddy Bay, ME to Great Bay, NH, Massachusetts Bay to Cape Cod Bay	5 - 225	Seagrass beds, mud, or fine grained sand
Winter flounder	adult	GB, inshore areas of GOM, SNE, Mid- Atlantic south to Delaware Bay and the estuaries from Passamaquoddy Bay, ME to Chincoteague Bay, VA	1 - 100	Mud, sand, and gravel
Winter skate	juvenile/ adult	Cape Cod Bay, GB, SNE shelf through Mid-Atlantic Bight to North Carolina; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 371, most < 111	Sand and gravel or mud
Witch flounder	juvenile	GOM, outer continental shelf from GB south to Cape Hatteras	50 - 450 to 1500	Fine grained substrate
Witch flounder	adult	GOME, outer continental shelf from GB south to Chesapeake Bay	25 - 300	Fine grained substrate
Yellowtail flounder	adult	GB, GOM, SNE and Mid-Atlantic south to Delaware Bay and these estuaries: Sheepscot River and Casco Bay, ME, MA Bay to Cape Cod Bay	20 - 50	Sand or sand and mud

6.2.3 Fishery Impact Considerations

Only those gear types which contact the bottom impact physical habitat. This action is only relevant to the recreational fisheries for summer flounder and black sea bass, which are almost exclusively hook and line fisheries. MRIP data for 2012-2016 indicate that over 99% of recreational landings were taken by hook and line for both species. Recreational hook and line gears are generally understood to have minimal impacts on physical habitat and EFH in this region (Stevenson et al. 2004). Some weighted hook and line gear does contact the bottom, but the magnitude and footprint of any impacts resulting from this contact is minimal. Thus, the recreational fisheries are expected to have very minor or no impacts on habitat.

6.3 ESA and MMPA Protected Species

Numerous protected species inhabit the affected environment of the Summer Flounder, Scup, and Black Sea Bass FMP (Table 6; Hayes et al. 2017). These species are under NMFS jurisdiction and are afforded protection under the Endangered Species Act (ESA) of 1973 and/or the Marine Mammal Protection Act (MMPA) of 1972.

Cusk, alewife, and blueback herring are NMFS "candidate species" under the ESA. Candidate species are those petitioned species for which NMFS has determined that listing may be warranted under the ESA and those species for which NMFS has initiated an ESA status review through an

announcement in the Federal Register. If a species is proposed for listing, the conference provisions under Section 7 of the ESA apply (see 50 CFR 402.10); however, candidate species receive no substantive or procedural protection under the ESA. These species will not be discussed further in this and the following sections; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed action. Additional information on cusk, alewife, and blueback herring can be found at:

<http://www.nmfs.noaa.gov/pr/species/esa/candidate.htm>.

Table 6: Species Protected Under the ESA and/or MMPA that may occur in the Affected Environment of the summer flounder and/or black sea bass fisheries. Marine mammal species (cetaceans and pinnipeds) italicized and in bold are MMPA strategic stocks.¹

Species	Status	Potentially affected by this action?
Cetaceans		
<i>North Atlantic right whale (Eubalaena glacialis)</i>	<i>Endangered</i>	<i>Yes</i>
<i>Humpback whale, West Indies DPS (Megaptera novaeangliae)</i>	Protected (MMPA)	Yes
<i>Fin whale (Balaenoptera physalus)</i>	<i>Endangered</i>	<i>Yes</i>
<i>Sei whale (Balaenoptera borealis)</i>	<i>Endangered</i>	<i>Yes</i>
<i>Blue whale (Balaenoptera musculus)</i>	<i>Endangered</i>	<i>No</i>
<i>Sperm whale (Physeter macrocephalus)</i>	<i>Endangered</i>	<i>No</i>
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected (MMPA)	Yes
<i>Pilot whale (Globicephala spp.)²</i>	<i>Protected (MMPA)</i>	<i>No</i>
Pygmy sperm whale (<i>Kogia breviceps</i>)	Protected (MMPA)	No
Dwarf sperm whale (<i>Kogia sima</i>)	Protected (MMPA)	No
Risso's dolphin (<i>Grampus griseus</i>)	Protected (MMPA)	No
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected (MMPA)	No
Short Beaked Common dolphin (<i>Delphinus delphis</i>)	Protected (MMPA)	No
Atlantic Spotted dolphin (<i>Stenella frontalis</i>)	Protected (MMPA)	No
Striped dolphin (<i>Stenella coeruleoalba</i>)	Protected (MMPA)	No
<i>Bottlenose dolphin (Tursiops truncatus)³</i>	<i>Protected (MMPA)</i>	<i>Yes</i>
Harbor porpoise (<i>Phocoena phocoena</i>)	Protected (MMPA)	No
Sea Turtles		
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered	Yes
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered	Yes
Green sea turtle, North Atlantic DPS (<i>Chelonia mydas</i>)	Threatened	Yes
Loggerhead sea turtle (<i>Caretta caretta</i>), Northwest Atlantic Ocean DPS	Threatened	Yes
Hawksbill sea turtle (<i>Eretmochelys imbricate</i>)	Endangered	No
Fish		
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered	No
Atlantic salmon (<i>Salmo salar</i>)	Endangered	No
Atlantic sturgeon (<i>Acipenser oxyrinchus</i>)		
<i>Gulf of Maine DPS</i>	Threatened	Yes
<i>New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS</i>	Endangered	Yes
Cusk (<i>Brosme brosme</i>)	Candidate	Yes
Alewife (<i>Alosa pseudoharengus</i>)	Candidate	Yes
Blueback herring (<i>Alosa aestivalis</i>)	Candidate	Yes
Pinnipeds		
Harbor seal (<i>Phoca vitulina</i>)	Protected (MMPA)	No
Gray seal (<i>Halichoerus grypus</i>)	Protected (MMPA)	No
Harp seal (<i>Phoca groenlandicus</i>)	Protected (MMPA)	No
Hooded seal (<i>Cystophora cristata</i>)	Protected (MMPA)	No
Critical Habitat		
North Atlantic Right Whale	ESA (Protected)	No
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA (Protected)	No

¹ A strategic stock is defined under the MMPA as a marine mammal stock for which: (1) the level of direct human-caused mortality exceeds the potential biological removal level; (2) based on the best available scientific information, is declining and is likely to be listed as a threatened species under the ESA within the foreseeable future; and/or (3) is listed as a threatened or endangered species under the ESA, or is designated as depleted under the MMPA (Section 3 of the MMPA of 1972).

Species	Status	Potentially affected by this action?
<p>² There are 2 species of pilot whales: short finned (<i>G. melas melas</i>) and long finned (<i>G. macrorhynchus</i>). Due to the difficulties in identifying the species at sea, they are often just referred to as <i>Globicephala spp.</i></p> <p>³ This includes the Western North Atlantic Offshore, Northern Migratory Coastal, and Southern Migratory Coastal Stocks of Bottlenose Dolphins. See marine mammal stock assessment reports (http://www.nmfs.noaa.gov/pr/sars/region.htm) for further details.</p>		

6.3.1 Species and Critical Habitat Not Likely to be Affected by the Proposed Action

Based on available information, it has been determined that this action is not likely to affect multiple ESA listed and/or marine mammal protected species (see Table 6). Further, this action is not likely to adversely affect any critical habitat for the species listed in Table 6.

This determination was made because either the occurrence of the species is not known to overlap with the recreational summer flounder or black sea bass fisheries and/or there have never been documented interactions between the species and these fisheries (NMFS NEFSC FSB 2015, 2016, 2017; Palmer 2017; see http://www.nefsc.noaa.gov/fsb/take_reports/nefop.html; <http://www.nmfs.noaa.gov/pr/sars/region.htm>).

In the case of critical habitat, this determination has been made because these recreational fisheries will not affect the essential physical and biological features of North Atlantic right whale or loggerhead (Northwest Atlantic Ocean Distinct Population Segment, or DPS) critical habitat and, and therefore, will not result in the destruction or adverse modification of critical habitat (NMFS 2014; NMFS 2015a,b).

6.3.2 Species Potentially Affected by the Proposed Action

Table 6 lists protected sea turtle, marine mammal, and fish species present in the affected environment of the summer flounder and black sea bass fisheries, and that may also be affected by the operation of these fisheries; that is, have the potential to become entangled or bycaught in the fishing gear used to prosecute these fisheries. To aid in the identification of MMPA protected species potentially affected by the action, the MMPA List of Fisheries and marine mammal stock assessment reports for the Atlantic Region were referenced (<http://www.nmfs.noaa.gov/pr/sars/region.htm>; <http://www.nmfs.noaa.gov/pr/interactions/fisheries/lof.html>).

To aid in identifying ESA listed species potentially affected by the action, the 2013 Biological Opinion issued by NMFS on the operation of fisheries managed through seven FMPs, including the Summer Flounder, Scup, and Black Sea Bass FMP, and its impact on ESA listed species was referenced (NMFS 2013). The 2013 Opinion, which considered the best available information on ESA listed species and observed or documented interactions with gear types used to prosecute the fisheries managed through the seven FMPs (e.g., gillnet, bottom trawl, and pot/trap), concluded that these fisheries may adversely affect, but are not likely to jeopardize the continued existence of any ESA listed species. The Opinion included an incidental take statement (ITS) authorizing the take of specific numbers of ESA listed species of sea turtles, Atlantic salmon, and Atlantic sturgeon. Reasonable and prudent measures and terms and conditions were also issued with the ITS to minimize impacts of any incidental take.

Up until recently, the 2013 Opinion remained in effect; however, new information on North Atlantic right whales has been made available that may reveal effects of the fisheries analyzed in the 2013 Opinion that may not have been previously considered. As a result, per an October 17, 2017, ESA 7(a)(2)/7(d) memo issued by NMFS, the 2013 Opinion has been reinitiated. However, the October 17, 2017 memo concludes that allowing these fisheries to continue during the reinitiation period will not increase the likelihood of interactions with ESA listed species above the amount that would otherwise occur if consultation had not been reinitiated, and therefore, the continuation of these fisheries during the reinitiation period would not be likely to jeopardize the continued existence of any ESA listed species. Until replaced, the Summer Flounder, Scup, and Black Sea Bass FMP is currently covered by the incidental take statement authorized in NMFS 2013 Opinion.

As the primary concern for both MMPA protected and ESA listed species is the potential for the fishery to interact (e.g., bycatch, entanglement) with these species it is necessary to consider (1) species occurrence in the affected environment of the fishery and how the fishery will overlap in time and space with this occurrence; and (2) data and observed records of protected species interaction with particular fishing gear types, in order to understand the potential risk of an interaction. Information on species occurrence in the affected environment of the recreational summer flounder and black sea bass fisheries is provided below, while information on protected species interactions with specific fishery gear is provided in section 6.3.3.

6.3.2.1 Sea Turtles

Both hard shell and leatherback sea turtles are known to migrate through the waters of the Northwest Atlantic continental shelf. This section contains a brief summary of the occurrence and distribution of sea turtles in the affected environment of the summer flounder and black sea bass fisheries. Additional background information on the range-wide status of affected sea turtle species, as well as a description and life history of each of these species, can be found in a number of published documents, including sea turtle status reviews and biological reports (NMFS and USFWS 1995; Hirth 1997; TEWG 1998, 2000, 2007, 2009; NMFS and USFWS 2007a, 2007b; Conant et al. 2009; NMFS and USFWS 2013), and recovery plans for the loggerhead sea turtle (Northwest Atlantic DPS; NMFS and USFWS 2008), leatherback sea turtle (NMFS and USFWS 1992, 1998a), Kemp's ridley sea turtle (NMFS et al. 2011), and green sea turtle (NMFS and USFWS 1991, 1998).

Hard-shelled sea turtles: In U.S. Northwest Atlantic waters, hard-shelled turtles commonly occur throughout the continental shelf from Florida to Cape Cod, MA, although their presence varies with the seasons due to changes in water temperature (Braun-McNeill et al. 2008; Braun & Epperly 1996; Epperly et al. 1995a,b; Mitchell et al. 2003; Shoop & Kenney 1992; TEWG 2009; Blumenthal et al. 2006; Braun-McNeill & Epperly 2004; Griffin et al. 2013; Hawkes et al. 2006; Hawkes et al. 2011; Mansfield et al. 2009; McClellan & Read 2007; Mitchell et al. 2003; Morreale & Standora 2005). As coastal water temperatures warm in the spring, loggerheads begin to migrate to inshore waters of the southeast United States and also move up the Atlantic Coast (Braun-McNeill & Epperly 2004; Epperly et al. 1995a,b,c; Griffin et al. 2013), occurring in Virginia foraging areas as early as late April and on the most northern foraging grounds in the Gulf of Maine (GOM) in June. This trend is reversed in the fall as water temperatures cool. The majority leave the Gulf of Maine by September, but some remain in Mid-Atlantic and Northeast areas until November. By December, sea turtles have migrated south to waters offshore of North Carolina,

particularly south of Cape Hatteras, and further south, although hard-shelled sea turtles can occur year-round in waters off Cape Hatteras and south (Epperly et al. 1995b; Griffin et al. 2013; Hawkes et al. 2011; Shoop & Kenney 1992).

Leatherback sea turtles: Leatherback sea turtles engage in routine migrations between northern temperate and tropical waters (Dodge et al. 2014; James et al. 2005; James et al. 2006; NMFS & USFWS 1992). They are also known to use coastal waters of the U.S. continental shelf (Dodge et al. 2014; Eckert et al. 2006; James et al. 2005; Murphy et al. 2006). Leatherbacks have a greater tolerance for cold water in comparison to hard-shelled sea turtles. They are also found in more northern waters later in the year, with most leaving the Northwest Atlantic shelves by mid-November (Dodge et al. 2014; James et al. 2005; James et al. 2006).

6.3.2.2 Large Whales

Large whales, such as humpback, North Atlantic right, fin, sei, and minke whales are found throughout the waters of the Northwest Atlantic Ocean. In general, these species follow an annual pattern of migration between low latitude (south of 35°N) wintering/calving grounds and high latitude spring/summer foraging grounds (primarily north of 41°N; Hayes et al. 2017; NMFS 1991, 2005, 2010, 2011, 2012). This is a simplification of whale movements, particularly as it relates to winter movements. It is unknown if all individuals of a population migrate to low latitudes in the winter, although increasing evidence suggests that for some species (e.g., right and humpback whales), some portion of the population remains in higher latitudes throughout the winter (Brown et al. 2002; Clapham et al. 1993; Cole et al. 2013; Khan et al. 2010, 2011, 2012; Khan et al. 2009; NOAA 2008; Swingle et al. 1993; Vu et al. 2012; Waring et al. 2016). Although further research is needed to provide a clearer understanding of large whale movements and distribution in the winter, the distribution and movements of large whales to foraging grounds in the spring/summer is well understood. Large whales consistently return to these foraging areas each year, therefore these areas can be considered important areas for whales (Baumgartner et al. 2003; Baumgartner & Mate 2003; Brown et al. 2002; Kenney 2001; Kenney et al. 1986; Kenney et al. 1995; Mayo & Marx 1990; Payne et al. 1986; Payne et al. 1990; Schilling et al. 1992). For additional information on the biology, status, and range wide distribution of each whale species see: NMFS 1991, 2005, 2010, 2011, 2012, and marine mammal stock assessment reports provided at: <http://www.nmfs.noaa.gov/pr/sars/region.htm>.

6.3.2.3 Small Cetaceans

Table 6 lists the small cetaceans that may occur in the affected environment of the summer flounder and black sea bass fisheries. Small cetaceans can be found throughout the year in the Northwest Atlantic Ocean; however, within this range, there are seasonal shifts in species distribution and abundance. For additional information on the biology and range wide distribution of each species of small cetacean provided in Table 6, please refer to the marine mammal stock assessment reports provided at: <http://www.nmfs.noaa.gov/pr/sars/region.htm>.

6.3.2.4 Atlantic sturgeon

The marine range of U.S. Atlantic sturgeon extends from Labrador, Canada, to Cape Canaveral, Florida. All five DPSs of Atlantic sturgeon have the potential to be located anywhere in this marine range (ASSRT 2007; Dovel and Berggren 1983; Dadswell et al. 1984; Kynard et al. 2000; Stein et al. 2004a; Dadswell 2006; Laney et al. 2007; Dunton et al. 2010, 2015; Erickson et al. 2011; Wirgin et al. 2012; Waldman et al. 2013; O'Leary et al. 2014; Wirgin et al. 2015a,b; ASMFC 2017). Based

on fishery-independent and dependent data, as well as data collected from tracking and tagging studies, in the marine environment, Atlantic sturgeon appear to primarily occur inshore of the 50 meter depth contour (Stein et al. 2004 a,b; Erickson et al. 2011; Dunton et al. 2010; ASMFC 2017); however, Atlantic sturgeon are not restricted to these depths, as excursions into deeper continental shelf waters have been documented (Timoshkin 1968; Collins and Smith 1997; Stein et al. 2004a,b; Dunton et al. 2010; Erickson et al. 2011). Data from fishery-independent surveys and tagging and tracking studies also indicate that Atlantic sturgeon may undertake seasonal movements along the coast (Dunton et al. 2010; Erickson et al. 2011; Wipplehauser 2012); however, there is no evidence to date that all Atlantic sturgeon make these seasonal movements. They may be present throughout the marine environment throughout the year. For additional information on the biology, status, and range wide distribution of each DPS of Atlantic sturgeon see 77 FR 5880 and 77 FR 5914, as well as the Atlantic Sturgeon Status Review Team's (ASSRT) 2007 status review of Atlantic sturgeon (ASSRT 2007), and the 2017 Atlantic Sturgeon Benchmark Stock Assessment and Peer Review Report (ASMFC 2017).

6.3.3 Recreational Fisheries Interactions

As noted in section 6.2.3, the recreational components of the summer flounder and black sea bass fisheries are primarily prosecuted with hook and line gear. In the absence of an observer program for recreational fisheries, records of recreational hook and line interactions with protected resources are limited. Other sources of information, such as state fishing records, stranding databases, and marine mammal stock assessment reports, provide additional information that can assist in better understanding hook and line interaction risks to protected species. As provided in Table 6, sea turtles, Atlantic sturgeon, bottlenose dolphins, and several species of large whales have the potential to interact with hook and line gear.

Large whales are known to interact with hook and line gear; however, in the most recent (2011-2015) mortality and serious injury determinations for baleen whales, the majority of cases identified with confirmed hook and line or monofilament entanglement did not result in the serious injury or mortality to the whale (89.3% observed/reported whales had a serious injury value of 0; 10.7% had a serious injury value of 0.75; none of the cases resulted in mortality; Henry et al. 2017).⁸ In fact, 85.7% of the whales observed or reported with a hook/line or monofilament entanglement were resighted gear free and healthy; confirmation of the health of the other remaining whales remain unknown as no resightings had been made over the timeframe of the assessment (Henry et al. 2017). Based on this information, while large whale interactions with hook and line gear are possible, there is a low probability that an interaction will result in serious injury or mortality to any large whale species. Therefore, relative to other gear types, such as fixed gear, hook and line gear represents a low source serious injury or mortality to any large whale (Henry *et al.* 2017).

As provided in table 5, there are numerous small cetaceans that will occur in the affected environment of the recreational summer flounder and black sea bass fisheries. However, of these species, only bottlenose dolphin stocks have been identified (primarily through stranding data) as

⁸ Any injury leading to a significant health decline (e.g., skin discoloration, lesions near the nares, fat loss, increased cyanid loads) is classified as a serious injury (SI) and will result in a SI value set at 1 (Henry *et al.* 2017).

vulnerable to entanglement in hook and line gear. In some cases, these entanglements have resulted in the serious injury or mortality to the animal. Specifically, based on stranding data from 2007-2013, estimated mean annual mortality for each bottlenose stock due to interactions with hook and line gear was approximately one animal (Waring et al. 2014b; Waring et al. 2016; Palmer 2017).⁹ Based on this, although interactions with hook and line gear are possible, relative to other gear types, such as gillnet or trawl gear, hook and line gear represents a low source serious injury or mortality to any bottlenose dolphin stock (Waring et al. 2014b; Waring et al. 2016; Palmer 2017).

ESA listed species of sea turtles are known to interact with hook and line gear, particularly in nearshore southern waters (e.g., Virginia south; Sea Turtle Disentanglement Network (STDN); NMFS 2013; Palmer 2017). Serious injury and mortality to sea turtles can be incurred by hook and line gear interactions, and can pose a risk to these species. The impacts of these interactions on sea turtle populations are still under investigation, thus no conclusions can currently be made on the impact of hook and line gear on the continued survival of sea turtle populations.

ESA-listed species of Atlantic sturgeon are known to interact with hook and line gear, particularly in nearshore waters from the Gulf Maine to Southern New England (NMFS 2013; ASMFC 2017). Injury and mortality to Atlantic sturgeon can be incurred by hook and line gear interactions, and therefore, can pose a risk to this species. However, the extent to which these interactions are impacting Atlantic sturgeon DPSs is still under investigation and therefore, no conclusions can currently be made on the impact of hook and line gear on the continued survival of Atlantic sturgeon DPSs (ASMFC 2017; NMFS 2013; NMFS 2011).

