

OMNIBUS Acceptable Biological Catch Framework (FW) Adjustment

Fishery Management Plan Framework Numbers:
Atlantic Mackerel, Squid, and Butterfish: FW 11;
Bluefish: FW 3;
Summer Flounder, Scup, and Black Sea Bass: FW 11;
Surfclam and Ocean Quahog: FW 2;
Tilefish: FW 4;
Spiny Dogfish: FW 3.

ENVIRONMENTAL ASSESSMENT (EA)

March 2018

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

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LIST OF ACRONYMS AND ABBREVIATIONS

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
ACT	Annual Catch Target
ASMFC	Atlantic States Marine Fisheries Commission or Commission
ATGTRT	Atlantic Trawl Gear Take Reduction Team
B	Biomass
CFR	Code of Federal Regulations
CV	coefficient of variation
DAH	Domestic Annual Harvest
DAP	Domestic Annual Processing
DPS	Distinct Population Segment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act of 1973
F	Fishing Mortality Rate
FMP	Fishery Management Plan
FR	Federal Register
GB	Georges Bank
GOM	Gulf of Maine
IOY	Initial Optimum Yield
M	Natural Mortality Rate
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act (as currently amended)

MSB	Atlantic Mackerel, Squid, Butterfish
MSY	Maximum Sustainable Yield
MT (or mt)	Metric Tons (1 mt equals about 2,204.6 pounds)
NE	Northeast
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NM	Nautical Mile
NMFS	National Marine Fisheries Service (NOAA Fisheries)
NOAA	National Oceanic and Atmospheric Administration
OFL	Overfishing Level
PBR	Potential Biological Removal
RH/S	River herring (blueback and alewife) and shad (American shad and hickory shad)
RSA	Research Set-Aside
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SNE	Southern New England
SSC	Scientific and Statistical Committee
TALFF	Total allowable level of foreign fishing
TRAC	Transboundary Resource Assessment Committee
US	United States
VEC	Valued Ecosystem Component
VTR	Vessel Trip Report

Note: "Mackerel" refers to "Atlantic mackerel" unless otherwise noted.

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2.0 EXECUTIVE SUMMARY

Introduction

The Mid-Atlantic Fishery Management Council (Council) makes recommendations to NMFS for catches of the fisheries the Council manages: Atlantic mackerel, longfin squid, *Illex* squid, butterfish, bluefish, summer flounder, scup, black sea bass, surfclam, ocean quahog, tilefish (golden), blueline tilefish, and spiny dogfish. The Council has a risk policy that guides the Council's Scientific and Statistical Committee (SSC) in recommending binding upper limits on catches that will prevent overfishing. These binding upper limits are known as Acceptable Biological Catches, or ABCs. The various management measures in each fishery work collectively to ensure that ABCs are not exceeded, which is a requirement of the Magnuson Stevens Fishery Conservation and Management Act (MSA) as currently amended.

The Council received input during its Visioning exercise (<http://www.mafmc.org/s/MAFMC-stakeholder-input-report.pdf>) that stability is important for fishery participants, and that the current multi-year specifications process has not provided the quota stability that was expected. The current process applies target fishing mortality rates to stock size projections that often result in different ABCs each year when the projections of stock size vary each year. Quotas may be set for up to five years for spiny dogfish and up to three years for other species.

This omnibus action proposes to establish a process to specify constant multi-year ABCs, allowing the SSC to specify constant multi-year ABCs if the average of the probabilities of overfishing equal the appropriate goal (0%-40% probability of overfishing consistent with the current procedures) and if the resulting ABC always results in less than a 50% probability of overfishing in any one year. For any three year period, an averaged ABC would result in slightly less chance of overfishing in some years and slightly more of a chance of overfishing in other years compared to a non-averaged ABC based on year to year projections. If a stock is below its target then the goal probability of overfishing may fluctuate slightly from year to year depending on how the stock is projected to change over multi-year specifications. In such cases the goal probability would be the averages of those probabilities (examples are provided later in this document). Since the ABCs would be the same for all years, and the average overfishing likelihood would have to equal the goal overfishing likelihood, the difference between using the three separate ABCs versus a constant ABC will be minimal.

When the SSC sets ABCs it uses the best available scientific information. This means that when developing ABCs, the most recent accepted biological reference points (overfishing level, overfished level, etc.) are already used. This action would also clarify that the biological status determination criteria (i.e. reference points) for several of the species managed under the Council's fishery management plans would be automatically incorporated based upon the best scientific information consistent with National Standards 1 and 2 of the MSA. Summer flounder, scup, black sea bass, spiny dogfish, surfclam, and ocean quahog are already handled this way. This action would institute the

automatic incorporation procedure for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, and butterfish.

As allowed under Council on Environmental Quality (CEQ) guidance, some information in this document is incorporated by reference. In these cases, reference information or a link is provided along with a summary of the relevant information.

Alternatives

The alternatives are described in Section 4 and summarized below.

Alternative 1, No Action, which is the status quo - The current procedures for setting ABCs (and all other management measures) would remain in place. The SSC sets ABCs based on the Council's risk policy and control rules, which are detailed below in this document and serve to set catch levels that will avoid overfishing by integrating scientific uncertainty. The full applicable regulations are available at <http://www.nero.noaa.gov/regs/fr.html> (see Fisheries of the Northeastern United States (50 CFR 648, Subpart A). No changes to how new biological status determination criteria are officially adopted would be made for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, or butterfish. Currently such changes technically require a separate management action to become official, but since the best available science must be used per the MSA, new status determination criteria are already used by the SSC and NMFS as they become available and peer reviewed.

Alternative 2 – Overfishing Probability Averaging (PREFERRED) - Currently when an assessment is available that provides fishing mortality reference points accepted by the SSC, the SSC recommends ABCs that are projected to result in a given probability of either achieving a rebuilding plan's fishing mortality target (specified in a rebuilding plan) or for other stocks not in a rebuilding plan, a given probability of overfishing (0%-40% percent depending on the biology and size of a fish stock per the Council's risk policy). This alternative would simply make it consistent with the Council's risk policy for the SSC to specify constant multi-year ABCs if the average of the probabilities of overfishing equal the appropriate goal (0%-40% depending on the current procedures). The resulting ABC must also always result in less than a 50% probability of overfishing in any one year. For any three year period, an averaged ABC would result in slightly less chance of overfishing in some years and slightly more of a chance of overfishing in other years compared to a non-averaged ABC based on year to year projections, but given the inherent uncertainty involved in assessments the differences are not expected to be meaningful from a biological perspective.

Alternative 3 – Response to New Accepted/Approved Biological Status Determination Criteria (PREFERRED) - Under this alternative, the biological status determination criteria for each of the species managed under the fishery management plans would be automatically based upon the best scientific information consistent with National Standards 1 and 2. Summer flounder, scup, black sea bass, surfclam, ocean quahog, and spiny dogfish are already handled this way. This action would institute the

above procedure for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, and butterfish. Since best available science requirements have dictated that accepted assessment information be utilized by the SSC in setting quotas, new assessment information has been utilized immediately for quota setting but this would clarify and simplify the administrative procedures for doing so.

Impacts Summary

The impacts of each alternative are described in Section 6 and are summarized below (in text and Table 1) in terms of the impact of the action alternatives versus the No Action (status quo).

For No Action (status quo), the summary impacts are as follows:

Managed resources: Management has led to sustainable fishing of Council-managed species, which has led to relatively stable and sustainable populations. For stocks that become overfished, current management is designed to create sustainable populations in the future through rebuilding. All of the current management measures would remain in place, so impacts would be expected to continue to be moderately positive for managed resources.

Non-target species: Low negative since some non-target interactions occur and would be expected to continue to occur in all Council-managed fisheries, but management actions have reduced the impacts.

Habitat: Low negative since some habitat impacts occur and would be expected to continue to occur in most Council-managed fisheries, but management actions have reduced the impacts.

Protected Resources: Low negative since some protected resource impacts occur in most Council-managed fisheries and would be expected to continue to occur, but management actions have reduced the impacts.

Human Communities: Short-term economic dislocations have occurred as a result of Council conservation actions to rebuild fisheries, but since management has led to sustainable fishing of Council-managed species, and would be expected to continue to do so, human community impacts should be moderately positive.

For Alternative 3, streamlining the adoption of new accepted/approved biological status determination criteria for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, and butterfish should have no biological or socioeconomic impacts since the best available science must be and already is used for Council decision making. This alternative would improve management efficiency and clarity since executing a separate management action to adopt new biological status determination criteria can take several months chronologically and several weeks of staff time by both Council and National Marine Fisheries Service (NMFS) staffs. Given this finding, the rest of the impact summary focuses on Alternative 2.

Alternative 2 Impacts: Managed Resources

As described in this document, the catches that result from the measures considered in this document will be very similar to catches based on current procedures. Given that under Alternative 2, total catch over three years would be almost the same as would be achieved under the current procedure, and given that in any one year the probability of overfishing would still have to be less than 50%, it is not anticipated that any impacts would be discernable to the managed species. Over three years Alternative 2 would result in 1-2 years with a slightly higher catch and 1-2 years with a slightly lower catch. Year 2 of three years would always be about the same under the status quo or Alternative 2. If quotas are projected to decline under the current process, then Alternative 2 would make year 1 slightly lower and year 3 slightly higher. If quotas are projected to increase then Alternative 2 would make year 1 slightly higher and year 3 slightly lower. This can be visualized with a see-saw in the figures below.

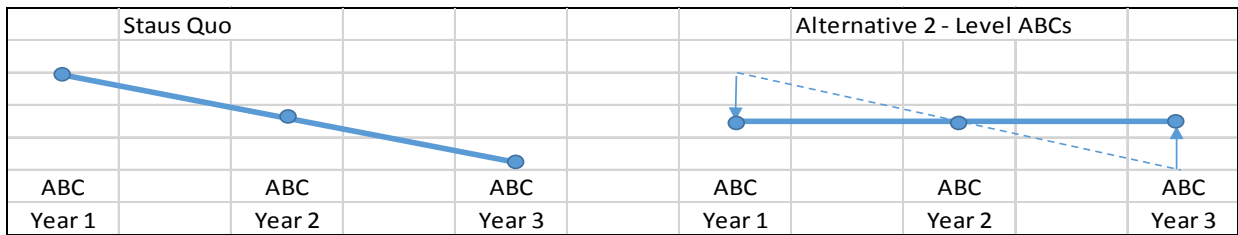


Figure 1. Declining ABC to level ABC.

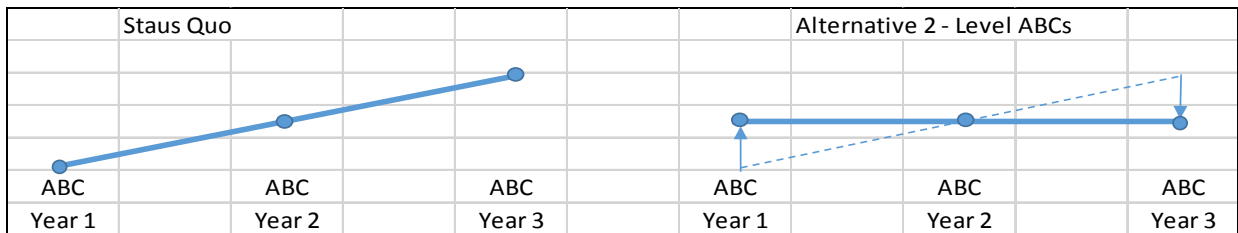


Figure 2. Increasing ABC to level ABC.