6.4 Human Communities

Summer flounder and black sea bass support important recreational fisheries. In 2016, 6.18 million pounds of summer flounder and 5.19 million pounds of black sea bass were landed by recreational fishermen from Maine through North Carolina (north of Cape Hatteras, NC). For 2017, projected landings of summer flounder are 3.10 million pounds, and for black sea bass, projected landings are 4.48 million pounds.

6.4.1 Summer Flounder Recreational Fishery

Hook and line is the predominant gear type in the recreational summer flounder fishery. Most recreational landings for summer flounder occur in state waters (86.5% over 2007-2016 according to MRIP estimates) when the fish migrate inshore during the warm summer months.

Recreational catch and landings for summer flounder peaked in 1983 with 32.11 million fish caught and 21.00 million fish landed. Catch reached a low in 1989 with 2.69 million fish caught, while landings reached a low in 2010 with 1.50 million fish landed (Figure 6).

⁹ Stranding data provided in Waring *et al.* 2015 and Hayes *et al.* 2017 were not considered in estimating mean annual mortality as not all bottlenose dolphin stocks are addressed in these stock assessment reports. As all bottlenose dolphin stocks are considered in Waring *et al.* (2014b) and Waring *et al.* (2016), these stock assessment reports were used to estimate mean annual mortality. Estimates of mean annual mortality were calculated based on the total number of animals that stranded between 2007-2013, and that were determined to have incurred serious injuries or mortality as result of interacting with hook and line gear. In addition, any animals released alive with no serious injuries were not included in the estimate. Also, if maximum or minimum number of animals stranded were provided, to be conservative, we considered the maximum estimated number in calculating our mean annual estimate of mortality.

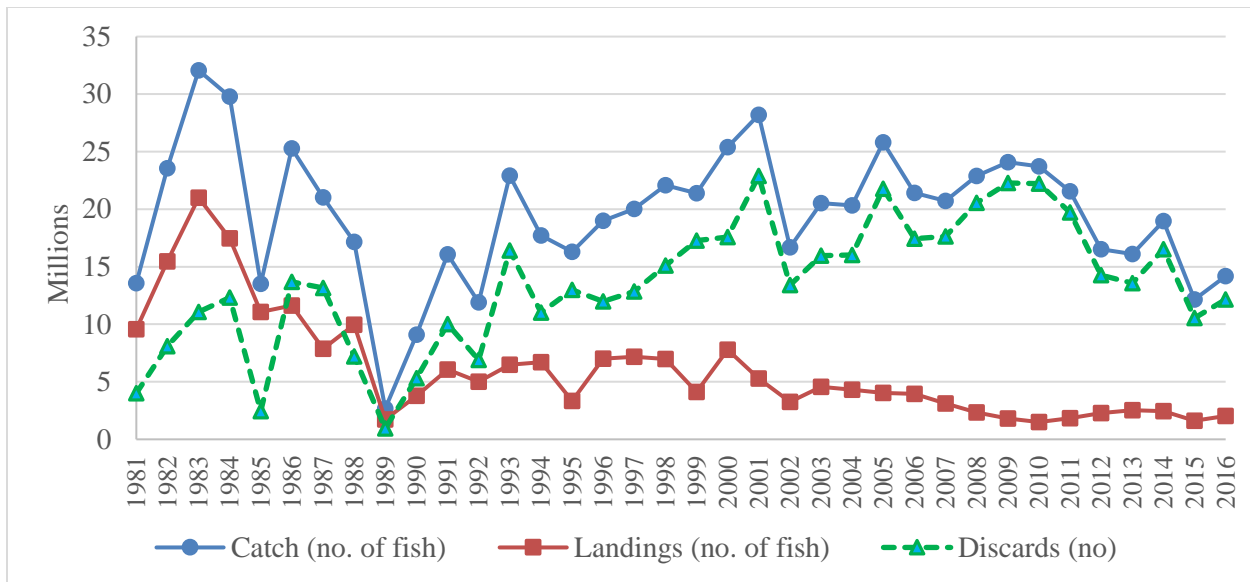


Figure 6: Catch and landings for summer flounder, 1982-2016.

The two largest recreational harvest states for summer flounder are New Jersey (40% of harvest 2014-2016) and New York (28% of harvest 2014-2016). All other states recently harvested about 7% or less of the coastwide recreational landings (Figure 7). From 2007-2016, about 87% of harvest, on average, originated from state waters as opposed to federal waters, although the proportion harvested from federal waters has increased slightly since 2013 (Figure 8).

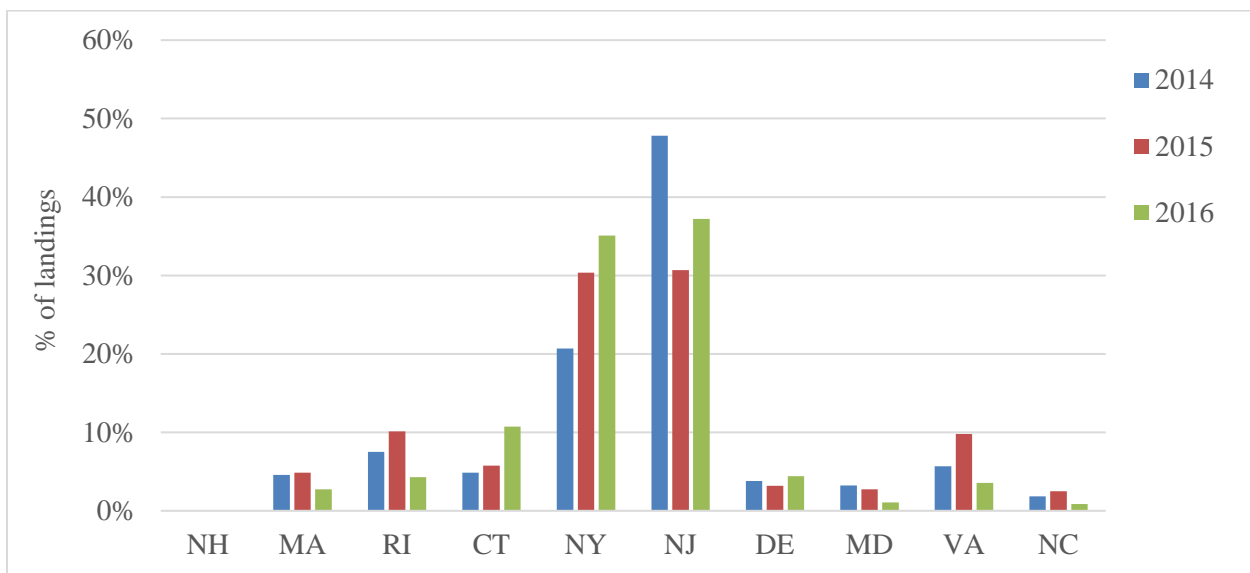


Figure 7: Recent proportion of summer flounder landings (in number of fish) by state, 2014-2016.

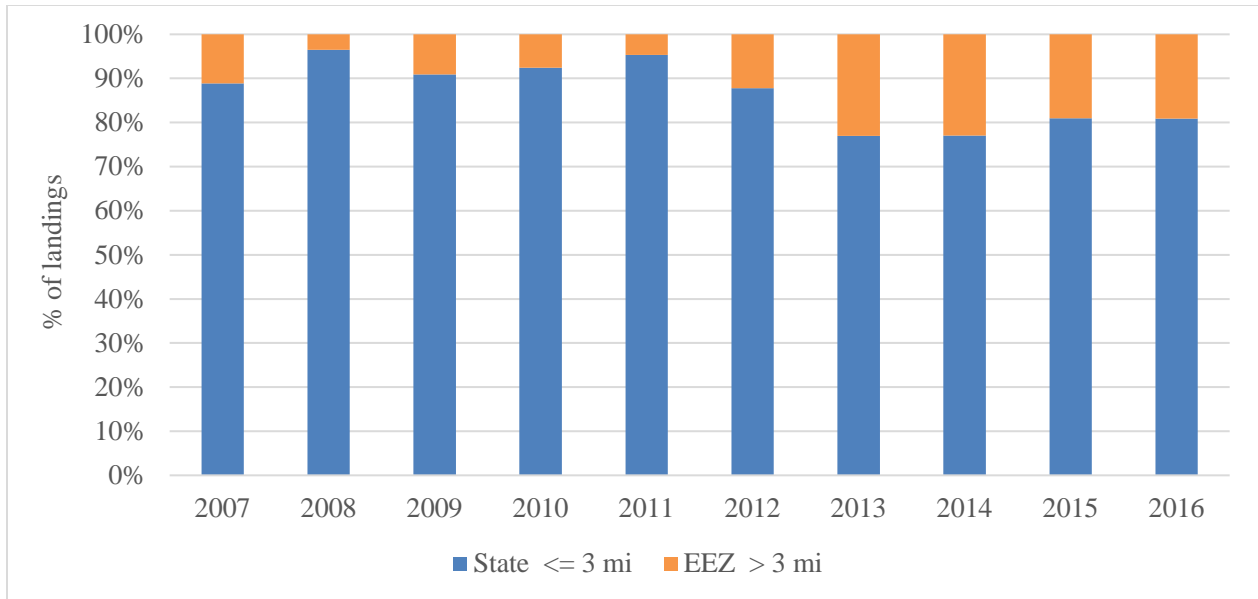


Figure 8: State vs. federal waters harvest for summer flounder, 2007-2016.

MRIP data indicate that on average, 4% of summer flounder harvest from 2012-2016 originated from shore mode, 12% from party/charter mode, and 84% from private/rental mode (Figure 9).

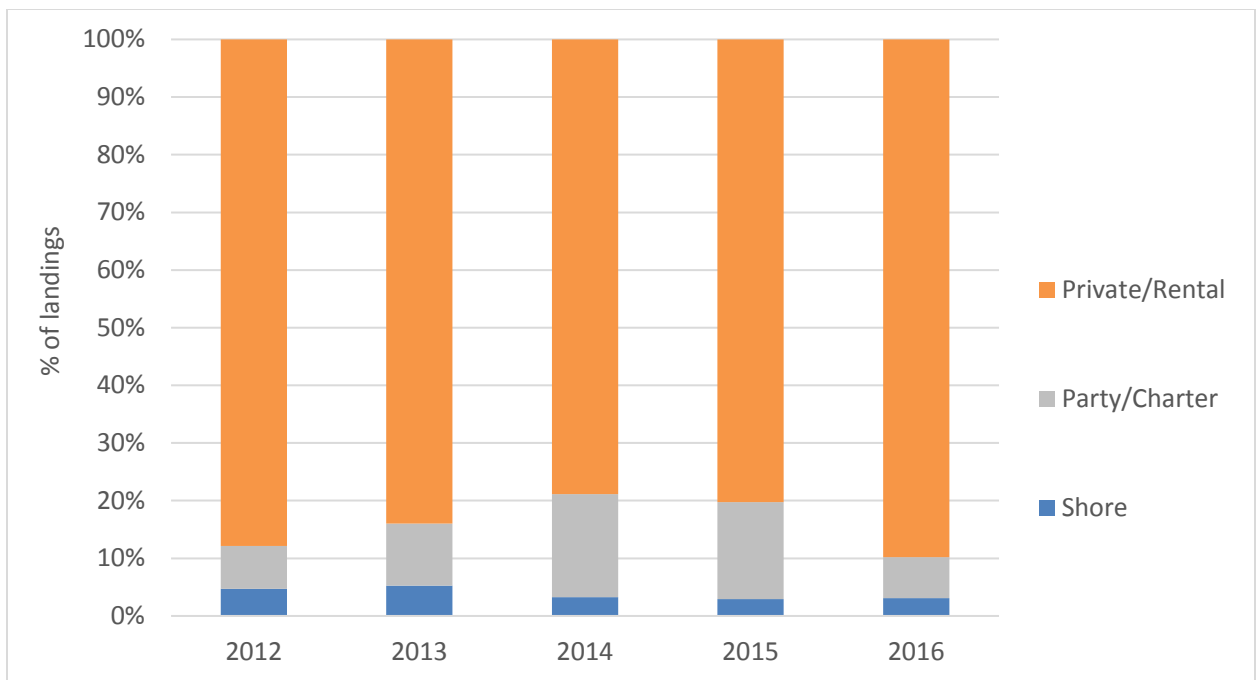


Figure 9: State vs. federal waters harvest for summer flounder, 2012-2016.

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2016, there were 763 party and charter vessels that held summer flounder federal for-hire permits. Many of these vessels also hold recreational permits for scup and black sea bass.

The number of directed recreational summer flounder trips was relatively stable from 2012 to 2016, averaging 3.81 million trips (Table 7).

Table 8 describes the recreational management measures that were implemented at the state/regional level under conservation equivalency in 2017.

Table 7: Number of summer flounder recreational fishing trips, RHLs, landings, and fishery performance (i.e., percent overage or underage), Maine through North Carolina, 1997-2017.

Year	Number of Summer Flounder Directed Trips (millions) ^a	Percentage of Directed Trips Relative to Total Trips ^{a,b}	Recreational Harvest Limit (million lb) ^c	Recreational Landings of Summer Flounder (million lb) ^d	Percentage Overage (+)/ Underage(-)
1997	5.60	18.8%	7.41	11.87	+60%
1998	5.27	20.5%	7.41	12.48	+68%
1999	4.22	16.8%	7.41	8.37	+13%
2000	5.80	16.7%	7.41	16.47	+122%
2001	6.13	16.6%	7.16	11.64	+63%
2002	4.56	14.8%	9.72	8.01	-18%
2003	5.62	16.0%	9.28	11.64	+25%
2004	4.86	14.3%	11.21	11.02	-2%
2005	5.85	16.0%	11.98	10.92	-9%
2006	4.99	13.6%	9.29	10.51	+13%
2007	5.49	14.5%	6.68	9.34	+40%
2008	4.93	13.4%	6.21	8.15	+31%
2009	4.60	15.6%	7.16	6.03	-16%
2010	4.45	15.1%	8.59	5.11	-41%
2011	4.50	16.8%	11.58	5.96	-49%
2012	4.24	16.4%	8.59	6.49	-24%
2013	3.73	14.6%	7.63	7.36	-4%
2014	4.06	15.6%	7.01	7.39	+5%
2015	3.39	15.4%	7.38	4.72	-36%
2016	3.61	14.2%	5.42	6.18	+14%
2017	1.99 (through W4 only)	14.3% (through W4 only)	3.77	3.23 (projected)	NA

^a Estimated number of recreational fishing trips (expanded) where the primary target species was summer flounder, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 23, 2017.

^b Source of total trips for all species combined: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 23, 2017.

^c RHLs for 2003 through 2014 are adjusted for research set-aside; this program was suspended starting in 2015.

^d Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, October 23, 2017.

NA = Data not available.

Table 8: Summer flounder recreational management measures and preliminary landings (in thousands of fish) by state and region, 2017.

Region	State	Min. Size (inches)	Poss. Limit	Open Season	Prelim. 2017 Landings ('000 fish)
1	MA	17	4 fish	May 22-Sept. 23	26
2	RI	19	4 fish	May 1-Dec. 31	59
3	CT	19	3 fish	May 17- Sept. 21	87
		17 (41 designated shore sites)			
	NY	19	3 fish	May 17- Sept. 21	214
	NJ	18	3 fish	May 25-Sept. 5	433
		16 (1 shore site)	2 fish		
		17 (NJ Delaware Bay)	3 fish		
4	DE	17	4 fish	Jan. 1- Dec. 31	33
	MD	16	4 fish	Jan. 1- Mar. 31	26
		17		April 1- Dec.31	
	PRFC	16	4 fish	Jan. 1- Dec.31	--
	VA	17	4 fish	Jan. 1- Dec. 31	90
5	NC	15	4 fish	Jan. 1- Dec. 31	26

6.4.2 Black Sea Bass Recreational Fishery

Hook and line is the predominant gear type in the recreational black sea bass fishery.

Recreational black sea bass catch and landings peaked in 1986 when an estimated 28.95 million fish were caught and 21.74 million fish were landed by recreational fishermen from Maine to Cape Hatteras, North Carolina. Recreational catch reached a low of 3.43 million fish in 1984. Recreational landings were at their lowest in 2011, when 0.82 million fish were landed. In 2016, MRIP data indicate that an estimated 5.19 million pounds of black sea bass were landed recreationally from Maine through Cape Hatteras, North Carolina, corresponding to 184% of the 2016 RHL (Figure 10).

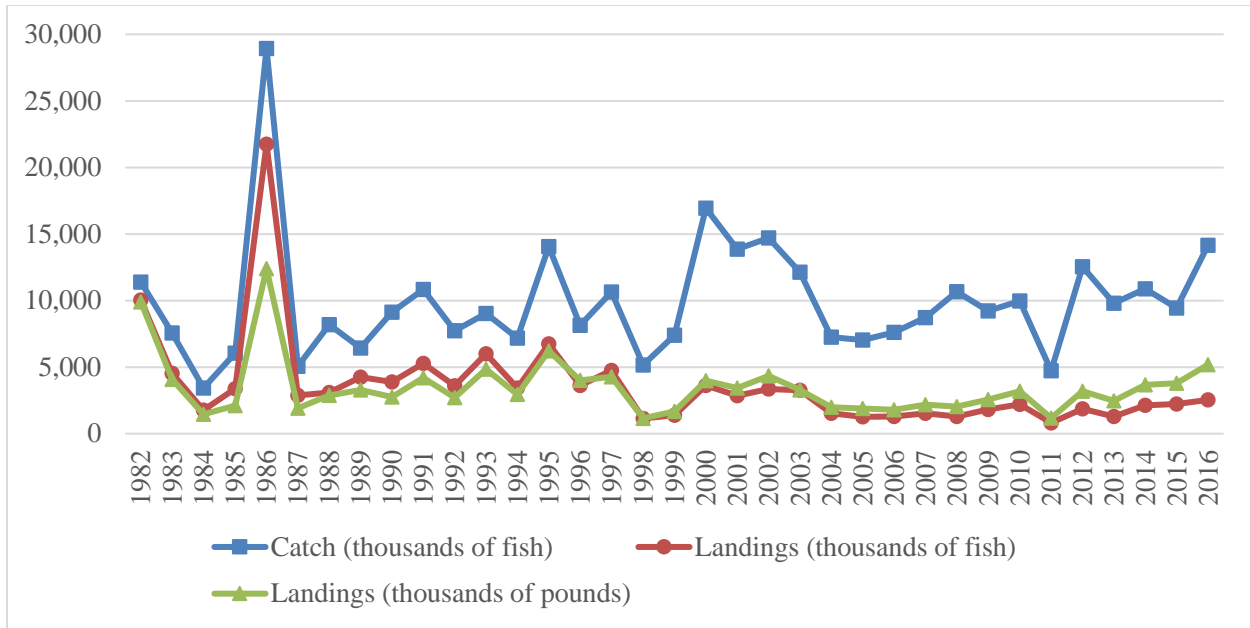


Figure 10: Catch and landings for black sea bass, 1982-2016, from MRIP data.

The states of Massachusetts through New Jersey have typically accounted for about 95% of recreational black sea bass harvest in recent years (Figure 11). From 2007-2016, about 63% of harvest, on average, originated from state waters as opposed to federal waters (Figure 12).

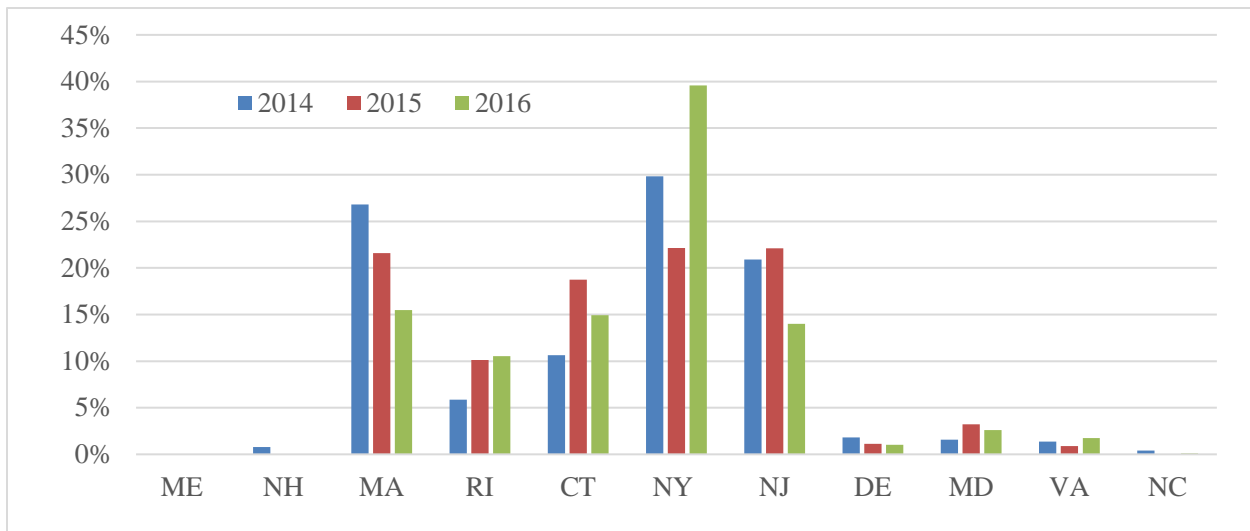


Figure 11: Recent proportion of black sea bass landings (in number of fish) by state, 2014-2016.