The specific impacts for any particular fishery would be analyzed for that fishery during the specifications process but as described above are expected to be neutral. The SSC would still have to certify that a constant ABC should not lead to overfishing and would still review the performance of the fishery each year during multi-year specifications. For all these reasons, it is expected that impacts on the managed stocks from Alternative 2 as compared to the No Action (status quo) would be neutral.

Alternative 2 Impacts: Non-target Resources

Given the negligible changes to quotas over three years that would occur under Alternative 2, (one year being slightly higher, one year slightly lower, and one year about the same), it is expected that there would be no change to non-target resource impacts compared to the No Action (status quo) since overall effort would not change and the nature of that effort would not be changed by this action.

Alternative 2 Impacts: Physical Environment and Essential Fish Habitat (EFH) Impacts

Given the negligible changes to quotas over three years that would occur under Alternative 2, (one year being slightly higher, one year slightly lower, and one year about the same), it is expected that there would be no change to EFH impacts compared to the No Action (status quo) since overall effort would not change and the nature of that effort would not be changed by this action.

Alternative 2 Impacts: Protected Resources (Endangered Species, Marine Mammals)

Given the negligible changes to quotas over three years that would occur under Alternative 2, (one year being slightly higher, one year slightly lower, and one year about the same), it is expected that there would be no change to protected resource impacts compared to the No Action (status quo) since overall effort would not change and the nature of that effort would not be changed by this action.

Alternative 2 Impacts: Human Communities - Socioeconomic Impacts

It is expected that the stability provided by Alternative 2 would lead to moderately positive socio-economic benefits compared to the No Action (status quo). While total catch over three years would be approximately the same over three years, it is expected that the stability afforded by constant quotas would provide some socio-economic benefits to fishery participants and associated support services (both commercial and recreational). The specific impacts for any particular fishery would be analyzed for that fishery during the specifications process.

Table 1. Summary Impacts of No Action and preferred alternatives relative to No Action.

Status Quo and Preferred Alternatives	Valued Ecosystem Components/Environmental Dimensions				
	Managed Resource	Non-target Species	Essential Fish Habitat	Protected Resources	Human Communities
Alternative 1 - No Action, which is the status quo	+	low -	low -	low -	+
Alternative 2 (compared to no action) - Allow Constant Multi-Year ABCs	neutral	neutral	neutral	neutral	+
Alternative 3 (compared to no action) - Automatically Incorporate New Biological Status Determination Criteria	neutral	neutral	neutral	neutral	neutral

("+" signifies a positive impact, "-" a negative impact. "Low" indicates a likely small impact.)

3.0 PURPOSE AND NEED, HISTORY OF FISHERY MANAGEMENT PLAN DEVELOPMENT, MANAGEMENT OBJECTIVES, AND MANAGEMENT UNIT

3.1 *PURPOSE AND NEED*

This action is needed to allow the specification of stable acceptable biological catches (ABCs¹) and to efficiently incorporate new biological status determination criteria.

The purpose of the action is to:

1. Provide quota stability to fishery participants by establishing a process to set level multi-year ABCs for Council managed fisheries using a prescribed formula; and to
2. Establish a consistent process to automatically incorporate new accepted/approved biological status determination criteria for all Council managed fisheries.

3.2 *HISTORY OF FISHERY MANAGEMENT PLAN DEVELOPMENT*

The FMPs managed by the Council have all been in place for a number of years and modified a number of times. The original FMPs were begun for the various Council-managed species in the following years:

Surfclam and Ocean Quahog – 1977

Mackerel – 1978

Longfin and *Illex* Squid – 1978

Butterfish – 1978

Summer Flounder – 1988

Bluefish – 1990

Scup – 1996

Black Sea Bass – 1996

Spiny Dogfish – 2000

Golden Tilefish – 2001 (Blueline Tilefish added in 2017)

Collectively there have been over 80 Amendments and Frameworks to these Fishery Management Plans (all available at <http://www.mafmc.org/fishery-management-plans>) and the specifications for annual quotas often make minor management changes as well. The details of the changes in the various Amendment and Frameworks may be found at the above web link, but generally changes have included measures designed to avoid

¹ ABCs form the upper limit on catches for Council-managed stocks and are set by the Council's Scientific and Statistical Committee (SSC).

overfishing, rebuild stocks, address allocation issues, identify and reduce impacts on EFH, reduce bycatch, establish permitting and reporting requirements, and coordinate management among regional partners like the Atlantic States Marine Fisheries Commission (ASMFC). Guides on current regulations for all of the Council-managed fisheries may be found at <http://www.greateratlantic.fisheries.noaa.gov/regs/info.html>, and the official regulations for all Council-managed species can be found at <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50>.

For the purposes of this issue, the key historical action is the 2011 Omnibus Amendment that established Annual Catch Limits (ACLs) and Accountability Measures (AMs) (MAFMC 2011). ACLs and AMs were required under the 2007 Reauthorization of the MSA, and the operational issue was that the Council had to set ACLs that could not exceed the recommendation of the Council's Scientific and Statistical Committee (SSC) to prevent overfishing. These recommendations are called Acceptable Biological Catches (ABCs) and represent an upper limit for the Council when setting catch and landings limits. In the Omnibus ACL/AM Amendment, the Council developed a risk policy that guides the SSC in terms on how much risk of overfishing the Council is willing to accept when the SSC develops ABC recommendations. Previous lawsuits have determined that the risk of overfishing cannot exceed 50%, and the Council's risk policy implemented with the ACL/AM Omnibus Amendment is described as follows. The Council also modified the original risk policy via Framework 6 to the Mackerel-Squid-Butterfish Fishery Management Plan to provide additional flexibility for stocks without accepted overfishing information (http://www.mafmc.org/s/MSB_Framework_06.pdf).

Council ABC Risk Policy

The Council's risk policy states that for a typical species whose stock size is at or greater than a target of the biomass associated with maximum sustainable yield (B_{MSY}), the acceptable probability of overfishing is 40%, i.e. if a fishery catches the ABC then there should be a 60% probability of not overfishing. If a species is deemed atypical then the Council has specified that it wants only a 35% chance of overfishing (i.e. a 65% probability of not overfishing, i.e. a larger buffer) when biomass is at or above B_{MSY} . The SSC determines whether a stock is typical or atypical each time an ABC is recommended. Generally speaking, an atypical stock has a life history strategy that results in greater vulnerability to exploitation, and whose life history has not been sufficiently addressed through the stock assessment and biological reference point development process. The extra buffer for atypical species is thus only invoked when the unusual characteristics have not been sufficiently incorporated into an assessment. The SSC can also determine that the available information on overfishing probability is not acceptable and then uses other information to set ABCs (see (d) *Stock without an OFL or OFL proxy* (1) and (2) below). (OFL = Overfishing Level)

For both typical and atypical species, the Council has specified that as stock size (B) falls below the target (B_{MSY}), then there should be a lower and lower probability of

overfishing, until the probability of overfishing hits zero when the stock is only 10% of the target (B_{MSY}). As stock size decreases, ABCs will decrease because there is a smaller stock of fish to produce new fish, and because at a lower stock size the Council wants greater assurance that overfishing will not occur. This should cause stock size to increase and return to B_{MSY} . To get such assurances, a larger buffer for uncertainty from the actual overfishing threshold is developed, and larger buffers (i.e. lower catch) should produce higher probabilities of not overfishing. The figure below graphically describes this concept (“ B/B_{MSY} ” just means the current biomass divided by the target biomass). For example, if you had a stock with a current biomass of 10 metric tons and a target of 9 metric tons, $10/9$ is greater than 1 - you are at 1.11 times the target biomass size (B_{MSY}). Once B/B_{MSY} is less than 1, (e.g. a current biomass of 8 and a target of 9) then lower and lower probabilities of overfishing are required until a zero percent probability of overfishing is required when $B/B_{MSY} = 0.1$. If $B/B_{MSY} = 0.1$, this means that the stock would be at 10% of its target (an overfished determination generally occurs at 50% of the target).

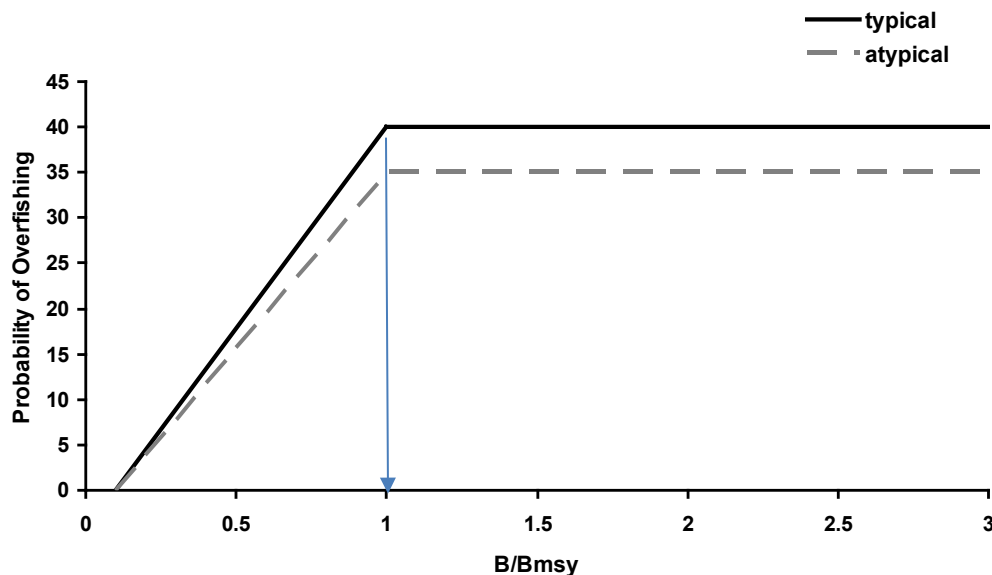


Figure 3. MAFMC Risk Policy

The above summarizes the current regulations governing the setting of ABCs, and portions of the actual regulations are provided below. Both the ABC control rule section (648.20) and the risk policy section (648.21) guide the SSC in making ABC recommendations. The SSC's assessment of how uncertainty is handled by assessments also affects the final ABC determination in terms of how much of a buffer is used to lower the ABC from the point estimate of the overfishing level (OFL). The regulations for this are not reproduced here but can be found in §648.20. (<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50>). In summary, the amount of uncertainty that the SSC assigns to any OFL estimate also impacts the amount of the buffer and resulting ABC. The more uncertain an OFL is deemed to have, the greater the buffer. The SSC can use the amount

of uncertainty in the OFL (often referred to as C.V. or coefficient of variation) as produced by an assessment. However, to date the SSC has always expanded the produced uncertainty measures (C.V.) because not all uncertainties are fully captured in the assessment calculations. This expansion increases the buffers and decreases ABCs. Thus a buffer can be larger (and ABC smaller) either because the Council wants a lower overall risk of overfishing and/or because the SSC increases the assigned level of uncertainty (as uncertainty increases catch must be lowered to achieve the same level of risk of exceeding the OFL).

§648.20 Mid-Atlantic Fishery Management Council ABC control rules.

The SSC shall review the following criteria, and any additional relevant information, to assign managed stocks to a specific control rule level when developing ABC recommendations. The SSC shall review the ABC control rule level assignment for stocks each time an ABC is recommended. The ABC may be recommended for up to 3 years for all stocks, with the exception of 5 years for spiny dogfish. The SSC may deviate from the control rule methods or level criteria and recommend an ABC that differs from the result of the ABC control rule calculation; however, any such deviation must include the following: A description of why the deviation is warranted, description of the methods used to derive the alternative ABC, and an explanation of how the deviation is consistent with National Standard 2.

§648.21 Mid-Atlantic Fishery Management Council risk policy.

The risk policy shall be used by the SSC in conjunction with the ABC control rules in §648.20(a) through (d) to ensure the MAFMC's preferred tolerance for the risk of overfishing is addressed in the ABC development and recommendation process.

(a) *Stocks under a rebuilding plan.* The probability of not exceeding the F necessary to rebuild the stock within the specified time frame (rebuilding F or $F_{REBUILD}$) must be at least 50 percent, unless the default level is modified to a higher probability for not exceeding the rebuilding F through the formal stock rebuilding plan. A higher probability of not exceeding the rebuilding F would be expressed as a value greater than 50 percent (e.g., 75-percent probability of not exceeding rebuilding F, which corresponds to a 25-percent probability of exceeding rebuilding F).

(b) *Stocks not subject to a rebuilding plan.* (1) For stocks determined by the SSC to have an atypical life history, the maximum probability of overfishing as informed by the OFL distribution will be 35 percent for stocks with a ratio of biomass (B) to biomass at MSY (B_{MSY}) of 1.0 or higher (*i.e.*, the stock is at B_{MSY} or higher). The maximum probability of overfishing shall decrease linearly from the maximum value of 35 percent as the B/B_{MSY} ratio becomes less than 1.0 (*i.e.*, the stock biomass less than B_{MSY}) until the probability of overfishing becomes zero at a B/B_{MSY} ratio of 0.10. An atypical life history is generally defined as one that has greater vulnerability to exploitation and whose characteristics have not been fully addressed through the stock assessment and biological reference point development process.

(2) For stocks determined by the SSC to have a typical life history, the maximum probability of overfishing as informed by the OFL distribution will be 40 percent for stocks with a ratio of B to B_{MSY} of 1.0 or higher (*i.e.*, the stock is at B_{MSY} or higher). The maximum probability of overfishing shall decrease linearly from the maximum value of 40 percent as the B/B_{MSY} ratio becomes less 1.0 (stock biomass less than B_{MSY}) until the probability of overfishing becomes zero at a B/B_{MSY} ratio of 0.10. Stocks with typical life history are those not meeting the criteria in paragraph (b)(1) of this section.

(c) For instances in which the application of the risk policy approaches in either paragraph (b)(1) or (2) of this section using OFL distribution, as applicable given life history determination, results in a more restrictive ABC recommendation than the calculation of ABC derived from the use of $F_{REBUILD}$ at the MAFMC-specified overfishing risk level as outlined in paragraph (a) of this section, the SSC shall recommend to the MAFMC the lower of the ABC values.

(d) *Stock without an OFL or OFL proxy.* (1) If an OFL cannot be determined from the stock assessment, or if a proxy is not provided by the SSC during the ABC recommendation process, ABC levels may not be increased until such time that an OFL has been identified.

(2) The SSC may deviate from paragraph (d)(1) of this section, provided that the following two criteria are met: Biomass-based reference points indicate that the stock is greater than B_{MSY} and stock biomass is stable or increasing, or if biomass based reference points are not available, best available science indicates that stock biomass is stable or increasing; and the SSC provides a determination that, based on best available science, the recommended increase to the ABC is not expected to result in overfishing. Any such deviation must include a description of why the increase is warranted, description of the methods used to derive the alternative ABC, and a certification that the ABC is not likely to result in overfishing on the stock.

[76 FR 60616, Sept. 29, 2011, as amended at 77 FR 51857, Aug. 27, 2012]

Multi-Year ABCs

All of the Council-managed fisheries have provisions for setting annual specifications for multiple years (5 years for dogfish and 3 years for other species). Fishery participants have indicated that it would be preferable if constant multi-year quotas could be achieved for business planning and marketing purposes. Currently, if a target overfishing probability is applied in a multi-year projection, the resulting fishing mortality rates will affect the projection each year so the values are not constant. This framework proposes to allow the accepted probabilities of overfishing to be modified slightly from the current process so that constant multi-year ABCs can be achieved – the process by which this would be accomplished is detailed in Section 4.

3.3 FISHERY MANAGEMENT PLANS GENERAL MANAGEMENT OBJECTIVES/GOALS

The objectives for each Fishery Management Plan (FMP) are described below. The Council will likely be reviewing and possibly amending the FMP goals over the next several years.

3.3.1 Atlantic Surfclam and Ocean Quahog FMP

- 1) Conserve and rebuild Atlantic surfclam and ocean quahog resources by stabilizing annual harvest rates throughout the management unit in a way that minimizes short term economic dislocations.
- 2) Simplify to the maximum extent the regulatory requirement of surfclam and ocean quahog management to minimize the government and private cost of administering and complying with regulatory, reporting, enforcement, and research requirements of surfclam and ocean quahog management.
- 3) Provide the opportunity for industry to operate efficiently, consistent with the conservation of surfclam and ocean quahog resources, which will bring harvesting capacity in balance with processing and biological capacity and allow industry participants to achieve economic efficiency including efficient utilization of capital resources by the industry.
- 4) Provide a management regime and regulatory framework which is flexible and adaptive to unanticipated short term events or circumstances and consistent with overall plan objectives and long term industry planning and investment needs.

3.3.2 Atlantic Mackerel, Squids, and Butterfish FMP

- 1) Enhance the probability of successful (i.e., the historical average) recruitment to the fisheries.
- 2) Promote the growth of the U.S. commercial fishery, including the fishery for export.
- 3) Provide the greatest degree of freedom and flexibility to all harvesters of these resources consistent with the attainment of the other objectives of this FMP.
- 4) Provide marine recreational fishing opportunities, recognizing the contribution of recreational fishing to the national economy.
- 5) Increase understanding of the conditions of the stocks and fisheries.
- 6) Minimize harvesting conflicts among U.S. commercial, U.S. recreational, and foreign fishermen.

3.3.3 Summer Flounder, Scup, Black Sea Bass FMP

- 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.

3.3.4 Atlantic Bluefish FMP

- 1) Increase understanding of the stock and of the fishery.
- 2) Provide the highest availability of bluefish to U.S. fishermen while maintaining, within limits, traditional uses of bluefish.
- 3) Provide for cooperation among the coastal states, the various regional marine fishery management councils, and federal agencies involved along the coast to enhance the management of bluefish throughout its range.
- 4) Prevent recruitment overfishing.
- 5) Reduce the waste in both the commercial and recreational fisheries.

3.3.5 Spiny Dogfish FMP

- 1) Reduce fishing mortality to ensure that overfishing does not occur.
- 2) Promote compatible management regulations between state and Council jurisdictions and the U.S. and Canada.
- 3) Promote uniform and effective enforcement of regulations.
- 4) Minimize regulations while achieving the management objectives stated above.
- 5) Manage the spiny dogfish fishery so as to minimize the impact of the regulations on the prosecution of other fisheries, to the extent practicable.
- 6) Contribute to the protection of biodiversity and ecosystem structure and function.

3.3.6 Golden and Blueline Tilefish FMP

- 1) Prevent overfishing and rebuild the resource to the biomass that would support MSY.
- 2) Prevent overcapitalization and limit new entrants.
- 3) Identify and describe essential tilefish habitat.
- 4) Collect necessary data to develop, monitor, and assess biological, economic, and social impacts of management measures designed to prevent overfishing and to reduce bycatch of tilefish in all fisheries.
- 5) Management will reflect blueline tilefish's susceptibility of overfishing and the need of an analytical stock assessment

3.4 MANAGEMENT UNIT/SCOPE

The management unit/scope for each Fishery Management Plan is described below.

3.4.1 Atlantic Surfclam and Ocean Quahog FMP

The management unit is all Atlantic surfclams (*Spisula solidissima*) and ocean quahogs (*Arctica islandica*) in the Atlantic EEZ. The ocean quahogs managed in this FMP include a small-scale fishery in eastern Maine that harvests small ocean quahogs which are generally sold for the half-shell market. Locally these small ocean quahogs off the coast of Maine are known as “mahogany quahogs” and have been under Council management since implementation of Amendment 10 (MAFMC 1998). There is no scientific question that the small scale Maine fishery occurs on *Arctica islandica*.

3.4.2 Atlantic Mackerel, Squids, and Butterfish FMP

The management unit is all northwest Atlantic mackerel (*Scomber scombrus*), longfin squid (*Doryteuthis amerigo pealeii*, *Illex illecebrosus*, and butterfish (*Peprilus tricanthus*) under U.S. jurisdiction.

3.4.3 Summer Flounder, Scup, Black Sea Bass FMP

The management unit for summer flounder (*Paralichthys dentatus*) is the U.S. waters in the western Atlantic Ocean from the southern border of North Carolina northward to the U.S.-Canadian border. The management unit for both scup (*Stenotomus chrysops*) and black sea bass (*Centropristis striata*) is the U.S. waters in the western Atlantic Ocean from Cape Hatteras, North Carolina northward to the U.S.-Canadian border.

3.4.4 Atlantic Bluefish FMP

The management unit is bluefish (*Pomatomus saltatrix*) in U.S. waters of the western Atlantic Ocean.

3.4.5 Spiny Dogfish FMP

The management unit is the entire spiny dogfish (*Squalus acanthias*) population along the Atlantic coast of the United States.

3.4.6 Golden and Blueline Tilefish FMP

The management unit is defined as all golden and blueline tilefish (*Lopholatilus chamaeleonticeps*) under United States jurisdiction in the Atlantic Ocean north of the Virginia/North Carolina border. Tilefish south of the Virginia/North Carolina border are currently managed as part of the Fishery Management Plan for the Snapper-Grouper Fishery managed by the South Atlantic Fishery Management Council.

4.0 MANAGEMENT ALTERNATIVES

Introduction

The management regimes and associated management measures within the Fishery Management Plans (FMPs) for the managed resources have been refined over time and codified in regulation. Given that the control rule provisions do not need to be re-specified each year in the event no further action has yet been taken, the relevant No Action or *status quo* management measures for the managed resources therefore involve a set of indefinite (i.e., in force until otherwise changed) measures that have been established. These measures will continue as they are even if the actions contained within this framework are not taken (i.e., No Action). While not all species' individual specifications roll over from year to year, since they will be re-specified each year through other Council actions regardless of this action, the No Action alternative for these managed resources is therefore equivalent to *status quo*. On that basis, the No Action (status quo) is presented in conjunction for comparative impact analysis relative to the action alternatives.