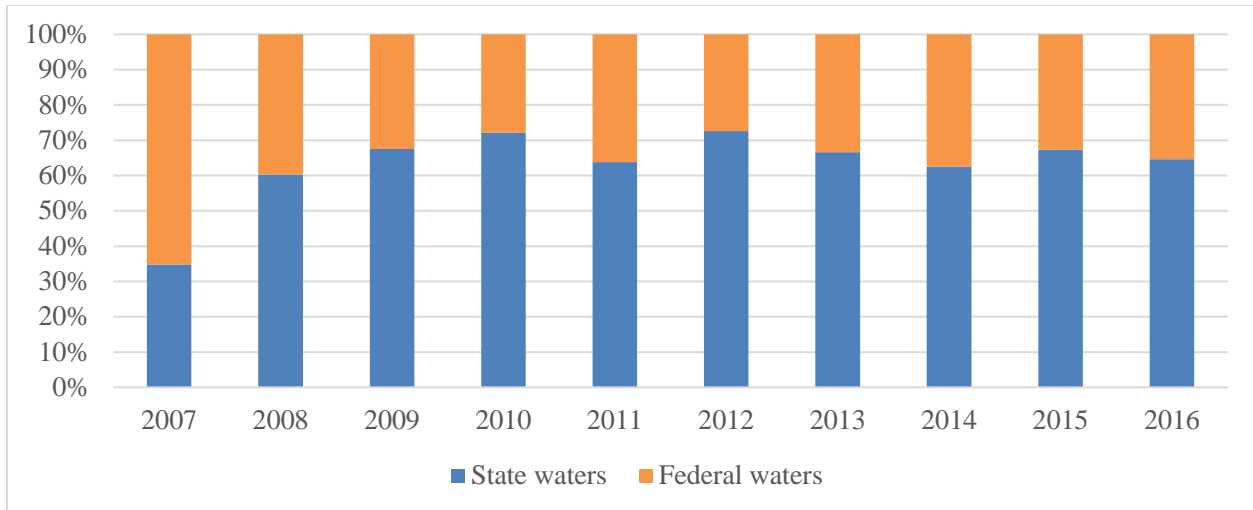


Figure 12: State vs. federal waters harvest for black sea bass, 2007-2016.

MRIP data indicate that on average, 1% of black sea bass harvest from 2012-2016 originated from shore mode, 30% from party/charter mode, and 69% from private/rental mode (Figure 13).

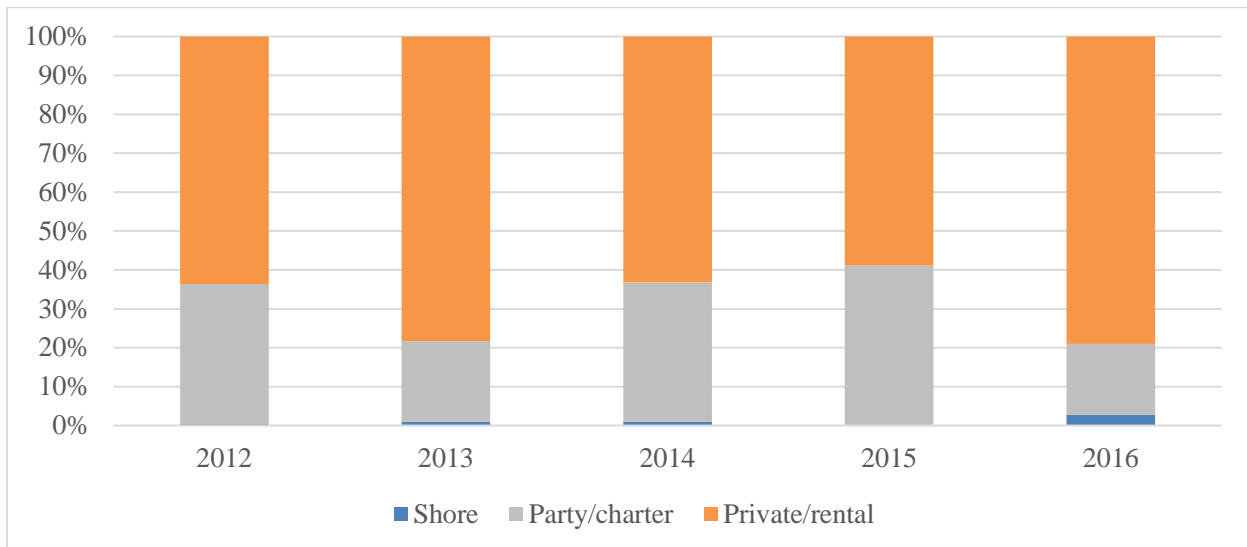


Figure 13: Black sea bass harvest by fishing mode, 2012-2016.

For-hire vessels carrying passengers in federal waters must obtain a federal party/charter permit. In 2016, 749 party and charter boats held federal recreational black sea bass permits. Many of these vessels also held recreational permits for summer flounder and scup. The number of federal recreational black sea bass permits has steadily declined since a peak of 904 permits issued in 2009.

The number of directed recreational black sea bass trips more than doubled from 2011 to 2015 and averaged 463,000 trips from 2014-2016 (Table 9).

Table 10 describes the recreational management measures that were implemented at the state level for black sea bass in 2017, and 2017 preliminary recreational landings in thousands of fish.

Table 9: Number of directed black sea bass recreational fishing trips (Maine through North Carolina), RHLs, recreational landings, and fishery performance from 1995 to 2017 (note: 2017 estimates are preliminary).

Year	Number of Directed Fishing Trips ^a	Percentage of Directed Trips relative to Total Trips ^b	Recreational Harvest Limit (million lb) ^c	Recreational Landings of BSB (million lb) ^{d,e}	Percentage Overage (+%)/ Underage (-%)
1995	313,537	1.2	None	6.34	None
1996	231,090	0.8	None	3.99	None
1997	310,898	1.0	None	4.26	None
1998	137,734	0.5	3.15	1.14	-64%
1999	136,452	0.5	3.15	1.64	-48%
2000	255,789	0.7	3.15	3.98	+26%
2001	293,191	0.8	3.15	3.41	+8%
2002	283,537	0.9	3.43	4.37	+27%
2003	285,861	0.8	3.43	3.30	-4%
2004	149,670	0.4	4.01	1.97	-51%
2005	199,603	0.5	4.13	1.88	-54%
2006	253,040	0.7	3.99	1.80	-55%
2007	368,042	1.0	2.47	2.18	-12%
2008	256,341	0.7	2.11	2.03	-4%
2009	393,389	1.3	1.14	2.56	+125%
2010	417,663	1.4	1.83	3.19	+74%
2011	193,655	0.7	1.83	1.17	-36%
2012	267,932	0.8	1.32	3.19	+142%
2013	261,582	1.0	2.26	2.46	+9%
2014	403,624	1.0	2.26	3.67	+62%
2015	505,571	2.3	2.33	3.79	+63%
2016	483,604	1.9	2.82	5.19	+83%
2017	496,966	2.4	4.29	3.93	-8%

^a Estimated number of recreational fishing trips (expanded) where the primary target species was black sea bass, Maine through North Carolina. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, February 22, 2018.

^b Source of total trips (Maine through North Carolina) for all species combined: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, February 22, 2018.

^c Harvest limits for 2002 through 2014 are adjusted for research set-aside.

^d Maine through Cape Hatteras, NC.

^e 1995-2003 data are from MRFSS, 2004-2016 data are from MRIP. Source: Pers. Comm. with the National Marine Fisheries Service, Fisheries Statistics Division, February 22, 2018.

NA = Data not available.

Table 10: Black sea bass recreational management measures and preliminary landings (in thousands of fish) by state, 2017.

State	Minimum Size (inches)	Possession Limit	Open Season	Preliminary 2017 Landings ('000 fish)
Maine	13	10 fish	May 19 - September 21; October 18 - December 31	0
New Hampshire	13	10 fish	January 1 - December 31	0
Massachusetts	15	5 fish	May 21 - August 31	222
Rhode Island	15	3 fish	May 25 - August 31	182
		7 fish	October 22 - December 31	
Connecticut (Private & Shore)	15	5 fish	May 1 - December 31	374
CT (Authorized party/charter monitoring program vessels)		8 fish		
New York	15	3	June 27 – August 31	341
		8 fish	September 1 - October 31	
		10 fish	November 1 - December 31	
New Jersey	12.5	10 fish	May 26 - June 18	799
		2 fish	July 1-August 31	
		15 fish	October 22 - December 31	
Delaware	12.5	15 fish	May 15-September 21; October 22-December 31	56
Maryland	12.5	15 fish	May 15-September 21; October 22-December 31	68
Virginia	12.5	15 fish	May 15-September 21; October 22-December 31	36
North Carolina, North of Cape Hatteras (N of 35° 15'N)	12.5	15 fish	May 15-September 21; October 22-December 31	16

7 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

This EA analyzes the expected impacts of each alternative on each VEC. When considering impacts on each VEC, the alternatives are compared to the current condition of the VEC. The alternatives are also compared to each other. The no action alternative describes what would happen if no action were taken. As described in section 5.0, this is not necessarily the same as *status quo* management.

Environmental impacts are described both in terms of their direction (negative, positive, or no impact) and their magnitude (slight, moderate, or high). Table 11 summarizes the guidelines used for each VEC to determine the magnitude and direction of the impacts described in this section.

The recent conditions of the VECs include the biological conditions of the target stocks, non-target stocks, and protected species over the most recent five years (sections 6.1 and 6.3). They also include the fishing practices and levels of effort and landings in the recreational summer flounder and black sea bass fisheries over the most recent five years, as well as the economic characteristics of the fisheries over the most recent three to five years (depending on the dataset; section 6.4). The recent conditions of the VECs also include recent levels of habitat availability and quality (section 6.2). The current condition of each VEC is described in Table 12.

Recreational management measures are intended to prevent the RHL and the recreational ACL from being exceeded. The FMP requires that management measures constrain harvest to the RHL (see Table 1 for 2018 RHLs). Thus, changes in management measures (liberalizations or reductions) are driven by RHL changes from year to year as well as by recent harvest patterns and harvest projections for the upcoming fishing year. Because the management measures are tied to the RHL, the impacts of recreational management measures are expected to be similar to those described in the analysis that supported implementation of the 2018 RHLs (most recently for summer flounder, in the November 2016 SEA, and for black sea bass, in the April 2017 EA).

The alternatives are not compared to a theoretical condition where the fisheries are not operating. These fisheries have occurred for many decades and are expected to continue into the foreseeable future. The nature and extent of the management programs for these fisheries have been examined in detail in EAs and Environmental Impact Statements (EISs) prepared for previously implemented management actions under the Summer Flounder, Scup, and Black Sea Bass FMP.

When considering overall impacts on each VEC, only the recreational component of each fishery is considered. This action does not propose any modifications to the commercial measures, and the proposed adjustments to recreational possession limits, size limits, and seasons are not expected to affect the commercial fishery in a manner that would change the impacts for any of the VECs considered.

In general, alternatives which may result in overfishing or an overfished status for target and non-target species may have negative biological impacts for those species, compared to the current condition of the VEC. Conversely, alternatives which may result in a decrease in fishing effort, resulting in ending overfishing or rebuilding to the biomass target, may result in positive impacts for those species by resulting in a decrease in fishing mortality (Table 11).

For the physical environment and habitat, alternatives that improve the quality or quantity of habitat or allow for recovery are expected to have positive impacts. Alternatives that degrade the

quality or quantity, or increase disturbance of habitat are expected to have negative impacts (Table 11). In addition, alternatives that result in continued fishing effort may limit the recovery potential of some currently degraded areas and therefore result in slight negative impacts. Recreational fisheries for summer flounder and black sea bass are primarily carried out with hook and line, which is generally expected to have minimal impacts on habitat (Stevenson et al. 2004). Even in areas where habitat may be impacted by recreational gear or vessels, these areas are typically commonly fished by many vessels over many decades and are unlikely to see a measurable improvement in their condition in response to minor changes in measures or short-term changes in effort in an individual recreational fishery.

For protected species, consideration is given to both ESA-listed species and MMPA-protected species. ESA-listed species include populations of fish, marine mammals, or turtles at risk of extinction (endangered) or endangerment (threatened). For endangered or threatened species, any action that results in interactions with or take of those species or stocks is expected to have negative impacts, including actions that reduce interactions. Actions expected to result in positive impacts on ESA-listed species include only those that contain specific measures to ensure no interactions with protected species (i.e., no take). By definition, all species listed under the ESA are in poor condition and any take has the potential to negatively impact that species' recovery.

Under the MMPA, the stock condition of each protected species varies, but all are in need of protection. For marine mammal stocks/species that have their potential biological removal (PBR) level reached or exceeded, negative impacts would be expected from any alternative that has the potential to interact with these species or stocks. For species that are at more sustainable levels (i.e., PBR levels have not been exceeded), actions not expected to change fishing behavior or effort such that interaction risks increase relative to what has been in the fishery previously, may have positive impacts by maintaining takes below the PBR level and approaching the Zero Mortality Rate Goal (Table 11). The impacts of each alternative on the protected resources VEC take into account impacts on ESA-listed species, impacts on marine mammal stocks in good condition (i.e., PBR level has not been exceeded), and marine mammal stocks that have exceeded or are in danger of exceeding their PBR level.

Socioeconomic impacts are considered in relation to potential changes in recreational management measures and seasonal availability for the for-hire fleet, recreational-dependent industries, and private anglers under each alternative, and by extension, revenues and angler satisfaction, compared the current fishery conditions. Alternatives which could lead to increased availability of target species and/or an increase in catch per unit effort (CPUE) could lead to increased catch and business. Alternatives which could result in an increase in landings are generally considered to have positive socioeconomic impacts because they could result in increased revenues; however, if an increase in landings leads to a decrease in SSB or decreased availability for any of the harvested species, then negative socioeconomic impacts could occur. Alternatives resulting in an increase in catch are also generally associated with higher angler satisfaction for the private recreational fishery and patrons of party/charter businesses.

Table 11: General definitions for impacts and qualifiers relative to resource condition (i.e., baselines) summarized in Table 12 below.

General Definitions				
VEC	Resource Condition	Impact of Action		
		Positive (+)	Negative (-)	No Impact (0)
Target and non-target Species	Overfished status defined by the MSA	Alternatives that maintain or are projected to result in a stock status above an overfished condition*	Alternatives that maintain or are projected to result in a stock status below an overfished condition*	Alternatives that do not impact stock / populations
ESA-listed protected species (endangered or threatened)	Populations at risk of extinction (endangered) or endangerment (threatened)	Alternatives that contain specific measures to ensure no interactions with protected species (i.e., no take)	Alternatives that result in interactions/take of listed species, including actions that reduce interactions	Alternatives that do not impact ESA listed species
MMPA protected species (not also ESA listed)	Stock health may vary but populations remain impacted	Alternatives that maintain takes below PBR and approaching the Zero Mortality Rate Goal	Alternatives that result in interactions with/take of marine mammals that could result in takes above PBR	Alternatives that do not impact MMPA protected species
Physical environment / habitat / EFH	Many habitats degraded from historical effort and slow recovery time (see condition of the resources table)	Alternatives that improve the quality or quantity of habitat or allow for recovery	Alternatives that degrade the quality/quantity or increase disturbance of habitat	Alternatives that do not impact habitat quality
Human communities (socioeconomic)	Highly variable but generally stable in recent years (see condition of the resources table for details)	Alternatives that increase revenue and social well-being of fishermen and/or communities	Alternatives that decrease revenue and social well-being of fishermen and/or communities	Alternatives that do not impact revenue and social well-being of fishermen and/or communities
Impact Qualifiers				
A range of impact qualifiers is used to indicate any existing uncertainty	Negligible		To such a small degree to be indistinguishable from no impact	
	Slight (sl), as in slight positive or slight negative		To a lesser degree / minor	
	Moderate (M) positive or negative		To an average degree (i.e., more than “slight”, but not “high”)	
	High (H), as in high positive or high negative		To a substantial degree (not significant unless stated)	
	Significant (in the case of an EIS)		Affecting the resource condition to a great degree, see 40 CFR 1508.27.	
	Likely		Some degree of uncertainty associated with the impact	
*Actions that will substantially increase or decrease stock size, but do not change a stock status may have different impacts depending on the particular action and stock. Meaningful differences between alternatives may be illustrated by using another resource attribute aside from the MSA status, but this must be justified within the impact analysis.				

Table 12: Baseline conditions of VECs considered in this action, as summarized in Section 6.

VEC		Baseline Condition	
		Status/Trends, Overfishing?	Status/Trends, Overfished?
Target stocks (section 6.1.1)	Summer flounder	Yes	No
	Black sea bass	No	No
Non-target species (principal species listed in section 6.1.2)	Scup	No	No
	Sea Robins	Unknown	Unknown
	Bluefish	No	No
	Atlantic croaker	Unknown	Unknown
	Tautog	Region dependent: No – 2 regions; Yes – 2 regions	Region dependent: No – 1 region; Yes – 3 regions
Habitat (section 6.2)		Commercial fishing impacts are complex and variable and typically adverse; Recreational fishing impacts are typically minimal. Non-fishing activities had historically negative but site-specific effects on habitat quality.	
Protected resources (section 6.3)	Sea turtles	Leatherback and Kemp’s ridley sea turtles are classified as endangered under the ESA; loggerhead (NW Atlantic DPS) and green (North Atlantic DPS) sea turtles are classified as threatened.	
	Fish	Atlantic salmon, shortnose sturgeon, and the New York Bight, Chesapeake, Carolina, and South Atlantic DPSs of Atlantic sturgeon are classified as endangered under the ESA; the Atlantic sturgeon Gulf of Maine DPS is listed as threatened; cusk, alewife, and blueback herring are candidate species	
	Large whales	All large whales in the Northwest Atlantic are protected under the MMPA. North Atlantic right, fin, blue, sei, and sperm whales are also listed as endangered under the ESA. Pursuant to section 118 of the MMPA, the Large Whale Take Reduction Plan was implemented to reduce humpback, North Atlantic right, and fin whale entanglement in vertical lines associated with fixed fishing gear (sink gillnet and trap/pot) and sinking groundlines.	
	Small cetaceans	Pilot whales, dolphins, and harbor porpoise are all protected under the MMPA. Pursuant to section 118 of the MMPA, the HPTRP and BDTRP was implemented to reduce bycatch of harbor porpoise and bottlenose dolphin stocks, respectively, in gillnet gear.	
	Pinnipeds	Gray, harbor, hooded, and harp seals are protected under the MMPA.	
Human communities (section 6.4)		Summer flounder and black sea bass support large recreational fisheries. 2016 estimated recreational harvest was 6.18 million lb for summer flounder with 3.61 million directed trips. Black sea bass 2016 landings were 5.19 million lb with 0.48 million directed trips. In 2016 there were an estimated 763 federal party/charter permits for summer flounder and 749 for black sea bass.	

Table 13. Summary of recreational management alternatives for summer flounder and black sea bass for 2018.

Species	Alternative	Possession Limit	Size Limit	Season
Summer Flounder	Alternative 1A: (Non-Preferred: No Action)	4 fish	19 inches	June 1 - September 15
	Alternative 1B: (Non-Preferred: Coastwide Measures)	4 fish	19 inches	May 15-September 15
	Alternative 1C: (Preferred: Conservation Equivalency)	State- or region-specific (with associated precautionary default measures including 2 fish poss. limit, 20 inch size limit, and July 1 - August 31 open season)		
Black Sea Bass	Alternative 2A: (Non-Preferred: No action/ <i>status quo</i>)	15	12.5 inches	May 15 – Sept. 21, Oct. 22 – Dec. 31
	Alternative 2B: (Preferred: Revised Federal Measures)	15	12.5 inches	May 15 – December 31
	Alternative 2C: (Non-Preferred: Coastwide Measures)	5	14	May 15 – September 15

7.1 Summer Flounder Alternatives

7.1.1 Impacts on Target and Non-Target Species

The three alternatives for 2018 summer flounder measures are expected to have moderate positive impacts on summer flounder, and no impacts on non-target species, relative to the current condition of each VEC.

For summer flounder, all alternatives are expected to have positive impacts, given that all alternatives are intended to constrain landings to the 2018 RHL and thus help prevent overfishing of the summer flounder stock. Because each alternative proposes slightly different ways to constrain landings to approximately the same total amount, there is little expected difference between the three alternatives in terms of the impacts on summer flounder.

The alternatives are unlikely to have a meaningful impact on non-target species caught in the recreational summer flounder fishery. Most of the species that are caught on summer flounder trips have a positive stock status. Most of these non-target species are caught in small quantities with summer flounder, and with the exception of sea robins, removals are controlled by recreational measures and/or constrained by ACLs and AMs for those species (see section 7.1.1). Although the guild analysis identifies species that are commonly caught together on the same trip, this does not necessarily mean that the same gear configuration or method is used for targeting all of these species in the same manner. Anglers generally have some ability to limit unwanted recreational catch for non-target species when necessary by varying their gear configuration, fishing methods, or fishing locations. Given that effort is not expected to change substantially under any of the alternatives (see introduction to section 7 above), impacts on the status of non-target species are expected to be negligible. Impacts specific to each alternative are described below.