Alternative 1, No Action, which is the status quo

There are two issues being addressed through this action, via alternatives 2 and 3 below. In general under the status quo, all existing regulations would stay in place (<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50>), but there are particular No Action measures specific to the action alternatives:

Specific to Alternative 2: The current process for setting ABCs, as described above in Section 3.2, would remain in place. The SSC would develop ABC recommendations based on the existing control rule, which involves applying a target fishing mortality rate (F) to the current or projected stock size. The details of how the target fishing mortality rate is determined are described above in section 3.2.

Specific to Alternative 3: No changes to how new biological status determination criteria are officially adopted would be made for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, or butterfish. Currently such changes technically require a separate management action to become official, but since the best available science must be used per the MSA, new status determination criteria are already used by the SSC and NMFS as they become available and peer reviewed.

Alternative 2 - Overfishing Probability Averaging (PREFERRED)

Currently when an assessment is available that provides fishing mortality reference points accepted by the SSC, the SSC recommends ABCs that are projected to result in a given probability of either achieving a rebuilding plan's fishing mortality target (specified in a rebuilding plan) or for other stocks not in a rebuilding plan, a given probability of overfishing (0%-40% percent depending on the biology and size of a fish stock per the

Council's risk policy). This alternative would simply make it consistent with the Council's risk policy for the SSC to specify constant multi-year ABCs if the average of the probabilities of overfishing equal the appropriate goal (0%-40%). The resulting ABC must also always result in less than a 50% probability of overfishing in any one year. For any three year period, an averaged ABC would result in slightly less chance of overfishing in some years and slightly more of a chance of overfishing in other years compared to a non-averaged ABC based on year to year projections. The exact calculations would be evaluated each time the SSC considers multi-year specifications, but an example is available from a recent ABC-setting process for butterfish.

Butterfish Example

In May 2014, the SSC set butterfish specifications for 2015, 2016, and 2017. Based on assessment results that butterfish biomass was above the biomass associated with maximum sustainable yield (B_{MSY}) and the SSC's determination that butterfish should be treated as a typical species, the SSC developed ABC recommendations that should result in a 40% probability of overfishing, i.e. a 60% probability of not overfishing. The amounts were 33,278 metric tons (mt) for 2015, 31,412 mt for 2016, and 30,922 mt for 2017. The reason for the declining ABC is that if those amounts of butterfish are removed from the population, the stock will fall somewhat (but will still be above target) and so fishing at any fishing mortality rate (F) will produce less fish with a smaller stock. This is normal for a stock above B_{MSY} and the stock would not be predicted to fall below B_{MSY} . Under the provisions of this framework, another viable recommendation would be a constant ABC that resulted in an average probability of overfishing of 40%. Staff requested that the NMFS Northeast Fisheries Science Center produce constant ABCs whose probabilities of overfishing averaged 40%. Center staff used a search procedure because there is currently no formulaic way to exactly generate a constant ABC where the average probabilities of overfishing equaled 40%. However, with some trial and error, ABCs of 31,864 mt, 31,978 mt, and 31,935 mt (i.e. nearly identical) were found to have overfishing probabilities of 38.0%, 40.5%, and 41.5%, for an average of 40.0%, so an ABC of 31,900 mt would have an average overfishing probability of very close to 40.0%. With a constant ABC, versus the application of the status quo process, the probability of overfishing the first year is slightly lower than would occur under the status quo and the probability of overfishing is slightly higher the last year than would occur under the status quo. In either case (No Action or this alternative), approximately the same amount of fish could be removed over three years. Given the resolution and uncertainty involved in assessments, the two alternatives are functionally equivalent relative to our current abilities to assess fish stocks and their productivity in order to avoid overfishing.

Each stock would be assessed on a case-by-case basis and the SSC could provide both a standard three-year recommendation (No Action) as well as a constant three-year recommendation (Alternative 2) based on the overfishing averaging approach for the Council to consider. The SSC would also review fishery performance each year during multi-year specifications as currently occurs. Some stocks do not have quantitative

assessments that produce multi-year catch projections. In such cases a separate control rule applies (see *Stock without an OFL or OFL proxy* above in Section 3.2).

If a stock is predicted to be below B_{MSY} for all or part of the multi-year specifications, then currently each year will have a different goal probability of overfishing (recall the Council requires the probability of overfishing to continuously decrease as stock size decreases below B_{MSY}). To address this, first the goal probabilities would be averaged, and the average probability would be the new goal, and the average of the predicted probabilities of overfishing from a constant ABC would have to meet this new goal. For example, in the 2015 summer flounder assessment update, because the stock was below B_{MSY} , but predicted to grow over the three years of the specifications (2016-2018) the goal overfishing probabilities were 25.8%, 29.2%, and 32.5% (as the stock gets closer to B_{MSY} a higher probability of overfishing is tolerated). The average of these is 29.2% and would be the goal probability. From this point the situation would be handled just like butterfish, where the calculated probabilities of overfishing from each year of a constant ABC would have to average out to 29.2% instead of the 40% that butterfish used. Since the summer flounder stock is expected to grow and produce higher ABCs, application of the modified risk policy for constant ABCs would have the opposite effect compared to butterfish - here the first year would be somewhat of a higher catch with a higher probability of overfishing and the third year would have somewhat of a lower catch and the middle year would be just about the same.

In both cases presented (butterfish and summer flounder), the total catch over three years is the same when comparing the status quo (No Action) to Alternative 2. The difference is the annual overfishing probabilities. A search procedure would have to be used to find a nearly level catch that results in the appropriate average probability of overfishing. Since the ABC is level for all three years and the average of the predicted overfishing probabilities must equal the goal, the resulting overfishing probabilities should be very similar to the current procedures for all three years, and in no case could (or should) any single year be above a 50% probability of overfishing. In practice, as illustrated with butterfish, the predicted overfishing probabilities are only marginally different than the current goal (38.0%, 40.5%, and 41.5% versus 40% for all three years). The SSC would evaluate the results of the search procedure and only recommend ABCs that are predicted to avoid overfishing. This provides an additional backstop evaluation in the case of unexpected results.

Alternative 3 - Response to New Accepted/Approved Biological Status Determination Criteria (PREFERRED)

This alternative would create consistent status determination criteria for all Council managed species.

The maximum fishing mortality (F) threshold for each of the species under a fishery management plan is defined as F Maximum Sustainable Yield (F_{MSY}) (or a reasonable proxy thereof) as a function of productive capacity, and based upon the best scientific information consistent with National Standards 1 and 2. Summer flounder, scup, black

sea bass, surfclam, ocean quahog, and spiny dogfish are already handled this way. This action would thus institute the above procedure to bluefish, tilefish, mackerel, longfin squid, *Illex* squid, and butterfish.

The fishing mortality rate associated with maximum sustainable yield (MSY) is F_{MSY} (maximum fishing mortality threshold). A reasonable proxy of F_{MSY} may be defined as a function of (but not limited to): total stock biomass, spawning stock biomass, total egg production, and may include males, females, both, or combinations and ratios thereof which provide the best measure of productive capacity for each of the species managed under the fishery management plan. Exceeding the established fishing mortality threshold constitutes overfishing as defined by the MSA.

The minimum stock size threshold for each of the species under an FMP is defined as $\frac{1}{2}$ Biomass at MSY (B_{MSY} or a reasonable proxy thereof). The minimum stock size threshold ($\frac{1}{2}$ Biomass at MSY) or a reasonable proxy may be defined as a function of (but not limited to): total stock biomass, spawning stock biomass, total egg production, and may include males, females, both, or combinations and ratios thereof which provide the best measure of productive capacity for each of the species managed under the fishery management plans. The minimum stock size threshold is the level of productive capacity associated with the relevant $\frac{1}{2}$ MSY level and based upon the best scientific information consistent with National Standards 1 and 2.

Should the measure of productive capacity for the stock or stock complex fall below this minimum threshold, the stock or stock complex will be considered overfished. The target for rebuilding is specified as B_{MSY} (or reasonable proxy thereof) at the level of productive capacity associated with the relevant MSY level, under the same definition and constraints of productive capacity as specified for the minimum stock size threshold.

Specific definitions or modifications to the status determinations criteria, and their associated values, would result from the most recent peer-reviewed stock assessments and their panelist recommendations. The Northeast Regional Stock Assessment workshop/ Stock Assessment Review Committee (SAW/SARC) process is the primary mechanism utilized in the Northeast Region at present to review scientific stock assessment advice, including status determination criteria, for federally-managed species. There are also reviews which can occur outside the SARC process that are subject to rigorous peer-review and may also result in scientific advice to modify or change the existing stock status determination criteria. Reviews outside the SARC process could be conducted by any of the following listed below, as deemed appropriate by the managing authorities.

- MAFMC SSC Review
- MAFMC Externally Contracted Reviews with Independent Experts (e.g., Center for Independent Experts - CIE)
- NOAA Fisheries Internally Conducted Review (e.g., Comprised of NOAA Fisheries Scientific and Technical Experts from NOAA Fisheries Science Centers or Regions)

- NOAA Fisheries Externally Contracted Review with Independent Experts (e.g., CIE)
- TRAC (Transboundary Resources Assessment Committee)

The scientific advice developed on stock status determination criteria is then provided to the Council's SSC. The SSC uses this information to develop acceptable biological catch (ABC) recommendations which address scientific uncertainty based on the information provided in the peer reviewed assessment of the stock. These recommendation are then provided to the Council.

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5.0 DESCRIPTIONS OF THE AFFECTED ENVIRONMENT AND FISHERIES

5.1 Description of the Managed Resources²

Surfclam

The Atlantic surfclam is a bivalve mollusk that inhabits sandy continental shelf habitats from the southern Gulf of St. Lawrence to Cape Hatteras, North Carolina. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. The status of surfclam is not overfished with no overfishing occurring. The latest stock assessment is available at: <https://www.nefsc.noaa.gov/saw/reports.html>.

Ocean Quahog

The ocean quahog, is a bivalve mollusk found in temperate and boreal waters on both sides of the North Atlantic. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. The status of ocean quahog is not overfished with no overfishing occurring. The latest stock assessment is available at: <https://www.nefsc.noaa.gov/saw/reports.html>.

Mackerel

The Atlantic mackerel is a semi-pelagic/semi-demersal (may be found near the bottom or higher in the water column) schooling fish species primarily distributed between Labrador (Newfoundland, Canada) and North Carolina. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. The status of Atlantic mackerel is currently unknown with respect to being overfished or not, and unknown with respect to experiencing overfishing or not, but a recent assessment concluded mackerel was overfished with overfishing occurring and the status will likely soon change. The latest stock assessment is available at: <https://www.nefsc.noaa.gov/saw/reports.html>.

Butterfish

The Atlantic butterfish is a semi-pelagic/semi-demersal schooling fish species primarily distributed between Nova Scotia, Canada and Florida. Additional life history information is detailed in the EFH document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

² A summary of recent fishery performance is included in section 5.5.

According to the most recent assessment the status of butterfish is not overfished with no overfishing occurring. The latest stock assessment is available at:

<https://www.nefsc.noaa.gov/saw/reports.html> and an assessment update is available at <https://www.nefsc.noaa.gov/publications/>.

Longfin Squid

The longfin squid is a semi-pelagic/semi-demersal schooling cephalopod species primarily distributed between Georges Bank and Cape Hatteras, NC. Additional life history information is detailed in the EFH document for the species, located at:

<http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. Based on the most recent biomass reference point from a 2017 SAW-SARC assessment, the longfin squid stock was not overfished in 2016, but overfishing status was not determined because no overfishing threshold was recommended (though the assessment did describe the stock as “lightly exploited”). The stock assessment documents are available at:

https://static1.squarespace.com/static/511cdc7fe4b00307a2628ac6/t/59073cc9be65945087783a84/1493646537724/Doryteuthis_update_April_2017.pdf. Recent results from the NEFSC Trawl surveys are highly variable, and are graphed in the “NEFSC Biological Update” that is created as part of the SSC ABC-setting process. These are available at: <http://www.mafmc.org/ssc-meeting-documents/> (see May 2017 Meeting Materials).

Illex Squid

The *Illex* squid is a semi-pelagic/semi-demersal schooling cephalopod species distributed between Newfoundland and the Florida Straits. Additional life history information is detailed in the EFH document for the species, located at:

<http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. The status of *Illex* is unknown with respect to being overfished or not, and unknown with respect to experiencing overfishing or not. Recent results from the NEFSC Trawl surveys are highly variable, and are graphed in the “NEFSC Biological Update” that is created as part of the SSC ABC-setting process. These are available at: <http://www.mafmc.org/ssc-meeting-documents/> (see May 2017 Meeting Materials).

Summer Flounder

The summer flounder is a demersal flatfish species with a center of abundance within the Middle Atlantic Bight from Cape Cod, Massachusetts, to Cape Hatteras, North Carolina. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at:

<http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. According to a recent assessment update, the status of summer flounder is not overfished (but below target biomass) with overfishing occurring. The latest stock assessment is available at: <http://nefsc.noaa.gov/publications/crd/crd1316/>, and the results of a recent update are available at <http://www.mafmc.org/ssc> (July 2016 meeting). Management measures will be modified to end overfishing as soon as possible.

Scup

The scup is a schooling, demersal temperate species that occurs primarily from Massachusetts to South Carolina (reported as far north as the Bay of Fundy and Sable Island Bank, Canada and as far south as Florida). Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. According to the most recent assessment, the status of scup is not overfished with overfishing not occurring. The latest stock assessment update is available at: <http://www.mafmc.org/ssc-meetings/2017/july-19-20>.

Black Sea Bass

The black sea bass is a warm-temperate species that is usually associated with structured habitats, such as reefs and shipwrecks, on the continental shelf. It occurs from southern Nova Scotia and the Bay of Fundy to southern Florida (Bowen and Advise 1990) and into the Gulf of Mexico. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. The most recent information indicates that black sea bass is not overfished with no overfishing occurring: <https://www.nefsc.noaa.gov/publications/crd/crd1703/> (SAW/SARC 62).

Bluefish

The bluefish is a wide-ranging schooling pelagic species found in the western North Atlantic from Nova Scotia and Bermuda to Argentina (but rare between southern Florida and northern South America). Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. According to the most recent assessment, the status of bluefish is not overfished with overfishing not occurring. The latest stock assessment is available at: <http://www.nefsc.noaa.gov/saw/reports.html> (SAW 60).

Spiny Dogfish

The spiny dogfish, is a migratory coastal shark with a circumboreal distribution. The northwest Atlantic Ocean population is not believed to mix with populations from Europe, Asia, the northeast Pacific, or the southern hemisphere, although these other populations are not considered to consist of separate species. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. According to the most recent assessment update the status of spiny dogfish is not overfished with no overfishing occurring. The most recent stock assessment update is available at <http://www.mafmc.org/ssc-meetings/2015/nov-24>.

Golden Tilefish

The golden tilefish is most abundant from Georges Bank to Key West, Florida and throughout much of the Gulf of Mexico. Their habitat is a relatively restricted band, approximately 80-540 m deep and 8-17° C, known as the "warm belt" on the outer continental shelf and upper slope of the northwest Atlantic coast. Their distribution, which appears discontinuous, may be controlled by temperature, depth, and the availability of shelter or fine, semi-consolidated sediments that support their shelter burrows. Additional life history information is detailed in the Essential Fish Habitat (EFH) document for the species, located at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. According to the most recent assessment the status of golden tilefish is not overfished with no overfishing occurring. The latest stock assessment is available at <https://www.nefsc.noaa.gov/saw/reports.html> and an update is available at <http://www.mafmc.org/ssc-meetings/2017/march-15-16>.

Blueline Tilefish

Blueline tilefish are primarily distributed from Campeche, Mexico northward through the Mid-Atlantic. Several recently completed studies suggest that blueline tilefish from the eastern Gulf of Mexico through the Mid-Atlantic are comprised of one genetic stock (<http://sedarweb.org/sedar-50-data-workshop>). Blueline tilefish inhabit the shelf edge and upper slope reefs at depths of 46-256m and temperatures between 15-23°C. According to the most recent assessment the status of golden tilefish is not overfished with no overfishing occurring south of Cape Hatteras, with unknown stock status north of Cape Hatteras. The stock was split due to data and modeling issues. The latest stock assessment is available at <http://sedarweb.org/sedar-50>.

5.2 Non-target Species

As defined by the MSA, bycatch means fish that are harvested in a fishery but that are not sold or kept for personal use. Bycatch includes the discard of whole fish at sea or elsewhere, including economic and regulatory discards, and include those due to an encounter with fishing gear that does not result in capture of fish (i.e., unobserved fishing mortality). Bycatch does not include fish released alive under a recreational catch-and-release fishery management program. Bycatch must be minimized to the extent practicable per the MSA, and the Council's FMPs have evaluated bycatch and taken steps where appropriate to reduce bycatch to the extent practicable to ensure compliance with the MSA.

Atlantic mackerel - Mackerel and Atlantic (sea) herring are often caught together in midwater trawls and can make analysis of bycatch in the commercial mackerel fishery difficult. However, analysis has identified spiny dogfish, Atlantic (sea) herring, scup, blueback herring, striped bass, hickory shad, silver hake (whiting), American shad, alewife, unclassified dogfish, and butterfish as primary bycatch and/or discard species for the mackerel fishery. There are significant recreational landings of mackerel in

Massachusetts, New Hampshire, and Maine in the summer. Analysis of how much of that catch is directed and how much is incidental has not been undertaken, but the directed portion likely catches other gamefish in those areas such as striped bass and bluefish at least on occasion. More detailed information on non-target catch in this fishery can be found in the latest specifications environmental assessment, available at <http://www.greateratlantic.fisheries.noaa.gov/regs/2015/March/15smbspecs20152017fr.html>.

Butterfish - The commercial butterfish fishery, until recently constrained because of its depleted status, has primarily occurred when butterfish itself is caught as bycatch and retained. Red hake, silver hake, spiny dogfish, scup, unclassified skates, fourspot flounder, Loligo squid, Atlantic mackerel, and little skate are have been identified as bycatch and/or discard species for the butterfish fishery. There are no significant recreational landings of butterfish.

Illex squid - This is a commercial trawl fishery that occurs offshore in the summer months with relatively low bycatch, but non-target species that are caught include longfin squid, butterfish, buckler dories, chub mackerel, and spotted hake. More detailed information on non-target catch in this fishery can be found in the latest specifications environmental assessment, available at <http://www.greateratlantic.fisheries.noaa.gov/regs/2015/March/15smbspecs20152017fr.html>.

Longfin squid – This is a commercial trawl fishery that takes place offshore year-round depending on availability and inshore during the summer months. The longfin squid fishery has relatively high bycatch levels, but recent management actions (Amendment 10 to the MSB FMP) implemented measures to reduce bycatch to the extent practicable as required under the MSA, including implementing a discard cap on butterfish. The most common species caught and primarily discarded include butterfish, dogfishes, hakes, skates, scup, flounders, lady crabs, and sea robins. More detailed information on non-target catch in this fishery can be found in the latest specifications environmental assessment, available at <http://www.greateratlantic.fisheries.noaa.gov/regs/2015/March/15smbspecs20152017fr.html>.

Bluefish - The bluefish commercial fishery is a mixed species fishery prosecuted with gillnets, otter trawls, and handlines, where bonito, Atlantic croaker, weakfish, and spiny dogfish are harvested with bluefish. Section 3.1.3.9 of Amendment 1 to the Bluefish FMP (<http://www.mafmc.org/fishery-management-plans>) provides a full description of bycatch in these fisheries. There is a significant recreational fishery for bluefish. The recreational fishery may catch and/or land numerous other species which could include, but are not limited to striped bass, weakfish, and other pelagics.

Spiny dogfish - The spiny dogfish commercial fishery is prosecuted with hook gear, gillnets, and to a lesser degree trawl gear, where by far, the primary discard species in the spiny dogfish fishery is spiny dogfish, followed by other species including cod, skates,

herring, and scup. Section 3.1.3.9 of the Spiny Dogfish FMP (<http://www.mafmc.org/fishery-management-plans>) provides a full description of bycatch in these fisheries. There is not significant directed recreational fishery for dogfish, but it is a common discard while fishing for other recreationally sought species.

Summer flounder, scup, and black sea bass - The summer flounder, scup and black sea bass commercial fisheries are mixed fisheries, prosecuted with bottom and midwater trawls, fish pots/traps, and lines, where squid, Atlantic mackerel, silver hake, skates, and other species are harvested with summer flounder, scup, and/or black sea bass. Section 5.1.9 of Amendment 13 to the FMP (<http://www.mafmc.org/fishery-management-plans>) provides a full description of bycatch in these fisheries. There are significant recreational fisheries for summer flounder, scup, and black sea bass. The recreational fishery may catch and/or land numerous other species within the management units of these resources. These species could include, but are not limited to, striped bass, bluefish, weakfish, tautog, Atlantic croaker, spot, spiny dogfish, skates species, and other flounder species and pelagics.

Atlantic surfclam and ocean quahog - The surfclam and ocean quahog fisheries, prosecuted with hydraulic dredges, are extremely clean, as evidenced by the 1997 NEFSC clam survey species listing (Table 34 of Amendment 13, <http://www.mafmc.org/fishery-management-plans>). Surfclams and ocean quahogs comprise well over 80percent of the total catch from the survey, with no fish caught. Only sea scallops, representing other commercially desirable invertebrates were caught at around one-half of one percent. Commercial operations are cleaner than the scientific surveys which have liners in the dredges, as all animate and inanimate objects except surfclams and ocean quahogs are discarded quickly before the resource is placed in the cages. The processors reduce their payments if "things" other than surfclams or ocean quahogs are in the cages (Wallace and Hoff 2004).

Golden Tilefish - The commercial fishery for tilefish is primarily prosecuted with bottom longline gear. According to Amendment 1 of the Tilefish FMP, all of the tilefish landed by directed commercial trips used longline gear. Section 6.2 of Amendment 1 to the FMP provides a full description of bycatch in the fishery (<http://www.mafmc.org/fishery-management-plan>). Catch disposition analysis indicates that bycatch is low for directed tilefish trips. Bottom otter trawls may also be used to catch tilefish, but have limited utility because of the complex habitat preferred by tilefish. Tilefish are occasionally taken incidental to other directed trawl fisheries.