Alternative 1A: No Action

Under the no action alternative, management measures would default to the non-preferred coastwide measures identified in December 2016 for the 2017 fishing year. These measures were designed to constrain harvest to a 3.77 million pound RHL, which is lower than the implemented 2018 RHL of 4.42 million pounds. As such, these measures would be expected to constrain harvest to the RHL in 2018, contributing to the overall management program that is intended to prevent overfishing and prevent the stock from becoming overfished, resulting in positive impacts on the summer flounder stock. Overall, this alternative is expected to have a moderate positive impact on the summer flounder stock relative to the resource condition by helping to prevent overfishing and prevent the stock from becoming overfished, by constraining recreational harvest to the annual RHL.

The measures proposed under alternative 1A are similar to those under alternative 1B, except with a slightly shorter open season (17 additional days are open under alternative 1B). Measures under alternative 1A are slightly more conservative than necessary given the 2018 RHL. Lower harvest is likely to result from alternative 1A compared to alternatives 1B and 1C. Thus, alternative 1A would have slightly higher positive impacts on the managed resource compared to the other two alternatives.

Catch of non-target species while summer flounder fishing is relatively low given the nature of hook and line gear. While the species guild analysis described in section 6.1.3 identifies species that are commonly caught with summer flounder, these are likely to include some species that are

targeted on the same trip, not necessarily species that are unintentionally caught while targeting summer flounder. Different fishing methods, hook and line gear configurations, and fishing locations are used to target different species. Most of the identified non-target species are also managed under their own sets of regulations. Most of the species commonly caught with summer flounder are not overfished, with the exception of tautog in some regions, and some stocks with unknown status. It is also important to note that the discard mortality rate from hook and line gear varies by species, so not all fish caught unintentionally and discarded necessarily die. Alternative 1A would not be expected to increase overall effort or harvest from 2017 levels, although the distribution and seasonality of effort may change with a shift to coastwide measures. Given this, alternative 1A is not expected to have a meaningful impact on the status of non-target species.

Overall, Alternative 1A is expected to have moderate positive biological impacts on summer flounder and no impact on non-target species. Due to slight potential differences in the impact on summer flounder, alternative 1A is expected to have similar but overall slightly more positive biological impacts on summer flounder compared to alternatives 1B and 1C given that the associated management measures are designed to achieve a slightly lower level of harvest. For non-target species, none of the alternatives are expected to have impacts on non-target species, and thus the impacts of alternative 1A are equivalent to alternatives 1B and 1C for non-target species.

Alternative 1B: Revised Non-Preferred Coastwide Measures

Under alternative 1B, coastwide measures would be very similar to those under 1A with the addition of 17 days open in the recreational season. Impacts to the summer flounder resource are expected to be positive, given that the proposed coastwide measures under this option would be expected to constrain harvest to the RHL and prevent overfishing from occurring. As described above, this option would be expected to produce slightly higher harvest compared to alternative 1A, and thus would have slightly lower positive impacts on summer flounder compared to that alternative. Alternatives 1B and 1C are designed to achieve the same level of harvest, and thus would be expected to have equivalent positive impacts on the summer flounder.

Alternative 1B is not expected to have a meaningful impact on non-target species for the same reasons described above under alternative 1A. Since none of the alternatives are expected to have impacts on non-target species, and the impacts of alternative 1B are equivalent to alternatives 1A and 1C for non-target species.

Alternative 1C: Conservation Equivalency (Preferred)

Alternative 1C provides a different mechanism to constrain landings to the 2018 RHL. Specifically, this alternative allows for state- and region- specific measures rather than uniform measures along the entire coast. The combination of state measures is designed to achieve the same level of harvest as the coastwide measures in alternative 1B. Like alternative 1B, alternative 1C is expected to have moderate positive overall impacts on the summer flounder resource, by constraining harvest to the 2018 RHL.

This alternative is expected to have the same magnitude of positive impacts to the resource as alternative 1B, since both alternatives are designed to achieve the same level of harvest. Compared to alternative 1A, the measures under 1C are expected to result in slightly higher harvest and thus slightly less positive impacts on the resource.

Alternative 1C is not expected to have a meaningful impact on non-target species for the same reasons described above under alternative 1A. Since none of the alternatives are expected to have impacts on non-target species, and the impacts of alternative 1C are equivalent to alternatives 1A and 1B for non-target species.

7.1.2 Impacts to Physical Habitat and EFH

All three summer flounder alternatives for 2018 have potential slight negative impacts on habitat due to continued operation of the recreational fisheries and the associated limiting of habitat recovery potential. The summer flounder fishery operates in areas that have been fished for many years, for a variety of species and with a variety of gear types. Modifications to the recreational fishing seasons, bag limits, or size limits may result in potential changes in fishing effort under the alternatives in this action, however these changes are unlikely to further degrade habitat beyond its current state. Also, as previously discussed, the recreational summer flounder fishery is primarily conducted with hook and line gear, which only minimally interacts with and affects physical habitat. However, none of the alternatives are expected to result in any improvements to current habitat conditions, and continued fishing effort may limit the recovery potential of some currently degraded areas. Thus, all alternatives are expected to have slight negative impacts on habitat.

The differences between the three alternatives in terms of meaningful potential impacts to habitat are expected to be negligible. The alternatives may differ slightly in the resulting spatial and/or temporal distribution of fishing effort, but such changes are not expected to be substantial enough to meaningfully influence the potential impacts to habitat. Thus, alternatives 1A, 1B, and 1C are expected to have similar possible slight negative impacts on habitat. Any differences in actual effort between these alternatives would not meaningfully impact habitat recovery potential.

Alternative 1A: No Action

Under the no action alternative, the 2018 summer flounder recreational management measures would revert to the coastwide measures implemented for 2017. As described in section 6.2.3, the existing hook and line recreational fishery has little effect on the physical environment and habitat, and fishing effort is not expected to substantially change under this alternative. However, as described above, negligible to slight negative impacts to habitat may occur due to the prevention of habitat recovery in fished areas.

When compared to alternatives 1B and 1C, the no action alternative would likely result in similar slight negative impacts because fishing effort is not expected to substantially differ in a manner that meaningfully impacts habitat under any of these three alternatives.

Alternative 1B: Revised Non-Preferred Coastwide Measures

As with alternative 1A, this alternative is expected to have potential slight negative impacts on habitat relative to current conditions, due to the prevention of habitat recovery in fished areas. As described above, this impact is expected to be of the same magnitude as alternatives 1A and 1C.

Alternative 1C: Conservation Equivalency (Preferred)

As with both alternatives above, this alternative is expected to have potential slight negative impacts on habitat relative to current conditions, due to the prevention of habitat recovery in fished

areas. As described above, this impact is expected to be of the same magnitude as alternatives 1A and 1B.

7.1.3 Impacts to Protected Resources

As described above in section 6.3, the impacts on protected resources may vary between ESA-listed and MMPA-protected species. For ESA-listed species, any action that has the risk to result in take of ESA-listed species is expected to have negative impacts, including actions that reduce interactions. Under the MMPA, the impacts of the proposed alternatives would vary based on the stock condition of each protected species and the potential for each alternative to impact fishing effort. For marine mammal stocks/species that have their PBR level reached or exceeded, negative impacts would be expected from any alternative that has the potential to interact with these species or stocks. For marine mammal stocks/species that are at more sustainable levels (i.e., PBR levels have not been exceeded), any action not expected to change fishing behavior or effort such that interaction risks increase relative to what has been in the fishery previously, may have positive impacts by maintaining takes below the PBR level and approaching the Zero Mortality Rate Goal (Table 11). Taking the latter into consideration, the impacts on the protected resources VEC for each alternative will take into account impacts on ESA-listed species, impacts on marine mammal stocks in good condition (i.e., PBR level has not been exceeded), and marine mammal stocks that have reached or exceeded their PBR level.

The recreational summer flounder fishery primarily uses hook and line gear. As provided in section 6.3, protected species interactions with hook and line gear have been documented for several species of large whales (ESA listed or MMPA protected), sea turtles, Atlantic sturgeon, and bottlenose dolphins. However, relative to other gear types, such as fixed gear, hook and line gear represents a low source serious injury or mortality to large whales and bottlenose dolphins. For ESA listed species of sea turtles and Atlantic sturgeon, interactions with hook and line gear have been documented, with serious injury or mortality incurred to these species. The expected impacts of each alternative are described below.

Alternative 1A: No Action

As provided in section 6.3., ESA listed species of large whales, sea turtles, and Atlantic sturgeon, and MMPA protected (non-ESA listed) species of large whales and bottlenose dolphins are at risk of interacting with hook and line gear. As the recreational summer flounder fishery uses hook and line gear, interactions with protected species are possible and therefore, depending on resource condition, some level of negative or positive impacts to protected species are possible. Taking into consideration fishing behavior/effort under alternative 1A, as well the fact that interaction risks with protected species are strongly associated with gear type, the amount of gear in the water, the time the gear is in the water (e.g., soak time, tow time), and the presence of protected species in the same area and time as the gear (with risk of an interaction increasing with increases in of any or all of these factors), , the impacts to ESA listed species are expected to be slight negative, while impacts to MMPA protected species to be slight negative to slight positive.

Under the no action alternative, recreational fishing effort and participation in 2018 is expected to be similar to patterns observed in 2017, with some slight changes in seasonal distribution of effort along the coast due to enforcement of coastwide measures instead of state-by-state. However, this change is not expected substantially impact fishing patterns or effort. As a result, relative to current conditions, alternative 1A is not expected to result in any significant changes in fishing behavior

or effort in the recreational fishery. The number of party/charter and private recreational trips, and thus, the presence and quantity of hook and line gear is also not expected to change significantly. As provided above, interaction risks with protected species (ESA listed and MMPA protected species) are strongly associated with gear: type, quantity, soak or tow ties, and area of overlap with protected species (with risk of an interaction increasing with increases of any or all of these factors). As continuation of *status quo* fishing behavior/effort is not expected to change any of these operating conditions, relative to current conditions, new or elevated (e.g., more gear) interaction risks to protected species (MMPA protected and ESA listed) are not expected.

Based on the above information, and taking into consideration available information on hook and line interaction risks to ESA listed species provided in section 6.3, impacts to ESA listed species are expected to be slight negative. For MMPA (non-ESA listed) protected species, as there are non-ESA listed marine mammal stocks/species whose populations may or may not be at optimum sustainable levels, impacts of alternative 1A on non-ESA listed MMPA protected species are likely to range from slight negative to slight positive. As noted above, some marine mammal stocks/species (i.e., bottlenose dolphin stocks; see section 6.3) are experiencing levels of interactions that have resulted in exceedance of their PBR levels. These stocks/populations are not at an optimum sustainable level and therefore, the continued existence of these stocks/species is at risk. As a result, any potential for an interaction that may result in the serious injury or mortality to the animal is a detriment to the species/stocks ability to recover from this condition. As interactions with bottlenose dolphin stocks, a non-ESA listed marine mammals whose PBR levels have been exceeded, are possible under alternative 1A, and available information indicates that, albeit low, interactions have resulted in the mortality to these animals, alternative 1A is likely to result in slight negative impacts to this non-listed marine mammal stocks/species.

Alternatively, there are also many non-ESA listed marine mammals that, even with continued fishery interactions, are maintaining an optimum sustainable level (i.e., PBR levels have not been exceeded) over the last several years (i.e., humpback and minke whales). For these stocks/species, it appears that the fishery management measures that have been in place over this timeframe have resulted in levels of effort that equate to interaction levels that are not expected to impair the stocks/species ability to remain at an optimum sustainable level. These fishery management measures, therefore, have resulted in indirect slight positive impacts to these non-ESA listed marine mammal species/stocks. Should future fishery management actions maintain similar operating conditions as they have over the past several years, it is expected that these slight positive impacts would remain. Taking this and the information provided in section 6.3 into consideration, as well as the fact that alternative 1A is not expected to significantly change fishing effort relative to *status quo* conditions, we expect impacts of alternative 1A on these non-ESA listed species of marine mammals to be slight positive (i.e., continuation of current operating conditions is not expected to result in exceedance of any of these stocks/species PBR level).

Overall, alternative 1A is expected to have slight positive to slight negative impacts on protected resources, with slight negative to slight positive impacts likely on non-ESA listed marine mammals and slight negative impacts likely for ESA-listed species.

Relative to alternative 1B and 1C, alternative 1A is expected to have the same direction and magnitude of impacts to protected species as recreational fishing effort is not expected to significantly change between any of these alternatives. As a result, the risks and therefore, impacts to protected species are expected to remain the same, regardless of alternative.

Alternative 1B: Revised Non-Preferred Coastwide Measures

Alternative 1B is very similar to alternative 1A, with the same proposed coastwide measures plus the addition of 17 open days in the coastwide season. Overall effort is expected to be very similar between these two alternatives, and thus impacts of alternative 1B are expected to be similar to those described above for alternative 1A. The additional open days in the season are not expected to result in a meaningful difference in interactions with protected resources between these two alternatives. Similarly, effort under alternative 1C is expected to be extremely similar to that under alternative 1B. Thus, when compared to alternatives 1A and 1C, the measures under 1B would be expected to have the same direction and magnitude of impacts to protected species as recreational fishing effort is not expected to change between any of these alternatives in a manner that meaningfully impacts protected resources.

Alternative 1C: Conservation Equivalency (Preferred)

Alternative 1C is designed to achieve the same level of harvest as alternative 1B, but with a slightly different set of management measures. These measures are not expected to result in fishery effort that is substantially different from that described under alternatives 1A and 1B. Thus, when compared to alternatives 1A and 1B, the measures under 1C would be expected to have the same direction and magnitude of impacts to protected species as recreational fishing effort is not expected to change between any of these alternatives in a manner that meaningfully impacts protected resources.

7.1.4 Impacts to Human Communities

As described in section 6.4, the primary human communities affected by this action are private recreational anglers and party/charter operations targeting summer flounder and black sea bass. Impacts to human communities are evaluated on the basis of how each alternative will impact revenues (for party/charter operations and associated businesses) and social well-being, including angler satisfaction (for all relevant human communities including private anglers).

For summer flounder alternatives, social and economic impacts to human communities largely depend on whether the measures are set at a coastwide or state/regional level. For coastwide measures, in order to design one set of measures that would constrain harvest to the RHL, some states would need to implement measures that are much more restrictive than their current measures. Other states would experience no impacts or slightly positive impacts from the particular proposed coastwide measures under alternatives 1A and 1B. Overall, these alternatives are both expected to have slight to moderate negative impacts to human communities given the lack of flexibility to allow states to develop measures that best meet the needs of their stakeholders and fisheries. Alternative 1C, in contrast, is expected to have positive impacts because it allows for states and regions to develop customized measures to maximize revenues and angler satisfaction under current harvest limit constraints.

Alternative 1A: No Action

This alternative would implement the non-preferred coastwide measures identified for 2017, including a 19-inch minimum size limit, a 4 fish possession limit, and an open season from June 1-September 15. This is not the same as maintaining *status quo* management measures in 2018, as conservation equivalency was implemented in 2017. Implementing these coastwide management measures would be a substantial change in measures for some states, and less of a change for

others. Not allowing individual states and regions to customize measures to meet the needs of their stakeholders would mean that some states under coastwide measures would experience negative social and economic impacts due to measures that are more restrictive than they would need to implement under conservation equivalency, or measures that are otherwise out of sync with the fishery conditions in a particular state. In addition, the coastwide measures under alternative 1A are slightly more restrictive than necessary to constrain harvest to the 2018 RHL.

The southern states of Delaware through North Carolina in particular would be negatively impacted by moving to a 19-inch size limit, as these states have lower availability of larger fish. All states would experience a reduction in the number of days in their open season. Because a 19-inch size limit and 4 fish possession limit are similar to the measures implemented in the northern states, these states are likely to experience less severe negative impacts from these coastwide measures, but would experience slight negative impacts associated with reductions in open season. Reduced opportunities to go fishing and/or keep summer flounder would be expected to result in reduced revenues for party/charter businesses and other associated recreational fishing businesses such as bait and tackle shops, as well as reduced angler satisfaction from party/charter patrons and private anglers.

However, alternative 1A is also associated with positive biological impacts to the summer flounder stock, which in turn would be associated with positive long-term economic and social impacts to human communities by maintaining positive stock status over the longer term.

Overall, alternative 1A is expected to result in impacts to human communities ranging from slight negative to moderate negative in the near term, varying by state and region depending on the magnitude of changes to the existing recreational measures. However, this alternative is still expected to constrain harvest to the RHL, and by contributing to the maintenance of a healthy stock biomass, this alternative is expected to contribute toward positive long-term social and economic impacts.

Compared to the other alternatives, alternative 1A is likely to result in more negative social and economic impacts, because the measures proposed are more conservative than the measures proposed under alternatives 1B and 1C and would result in more substantial reductions in fishing opportunities in 2018.

Alternative 1B: Revised Non-Preferred Coastwide Measures

The impacts of alternative 1B are expected to be very similar to those of alternative 1A, given that a similar coastwide management program would be implemented in both scenarios. The difference between the measures under the two alternatives consists of 17 additional open days in the coastwide season under alternative 1B. This would mitigate some of the negative social and economic impacts described under alternative 1A, but otherwise the impacts are expected to be very similar. The southern region would still be moderately negatively impacted by these measures given the lower availability of larger fish in that region. Therefore, the impacts on the human environment from alternative 1B are likely to range from slight negative to moderate negative, depending on the region. However, this alternative is still expected to constrain harvest to the RHL, and by contributing to the maintenance of a healthy stock biomass, this alternative is expected to contribute toward positive long-term social and economic impacts.

Compared to alternative 1A, alternative 1B is likely to result in less negative impacts due to the longer open season and the additional fishing opportunities this provides. Compared to alternative 1C, alternative 1B is likely to result in more negative impacts due to the requirement for all states to follow a coastwide set of measures that are likely to negatively impact some states and regions.

Alternative 1C: Conservation Equivalency (Preferred)

Alternative 1C would allow individual states and multi state regions to continue conservation equivalency into 2018. Conservation equivalency has been used since 2001 to allow states to customize their measures to account for spatial and temporal variation in fish availability and to meet the unique needs of their stakeholders. Because each state can customize measures within their state within the confines of the RHL and the management program approved by the Board, alternative 1C increases the social and economic benefits possible under a given RHL and within the other constraints of the FMP. Alternative 1C is expected to have moderate positive impacts to human communities as a result.

Compared to alternatives 1A and 1B, alternative 1C is expected to have much more positive impacts on human communities given that it does not require all states to be managed under the same set of management measures which may be unnecessarily constraining for some states.

7.2 Black Sea Bass Alternatives

7.2.1 Impacts to Target and Non-Target Species

The three alternatives for 2018 black sea bass measures have potential impacts on black sea bass and non-target species ranging from no impact to slight positive relative to the current condition of the VEC.

For black sea bass, all alternatives are expected to have positive impacts, though to varying degrees. All alternatives are expected to help prevent overfishing of the black sea bass stock, and help prevent the stock from becoming overfished, by constraining recreational harvest to the RHL. The current high black sea bass biomass and positive stock condition are not expected to change under any alternative and therefore slight positive impacts on black sea bass are expected for each alternative. In addition, fishing effort is expected to be similar under each alternative and similar to that observed over the last couple of years. Alternatives 2A and 2B generally apply to the southern region states of Delaware through North Carolina which account for only 5.5% of the coastwide black sea bass harvest and 7.1% of the coastwide directed black sea bass trips from 2013-2017. Alternative 2C would be implemented coastwide and would significantly reduce the possession limits and season length for the majority of states.

The alternatives are unlikely to have a meaningful impact on non-target species caught in the recreational black sea bass directed fishery. Most of the species caught with black sea bass on recreational fishing trips have a positive stock status; those that do not are not caught in significant quantities, and removals are accounted for and constrained by ACLs and AMs or other recreational management measures for those species (see section 7.1.1). Given the likelihood that recreational effort is not expected to change substantially under any of the alternatives, impacts on non-target species are expected to be negligible.

There is very little difference between the alternatives, particularly between alternatives 2A and 2B, with respect to potential changes in total effort and impacts on black sea bass and non-target

resources because this action merely shifts recreational fishing effort temporally within the year primarily through changes in the fishing season. Alternative 2C would implement measures at a coastwide level and would result in significant reductions in possession limit and season for nearly every state. However, if the amount of fishing access created by modifications to the open recreational season is considered to have a slight impact to varying degrees between alternatives; the greatest potential for slightly more positive impacts on black sea bass and non-target species is associated with alternative 2C (non-preferred), followed by alternative 2A (no action/*status quo*), and finally alternative 2B (preferred).

Alternative 2A: Non-Preferred No Action/Status quo

Under the no action/*status quo* alternative, federal water measures roll over to the next year and management measures in 2018 would be equivalent to those in place in 2017. These measures have not changed since 2015. As discussed in Section 5.2, these federal water measures generally apply to the southern region states (Delaware-North Carolina, north of Cape Hatteras) and to all federal for-hire permit holders regardless of where they are fishing, if more conservative than state measures. These measures are implemented under the understanding that the northern region states of Massachusetts through New Jersey, where the majority of the harvest occurs, will implement appropriate measures for state waters as specified under the ad-hoc management approach to achieve the established RHL. Since management measures would remain the same, directed black sea bass fishing effort and harvest for the southern region states would be expected to remain very similar to that observed in recent years.