Blueline Tilefish – In the Council's management area, a limited commercial fishery has been prosecuted with bottom longline gear but the fishery is currently limited to incidental landings. Section 6.4 of Amendment 6 to the FMP provides a discussion of bycatch in the blueline tilefish fishery (<http://www.mafmc.org/fishery-management-plan>), but data show minimal non-target interactions and/or discarding in the targeted golden tilefish fishery and the same would be expected for blueline tilefish. Tilefish are occasionally taken incidental to other directed trawl fisheries.

5.3 Habitat (Including Essential Fish Habitat)

Detailed information on the affected physical and biological environments inhabited by the managed resources is available in Stevenson et al. (2004). The managed resources primarily inhabit the Northeast U.S. Shelf Ecosystem, including the area from the Gulf of Maine south to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream (Sherman et al. 1996). The continental slope includes the area east of the shelf, out to a depth of 2000 m. Four distinct sub-regions comprise the NOAA Fisheries Northeast Region: 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, NC. 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.

Most areas of the coastal and shelf waters are used as EFH for some life-stage of at least one Council-managed species and other species as well. NMFS has created the “EFH Mapper” as a one-stop tool for viewing the spatial representations of federally-managed species, their life-stages, and important habitats. All graphical and textual descriptions for the managed-species EFH can be found via the EFH Mapper at <http://www.habitat.noaa.gov/protection/efh/efhmapper/index.html>. More detailed EFH and life history information for the managed species is described using fundamental information on habitat requirements by life history stage in a series of EFH source documents produced by NMFS and available at: <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>.

A variety of gears are used to harvest Council-managed species, including bottom-tending gears such as bottom longline, anchored gillnet, hydraulic dredges, and bottom otter trawl which may impact the habitat of the managed species and other species. A variety of measures have been considered and implemented over the years in Council-managed fisheries to minimize the impact of fishing on habitat, which are further described in the Environmental Assessment for the ACL/AM Omnibus. The measures generally include closed areas for trawling in particularly sensitive areas such as tilefish habitat. The table below describes the actions that last considered effects on species with overlapping EFH for Council-managed fisheries. Other notable actions that protect habitat from the effects of fishing gear include gear/area closures implemented by the New England Fishery Management Council (NEFMC) (see <http://www.nefmc.org/management-plans/habitat> for ongoing revisions to NEFMC

habitat closures) and the Council’s recently approved Deep Sea Coral Amendment (see <http://www.mafmc.org/actions/msb/am16>).

There have been no significant changes to the manner in which the Council fisheries are prosecuted since overlapping species impacts were last considered for the Council-managed species (see table next page) and none of the alternatives being considered in this document would adversely affect EFH (see Section 6); therefore, the effects of fishing on EFH are not reevaluated in this document and no additional alternatives to minimize adverse effects on EFH are presented in this document.

Table 2. FMP Actions considering overlapping species EFH impacts.

FMP	Action
Atlantic Surfclam and Ocean Quahog	Amendment 13
Mackerel-Squid-Butterfish	Amendment 9
Summer Flounder, Scup, and Black Sea Bass	Amendment 13
Bluefish	Amendment 1
Spiny Dogfish	Original FMP
Tilefish	Amendment 1
available at http://www.mafmc.org/fishery-management-plans	

5.4 Endangered and other Protected Species

There are numerous species of fish, marine mammals, and sea turtles which inhabit the environment within the management units of the Council’s FMPs that are afforded protection under the Endangered Species Act (ESA) of 1973 (i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act (MMPA) of 1972 (see Table 3). For additional information on the species provided in Table 3 (e.g., life history, distribution, stock status), please visit: http://www.nero.noaa.gov/prot_res/ and <http://www.nmfs.noaa.gov/pr/sars/region.htm>.

Table 3 provides a list of protected species (ESA listed and MMPA protected) of sea turtle, marine mammal, and fish species present in the affected environment of the fisheries considered in this Amendment, 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 the fishery. Specifically, based on observed gear interactions, marine mammals are known to be at risk of interacting with purse seine, gillnet, bottom trawl, mid-water trawl, pot/trap, or hook and line gear (Palmer 2017). As a result, any fishery in this action that uses any of these gears has the potential to interact with a marine mammal species. 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, ESA section 7 consultations completed on all six FMPs considered in this Amendment were reviewed. Specifically, since 2014, NMFS has completed ESA section 7 informal consultations on the surfclam and ocean quahog fisheries. Due to the fact that there have been no observed interactions of any ESA listed species with clam dredges (NMFS NEFSC FSB 2015, 2016, 2017), the consultations conclude that the surfclam and ocean quahog fishery is not likely to interact with any ESA-listed species and is not likely to adversely affect any ESA-listed species or designated critical habitat under NMFS's jurisdiction. Similar conclusions were recently made for the tilefish fishery in an informal consultation issued by NMFS on October 27, 2017. In regards to the Mackerel, Squid, Butterfish, Summer Flounder, Bluefish, Scup, Black Sea Bass, and Spiny Dogfish fisheries, the 2013 Biological Opinion issued by NMFS on the operation of these and three other commercial fisheries (7 FMPs in total), and their 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 ESA listed species interactions with gear types used to prosecute the 7 FMPs (e.g., gillnet, bottom trawl, and pot/trap), concluded that the seven fisheries may adversely affect, but was 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.³ 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 Mackerel, Squid, Butterfish, Summer Flounder, Bluefish, Scup, Black Sea Bass, and Spiny Dogfish fisheries are currently covered by the incidental take statement authorized in NMFS 2013 Opinion.

³ The 2013 Opinion did not authorize take of ESA listed species of whales because (1) an incidental take statement cannot be lawfully issued under the ESA for a marine mammal unless incidental take authorization exists for that marine mammal under the MMPA (see 16 U.S.C. § 1536(b)(4)(C)), and (2) the incidental take of ESA-listed whales by the black seabass fishery has not been authorized under section 101(a)(5) of the MMPA. However, the 2013 BiOp assessed interaction risks to these species and concluded that 7 FMPs assessed, may affect but would not jeopardize the continued existence of any ESA listed species of whales (NMFS 2013).

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Table 3. Species Protected Under the ESA and/or MMPA that May Occur in the Affected Environment of the Council's managed fisheries.

Species	Status	Potentially affected by this action?
Cetaceans		
North Atlantic right whale (<i>Eubalaena glacialis</i>)	Endangered	Yes
Humpback whale, West Indies DPS, (<i>Megaptera novaeangliae</i>)	Protected (MMPA)	Yes
Fin whale (<i>Balaenoptera physalus</i>)	Endangered	Yes
Sei whale (<i>Balaenoptera borealis</i>)	Endangered	Yes
Blue whale (<i>Balaenoptera musculus</i>)	Endangered	No
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered	No
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected (MMPA)	Yes
Pilot whale (<i>Globicephala spp.</i>) ¹	Protected (MMPA)	Yes
Pygmy sperm whale (<i>Kogia breviceps</i>)	Protected (MMPA)	No
Dwarf sperm whale (<i>Kogia sima</i>)	Protected (MMPA)	No
Beaked whales (<i>Ziphius and Mesoplodon spp.</i>) ²	Protected (MMPA)	No
Striped dolphin (<i>Stenella coeruleoalba</i>)	Protected (MMPA)	No
Risso's dolphin (<i>Grampus griseus</i>)	Protected (MMPA)	Yes
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected (MMPA)	Yes
Short Beaked Common dolphin (<i>Delphinus delphis</i>)	Protected (MMPA)	Yes
Atlantic Spotted dolphin (<i>Stenella frontalis</i>)	Protected (MMPA)	Yes
Bottlenose dolphin (<i>Tursiops truncatus</i>) ³	Protected (MMPA)	Yes
Harbor porpoise (<i>Phocoena phocoena</i>)	Protected (MMPA)	Yes
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>)	Endangered	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	Yes
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 ⁴	Yes
Alewife (<i>Alosa pseudoharengus</i>)	Candidate ⁴	Yes
Blueback herring (<i>Alosa aestivalis</i>)	Candidate ⁴	Yes
Pinnipeds		
Harbor seal (<i>Phoca vitulina</i>)	Protected (MMPA)	Yes
Gray seal (<i>Halichoerus grypus</i>)	Protected (MMPA)	Yes
Harp seal (<i>Phoca groenlandicus</i>)	Protected (MMPA)	Yes
Hooded seal (<i>Cystophora cristata</i>)	Protected (MMPA)	Yes
Corals		
Elkhorn Coral (<i>Acropora palmata</i>)	Threatened	No
Staghorn Coral (<i>Acropora cervicornis</i>)	Threatened	No
Pillar Coral (<i>Dendrogyra cylindrus</i>)	Threatened	No
Rough cactus coral (<i>Mycetophyllia ferox</i>)	Threatened	No
Lobed star coral (<i>Orbicella annularis</i>)	Threatened	No
Mountainous star coral (<i>Orbicella faveolata</i>)	Threatened	No
Boulder star coral (<i>Orbicella franksi</i>)	Threatened	No
Seagrass		
Johnson's Sea Grass	Threatened	No
Critical Habitat		
North Atlantic Right Whale	ESA (Protected)	No
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA (Protected)	No
Johnson's Sea Grass	ESA (Protected)	No
Elkhorn Coral	ESA (Protected)	No
Staghorn Coral	ESA (Protected)	No
<i>Notes:</i>		

¹ There are 2 species of pilot whales: short finned (*G. melas melas*) and long finned (*G. macrorhynchus*). Due to the difficulties in identifying the species at sea, they are often just referred to as *Globicephala* spp.

² There are multiple species of beaked whales in the Northwest Atlantic. They include the Cuvier's (*Ziphius cavirostris*), Blainville's (*Mesoplodon densirostris*), Gervais' (*Mesoplodon europaeus*), Sowerbys' (*Mesoplodon bidens*), and Trues' (*Mesoplodon mirus*) beaked whales. Species of *Mesoplodon*; however, are difficult to identify at sea, and therefore, much of the available characterization for beaked whales is to the genus level only.

³ This includes all stocks of bottlenose dolphins except for the Florida Bay stock except for the Biscayne Bay, Indian River Lagoon Estuarine System, and Florida Bay stocks (see Waring *et al.* 2014, Waring *et al.* 2015; and Waring *et al.* 2016 for further details)..

⁴ Cusk, alewife, and blueback herring are a NMFS "candidate species" under the ESA. Candidate species are those petitioned species that NMFS is actively considering for listing as endangered or threatened under the ESA and also include those species for which NMFS has initiated an ESA status review through an announcement in the Federal Register. Once a species is proposed for listing the conference provisions of the ESA apply (see 50 CFR 402.10); however, candidate species receive no substantive or procedural protection under the ESA. As a result, cusk, alewife, and blueback herring will not be discussed further in this and the following sections. However, for additional information on these species, please visit <http://www.nmfs.noaa.gov/pr/species/esa/candidate.htm>

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Gears used to harvest Council-managed species that may interact with protected resources include hook and line, gillnets, bottom otter trawls, mid-water trawls, and pots/traps. Because this action is not expected to directly change the types of gears used or locations/seasonality of fishing effort, details on protected resource interactions are not provided in this document; however, information on interaction risks associated with gear types used in each fishery management plan may be found in the most recent environmental assessment document for each plan (available on the Council’s website), per the following table.

Table 4. Recent Specifications Environmental Assessments.

FMP	Action
Atlantic Surfclam and Ocean Quahog	2014-2016 Specifications
Mackerel-Squid-Butterfish	2016-2018 Specifications for Atlantic mackerel and 2018-2020 Specifications for Squids and Butterfish
Summer Flounder, Scup, and Black Sea Bass	2018-2019 Specifications for Scup, 2017-2018 Specifications for Summer Flounder and 2017-2018 Specifications for Black Sea Bass
Bluefish	2016-2018 Specifications
Spiny Dogfish	2016-2018 Specifications
Tilefish	2018-2020 Specifications for Golden Tilefish and Amendment 6 for Blueline Tilefish

5.5 Human Communities and Economic Environment

Detailed descriptions of the economic aspects of the commercial and recreational fisheries for the managed resources are available in the most recent specifications’ environmental assessments for each FMP. These documents are available at the links in the immediately preceding table. Additional human community information is available on each fishery in the form of fishery performance reports created by the Council’s Advisory Panels, and well as background information documents that the Advisory Panels use in developing their reports. These are available on the Council’s SSC page at: <http://www.mafmc.org/ssc> (the SSC uses the fishery performance reports when setting ABCs). The topics and species for each meeting are listed at that page. Profiles of the fishing ports and communities in the Northeast Region are also available at: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/. Summary information is also provided below.

Commercial Fisheries

The 2014 ex-vessel value and commercial landings for each of the Council-managed fisheries are given in the table below. The total 2014 combined ex-vessel value for all the managed resources is approximately \$151 million. Ex-vessel sales also drive a variety of additional economic activities (support services, processed products, restaurants, etc.).

Table 5. Commercial ex-vessel value (\$ millions) and commercial landings, in 2014.

Species	2014 Ex-Vessel Landings (pounds expect bushels for surfclam and ocean quahog - 1 bushel is approx. 17 pounds)	2014 Total Ex-Vessel Value (Millions)	Ex-vessel Price (per pound or bushel)
Bluefish	4,575,680	\$2.9	\$0.62
Butterfish	6,883,202	\$4.6	\$0.66
Summer Flounder	10,907,676	\$30.0	\$2.75
Atlantic Mackerel	13,095,504	\$2.9	\$0.22
Scup	15,930,469	\$9.5	\$0.60
Black Sea Bass	2,380,111	\$7.7	\$3.24
Spiny Dogfish	23,407,575	\$4.1	\$0.17
Golden Tilefish	1,793,694	\$5.7	\$3.17
Blueline Tilefish	217,016	\$0.5	\$2.16
Ocean Quahog	3.1 million bushels	\$22.0	\$7.02
Surfclam	2.3 million bushels	\$30.0	\$12.21
Longfin Squid	26,141,357	\$25.9	\$0.99
Illex Squid	19,348,643	\$5.9	\$0.30

Source: NE Dealer-Weighout Data for all but surfclam/ocean quahog, which come from logbook data.

Recreational Fisheries

Summer flounder, scup, black sea bass, bluefish, and mackerel continue to be important components of the Atlantic recreational fishery, with 2014 recreational landings in the table below.

Table 6. 2014 Recreational Harvest of Council-managed species (millions of pounds).

Summer flounder	7.4
Scup	4.7
Black Sea Bass	3.7
Bluefish	10.5
Atlantic mackerel	1.7

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division, July 2015 (MRIP Query). Landings are coast-wide except for black sea bass, which are ME-NC.

In 2014, total recreational angler trips in New England and the Mid-Atlantic (including North Carolina) were about 26 million. Trips by mode are included in the table below. Northeast effort is included since many Council-managed species are caught in the

Northeast, though trips in either the Northeast or Mid-Atlantic may not catch or even target Council-managed species.

Table 7. The total number of angler trips taken from Maine through North Carolina by fishing mode in 2014.

Mode	Trips
Private/Rental Boat	12,565,581
Party/Charter	1,841,441
Shore/Man-Made	11,544,761
Total	25,951,783

Source: Personal communication from the National Marine Fisheries Service, Fisheries Statistics and Economics Division, July 2015 (MRIP Query).

These trips support a range of economic activity, from bait purchases to lodging. Angler expenditures in the broader Northeast Region by mode for marine fishing were last estimated with 2011 data (Lovell et al 2013). Expenditure data were produced from extensive surveys of marine recreational fishermen in the Northeast conducted as part of the MRFSS. Trip-related expenditure categories included private and public transportation, grocery store purchases, restaurants, lodging, boat fuel, boat and equipment rentals, party/charter fees, party/charter fees and tips, catch processing, access and parking, bait, ice, tournament fees and gifts/souvenirs, for a total of \$200.63 per party/charter trip, \$48.62 for private/rental boat trips, and \$38.96 for shore fishing trips. In addition to trip-related expenditures, anglers make purchase on goods used on multiple trips - semi-durable items (e.g., rods, reels, lines, clothing, etc.) and durable goods (e.g., motor boats, vehicles, etc.). See Gentner and Steinback 2008 for more information on these kinds of expenses.

5.5.2 Analysis of Permit Data

Federally Permitted Vessels

According to NMFS permit data, at the end of 2014, there were 4,712 vessels with at least one active Northeast federal fishing permit, either commercial or party/charter (some vessels have both commercial and party/charter permits and most vessels have more than one permit). Of these vessels, 3,064 had at least one commercial or party/charter permit for a fishery managed by the Council. Not all permitted vessels actively participate in Council-managed fisheries – in 2014 1,203 federally permitted vessels landed at least one pound of at least one Council-managed fish commercially, and 440 federally-permitted vessels reported at least one for-hire trip where a Council-managed species was caught. Accounting for vessels that reported both commercially and party/charter, in 2014 1,577 total vessels with federal permits were active in either or both the commercial and party/charter fisheries managed by the Council. Additional

details on permitting for each fishery can be found in the environmental assessments created for annual specifications (see Table 4 above for links).

Dealers

There were 272 dealers who purchased at least one of the managed resources in 2014. They were distributed by state as indicated in the table below. Employment and revenue data for these specific firms are not available.

Table 8. Dealers reporting buying one or more of the managed resources, by state (from NMFS commercial landings database) in 2014.

STATE	Number of Dealers Reporting in 2014
CT	8
DE+MD	6
MA	71
ME	12
NC	30
NH	3
NJ	29
NY	61
RI	33
VA	14
Other	5
Total	272

Source: Dealer Weighout Data

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6.0 WHAT ARE THE IMPACTS (Biological and Human Community) FROM THE ALTERNATIVES CONSIDERED IN THIS DOCUMENT?

Introduction

The measures considered in this action could have impacts on the Valued Ecosystem Components (VECs)⁴ that have been identified as relevant for this action, which include:

1. The managed resources (i.e. Council-managed species).
2. Non-target fish species that may be caught incidentally to fishing for Council-managed species.
3. Habitat that may be impacted by fishing for Council-managed species.
4. Protected resources that may be impacted by fishing for Council-managed species.
5. Socioeconomic impacts on fishing communities and others with an interest in Council-managed species.

These VECs will be analyzed separately below, but first to facilitate comparison for the reader, the alternatives are summarized first.

Alternative 1, No Action, which is the status quo - The current procedures for setting ABCs would remain in place. The SSC sets ABCs based on the Council's risk policy and control rules, which are detailed below in this document and serve to set catch levels that will avoid overfishing by integrating scientific uncertainty. The full applicable regulations are available at <http://www.nero.noaa.gov/regs/fr.html> (see Fisheries of the Northeastern United States (50 CFR 648, Subpart A). No changes to how new biological status determination criteria are officially adopted would be made for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, or butterfish. Currently such changes technically require a separate management action to become official, but since the best available science must be used per the MSA, new status determination criteria are already used by the SSC and NMFS as they become available and peer reviewed.

Alternative 2 – Overfishing Probability Averaging (PREFERRED) - Currently when an assessment is available that provides fishing mortality reference points accepted by the SSC, the SSC recommends ABCs that are projected to result in a given probability of either achieving a rebuilding plan's fishing mortality target (specified in a rebuilding plan) or for other stocks not in a rebuilding plan, a given probability of overfishing (0%-40% percent depending on the biology and size of a fish stock per the Council's risk policy). This alternative would simply make it consistent with the Council's risk policy for the SSC to specify constant multi-year ABCs if the average of the probabilities of overfishing equal the appropriate goal (0%-40% depending on the current procedures). The resulting ABC must also always result in less than a 50% probability of overfishing in any one year. For any three year period, an averaged ABC would result in slightly

⁴ National Oceanic and Atmospheric Administration Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action and it includes the possibility of introducing or spreading a nonindigenous species. This potential impact does not fit into the sections below so it is addressed in this footnote. There is no evidence or indication that these fisheries have ever resulted or would ever result in the introduction or spread of nonindigenous species.

less chance of overfishing in some years and slightly more of a chance of overfishing in other years compared to a non-averaged ABC based on year to year projections, but given the inherent uncertainty involved in assessments the differences are not expected to be meaningful from a biological perspective because the difference in total catch over three years would be negligible and the difference in catch each year should be small relative to overall catch.

Alternative 3 – Response to New Accepted/Approved Biological Status Determination

Criteria (PREFERRED) - Under this alternative, the biological status determination criteria for each of the species managed under the fishery management plans would be automatically based upon the best scientific information consistent with National Standards 1 and 2. Summer flounder, scup, black sea bass, surfclam, ocean quahog, and spiny dogfish are already handled this way. This action would institute the above procedure for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, and butterfish. Since best available science requirements have dictated that accepted assessment information be utilized by the SSC in setting quotas, new assessment information has been utilized immediately for quota setting but this would clarify and simplify the administrative procedures for doing so. Since this alternative is purely administrative, the impacts of Alternatives 2 and 3 are addressed in the same sections.

6.1 Biological Impacts on Managed Species

6.1.1 Alternative 1 - No Action (Status Quo) Biological Impacts on Managed Species

If No Action is taken and the status quo persists, the Council's managed stocks will continue to be managed with the current risk policy and the current procedures for incorporating new assessment reference points. Since the current risk policy caps the risk of overfishing at 40% when the risk of overfishing can be determined, and requires the SSC to use its best judgement that ABCs will not cause overfishing when overfishing probabilities are not available, it is expected that taking No Action will continue to achieve sustainable biomasses of the managed fisheries. While summer flounder has been found to have been subject to overfishing in recent years based on a new assessment update, the Council's risk policy should result in lower catches and the stock growing toward B_{MSY} . In regards to incorporating new assessment reference points, since the SSC already incorporates new assessment reference points in setting specifications, there should be no impact on the managed species even if the current process for incorporating new reference points is somewhat unclearly specified and administrative provisions for amending reference points lag their application. Since the No Action (status quo) is expected to maintain or achieve sustainable stocks of fish, the impact of the status-quo is moderately positive for all Council-managed stocks.