Overall, this alternative, in combination with state waters management measures, is expected to have a slight positive impact relative to the resource condition by helping to prevent overfishing of the black sea bass stock, and prevent the stock from becoming overfished, by constraining recreational harvest to the RHL.

The positive biological impacts for black sea bass under this alternative are expected to be similar in magnitude to those under alternative 2B (preferred) and alternative 2C (non-preferred, coastwide) given that all of the alternatives are not expected to result in meaningful differences in effort or catch. The management measures, whether applied coastwide (alternative 2C) or in conjunction with state waters measures (alternatives 2A and 2B), are expected to result in landings that will achieve the 2018 RHL and prevent overfishing. If the amount of fishing access created by modifications to the open recreational season is considered to have a slight impact to varying degrees between alternatives, the No Action alternative would result in slightly more positive black sea bass impacts compared to alternative 2B which has a longer season and slightly less positive compared to alternative 2C which would implement a much more restrictive season.

Since this alternative would maintain the existing federal water measures, it is anticipated that interactions with non-target species in the recreational black sea bass fishery will likely remain similar to what has been observed recently. Of the species commonly caught with black sea bass on recreational trips (see section 6.1.3), tautog is the only non-target species that is considered overfished. It should be noted however, the tautog resource in the region from Delaware through North Carolina is not considered overfished and the measures associated with this alternative apply to the same region. Therefore, the No Action alternative is not expected to negatively impact the stock status of any non-target species.

Overall, this alternative is expected to have no impact on non-target species relative to current conditions. Relative to the other alternatives, the No Action alternative is expected to have similar impacts on non-target species. Similar to the impacts on black sea bass described above, these relative differences between the alternatives are expected to be minimal, as catch and effort is not expected to change substantially.

Alternative 2B: Preferred Modified Federal Measures

Impacts under this alternative are expected to be similar to those under alternative 2A even with the addition of 30 days open in the recreational federal waters season. Impacts to black sea bass are expected to be positive, given that the proposed federal water measures under this option, in conjunction with state water measures, would be expected to constrain harvest to the RHL and prevent overfishing from occurring.

As described in Section 5.2.2, this option is expected to result in an increase in the southern region harvest by 23%, or a total of 53,280 pounds compared to alternative 2A. However, when evaluating this increase to the total coastwide recreational harvest, it would result only in a 1.5% change compared to alternative 2A. In addition, fishing effort in the southern region accounts for only 7% of the total directed recreational black sea bass trips. Therefore, the impacts are expected to be similar but slightly less positive compared to alternative 2A.

Overall, this alternative is expected to have a slight positive impact relative to the resource condition by helping to prevent overfishing of the black sea bass stock, and prevent the stock from becoming overfished, by constraining recreational harvest to the RHL.

As for non-target species, the hook and line gear used in the recreational black sea bass fishery already minimizes the number of non-target species caught during directed black sea bass trips, and of the top species caught with black sea bass, tautog is the only stock that is considered overfished (section 6.1.3). As noted above however, the tautog resource in the region from Delaware through North Carolina is not considered overfished and the measures associated with this alternative apply to the same region. Because alternative 2B does not increase effort or substantially alter fishing activity, particularly at a coastwide level, this alternative is not expected to impact the stock status of any non-target species.

Overall, alternative 2B is expected to have a slight positive impact on black sea bass and no impact for non-target species given the current stock status of those particular species. This alternative is expected to have similar biological impacts to alternative 2C, as both may shift fishing effort temporally throughout the recreational seasons but are not expected to substantially change overall effort or catch. Compared to alternative 2A (*status quo*) and 2C, Alternative 2B may have a less positive impact on non-target species since it represents a liberalization of management measures that could slightly increase harvest and fishing effort. However, this liberalization is very minimal when evaluated at a coastwide level and therefore any impacts should be minimal as well.

Alternative 2C: Non-Preferred Coastwide Measures

Similar to the other two alternatives, alternative 2C is expected to have a slight positive impact relative to the resource condition by helping to prevent overfishing of the black sea bass stock, and prevent the stock from becoming overfished, by constraining recreational harvest to the RHL. The management measures associated with this alternative would be implemented coastwide and would only be implemented if states, particularly from Massachusetts through New Jersey, fail to

implement measures that would constrain harvest to achieve their respective regional allocation of the RHL.

Implementing this alternative would result in the largest departure of management measures compared to recent measures and would require significant modifications to current size, season and, possession limits for the majority of states. Therefore, this alternative would likely result in the greatest shift in fishing effort throughout the recreational seasons but is not expected to substantially change overall coastwide effort or catch.

Like the other alternatives, alternative 2C is not expected to impact non-target species. The changes in management measures under this alternative may change some of the interaction and overlap with the recreational seasons of non-target species given the large in changes in management measures associated with this alternative. It is unknown how those changes may modify the unintentional catch of non-target species. However, it is anticipated these shifts in effort would be temporary and therefore this alternative is not expected to increase or substantially change overall coastwide fishing effort in 2018.

Relative to the other alternatives, this alternative is expected to have similar slightly positive impacts on black sea bass and no impact on non-target resources. Making a direct comparison to alternatives 2A and 2B is difficult since this alternative would be implemented coastwide instead of applying to only the states of Delaware through North Carolina. This alternative would result in the greatest departure from the current recreational management measures in place in both federal and state waters and may result in greater shifts in fishing effort. However, the management measures associated with this alternative would be the most restrictive, particularly season length, and may therefore result in slightly more positive impacts when compared to alternatives 2A and 2B.

7.2.2 Impacts to Physical Habitat

All three alternatives for this action have potential for slight negative impacts on habitat due to continued operation of the recreational fisheries and the associated limiting of habitat recovery potential. The black sea bass fishery operates in areas that have been fished for many years, for a variety of species and with a variety of gear types. Modifications to the recreational fishing season and resulting potential changes in fishing effort under the alternatives in this action are unlikely to further degrade habitat beyond its current state. Also, as previously discussed, the recreational black sea bass fishery is primarily conducted with hook and line gear, which only minimally interacts with and affects physical habitat if at all. However, none of the alternatives are expected to result in any improvements to current habitat conditions, and continued fishing effort may limit the recovery potential of some of the currently degraded areas. Thus, all three alternatives are expected to have slight negative impacts on habitat.

The differences between the three black sea bass alternatives in terms of meaningful potential impacts to habitat are expected to be negligible. The alternatives may differ slightly in the resulting spatial and/or temporal distribution of fishing effort, but such changes are not expected to be substantial enough to meaningfully influence the potential impacts to habitat. Thus, alternatives 2A, 2B, and 2C are expected to have similar possible slight negative impacts on habitat. Any differences in actual effort between these alternatives would not meaningfully impact habitat recovery potential.

Alternative 2A: Non-Preferred No Action/Status quo

Under the no action alternative, the 2018 black sea bass federal waters recreational management measures would remain the same as in 2017. As described in section 6.2.3, the existing hook and line recreational fishery has little effect on the physical environment and habitat, and fishing effort is not expected to change under this alternative. However, as described above, slight negative impacts to habitat may occur due to the prevention of habitat recovery in fished areas.

When compared to alternatives 2B and 2C, the No Action alternative would likely result in similar slight negative impacts because fishing effort is not expected to substantially differ in a manner that meaningfully impacts habitat under any of these three alternatives.

Alternative 2B: Preferred Modified Federal Measures

As with alternative 2A, this alternative is expected to have potential slight negative impacts on habitat relative to current conditions, due to the prevention of habitat recovery in fished areas. As described above, this impact is expected to be of the same magnitude as alternatives 2A and 2C.

Alternative 2C: Non-Preferred Coastwide Measures

As with both alternatives above, this alternative is expected to have potential slight negative impacts on habitat relative to current conditions, due to the prevention of habitat recovery in fished areas. As described above, this impact is expected to be of the same magnitude as alternatives 2A and 2B.

7.2.3 Impacts to Protected Resources

As described in section 6.3, impacts of the alternatives on protected resources may vary between ESA-listed and MMPA-protected species. A similar approach and evaluation of the overall impacts to protected resources was applied here as to the summer flounder alternatives described in section 7.1.3. The overall impacts on the protected resources VEC for each alternative will take into account impacts on ESA-listed species, impacts on marine mammal stocks in good condition (i.e., PBR level has not been exceeded), and marine mammal stocks that have reached or exceeded their PBR level.

The recreational black sea bass fishery primarily uses hook and line gear. As provided in section 6.3, protected species interactions with hook and line gear have been documented for several species of large whales (ESA listed or MMPA protected), sea turtles, Atlantic sturgeon, and bottlenose dolphins. However, relative to other gear types, such as fixed gear, hook and line gear represents a low source serious injury or mortality to large whale species and bottlenose dolphins. For ESA listed species of sea turtles and Atlantic sturgeon, interactions with hook and line gear have been documented, with serious injury or mortality incurred to these species. The expected impacts of each alternative are described below.

Alternative 2A: Non-Preferred No Action/Status quo

As provided in section 6.3., ESA listed species of large whale, sea turtles, and Atlantic sturgeon, and MMPA protected (non-ESA listed) species of large whales and bottlenose dolphin stocks are at risk of interacting with hook and line gear. As the recreational black sea bass fishery uses hook and line gear, interactions with protected species are possible and therefore, depending on resource condition, some level of negative or positive impacts to protected species are possible. Taking into

consideration fishing behavior/effort under the alternative 2A, as well the fact that interaction risks with protected species are strongly associated with gear type, the amount of gear in the water, the time the gear is in the water (e.g., soak time, tow time), and the presence of protected species in the same area and time as the gear (with risk of an interaction increasing with increases in of any or all of these factors), the impacts to ESA listed species are expected to be slight negative, while impacts to MMPA protected species to be slight negative to slight positive.

Under the no action alternative, federal waters management measures in 2018 would remain the same as those in place since 2015. These measures work in conjunction with state waters measures to constrain the coastwide harvest to the RHL. Recreational fishing effort and participation in 2018 is expected to be similar to patterns observed in recent years. As a result, relative to current conditions, alternative 2A is not expected to result in any significant changes in fishing behavior or effort in the recreational fishery. The number of party/charter and private recreational trips, and thus, the presence and quantity of hook and line gear is also not expected to change significantly. As provided above, interaction risks with protected species (ESA listed and MMPA protected species) are strongly associated with gear: type, quantity, soak or tow ties, and area of overlap with protected species (with risk of an interaction increasing with increases of any or all of these factors). As continuation of *status quo* fishing behavior/effort is not expected to change any of these operating conditions, relative to current conditions, new or elevated (e.g., more gear) interaction risks to protected species (MMPA protected and ESA listed) are not expected.

Based on the above information, and taking into consideration available information on hook and line interaction risks to ESA listed species provided in section 6.3, impacts to ESA listed species are expected to be slight negative. For MMPA (non-ESA listed) protected species, some stocks/species are at optimum sustainable levels, while others are not. Thus, the impacts of alternative 2A on non-ESA listed MMPA protected species are likely to range from slight negative (for stocks with PBR levels exceeded) to slight positive (for stocks whose PBR level has not been exceeded). As noted above, there are some marine mammal stocks/species (i.e., bottlenose dolphin stocks; see section 6.3) that are experiencing levels of interactions that have resulted in exceedance of their PBR levels. These stocks/populations are not at an optimum sustainable level and therefore, the continued existence of these stocks/species is at risk. As a result, any potential for an interaction that may result in the serious injury or mortality to the animal is a detriment to the species/stocks ability to recover from this condition. As interactions with bottlenose dolphin stocks, a non-ESA listed marine mammals whose PBR levels have been exceeded, are possible under alternative 2A, and available information indicates that, albeit low, interactions have resulted in the mortality to these animals, alternative 2A is likely to result in slight negative impacts to this non-listed marine mammal stocks/species.

Alternatively, there are also many non-ESA listed marine mammals that, even with continued fishery interactions, are maintaining an optimum sustainable level (i.e., PBR levels have not been exceeded) over the last several years (i.e., humpback and minke whales). For these stocks/species, it appears that the fishery management measures that have been in place over this timeframe have resulted in levels of effort that equate to interaction levels that are not expected to impair the stocks/species ability to remain at an optimum sustainable level. These fishery management measures, therefore, have resulted in indirect slight positive impacts to these non-ESA listed marine mammal species/stocks. Should future fishery management actions maintain similar operating condition as they have over the past several years, it is expected that these slight positive impacts would remain. Taking this and the information provided in section 6.3 into consideration,

as well as the fact that alternative 2A is not expected to significantly change fishing effort relative to *status quo* conditions, we expect impacts of alternative 2A on these non-ESA listed species of marine mammals to be slight positive (i.e., continuation of current operating conditions is not expected to result in exceedance of any of these stocks/species PBR level).

Overall, alternative 2A is expected to have slight positive to slight negative impacts on protected resources, with slight negative to slight positive impacts likely on non-ESA listed marine mammals and slight negative impacts likely for ESA-listed species.

Relative to alternative 2B and 2C, alternative 2A is expected to have the same direction and magnitude of impacts to protected species as overall recreational fishing effort is not expected to significantly change between any of these alternatives. As a result, the risks and therefore, impacts to protected species are expected to remain the same, regardless of alternative.

Alternative 2B: Preferred Modified Federal Measures

Alternative 2B would implement a modification to the 2018 federal waters black sea bass recreational management measures that would open an additional 30 days to the recreational season by removing the current fall closure from September 22 – October 21. Similar to federal waters measures associated with alternative 2A, these measures work in conjunction with state waters measures to constrain harvest to the RHL. While this proposed action is designed to create more fishing opportunity and access for recreational fishermen, it is not expected to increase effort in any significant way because these measures generally apply to Delaware through North Carolina which only account for 5.5% of coastwide recreational sea bass harvest and 7% of the directed recreational black sea bass trips. The liberalization in federal waters measures will be accounted for by adjusting state waters measures to ensure the 2018 RHL is not exceeded. It is anticipated that state waters measures will likely be similar to those implemented in 2017. Therefore, the only potential change in fishing activity under this alternative would be a shift in the temporal distribution of recreational fishing effort, which is not expected to be substantial.

Based on the above information, alternative 2B will provide no incentive for effort to increase in the recreational fishery and in fact, overall effort is not expected to be any greater than that under the no action alternative (alternative 1). Based on this, impacts to protected species are expected to be similar to those provided above for alternative 2A. Specifically, impacts are expected to be slight positive to slight negative, with slight negative to slight positive impacts likely on non-ESA listed marine mammals and slight negative impacts likely for ESA-listed species. For rationale to support this determination see alternative 2A.

Relative to alternatives 2A and 2C, alternative 2B is expected to have the same direction and magnitude of impacts to protected species as recreational fishing effort is not expected to significantly change between any of these alternatives. As a result, the risks and therefore, impacts to protected species are expected to remain the same, regardless of alternative.

Alternative 2C: Non-Preferred Coastwide Measures

Alternative 2C would implement coastwide management measures that would apply to both state and federal waters. These measures would only be implemented if states failed to implement appropriate measures to constrain harvest to the RHL. If these measures were to be implemented, it would result in the largest departure of management measures when compared to recent measures. However, as with alternatives 2A and 2B, these measures are designed to constrain the

coastwide harvest to the RHL and, therefore, this action is not expected to increase overall fishing effort. Therefore, the only potential change to fishing activity under this alternative would be a shift in the temporal distribution of recreational fishing effort throughout the year, which would not be substantial.

Based on the above information, alternative 2C will provide no incentive for effort to increase in the recreational fishery and in fact, effort is not expected to be any greater than that under either alternatives 2A and 2B. Based on this, impacts to protected species are expected to be similar to those provided above for alternatives 2A and 2B. Specifically, impacts are expected to be slight positive to slight negative, with slight negative to slight positive impacts likely on non-ESA listed marine mammals and slight negative impacts likely for ESA-listed species. For rationale to support this determination see alternative 2A.

Relative to alternatives 2A and 2B, alternative 2C is expected to have the same direction and magnitude of impacts to protected species as overall recreational fishing effort is not expected to significantly change between any of these alternatives. As a result, the risks and therefore, impacts to protected species are expected to remain the same, regardless of alternative.

7.2.4 Impacts to Human Communities

As discussed previously, fishing effort on a coastwide basis is expected to be very similar among the three alternatives since all alternatives, either alone or in conjunction with state water measures, are expected to constrain harvest to the 2018 RHL. However, when evaluating the alternatives at a state or regional level, there are differences in the expected socioeconomic impacts. Alternatives 2A and 2B would implement federal water measures that generally apply to the states of Delaware through North Carolina and work in conjunction with state water measures implemented from New Jersey through Massachusetts to constrain the coastwide harvest to the RHL; while alternative 2C would implement coastwide measures that would apply to both federal and state waters.

The No Action alternative (alternative 2A) would retain the existing federal water measures which have been in place since 2015. Directed black sea bass fishing effort and demand for party/charter trips targeting black sea bass have been relatively stable for the last several years and there is no indication that the recreational market environment will change in the next couple of years. Because this alternative would create no change from the current conditions in the recreational fishery, particularly for the states of Delaware through North Carolina, alternative 1 is expected to have similar socioeconomic impacts when compared to current conditions. Alternative 2B represents a liberalization from the *status quo* federal waters measures by removing the current September 22 – October 21 closure and retaining the existing size and possession limits. This alternative would create more fishing opportunity and access for recreational fishermen, particularly for the southern region states of Delaware through North Carolina and is expected to result in slight positive socioeconomic impacts overall and moderate socioeconomic impacts for the southern region states of Delaware to North Carolina. Alternative 2C would implement one set of coastwide measures that would have differential and disproportionate impacts and would result in socioeconomic impacts that range from a slight positive to moderately negative, depending upon the state. Compared to each other, alternative 2C would have the most negative impacts, followed by alternative 2A. Alternative 2B would result in moderately more positive impacts than both other alternatives.

Alternative 2A: Non-Preferred No Action/Status quo

Implementing this alternative would retain the existing federal waters measures of a 15 fish possession limit, 12.5 inch TL minimum size and a season from May 15-September 21 and October 22-December 31. These measures have been in place since 2015. As discussed in section 4.2, since the implementation of ad-hoc regional management in 2012 through the Commission process, these measures work in conjunction with state waters measures to constrain harvest to the RHL and generally apply to the southern region states of Delaware through North Carolina. Over 90% of the southern region states' recreational black sea bass harvest occurs in federal waters and the implemented federal waters measures have a direct impact on the amount of fishing effort and harvest in these states.

As discussed above in section 5.2, the Board recently approved Addendum XXX which established regional allocations of the coastwide RHL with the southern regions states of Delaware to North Carolina allocated 8.41% of the RHL, or 307,964 pounds based on the 2018 RHL. Under the current federal water measures associated with alternative 2A, the southern region states are projected to harvest 232,072 pounds of black sea bass in 2018, or 75% of their regional allocation. Therefore, the southern region states have the ability to liberalize their measures in 2018 to achieve their 2018 allocation while still constraining the coastwide harvest to the 2018 RHL.

There is very little information available to empirically estimate how sensitive the affected anglers might be to modifications to recreational management measures. If management measures in both state and federal waters remain *status quo*, it is expected that most anglers and for-hire vessels that fished for black sea bass in 2017 would continue to do so in 2018 and therefore socioeconomic impacts would likely be similar to current conditions. From 2015 – 2017, the total number of directed black sea bass trips has remained relatively consistent with an average of 493,000 black sea bass trips. In addition, from 2014 – 2016 the number of federally permitted black sea bass party and charter vessels has remained fairly constant with an average of 763 vessels with an average of 304 vessels reporting black sea bass catch.

Compared to alternative 2B, this alternative would result in slight negative social and economic impacts. As mentioned above, the southern region states could liberalize their management measures and still constrain harvest to the 2018 allocation. The management measures associated with the alternative are more restrictive, given the regions 2018 allocation, than necessary. This alternative would not result in any liberalization and would minimize the potential benefits of increased private and for-hire recreational opportunities for the southern region states. Compared to alternative 2C, this alternative, in conjunction with state waters measures, would likely result in similar economic and social impacts when evaluated at the coastwide level since fishing effort would likely be similar. However, when evaluating the No Action alternative and alternative 2C at a smaller scale, such as the southern region states of Delaware through North Carolina, alternative 2A would result in positive economic and social impacts. Management measures under alternative 2C would result in a 64% reduction in black sea bass harvest for the southern region states due to the increased size limits, lower possession limits and shorter season compared to alternative 2A measures and would result in highly negative social and economic impacts in this area.

Alternative 2B: Preferred Modified Federal Measures

The preferred alternative (alternative 2B) would implement a modification to the 2018 federal waters black sea bass recreational management measures that would open an additional 30 days to the recreational season by removing the current fall closure from September 22 – October 21. Similar to federal waters measures associated with alternative 2A, these measures work in conjunction with state waters measures to constrain harvest to the RHL. This proposed action is designed to create more fishing opportunity and access for recreational fishermen particularly for the southern region states of Delaware through North Carolina that will likely implement these preferred federal waters measures. This alternative also reduces conflicts between federal/state waters regulations and allows states more flexibility in setting their measures.

As described for alternative 1, there is very little information available to empirically estimate how sensitive the affected anglers might be to modifications to recreational management measures. The modification proposed by this alternative is likely to result in an increase in the demand for private, headboat, and party/charter black sea bass trips in federal waters in the southern region, due to the additional open season at a time when black sea bass availability is high for the southern region states. This would increase economic benefits derived from angler trips that target black sea bass, although as with summer flounder, the magnitude of the increased benefits is uncertain.

Overall, alternative 2B is expected to result in slight positive socioeconomic impacts, with moderate positive impacts for the southern region states of Delaware to North Carolina. These impacts are more positive than under the No Action alternative (alternative 2A), which is expected to have socioeconomic impacts similar to current conditions (see discussion above describing current conditions). When compared to alternative 2C, this alternative, in conjunction with state waters measures, would likely result in similar economic and social impacts when evaluated at the coastwide level since overall fishing effort would be similar in 2018 compared to 2017. However, when evaluating alternative 2B and alternative 2C at a smaller scale, such as the southern region states of Delaware through North Carolina, alternative 2B would result in positive economic and social impacts given the significant changes in management measures that are much more restrictive for this region under alternative 2C than those associated with alternative 2B.

Additional quantitative and qualitative economic analysis of the preferred alternative is presented in section 8.12.

Alternative 2C: Non-Preferred Coastwide Measures

Alternative 2C would implement coastwide management measures that would apply to both state and federal waters. These measures would only be implemented if states failed to implement appropriate measures to constrain harvest to the RHL. As with alternatives 2A and 2B, these measures are designed to constrain the coastwide harvest to the RHL and, therefore, this action is not expected to increase overall fishing effort. However, if these measures were to be implemented, it would result in the largest departure of management measures when compared to recent measures.

Implementing one set of coastwide measures would have differential and disproportionate impacts on some states, compared to others. Thus, the resulting socioeconomic impacts would range from a slight positive to moderately negative, depending on the state. For example, the measures associated with this alternative would represent a slight liberalization in the size limit and season

in Massachusetts and may provide a slight positive impact for recreational anglers and businesses in that state. However, as mentioned in the sections above, these measures would result in a 64% decline in recreational harvest for Delaware through North Carolina as a result of increased size limits, lower possession limits and a much shorter season. This would result in moderately negative impacts for those states' recreational fishermen and associated businesses.

When comparing to alternatives 2A and 2B, alternative 2C would likely result in negative socioeconomic impacts given the regional or state-specific implications associated with the management measures under this alternative.

7.3 Cumulative Effects Analysis

A cumulative effects analysis (CEA) is required by the Council on Environmental Quality (CEQ; 40 CFR part 1508.7). The purpose of CEA is to consider the combined effects of many actions on the human environment over time that would be missed if each action were evaluated separately. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective. Rather, the intent is to focus on those effects that are truly meaningful. A formal cumulative impact assessment is not necessarily required under NEPA as part of an EA if the significance of cumulative impacts have been considered (U.S. EPA 1999). The following remarks address the significance of the expected cumulative impacts as they relate to the federally managed summer flounder and black sea bass fisheries.

7.3.1 Consideration of the VECs

The following sections discuss the significance of the cumulative effects on the following VECs:

- Managed resources (i.e. summer flounder and black sea bass) and non-target species
- Physical environment
- Protected species
- Human communities

7.3.2 Geographic Boundaries

The analysis of impacts focuses on actions related to the recreational harvest of summer flounder and black sea bass. The Western Atlantic Ocean is the core geographic scope for each of the VECs. The core geographic scopes for the managed species are the management units (section 6.1). For non-target species, those ranges may be expanded and would depend on the range of each species in the Western Atlantic Ocean. For habitat, the core geographic scope is focused on EFH within the EEZ but includes all habitat utilized by summer flounder, black sea bass, and non-target species in the Western Atlantic Ocean. The core geographic scope for protected species is their range in the Western Atlantic Ocean. For human communities, the core geographic boundaries are defined as those U.S. fishing communities in coastal states from Maine through North Carolina directly involved in the harvest or processing of the managed species (section 6.4).

7.3.3 Temporal Boundaries

The temporal scope of past and present actions is primarily focused on actions that occurred after FMP implementation (1988 for summer flounder and 1996 for black sea bass). For protected species, the scope of past and present actions is focused on the 1980s and 1990s (when NMFS began generating stock assessments for marine mammals and sea turtles that inhabit waters of the

U.S. EEZ) through the present. The temporal scope of future actions for all VECs extends about five years (2022) into the future beyond the analyzed time frame of the alternatives described in this document. The dynamic nature of resource management for these species and lack of information on projects that may occur in the future make it difficult to predict impacts beyond this timeframe with any certainty. The impacts discussed in section 7.3.5 are focused on the cumulative effects of the proposed action in combination with the relevant past, present, and reasonably foreseeable future actions over these time scales.

7.3.4 Actions Other Than Those Proposed in this Document

The impacts of the alternatives considered in this document are described in sections 7.1 through 7.4. Table 14 presents meaningful past (P), present (Pr), or reasonably foreseeable future (RFF) actions other than those considered in this document. The impacts of these actions are described qualitatively as the actual impacts are too complex to be quantified in a meaningful way. When any of these abbreviations (P, Pr, or RFF), occur together it indicates that some past actions are still relevant to the present and/or future actions.

Fishery Management Actions

Summer Flounder, Scup, and Black Sea Bass FMP Actions

Past, present, and reasonably foreseeable future actions for summer flounder, scup, and black sea bass management include the establishment of the original FMPs, all subsequent amendments and frameworks, and the setting of annual specifications (annual catch limits and measures to constrain catch and harvest). The historical management practices of the Council have resulted in overall positive impacts on the health of the summer flounder and black sea bass stocks (section 7.3.5.1). The Council has taken many actions to manage the associated commercial and recreational fisheries. The MSA is the statutory basis for federal fisheries management. To the degree with which this regulatory regime is complied, the cumulative impacts of past, present, and reasonably foreseeable future federal fishery management actions on the VECs should generally be associated with positive long-term outcomes. Constraining fishing effort through regulatory actions can have negative short-term socioeconomic impacts. These impacts are sometimes necessary to bring about long-term sustainability of a resource, and as such should, in the long-term, promote positive effects on human communities.

Other FMP Actions

In addition to the summer flounder, scup, and black sea bass FMP, there are many other FMPs and associated fishery management actions for other species that have impacted these VECs over the temporal scale described in section 7.3.3. These include FMPs managed by the Mid-Atlantic Fishery Management Council, New England Fishery Management Council, Atlantic States Marine Fisheries Commission, and to a lesser extent the South Atlantic Fishery Management Council. Omnibus amendments are also frequently developed to amend multiple FMPs at once. Actions associated with other FMPs and omnibus amendments have included measures to regulate fishing effort for other species, measures to protect habitat and forage species, and fishery monitoring and reporting requirements.

As with the summer flounder, scup, and black sea bass actions described above, other FMP actions developed by Fishery Management Councils or GARFO have been developed in compliance with the MSA and have had positive long-term cumulative impacts on managed and non-target species,

habitat, and protected resources because they constrain fishing effort and manage stocks at sustainable levels. However, constraining fishing effort through regulatory actions can have negative short-term socioeconomic impacts. These impacts are sometimes necessary to bring about long-term sustainability of a resource, and as such should, in the long-term, promote positive effects on human communities.

Non-Fishing Impacts

Other Human Activities

Non-fishing activities that introduce chemical pollutants, sewage, or suspended sediment into the marine environment or result in changes in water temperature, salinity, or dissolved oxygen, pose a risk to all VECs. Human-induced non-fishing activities tend to be localized in nearshore areas and marine project areas where they occur. Examples of these activities include agriculture, port maintenance, beach nourishment, coastal development, marine transportation, marine mining, dredging, and the disposal of dredged material. Wherever these activities co-occur, they are likely to work additively or synergistically to decrease habitat quality and as such may indirectly constrain the sustainability of managed species, non-target species, and protected species. Decreased habitat suitability tends to reduce the tolerance of these VECs to the impacts of fishing effort. Mitigation of this outcome through regulations that reduce fishing effort could negatively impact human communities. The overall impact on the affected species and their habitats on a population level is unknown, but likely to range from no impact to low negative, depending on the population, since a large portion of these populations have a limited or minor exposure to these local non-fishing perturbations.

Non-fishing activities permitted under other Federal agencies (e.g. beach nourishment, offshore wind facilities, etc.) require examinations of potential impacts on the VECs. The MSA imposes an obligation on other Federal agencies to consult with the Secretary of Commerce on actions that may adversely affect EFH (50 CFR 600.930). The eight regional fishery management councils engage in this review process by making comments and recommendations on federal or state actions that may affect habitat for their managed species and by commenting on actions likely to substantially affect habitat.

In addition to the activities above, in recent years, offshore wind energy and oil and gas exploration have become more relevant activities in the Greater Atlantic region that are expected to impact all VECs, as described below. For potential biological impacts of wind, the turbines and cables may influence water currents and electromagnetic fields, respectively, which can affect patterns of movement for various species (target, non-target, protected). Habitats directly at the turbine and cable sites would be affected, and there could be scouring concerns around turbines. Impacts on human communities in a general sense will be mixed – there will be economic benefits in the form of jobs associated with construction and maintenance, and replacement of some electricity generated using fossil fuels with renewable sources. But there may be negative effects on fishing activities in terms of effort displacement, or making fishing more difficult or expensive near the turbines or cables.

For oil and gas, this timeframe would include leasing and possible surveys. Seismic surveys impact the acoustic environment within which marine species live, and have uncertain effects on fish behaviors that could cumulatively lead to negative population level impacts. The science on this is fairly uncertain. If marine resources are affected by seismic, then so in turn the fishermen

targeting these resources would be affected. However, there would be an economic component in the form of increased jobs where there may be some positive effects on human communities.

While there are currently no operational wind farms in Mid-Atlantic waters, potential offshore wind energy sites have been identified off of Virginia, Maryland, New Jersey, Delaware, and New York, and there are several proposals to develop wind farms in both nearshore and offshore waters. In New England, offshore wind project construction south of Massachusetts/Rhode Island may begin as early as 2019 (three projects including Vineyard Wind, Bay State Wind, and South Fork Wind Farm). Additional areas have been leased and will have site assessment activities in the next few years. These projects could have low negative impacts on EFH, as well as summer flounder and black sea bass, non-target species, and fishing communities if there are any negative impacts on those resources. Furthermore, there could be negative impacts on protected species of birds and marine mammals if they interact with the wind farms.

The overall impact of offshore wind energy and oil and gas exploration on the affected species and their habitats on a population level is unknown, but likely to range from no impact to moderate negative, depending on the number and locations of projects that occur, as well as the effects of mitigation efforts.

Global Climate Change

Global climate change affects all components of marine ecosystems, including human communities. Physical changes that are occurring and will continue to occur to these systems include sea-level rise, changes in sediment deposition; changes in ocean circulation; increased frequency, intensity and duration of extreme climate events; changing ocean chemistry, and warming ocean temperatures. Emerging evidence demonstrates that these physical changes are resulting in direct and indirect ecological responses within marine ecosystems which may alter the fundamental production characteristics of marine systems (Stenseth et al. 2002). Climate change will potentially exacerbate the stresses imposed by fishing and other non-fishing human activities and stressors.

Results from the Northeast Fisheries Climate Vulnerability Assessment indicate that climate change could have impacts on Council-managed species that range from negative to positive, depending on the adaptability of each species to the changing environment (Hare et al. 2016). Based on this assessment, summer flounder was determined to have a moderate vulnerability to climate change. The exposure of summer flounder to the effects of climate change was determined to be "very high" due to the impacts of ocean surface temperature, ocean acidification, and air temperature. Exposure to all three factors occur during all life stages. Summer flounder is an obligate estuarine-dependent species. Spawning occurs on the shelf and juveniles inhabit estuaries. Adults make seasonal north-south migrations exposing them to changing condition inshore and offshore. The distributional vulnerability of summer flounder was ranked as "high," given that summer flounder spawn in shelf waters and eggs and larvae are broadly dispersed. Adults use a range of habitats including estuarine, coastal, and shelf. The life history of the species has a strong potential to enable shifts in distribution. Summer flounder were thus determined to have low biological sensitivity to climate change.

The same assessment indicated that black sea bass has a high overall vulnerability to climate change. The exposure of black sea bass to the effects of climate change was determined to be "very high" due to the impacts of ocean surface temperature, ocean acidification, and air temperature.

Exposure to all three factors occurs during all life stages. Black sea bass occur in coastal areas during warm months and migrate offshore in cold months and thus are exposed to changes occurring both in offshore and inshore waters. The distributional vulnerability for black sea bass was also rated as "high." The biological sensitivity of black sea bass to climate change was ranked as "moderate" (Hare et al. 2016).¹⁰

Overall, climate change is expected to have impacts that range from positive to negative depending on the species. However, future mitigation and adaptation strategies to climate change may mitigate some of these impacts. The science of predicting, evaluating, monitoring and categorizing these changes continues to evolve.

¹⁰ Climate vulnerability profiles for individual species are available at:
<https://www.st.nmfs.noaa.gov/ecosystems/climate/northeast-fish-and-shellfish-climate-vulnerability/index>

Table 14: Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the VECs (not including those actions considered in this document).

Action	Description	Impacts on Summer Flounder, Black Sea Bass and Non-Target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr, RFF Original Summer Flounder, Scup, and Black Sea Bass FMP and subsequent FMP Amendments and Frameworks	Established and modified commercial and recreational management measures	Direct Positive Regulatory tool available to rebuild and manage stocks and to regulate fishing effort	Indirect Positive Reduced fishing effort, implemented gear requirements and restricted areas	Indirect Positive Regulated fishing effort, implemented gear requirements	Mixed Benefited some domestic businesses; negative impacts on some participants due to limited access and constraints on landings and revenues
P, Pr, RFF Specifications for managed resources	Establish quotas, recreational harvest limits, and other fishery regulations (commercial and recreational)	Direct Positive Regulatory tool to specify catch limits, and other regulations; allows response to annual stock updates	Indirect Positive Reduced effort levels; gear requirements and restricted areas	Indirect Positive Regulated fishing effort; gear requirements	Mixed Benefited some domestic businesses; negative impacts on some participants due to limited access and constraints on landings and revenues
P, Pr, RFF Other FMPs and Omnibus Actions	Regulating fishing effort in other FMPs, habitat and forage species protection, industry monitoring and reporting	Direct and Indirect Positive Regulatory tool available to rebuild and manage stocks and to regulate fishing effort	Indirect Positive Reduced fishing effort, implemented gear requirements	Indirect Positive Regulated fishing effort, implemented gear requirements	Mixed Benefited some domestic businesses; negative impacts on some participants due to limited access and constraints on landings and revenues
P, Pr, RFF Agricultural runoff	Nutrients applied to agricultural land are introduced into aquatic systems	Indirect Negative Reduced habitat quality	Direct Negative Reduced habitat quality	Indirect Negative Reduced habitat quality	Indirect Negative Reduced habitat quality negatively affects resource

Table 14 (continued): Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the VECs (not including those actions considered in this document).

Action	Description	Impacts on Summer Flounder, Black Sea Bass and Non-Target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr, RFF Climate change	Wide-ranging impacts including changes in ocean chemistry, temperatures, sea-level, and ocean circulation; increased frequency, intensity, and duration of extreme climate events.	Negative to positive Some species will benefit, others will see negative impacts, depending on the adaptability of each species to the changing environment	Negative to positive Decreased habitat quality, suitability and/or availability for some species; increased quality/suitability/availability for others	Negative to positive Depending on impacts to habitat and prey availability	Negative to positive Depending on resiliency of individual communities and mitigation/adaptation
P, Pr, RFF Port maintenance	Dredging of coastal, port and harbor areas for port maintenance	Indirect Negative Dependent on mitigation effects	Direct Negative Dependent on mitigation effects	Direct and Indirect Negative Potential interactions with protected species; reduced habitat quality/availability; dependent on mitigation efforts	Mixed Dependent on economic benefits to ports and mitigation of potential negative environmental effects
P, Pr, RFF Convening of Take Reduction Teams (periodically)	Recommend measures to reduce mortality and injury to marine mammals and sea turtles	Indirect Positive Will improve data quality for monitoring total removals; Reducing availability of gear could reduce bycatch	Indirect Positive Reducing availability of gear could reduce gear impacts	Direct Positive Reducing amount of gear in water could reduce encounters	Indirect Negative Reducing availability of gear could reduce revenues

Table 14 (continued): Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the VECs (not including those actions considered in this document).

Action	Description	Impacts on Summer Flounder and Black Sea Bass and Non-Target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr, RFF Beach nourishment	Offshore mining of sand for beaches and placement of sand to nourish beach shorelines	Indirect Negative Localized decreases in habitat quality	Direct Negative Reduced habitat quality	Direct and Indirect Negative Reduced habitat quality; dredge interactions; dependent on mitigation efforts	Mixed Positive for mining companies, tourism; possibly negative for fishing industry if reduced landings result from negative habitat impacts
P, Pr, RFF Marine transportation	Expansion of port facilities, vessel operations and recreational marinas	Indirect Negative Localized decreases in habitat quality	Direct Negative Reduced habitat quality	Direct and Indirect Negative Reduced habitat quality/availability; potential for interactions (ship strikes) with protected species	Mixed Positive for some interests, potential displacement for others
P, Pr, RFF Offshore disposal of dredged materials	Disposal of dredged materials	Indirect Negative Reduced habitat quality	Direct Negative Reduced habitat quality	Indirect Negative Reduced habitat quality; dependent on mitigation efforts	Indirect Negative Possible reduced landings due to reduced availability resulting from negative habitat impacts
P, Pr, RFF Renewable and Non-renewable Offshore and Nearshore Energy Development	Transportation of oil, gas, and electricity through pipelines & cables; Construction of oil platforms, wind facilities, liquefied natural gas facilities; Additional port development infrastructure	Indirect Negative Dependent on mitigation effects	Direct Negative Reduced habitat quality; offshore platforms may benefit structure-oriented fish species habitat	Direct and Indirect Negative Reduced habitat quality; Sound Exposure (physical injury or behavioral harassment); dependent on mitigation efforts	Mixed Dependent on mitigation effects

7.3.5 Magnitude and Significance of Cumulative Effects

In determining the magnitude and significance of the cumulative effects, the additive and synergistic effects of the proposed action, as well as past, present, and future actions, must be taken into account. The following section describes the expected effects of these actions on each VEC.

7.3.5.1 Magnitude and Significance of Cumulative Effects on Managed Species and Non-Target Species

Those past, present, and reasonably foreseeable future actions which may impact target species (summer flounder and black sea bass) and non-target species, and the direction of those potential impacts, are summarized in Table 14. The indirectly negative actions described in Table 14 are localized in nearshore and marine areas where the projects occur; therefore, the magnitude of those impacts on the managed resources is expected to be limited due to limited exposure to the populations at large. Agricultural runoff may be much broader in scope and the impacts of nutrient inputs to the coastal system may be larger in magnitude; however, the impact on productivity of the managed resources is not quantifiable.

NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on resources under NMFS' jurisdiction.

Past fishery management actions taken through the respective FMPs and the annual specifications process have had a positive cumulative effect on the managed resources. It is anticipated that the future management actions described in Table 14 will have additional indirect positive effects on the managed resources through actions which reduce and monitor bycatch, protect habitat, and protect the ecosystem services on which the productivity of managed species depends. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to the managed resources have had positive cumulative effects.

Catch limits, commercial quotas and RHLs for each of the managed species have been specified to ensure that these rebuilt stocks are managed sustainably and that measures are consistent with the objectives of the FMP under the guidance of the MSA. Recreational management measures such as those described in this document are designed to ensure that catch and landings limits are not exceeded. The impacts of annual specification of management measures are largely dependent on how effective those measures are in meeting the objectives of preventing overfishing and achieving optimum yield, and on the extent to which mitigating measures are effective. The proposed actions described in this document would positively reinforce the past and anticipated positive cumulative effects on the managed resources by achieving the objectives specified in the respective FMPs. Therefore, the proposed action would not have any significant effect on the managed resources individually or in conjunction with other anthropogenic activities (Table 14).

7.3.5.2 Magnitude and Significance of Cumulative Effects on Physical Environment

Those past, present, and reasonably foreseeable future actions which may impact the physical environment and habitat (including EFH), and the direction of those potential impacts, are summarized in Table 14. The direct and indirect negative actions described in Table 14 are localized in nearshore and marine project areas where they occur; therefore, the magnitude of those impacts on habitat is expected to be limited due to limited exposure of habitat at large. Agricultural runoff may be much broader in scope and the impacts of nutrient inputs to the coastal system may be larger in magnitude; however, the impact on habitat is not quantifiable.

NMFS has several means under which it can review non-fishing actions of other Federal or state agencies that may impact NMFS' managed resources and the habitat on which they rely prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of direct and indirect negative impacts those actions could have on habitat utilized by species under NMFS' jurisdiction.

Past fishery management actions taken through the respective FMPs and annual specifications process have had positive cumulative effects on habitat. The actions have constrained fishing effort both at a large scale and locally and have implemented gear requirements which may reduce impacts on habitat. As required under these FMP actions, EFH and Habitat Areas of Particular Concern were designated for the managed resources. It is anticipated that the future management actions described in Table 14 will result in additional direct or indirect positive effects on habitat through actions which protect EFH and protect ecosystem services on which these species' productivity depends. These impacts could be broad in scope. All the VECs are interrelated; therefore, the linkages among habitat quality, managed resources and non-target species productivity, and associated fishery yields should be considered. For habitat, there are direct and indirect negative effects from actions which may be localized or broad in scope; however, positive actions that have broad implications have been, and will likely continue to be, taken to improve the condition of habitat. Some actions, such as coastal population growth and climate change may indirectly impact habitat and ecosystem productivity; however, these actions are beyond the scope of NMFS and Council management. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to habitat have had positive cumulative effects.

The proposed actions described in this document would not significantly change the past and anticipated cumulative effects on habitat and thus would not have any significant effect on habitat individually or in conjunction with other anthropogenic activities (Table 14).

7.3.5.3 Magnitude and Significance of Cumulative Effects on Protected Species

Those past, present, and reasonably foreseeable future actions which may impact protected species, and the direction of those impacts, are summarized in Table 14. The indirectly negative actions described in Table 14 are localized in nearshore and marine project areas where they occur; therefore, the magnitude of those impacts on protected species is expected to be limited due to limited exposure of the populations at large. Agricultural runoff may be much broader in scope and the impacts of nutrient inputs to the coastal system may be larger in magnitude; however, the impact on protected species is not quantifiable.

NMFS has several means under which it can review non-fishing actions of other Federal or state agencies that may impact protected species prior to permitting or implementation of those projects.

This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on protected species under NMFS' jurisdiction.

Given their life history dynamics, large changes in protected species abundance over long time periods, and the multiple and wide-ranging fisheries management actions that have occurred, the cumulative impacts on protected species were evaluated over a long-time frame (i.e., from the 1970's through the present). While some protected species are doing better than others, overall the trend of stock condition for protected resources has improved over the long-term due to reductions in the number of interactions. Past fishery management actions taken through the respective FMPs and annual specifications process have contributed to this long-term trend toward positive cumulative effect on protected species through the reduction of fishing effort (and thus reduction in potential interactions) and implementation of gear requirements. It is anticipated that future management actions, described in Table 14, will result in additional indirect positive effects on protected species. These impacts could be broad in scope. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to protected species have had a positive cumulative effect.

The proposed actions described in this document would not change the past and anticipated cumulative effects on protected species and thus would not have any significant effect on protected species individually or in conjunction with other anthropogenic activities (Table 14). Overall, actions have had, or will have, positive impacts on protected species.

7.3.5.4 Magnitude and Significance of Cumulative Effects on Human Communities

Those past, present, and reasonably foreseeable future actions which may impact human communities and the direction of those potential impacts are summarized in Table 14. The indirectly negative actions described in Table 14 are localized in nearshore areas and marine project areas where they occur; therefore, the magnitude of those impacts on human communities is expected to be limited in scope. Those actions may displace fishermen from project areas. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal ecosystem may larger in magnitude. This may result in indirect negative impacts on human communities by reducing resource availability; however, this effect is not quantifiable.

NMFS has several means under which it can review non-fishing actions of other Federal or state agencies prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on human communities.

Past fishery management actions taken through the respective FMPs and annual specifications process have had both positive and negative cumulative effects by benefiting domestic fisheries through sustainable fishery management practices while also sometimes reducing the ability of some individuals to participate in fisheries. Sustainable management practices are, however, expected to yield broad positive impacts to fishermen, their communities, businesses, and the nation as a whole. It is anticipated that the future management actions described in Table 14 will result in positive effects for human communities due to sustainable management practices, although additional indirect negative effects on some human communities could occur if management actions result in reduced revenues. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to human communities have had overall positive cumulative effects.

Catch limits, commercial quotas, and RHLs for each of the managed species have been specified to ensure that these rebuilt stocks are managed in a sustainable manner and that management measures are consistent with the objectives of the FMPs under the guidance of the MSA. The impacts from annual specification of management measures on the managed species are largely dependent on how effective those measures are in meeting their intended objectives and the extent to which mitigating measures are effective.

Quota overages may alter the timing of commercial fishery revenues such that revenues can be realized a year earlier. Impacts to some fishermen may be caused by unexpected reductions in their opportunities to earn revenues from commercial fisheries in the year during which the overages are deducted. Similarly, recreational fisheries may have decreased harvest opportunities due to reduced harvest limits as a result of overages and more restrictive management measures (e.g. minimum fish size, possession limits, fishing seasons) implemented to address overages.

Despite the potential for negative short-term effects on human communities, positive long-term effects are expected due to the long-term sustainability of the managed stocks. Overall, the proposed actions described in this document would not change the past and anticipated cumulative effects on human communities and thus, would not have any significant effect on human communities individually, or in conjunction with other anthropogenic activities (Table 14). Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to human communities have had overall positive cumulative effects.

7.3.6 Proposed Action on all the VECs

The Council's preferred alternatives (i.e. the proposed action) are described in section 5. The direct and indirect impacts of the proposed action on the VECs are described in sections 7.1 through 7.4 and are summarized in Table 15. The magnitude and significance of the cumulative effects, including additive and synergistic effects of the proposed actions, as well as past, present, and future actions, have been taken into account.

When considered in conjunction with all other pressures placed on the fisheries by past, present, and reasonably foreseeable future actions, the preferred alternatives are not expected to result in any significant impacts, positive or negative. The proposed action for summer flounder is simply a continuation of a management strategy used for many years with only minor expected changes from 2017; therefore, impacts should be similar to those observed in recent years. The proposed action for black sea bass includes a minor adjustment to the federal waters season that is not expected to have a substantial overall impact on fishery effort as it will be implemented in conjunction with state measures that restrict harvest to the RHL. The preferred alternatives are consistent with other management measures that have been implemented in the past for these fisheries. These measures are part of a broader management scheme for the summer flounder and black sea bass fisheries. This management scheme has helped to rebuild stocks and ensure long-term sustainability, while minimizing environmental impacts.

The regulatory atmosphere within which federal fishery management operates requires that management actions be taken in a manner that will optimize the conditions of managed species, habitat, and human communities. Consistent with NEPA, the MSA requires that management actions be taken only after consideration of impacts to the biological, physical, economic, and social dimensions of the human environment. Given this regulatory environment, and because fishery management actions must strive to create and maintain sustainable resources, impacts on

all VECs from past, present and reasonably foreseeable future actions have generally been positive and are expected to continue in that manner for the foreseeable future. This is not to say that some aspects of the VECs are not experiencing negative impacts, but rather that when considered as a whole and as a result of the management measure implemented in these fisheries, the overall long-term trend is positive.

There are no significant cumulative effects associated with the preferred alternatives based on the information and analyses presented in this document and in past FMP documents (Table 15). Cumulatively, through 2022, it is anticipated that the preferred alternatives will result in generally positive, but not significant, impacts on the all VECs.

Table 15. Magnitude and significance of the cumulative, additive, and synergistic effects of the 2018 preferred alternatives, as well as past (P), present (PR), and reasonably foreseeable future (RFF) actions.

VEC	Current Status	Net Impact of P, Pr, and RFF Actions	Impact of the Preferred Actions for 2018	Significant Cumulative Effects
Managed Species	Complex and variable (section 6.1)	Positive (section 7.3.5.1)	Moderate positive (sections 7.1.1 and 7.2.1)	None
Non-target Species	Complex and variable (section 6.1)	Positive (section 7.3.5.1)	No impact (sections 7.1.1 and 7.2.1)	None
Habitat	Complex and variable (section 6.2)	No Impact to positive (section 7.3.5.2)	Slight negative to no impact (sections 7.1.2 and 7.2.2)	None
Protected Resources	Complex and variable (section 6.3)	Positive (section 7.3.5.3)	Slight negative to slight positive (sections 7.1.3 and 7.2.3)	None
Human Communities	Complex and variable (section 6.4)	Likely mixed (section 7.3.5.4)	Slight to moderate positive (sections 7.1.4 and 7.2.4)	None

8 APPLICABLE LAWS

8.1 Magnuson-Stevens Fishery Conservation and Management Act (MSA)

8.1.1 National Standards

Section 301 of the MSA requires that FMPs contain conservation and management measures that are consistent with the ten National Standards. The most recent FMP amendments describe how the management actions implemented comply with the National Standards. The Council continues to meet the obligations of National Standard 1 by adopting and implementing conservation and management measures that will continue to prevent overfishing, while achieving, on a continuing

basis, the optimum yield (OY) for summer flounder, scup, and black sea bass and the U.S. fishing industry.

To achieve OY, scientific and management uncertainty were considered when establishing the catch limits that serve as the basis for adjustments to recreational measures. The Council has developed recommendations for recreational measures to constrain harvest to the RHLs, which contributes to ensuring that the annual ABC is not exceeded. In addition, the Council has considered relevant sources of management uncertainty and other social, economic, and ecological factors. The Council uses the best scientific information available (National Standard 2) and manages black sea bass throughout its range (National Standard 3). These management measures do not discriminate among residents of different states (National Standard 4) and they do not have economic allocation as their sole purpose (National Standard 5). The measures account for variations in the fishery (National Standard 6), they avoid unnecessary duplication (National Standard 7), they take into account the fishing communities (National Standard 8) and they promote safety at sea (National Standard 10). The proposed actions are consistent with National Standard 9, which addresses bycatch in fisheries. The Council has implemented many regulations that have indirectly reduced fishing gear impacts on EFH. By continuing to meet the National Standards requirements of the MSA through future FMP amendments, framework actions, and the annual specification setting process, the Council will insure that cumulative impacts of these actions will remain positive overall for the managed resources, the ports and communities that depend on these fisheries, and the nation as a whole.

8.1.2 Essential Fish Habitat Assessment

EFH assessments are required for any action that may have an adverse impact on EFH, even if the impact is only minimal and/or temporary in nature (50 CFR Part 600.920 (e) (1-5)).

Description of Action

As previously described, the proposed action would implement recreational management measures for summer flounder and black sea bass for 2018. No other modifications to the management measures are proposed through this action. The proposed action is described in more detail in section 4 and sections 5.1-5.2.

Potential Adverse Effects of the Action on EFH

As described in section 5.1, under the preferred summer flounder alternative, measures will be crafted by individual states and regions through the conservation equivalency process. These measures will aim to achieve a 17% maximum liberalization in recreational harvest, compared to projected 2017 harvest. As described in section 5.2, the preferred black sea bass alternative will modify federal recreational season by removing the current September 22 – October 21 closure (an increase of 30 days in the federal season) and retaining the existing size and possession limits. State waters measures will be adjusted to account for any potential increase in harvest resulting from the liberalization of federal waters measures.

The recreational summer flounder and black sea bass fisheries are predominantly pursued with hook and line gear, which is associated with minimal habitat impacts (Stevenson et al. 2004). The habitats that are impacted by these recreational fisheries have been impacted by many fisheries over many years. Any changes in fishing effort under the preferred alternatives are expected to be small in magnitude and are not expected to result in new habitats being damaged, beyond those

areas which are already impacted by a variety of fisheries. As described in sections 7.1.2 and 7.2.2, the preferred alternatives may result in slight negative impacts to habitat as the result of recreational gear limiting the recovery potential for some habitats; however, any impact that does occur would not be substantial.

Proposed Measures to Avoid, Minimize, or Mitigate Adverse Impacts of This Action

Measures in the Summer Flounder, Scup, and Black Sea Bass FMP which impact EFH were considered Amendment 13 (MAFMC 2002). The analysis in Amendment 13 indicated that no management measures were needed to minimize impacts to EFH because the trawl fisheries for summer flounder, scup, and black sea bass in federal waters are conducted primarily in high energy mobile sand habitat where gear impacts are minimal and/or temporary in nature. The principal gears used in the recreational fisheries for all three species in the FMP are rod and reel and handline. These gears have minimal adverse impacts on EFH in the region (Stevenson et al. 2004). These characteristics of the fisheries have not changed since Amendment 13. None of the alternatives included in this document were designed to avoid, minimize, or mitigate adverse impacts on EFH.

Section 6.2.3. lists examples of management measures previously implemented by the Council with the intent of minimizing the impacts of various fisheries on habitat; however, none of these measures restrict recreational summer flounder and black sea bass fisheries.

Conclusions

The proposed action has the potential to result in slight negative impacts on EFH.

8.2 NEPA Finding of No Significant Impact (FONSI)

The CEQ Regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, the Companion Manual for NOAA Administrative Order 216-6A provides sixteen criteria (the same ten as the CEQ Regulations and six additional) for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

The proposed specifications are not expected to result in significant impacts on any of the VECs, nor will they result in overall significant effects, either beneficial or adverse. The preferred alternatives establish 2018 recreational management strategies for summer flounder and black sea bass that are consistent with FMP objectives and the FMP mandate to constrain harvest to the annual RHL for each species. The proposed action includes minor adjustments to the federal recreational open season for black sea bass, a continuation of the 2017 management strategy for summer flounder into 2018. As described in sections 7.1.1 and 7.2.1, the proposed measures are not expected to have negative impacts on the stock status of any target or non-target stocks. Fishing effort is not expected to change substantially due to the minor changes in recreational measures. For this reason, the proposed action is not expected to result in significant changes in revenues or angler satisfaction (sections 7.1.4 and 7.2.4), nor is it expected to result in increased interactions between fishing gear and protected species (sections 7.1.3 and 7.2.3) or between fishing gear and

physical habitat (sections 7.1.2 and 7.2.2). The impacts of this action on all VECs are expected to be similar to the *status quo* measures, which do not currently have significant impacts on the VECs. The proposed action will ensure the long-term sustainability of summer flounder and black sea bass recreational fisheries by implementing measures that will constrain harvest to the RHL. The expected impacts of the preferred action are fully described in section 7.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

The proposed action is not expected to alter the manner in which the recreational anglers conduct fishing activities for the target species, which currently do not impact public health or safety. Therefore, no changes in fishing behavior that would affect safety are anticipated. The overall effect of the proposed actions on these fisheries, including the communities in which they operate, will not adversely impact public health or safety.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

The proposed action is not expected to alter fishing methods or activities or to substantially increase fishing effort. Other types of fishing already occur in the impacted area and although it is possible that historic or cultural resources such as shipwrecks could be present, recreational gear types are understood to have minimal negative impacts on such structures, and vessels try to avoid anchoring on wrecks due to possible entanglement. Therefore, it is not likely that the proposed action would result in substantial impacts to unique areas.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

The proposed action is based on measures contained in the FMP, which have been in place for many years. The scientific information upon which the annual catch and landings limits are based has been peer reviewed and is the most recent information available (section 4.3). The measures considered through this action are very similar to measures which have been previously implemented. These measures were designed to constrain harvest to the 2018 summer flounder and black sea bass RHLs. The impacts of these RHLs were analyzed through previous actions (MAFMC 2016 and MAFMC 2017b). Thus, the measures contained in this action are not expected to be highly controversial.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The impacts of the proposed action on the human environment are described in section 7. The proposed action is not expected to alter fishing methods or activities or to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The effects of fishing are well studied and the impacts to managed species, non-target species, and protected resources will continue to be monitored. The proposed action is not expected to have highly uncertain effects or to involve unique or unknown risks on the human environment.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

The proposed action is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The summer flounder and black sea bass alternatives described here modify recreational possession limit, size limit and/or season when implemented coastwide or in combination with state water measures constrain harvest to the scientifically based recreational harvest limits. These are routine adjustments to the recreational management measures and the adjustments undertaken herein are similar to those taken in the past. None of these recreational management measures are expected to result in significant effects, nor do they represent a decision in principle about a future consideration. The impact of any future changes will be analyzed as to their significance in the process of developing and implementing them.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

As described in section 7.3, the proposed action is not expected to have individually insignificant, but cumulatively significant impacts. The synergistic interaction of improvements in the efficiency of the fishery is expected to generate insignificant positive impacts overall. The proposed action, together with past, present, and reasonably foreseeable future actions, is not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment.

8. Can the proposed action reasonably be expected to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources?

The impacts of the proposed action on the human environment are described in section 7. The proposed action is not expected to alter fishing practices. Although there are shipwrecks present in the areas where recreational fishing occurs, including some registered on the National Register of Historic Places, recreational gear types are understood to have minimal negative impacts on such structures and vessels typically avoid fishing too close to wrecks due to possible loss or entanglement of fishing gear. Therefore, it is not likely that the proposed action would adversely affect the historic resources listed above.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

Recreational summer flounder and black sea bass fisheries are predominantly hook and line fisheries. This gear type has the potential to interact with endangered and threatened species (section 6.3.3). As described in sections 7.1.3 and 7.2.3, *status quo* levels of fishing effort are expected to result in slight negative impacts for ESA-listed species because they are not expected to contribute to the recovery of these populations.

The proposed action is not expected to alter overall fishing operations, lead to a substantial increase in fishing effort, or alter the spatial and/or temporal distribution of current fishing effort (section 7.3) in a manner that would increase interaction rates with protected species.

This action falls within the range of impacts considered in the Batched Fisheries Biological Opinion for the Summer Flounder, Scup, and Black Sea Bass Fishery (December 16, 2013).

However, in a memorandum dated October 17, 2017, GARFO's Protected Resources Division reinitiated consultation on the Batched Biological Opinion. As part of the reinitiation, it was determined that allowing this fishery to continue during the reinitiation period will not violate ESA sections 7(a)(2) and 7(d) because it will not increase the likelihood of interactions with protected species above the amount that was previously considered in the 2013 Batched Biological Opinion. Therefore, conducting the proposed action during the reinitiation period would not be likely to jeopardize the continued existence of any whale, sea turtle, Atlantic salmon, or sturgeon species.

As described in sections 7.1.3 and 7.2.3, the proposed action is not likely to adversely affect any critical habitat. Recreational summer flounder and black sea bass fisheries will not affect the essential physical and biological features of North Atlantic right whale or loggerhead (Northwest Atlantic DPS) critical habitat and, and therefore, will not result in the destruction or adverse modification of critical habitat (NMFS 2013; NMFS 2014; NMFS 2015a,b).

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

The proposed action is not expected to alter fishing methods or activities such that they threaten a violation of federal, State, or local law or requirements imposed for the protection of the environment. The proposed measures have been found to be consistent with other applicable laws (sections 8.3 - 8.10).

11. Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act?

The proposed action is not expected to alter fishing methods or activities. The proposed action is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, this action is not expected to adversely affect MMPA protected species (section 7.3.1).

Recreational summer flounder and black sea bass fisheries are predominantly hook and line fisheries. This gear type has the potential to interact with endangered and threatened species (section 6.3.3). For the reasons described in sections 7.1.3 and 7.2.3, *status quo* levels of fishing effort are expected to result in slight negative to slight positive impacts for non-ESA listed marine mammals, depending on the species in question, and slight negative impacts for ESA-listed marine mammals.

As described in section 6.3, some marine mammal stocks/species are experiencing levels of interactions that have resulted in exceedance of their PBR levels. These stocks/populations are not at an optimum sustainable level and therefore, the continued existence of these stocks/species is at risk. As a result, any potential for an interaction is a detriment to the species/stocks ability to recover from this condition. As interactions with non-ESA listed marine mammals are possible under the proposed action, these non-listed marine mammal stocks/species may experience moderate negative impacts as a result.

There are also many non-ESA listed marine mammals that, even with continued fishery interactions, are maintaining an optimum sustainable level (i.e., PBR levels have not been exceeded) over the last several years. For these stocks/species, it appears that the fishery management measures that have been in place over this timeframe have resulted in levels of effort that equate to interaction levels that are not expected to impair the stocks/species ability to remain

at an optimum sustainable level. These fishery management measures, therefore, have resulted in indirect slight positive impacts to these non-ESA listed marine mammal species/stocks. Should future fishery management actions maintain similar operating condition as they have over the past several years, it is expected that these slight positive impacts would remain. Thus, given that the proposed action is not expected to significantly change fishing effort relative to the *status quo*, the impacts on these non-ESA listed species of marine mammals are expected to be slight positive (i.e., continuation of current operating conditions is not expected to result in exceedance of any of these stocks/species PBR level).

12. Can the proposed action reasonably be expected to adversely affect managed fish species?

The impacts of this action on managed fish species, including target and non-target species, are described in sections 7.1.1 and 7.1.2. The preferred measures are designed to prevent overfishing of summer flounder and black sea bass and are designed to prevent those species from becoming overfished. Thus, the proposed action is expected to result in positive, but insignificant, impacts on these managed fish species. There are relatively few non-target fish species that are typically caught in meaningful numbers on directed recreational summer flounder and black sea bass trips. Most species that are commonly caught together with summer flounder and black sea bass are regulated by their own sets of management measures, which limit total removals. Although these species are commonly caught on directed trips with summer flounder and black sea bass, this is often because anglers target both species when regulations allow, not necessarily because these non-target species are caught incidentally during the act of targeting summer flounder and black sea bass. Most of these recreational non-target species are not currently overfished and not experiencing overfishing (section 6.1.3). As described in section 7.0, given the small magnitude of the proposed changes, effort is not expected to increase substantially from 2017 levels. The proposed action is not expected to have any significant adverse impacts on managed fish species.

13. Can the proposed action reasonably be expected to adversely affect essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act?

The proposed action is not expected to cause substantial damage to the ocean, coastal habitats, and/or EFH as defined under the MSA and identified in the FMP. As previously stated, recreational summer flounder and black sea bass fisheries are predominantly hook and line fisheries and hook and line gear is known to cause minimal adverse impacts to physical habitat, including EFH (Stevenson et al. 2004). As described throughout this document, the proposed action includes minor adjustments to the recreational management measures to keep harvest within the previously analyzed RHLs; therefore, fishing effort is not expected to increase substantially, and not beyond levels previously analyzed for each species' RHL. These measures are thus not expected to result in additional damage to physical habitat, including EFH. As described in sections 7.1.2 and 7.2.2, the areas fished recreationally for summer flounder and black sea bass are unlikely to be degraded further under the proposed action.

14. Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?

The proposed action is not expected to have significant impacts on the natural or physical environment, including vulnerable marine or coastal ecosystems. The proposed action is not expected to alter fishing methods or activities or to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort. As previously stated, recreational

summer flounder and black sea bass fisheries are predominantly hook and line fisheries and hook and line gear is known to cause minimal adverse impacts to physical habitat, including EFH (Stevenson et al. 2004). The areas impacted by these fisheries have been fished for many years by a variety of other fisheries. This action is not expected to change the locations of any fishing activities, or otherwise alter fishing patterns in a manner expected to impact deep sea coral or other vulnerable marine or coastal ecosystems.

15. Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.)?

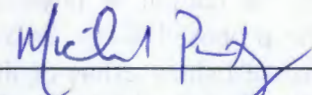
The impacts of recreational summer flounder and black sea bass fisheries on biodiversity and ecosystem functioning have not been assessed; however, the impacts to components of the ecosystem (i.e. non-target species, habitat, and protected species) have been considered. As described in section 7, the proposed action is expected to result in only minor changes to the recreational fisheries for summer flounder and black sea bass in 2018. Current fishing practices and levels of effort are not likely to negatively impact the stock status of non-target species (sections 7.1.1 and 7.2.1), they are not likely to cause additional habitat damage beyond that previously caused by a variety of fisheries (sections 7.1.2 and 7.2.2), and they are not expected to jeopardize any protected species (sections 7.1.3 and 7.2.3). They are, however, expected to contribute slightly to preventing recovery of damaged habitats and are not expected to contribute to the recovery of any endangered or threatened species. For these reasons, the proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. This action merely implements slight modifications to recreational management of summer flounder and black sea bass in 2018.

16. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?


This action implements recreational management measures for summer flounder and black sea bass in 2018. There is no evidence or indication that these fisheries have ever resulted in the introduction or spread of nonindigenous species. The proposed action is not expected to alter fishing methods or activities and it is not expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, it is highly unlikely that the proposed action would result in the introduction or spread of a non-indigenous species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for this action, it is hereby determined that the proposed action will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.



Regional Administrator for GARFO, NMFS, NOAA



Date

8.3 Endangered Species Act

The batched fisheries Biological Opinion completed on December 16, 2013, concluded that the actions considered would not jeopardize the continued existence of any listed species. On October 17, 2017, NMFS reinitiated consultation on the batched Biological Opinion due to updated information on the decline of Atlantic right whale abundance.

Section 7(d) of the ESA prohibits Federal agencies from making any irreversible or irretrievable commitment of resources with respect to the agency action that would have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternatives during the consultation period. This prohibition is in force until the requirements of section 7(a)(2) have been satisfied. Section 7(d) does not prohibit all aspects of an agency action from proceeding during consultation; non-jeopardizing activities may proceed as long as their implementation would not violate section 7(d). Per the October 17, 2017, memo, it was concluded that allowing those fisheries specified in the batched Biological Opinion to continue during the re-initiation period will not increase the likelihood of interactions with ESA listed species above the amount that would otherwise occur if consultation had not been reinitiated. Based on this, the memo concluded that the continuation of these fisheries during the reinitiation period would not be likely to jeopardize the continued existence of any ESA listed species. Taking this, as well as our analysis of the proposed action into consideration, we do not expect the proposed action, in conjunction with other activities, to result in jeopardy to any ESA listed species.

This action does not represent any irreversible or irretrievable commitment of resources with respect to the FMP that would affect the development or implementation of reasonable and prudent measures during the consultation period. NMFS has discretion to amend its Magnuson- Stevens Act and ESA regulations and may do so at any time subject to the Administrative Procedure Act and other applicable laws. As a result, the Council has preliminarily determined that fishing activities conducted pursuant to this action will not affect endangered and threatened species or critical habitat in any manner beyond what has been considered in prior consultations on this fishery.

8.4 Marine Mammal Protection Act

Sections 6.3 and 6.3 contain an assessment of the impacts of the proposed action on marine mammals. A final determination of consistency with the MMPA will be made by the agency during rulemaking for this action.

8.5 Coastal Zone Management Act

The Coastal Zone Management Act of 1972, as amended, provides measures for ensuring productive fishery habitat while striving to balance development pressures with social, economic, cultural, and other impacts on the coastal zone. The Council has developed this specifications document and will submit it to NMFS. NMFS will determine whether the proposed actions are consistent to the maximum extent practicable with the coastal zone management programs for each state (Maine through North Carolina).

8.6 Administrative Procedure Act

Sections 551-553 of the Federal Administrative Procedure Act establish procedural requirements applicable to informal rulemaking by federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process and to give the public notice and opportunity to comment before the agency promulgates new regulations.

The Administrative Procedure Act requires solicitation and review of public comments on actions taken in the development of an FMP and subsequent amendments and framework adjustments. There were many opportunities for public review, input, and access to the rulemaking process during the development of the proposed management measures described in this document and during the development of this document. This action was developed through a multi-stage process that was open to review by affected members of the public. The public had the opportunity to review and comment on management measures during the following meetings:

- Summer Flounder, Scup, and Black Sea Bass Monitoring Committee meeting held on November 13-14, 2017 in Linthicum, MD;
- Advisory Panel meeting on November 20, 2017 over webinar;
- Council meetings held on December 11-14, 2017 in Annapolis, MD and February 13-15, 2018 in Raleigh, NC;
- ASMFC Summer Flounder, Scup, and Black Sea Bass Board meeting on February 6-8, 2018 in Arlington, VA.

The public will have further opportunity to comment on this document and the proposed management measures once NMFS publishes a request for comments notice in the *Federal Register*.

8.7 Section 515 (Data Quality Act)

Utility of Information Product

This action proposes recreational management measures for the summer flounder and black sea bass fisheries for 2018. This document includes a description of the alternatives considered, the preferred action and rationale for selection, and any changes to the implementing regulations of the FMP. As such, this document enables the implementing agency (NMFS) to make a decision on implementation of annual specifications (i.e., management measures) and this document serves as a supporting document for the proposed rule.

The action contained within this specifications document was developed to be consistent with the FMP, MSA, and other applicable laws, through a multi-stage process that was open to review by affected members of the public. The public had the opportunity to review and comment on management measures during a number of public meetings (section 8.6). The public will have further opportunity to comment on this specifications document once NMFS publishes a request for comments notice in the *Federal Register*.

Integrity of Information Product

This information product meets the standards for integrity under the following types of documents: Other/Discussion (e.g. Confidentiality of Statistics of the MSA; NOAA Administrative Order 216-

100, Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act).

Objectivity of Information Product

The category of information product that applies here is “Natural Resource Plans.” Section 8.0 describes how this document was developed to be consistent with any applicable laws, including MSA. The analyses used to develop the alternatives (i.e. policy choices) are based upon the best scientific information available. The most up to date information was used to develop the EA which evaluates the impacts of those alternatives (section 7.0). The specialists who worked with these core data sets and population assessment models are familiar with the most recent analytical techniques and are familiar with the available data and information relevant to the summer flounder, scup, and black sea bass fisheries.

The review process for this specifications document involves Council, NEFSC, GARFO, and NMFS headquarters. The NEFSC technical review is conducted by senior level scientists with specialties in fisheries ecology, population dynamics and biology, as well as economics and social anthropology. The Council review process involves public meetings at which affected stakeholders can comment on proposed management measures. Review by GARFO is conducted by those with expertise in fisheries management and policy, habitat conservation, protected resources, and compliance with the applicable law. Final approval of the specifications document and clearance of the rule is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

8.8 Paperwork Reduction Act (PRA)

The Paperwork Reduction Act (PRA) concerns the collection of information. The intent of the PRA is to minimize the federal paperwork burden for individuals, small businesses, state and local governments, and other persons, as well as to maximize the usefulness of information collected by the Federal government. There are no changes to the existing reporting requirements previously approved under this FMP for vessel permits, dealer reporting, or vessel logbooks. This action does not contain a collection-of-information requirement for purposes of the PRA.

8.9 Relative to Federalism/Executive Order 13132

This document does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order 13132.

8.10 Regulatory Impact Review (RIR)

Introduction

Executive Order 12866 requires a Regulatory Impact Review (RIR) in order to enhance planning and coordination with respect to new and existing regulations. This Executive Order requires the Office of Management and Budget to review regulatory programs that are considered to be “significant.” Section 7 reviews the impacts associated with the proposed actions and found that none of the associated impacts are expected to be significant. This RIR further demonstrates that this action is not a “significant regulatory action” because it will not affect in a material way the economy or a sector of the economy.

Executive Order 12866 requires a review of proposed regulations to determine whether or not the expected effects would be significant. A significant regulatory action is one that may:

1. Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, jobs, the environment, public health or safety, or State, local, or tribal governments or communities;
2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
4. Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

Description of Management Objectives

A complete description of the purpose and objectives of this action is found in section 4 of this document. This action is taken under the authority of the MSA and regulations at 50 CFR part 648.

The objectives of the Summer Flounder, Scup, and Black Sea Bass FMP are as follows:

1. Reduce fishing mortality in the summer flounder, scup, and black sea bass fisheries to ensure that overfishing does not occur;
2. Reduce fishing mortality on immature summer flounder, scup, and black sea bass to increase spawning stock biomass;
3. Improve the yield from the fishery;
4. Promote compatible management regulations between state and federal jurisdictions;
5. Promote uniform and effective enforcement of regulations; and
6. Minimize regulations to achieve the management objectives stated above.

Consistent with these objectives, this action seeks to continue the management strategy of conservation equivalency for the recreational summer flounder fishery in 2018 so that the recreational fishery may achieve, but not exceed, the 2018 RHL. Similarly, the federal recreational season for black sea bass would be modified to remove a mid-season closure while ensuring that harvest is constrained to the RHL in 2018. The proposed action is consistent with the joint recommendations of the Council and the ASMFC. There are no expected adverse impacts on yield, management compatibility, or enforcement.

Affected Entities

A description of the entities affected by this action, specifically the stakeholders of the summer flounder and black sea bass fisheries, is presented in section 6.4 of this document. A description of ports and communities is found in Amendment 13 to the Summer Flounder, Scup, and Black Sea Bass FMP, available at: <http://www.mafmc.org/fisheries/fmp/sf-s-bsb>. Additional information on "Community Profiles for the Northeast US Fisheries" can be found at: <https://www.nefsc.noaa.gov/read/socialsci/communitySnapshots.php>.

Problem Statement

The purpose of the measures proposed in this action is described in section 4.1 of this document.

Description of the Alternatives

The proposed alternatives are described in section 5 of this document. As described in section 7, the impacts of the proposed action are not expected to be significant for any of the VECs.

The preferred alternative for summer flounder would continue the recreational strategy of conservation equivalency, allowing individual states and regions to set recreational management measures that collectively constrain harvest to the 2018 RHL. This allows for regional customization of measures to best meet the needs of stakeholders in different parts of the management unit. Recreational conservation equivalency measures have not yet been finalized by the ASMFC. The Board has indicated that under the continuation of Addendum XXVIII to their FMP (ASMFC 2017), states or regions make take small liberalizations in management measures, though it would be required in 2018 that no state or region implement more than a 17% liberalization relative to their 2017 harvest.

The small liberalizations allowed under the conservation equivalency strategy would be expected to have positive impacts on recreational angler satisfaction. This would increase economic benefits derived from angler-trips that target summer flounder, which is consistent with economic theory and past angler valuation studies in general including summer flounder, although the magnitude of the increased benefits is uncertain. Furthermore, because the conservation equivalency measures are intended to prevent overfishing, they were expected to contribute to long-term positive social and economic impacts.

When comparing the preferred conservation equivalency strategy and the non-preferred coastwide measures for 2018, the non-preferred coastwide measures would be more restrictive in most states for at least one measure (size limit, possession limit, or season) when compared to conservation equivalency measures. It is expected that conservation equivalency will provide benefits to recreational entities when compared to the non-preferred coastwide measures, which would consist of a single possession limit, season, and size limit implemented along the entire coast. While the non-preferred coastwide measures would be expected to constrain harvest to the RHL on a coastwide basis, this management strategy would not allow each state to adapt to the needs of their anglers, and would likely impose both reductions and liberalizations depending on the state. Conservation equivalency allows for the customization of measures that spreads the conservation burden more equitably among the states. In other words, conservation equivalency minimizes the adverse impacts that could occur in some states under the non-preferred coastwide measures. Coastwide measures would remove the flexibility of individual states to tailor measures to their unique fisheries and thus would likely result in more negative impacts to recreational entities in many states.

The preferred alternative for black sea bass would remove a mid-season federal waters recreational closure in the fall. This liberalization would be accounted for by adjusting state waters measures such that the overall 2018 RHL is not expected to be exceeded. Removal of this closure reduces conflicts between federal/state waters regulations and allows states more flexibility in setting their measures. Similar to summer flounder measures, this moderate federal waters liberalization would be expected to have positive impacts on recreational angler satisfaction. This would increase economic benefits derived from angler-trips that target black sea bass, although as with summer flounder, the magnitude of the increased benefits is uncertain.

The preferred alternative for black sea bass would provide more economic benefits to recreational entities when compared to the non-preferred alternatives, which would either require a single possession limit, season, and size limit implemented along the entire coast (alternative 2C) that would likely result in differential negative impacts across the states, or would require a shorter open season in federal waters (alternative 2A). Alternative 2B would provide the most benefits to recreational anglers by allowing the most flexibility in designing management measures to constrain harvest to the RHL.

Executive Order 12866 mandates that proposed measures be analyzed below in terms of: (1) changes in net benefits and costs to stakeholders, (2) changes to the distribution of benefits and costs within the industry, (3) changes in income and employment, (4) cumulative impacts of the regulation, and (5) changes in other social concerns. There should not be substantial distributional issues. The cumulative impacts of management and regulations are described in section 7.3 and are not expected to be significant. There are no other expected social concerns.

Determination of Executive Order 12866 Significance

The proposed action does not constitute a significant regulatory action under EO 12866 for the following reasons. The proposed action will not have an annual effect on the economy of more than \$100 million and is not predicted to have any adverse impact on ports, recreational anglers, and operators of party/charter businesses.

In addition, there should be no interactions with activities of other agencies and no impacts on entitlements, grants, user fees, or loan programs. The proposed action is also similar to actions taken each year that set summer flounder, scup, and black sea bass commercial and recreational management measures, and as such does not raise novel legal or policy issues. As such, the Proposed Action is not considered significant as defined by EO 12866.

8.11 Regulatory Flexibility Act Analysis

The Regulatory Flexibility Act (RFA), first enacted in 1980, and codified at 5 U.S.C. 600-611, was designed to place the burden on the government to review all new regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization can have a bearing on its ability to comply with Federal regulations. Major goals of the RFA are: 1) to increase agency awareness and understanding of the impact of their regulations on small business; 2) to require that agencies communicate and explain their findings to the public; and 3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either, (1) certify that the action will not have a significant adverse impact on a substantial number of small entities, and support such a certification declaration with a factual basis, demonstrating this outcome, or, (2) if such a certification cannot be supported by a factual basis, prepare and make available for public review an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact of the proposed rule on small entities.

The sections below provide the supporting analysis to assess whether the proposed regulations will have a “significant impact on a substantial number of small entities.”

8.11.1 Basis and Purpose of the Rule

This action is taken under the authority of the MSA and regulations at 50 CFR part 648. A complete description of the purpose and need and objectives of this proposed rule is found in section 4.1. The proposed action would establish recreational management measures for summer flounder and black sea bass in 2018. Section 5 contains a full description of the alternatives analyzed in this section. Additional background information on the alternatives can be found in section 4. As described in sections 4 and 5, the proposed measures are consistent with the recommendations of the Council and are intended to constrain recreational harvest to the annual RHL for each species as required by the FMP.

The preferred alternative for summer flounder includes the continuation of conservation equivalency into 2018, and the preferred alternative for black sea bass proposes to modify the federal recreational measures for 2018. The proposed measures in this action are intended to constrain harvest to the RHL and catch to the recreational ACL in 2018, and are not a substantial departure from the current management regime for either species.

In addition to the preferred alternatives, four non-preferred alternatives are considered in this document (two for summer flounder and two for black sea bass). The non-preferred alternatives for summer flounder include two options for coastwide measures (uniform possession limit, size limit, and season within the management unit). For black sea bass, one non-preferred option includes coastwide measures, and the other includes a slightly more restrictive federal recreational season for black sea bass. None of the non-preferred measures would be expected to result in a higher net benefit or lower cost to small entities and as such are not discussed further here.

8.11.2 Description of Regulated Entities

The small entities that would be affected by this action include recreational for-hire operations holding federal summer flounder or black sea bass party/charter permits. Anglers are not considered "entities" under the RFA and thus economic impacts on private recreational anglers are not discussed here.

The Small Business Administration (SBA) defines a small business in the recreational for-hire fishery as a firm with receipts of up to \$7.5 million.

A description of the summer flounder and black sea bass fisheries is presented in section 6 of this document and section 3 of Amendment 13 to the FMP (MAFMC 2002). A description of ports and communities that are dependent on summer flounder and black sea bass are found in section 3.4.2 of Amendment 13 to the FMP. Additional information on "Community Profiles for the Northeast US Fisheries" can be found at:

<https://www.nefsc.noaa.gov/read/socialsci/communitySnapshots.php> .

8.11.3 Number of Regulated Recreational Entities

A business primarily engaged in for-hire fishing activity is classified as a small business if it has combined annual receipts not in excess of \$7.5 million. According to the vessel ownership data, 359 for-hire affiliate firms generated revenues from recreational fishing for various species during

2014-2016¹¹. All of those business affiliates are categorized as small businesses. It is not possible to derive what proportion of the overall revenues for these for-hire firms came from fishing activities for an individual species. Nevertheless, given the popularity of summer flounder and black sea bass as recreational species in the Mid-Atlantic and New England (section 6.4), revenues generated from these species are likely very important for many of these firms at certain times of the year. The three-year average (2014-2016) combined gross receipts (all for-hire fishing activity combined) for these small entities was \$53,454,121, ranging from less than \$10,000 for 92 entities (lowest value \$238) to over \$1,000,000 for 11 entities (highest value \$2.8 million).

8.11.4 Economic Impacts on Recreational Regulated Entities

While general statements regarding potential changes in the recreational fisheries due to changes in the recreational measures for summer flounder and black sea bass are made in this document, the complete set of state waters regulations for each species has not been fully determined at this time for 2018. The economic impacts of the proposed actions in this document will be impacted in part by the specific set of measures implemented at the state level for summer flounder conservation equivalency, and for black sea bass "ad hoc regional management." These impacts are likely to vary by species and by state, as some states will need to restrict measures or maintain *status quo* measures, while liberalizations in measures may be allowed for other states.

Overall, for both species, demand for party/charter boat trips is expected to remain at the same level previously analyzed when the RHLs were set for each species (see MAFMC 2016 and MAFMC 2017b). Currently, the market demand for this sector is relatively stable.

For summer flounder, moderate liberalizations (17% relative to 2017 harvest) are expected to be implemented in most states for 2018. Thus, market demand may see a slight to moderate increase in 2018, although this is likely to vary by state depending on each state's current measures and how they choose to modify them in 2018. Under more liberal management measures in 2018, some anglers may transfer effort to summer flounder from other species (e.g., weakfish, striped bass, tautog, pelagics, etc.) resulting in very little change in overall fishing effort.

In general, for black sea bass, liberalizations to state waters measures are not expected to be implemented, and in fact some states may need to slightly restrict or retain their existing measures compared to 2017 when evaluating the 2017 harvest and the lower 2018 RHL. Federal black sea bass recreational measures currently include a 12.5-inch size limit, a 15-fish possession limit, and open seasons from May 15-September 21 and October 22-December 31. This action proposes to eliminate the mid-season closure, extending the federal black sea bass season by 30 days. As previously indicated, removal of this mid-season closure reduces conflicts between federal/state waters regulations and allows states more flexibility in setting their measures. Measures in state waters are expected to be adjusted to be slightly more conservative for states New York and north. The states of Delaware through North Carolina will likely adopt the preferred federal water measures which may result in a slight increase in market demand in those states. However, these states account for only 7% of all the directed black sea bass trips taken coastwide. The Board will consider approval of final black sea bass state recreational measures in March 2018. For black sea bass, the overall combination of management measures may be slightly more restrictive in 2018

¹¹ Data for 2017 is not yet available.

compared to 2017, but not to a degree that is expected to substantially influence market demand for party/charter trips.

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10 LIST OF AGENCIES AND PERSONS CONSULTED

In preparing this document, the Council consulted with NMFS, the New England and South Atlantic Fishery Management Councils, USFWS, and the states of Maine through North Carolina through their membership on the Mid-Atlantic and New England Fishery Management Councils. The advice of NMFS GARFO personnel was sought to ensure compliance with NMFS formatting requirements.

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