6.1.2 Action Alternatives Biological Impacts on Managed Species

The proposed process to set constant multi-year ABCs (Alternative 2) will have no direct impacts to managed species when compared to No Action. The SSC recommendations for ABCs would occur through separate action (the annual specifications process) and would undergo NEPA review and rulemaking by NMFS to evaluate the impacts of the specific ABC recommendation. Indirectly, as illustrated in Section 4 with butterflyfish, allowing a constant ABC where the overfishing probabilities from the three years equals what would be the goal overfishing probability under the current procedures, it is expected that the proposed process will avoid overfishing to approximately the same degree that the current procedures avoid overfishing, and will maintain or achieve sustainable stocks of fish to the same degree as No Action. As illustrated in Section 4 with butterflyfish, the actual changes in catches are expected to be small enough and offsetting such that no impacts are expected for the managed species – in one year the catches would be slightly higher than the current procedure and in one year the catches would be slightly lower than the current procedure.⁵ Because the current and proposed processes for setting ABCs are expected to result in avoiding overfishing to the same degree, the biological impacts expected to managed species from Alternative 2 compared to No Action are expected to be nearly identical and result in an overall impact on the managed species that remains moderately positive. Again, any use of this policy will be subject to additional NEPA analysis and NMFS rulemaking

Since the SSC already uses the best available information for setting ABCs and NMFS will do the same when making overfished/overfishing determinations, formalizing the automatic incorporation of new reference points (Alternative 3) will have no impacts to target species when compared to No Action, because this is the currently utilized procedure. This alternative simply codifies what is already being done, so there are no biological impacts on the managed species relative to the No Action. Therefore, the overall impact on the managed species is likely still moderately positive.

6.2 Impacts on Non-Target Fish Species

6.2.1 Alternative 1 - No Action (Status Quo) Non-Target Impacts

If No Action is taken and the status quo persists, it is expected that the Council's managed fisheries will continue to be fished in a similar manner as in recent years. Various species are caught incidentally by the Council-managed fisheries, as described in Section 5.2. For non-target species that are managed under their own FMP, incidental catch/discards are also considered as part of the management of that fishery. These species will be impacted to some degree by the status quo prosecution of the Council-managed fisheries, but the FMPs have

⁵ As described in Section 6.5, the socioeconomic benefit comes not from higher catches, but from the market stability communicated by a level quota.

already evaluated and minimized bycatch to the extent practicable in other actions so the impact is low negative (i.e. similar to previous years).

6.2.2 Action Alternatives Non-Target Impacts

As described in section 6.1 and illustrated in section 4, over any given multi-year specifications period, Alternative 2 would result in only minor differences in annual catches/effort when compared to the No Action alternative. The impact on non-target species compared to No Action is therefore expected to be minimal because setting a multi-year ABC would not change the total effort, gears used, or the seasonal and geographical nature of any fishery. The specific impact of setting a multi-year ABC in any fishery would be subject to NEPA analysis and NMFS rulemaking. Given the minimal impact relative to the status quo, the overall impact on non-target species is likely still low negative (i.e. similar to previous years).

The provisions regarding automatic incorporation of reference points (Alternative 3) should have no impact compared to the status quo, since the SSC and NMFS are already incorporating the best available science when making quota and stock status decisions. Codifying this approach will have no impact on ABCs or catch limits, and thus no impact on effort, so there should be no impacts on non-target species compared to the No Action. Given the minimal impact relative to the status quo, the overall impact on non-target species is likely still low negative (i.e. similar to previous years).

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6.3 Habitat Impacts

6.3.1 Alternative 1 - No Action (Status Quo) Habitat Impacts

A variety of gears are used to harvest Council-managed species, including bottom-tending gears such as bottom longline, anchored gillnet, hydraulic dredges, and bottom otter trawl which may impact the habitat of the managed species and other species. The distribution of gear types specific to each fishery is presented in the environmental assessments for annual specifications, links to which are provided above in Section 5. If No Action is taken and the status quo persists, it is expected that the Council's managed fisheries will continue to be fished in a similar manner as in recent years. Due to the year to year variation in catch and effort in the various Council-manages fisheries, it is difficult to quantify habitat impacts in any given year but since under the No Action the effective catch limits would be specified as they currently are and because catch levels taken as a whole are unlikely to change much from year to year, habitat impacts would be expected to be low negative (about the same as the previous fishing year and reduced to the extent practicable through previous actions – see Section 5.3).

6.3.2 Action Alternatives Habitat Impacts

As described in section 6.1 and illustrated in section 4, over any given multi-year specifications period, Alternative 2 would result in only minor differences in annual catches/effort when compared to the No Action alternative. The impact on habitat compared to No Action is therefore expected to be minimal because setting a multi-year ABC would not change the total effort, gears used, or the seasonal and geographical nature of any fishery. The specific impact of setting a multi-year ABC in any fishery would be subject to NEPA analysis and NMFS rulemaking. Given the minimal impact relative to the status quo, the overall impact on habitat is likely still low negative (i.e. similar to previous years).

The provisions regarding automatic incorporation of reference points (Alternative 3) should have no impact compared to the status quo, since the SSC and NMFS are already incorporating the best available science when making quota and stock status decisions. Codifying this approach will have no impact on ABCs or catch limits, and thus no impact on effort, so there should be no impacts on habitat compared to the No Action. Given the minimal impact relative to the status quo, the overall impact on habitat is likely still low negative (i.e. similar to previous years).

6.4 Impacts on Protected Resources

6.4.1 Alternative 1 - No Action (Status Quo) Protected Resource Impacts

The Mackerel/ Squid/ Butterfish, Summer Flounder/Scup/Black Sea Bass, Bluefish, and Spiny Dogfish fisheries are prosecuted with hook and line, gillnets, bottom otter trawls, mid-water trawls, and/or pots/traps gear. As provided in section 5.4, protected species of marine mammals, sea turtles, Atlantic sturgeon, and Atlantic salmon are at risk of interacting with these gear type,

with interactions often resulting in the serious injury or mortality to the species. In regards to the tilefish and Atlantic surfclam and ocean quahog fisheries, bottom longline (predominantly) or clam dredges, respectively, are used to prosecute these fisheries. As provided in section 5.4, protected species interactions with clam dredges or bottom longline gears have never been observed, and therefore, are not thought to pose an interaction risk to these species. Based on this, fisheries considered in this action are likely to result in neutral to some level of negative impacts to protected species. Taking into consideration fishing behavior/effort under the No Action, as well the fact that interaction risks with protected species are strongly associated with the amount of gear in the water, the time the gear is in the water (e.g., soak time, tow time), and location of gear (with risk of an interaction increasing with increases in any or all of these factors), we determined the level of negative impacts to ESA listed species to be slight. Below, we provide support for this determination.

The No Action alternative will maintain status quo operating conditions, and therefore, it is expected that the Council managed fisheries will continue to be fished in a similar manner as in recent years. As a result, fishing behavior and effort in the fisheries considered in this action are expected to remain similar to what has been observed in these fisheries over the last 5 or more years. Specifically, the quantity of gear, tow or soak times, and area fished are not expected change significantly from current operating conditions. As noted above, interactions risks with protected species are strongly associated with amount, time, and location of gear in the water. Continuation of “status quo” fishing behavior/effort is not expected to change any of these operating conditions and therefore, the impacts of the No Action alternative on protected species is expected to be neutral to slight negative. For the reasons provided in section 6.4.2, relative to Alternative 2, Alternative 1 (No Action) is expected to have neutral impacts on protected species. Relative to Alternative 3, Alternative 1 (No Action) is not expected to have any impact since Alternative 3 is administrative in nature.

6.4.2 Action Alternatives Protected Resource Impacts

As described in section 6.1 and illustrated in section 4, over any given multi-year specifications period, Alternative 2 would result in only minor differences in annual catches/effort when compared to the No Action alternative. As significant changes in effort, relative to the No Action, are not expected under Alternative 2, setting a multi-year ABC are not expected to change the total effort, gears used, or the seasonal and geographical nature of any fishery. As a result, interaction risks and thus, impacts to protected species are expected to be similar to, and no greater than, those provided in section 6.4.1. As a result, impacts of Alternative 2 on protected species are expected to be low negative. Relative to the No Action, the impacts of Alternative 2 on protected species is expected to be neutral. Relative to Alternative 3, the Alternative 2 is not expected to have any impact since Alternative 3 is administrative in nature.

The provisions regarding automatic incorporation of reference points (Alternative 3) are administrative and will have no impact on ABCs or catch limits, and thus no impact on effort. As

a result, Alternative 3 will not result in any direct or indirect effects to protected species and therefore, will have no impact on protected species. Compared to Alternative 1 or 2, Alternative 3 will have no impact on protected species as it is administrative in nature.

6.5 Socioeconomic Impacts

6.5.1 Alternative 1 - No Action (Status Quo) Socioeconomic Impacts

If No Action is taken and the status quo persists, it is expected that the Council's managed fisheries will continue to be fished in a similar manner as in recent years. While all fisheries experience a variety of fluctuations, it would be expected that with No Action the Council's managed fisheries would continue to produce yields similar to recent years that provide jobs and income for a variety of fishing professions (see Section 5.5 for a description of recent fishery revenues). Likewise, consumers would continue to benefit from having seafood available and anglers would benefit related to recreational fishing experiences and consumption of their catches. However, this action was begun because fishermen noted that even when a stock is in good condition (regarding biomass and/or overfishing), applying a constant probability of overfishing to a population that is projected to change results in an increasing or decreasing quota, which can create an impression that yield is expected to meaningfully increase or decrease over time while that may not be the case. Fishermen reported this causes difficulties for business planning and marketing purposes, especially for the commercial and for-hire sectors. Overall given the revenues generated through sustainable management of the Council's fisheries, the socioeconomic impact of the No Action is expected to be moderately positive.

6.5.2 Action Alternatives Socioeconomic Impacts

As described in section 6.1 and illustrated in section 4, over any given multi-year specifications period, Alternative 2 would have negligible effects on total possible catches over three years. Thus there should be only minimal direct impacts on fishery participants, especially if participants have at least a three-year perspective on their interest in Council-managed fisheries. However, fishery participants have indicated that the stability afforded them by constant quotas for business planning and marketing purposes would be an indirect positive economic benefit, and this impact is the primary reason for this action. It is not possible to quantify this impact but it is expected to be moderately positive compared to the No Action. An example would be that when attending a seafood exposition and describing the fishery, currently butterfish quotas decline over time, but this is due to an assumed and acceptable population response to projected catches, not a decrease in productivity or concern about population size. However, potential buyers can become concerned about the stability of a product when faced with declining quotas. Alternative 2 would enable the Council to set level 3-year specifications in a way that overall 3-year yield is not impacted, but quotas would remain constant for 3 years, and this has been reported by fishermen to be a preferred scenario for business planning and marketing purposes. If fisherman have more success developing a diversity of markets for their products, revenues could rise in the long term. Given the moderately positive impact relative to the status quo, the overall socioeconomic impact is likely still moderately positive (but not significant).

The provisions regarding automatic incorporation of reference points (Alternative 3) should have no impact compared to the status quo, since the SSC and NMFS are already incorporating the best available science when making quota and stock status decisions. Codifying this approach will have no impact on ABCs or catch limits, and thus no impact on effort, so there should be no impacts compared to the No Action, and the overall socioeconomic impact is likely still moderately positive (but not significant).

6.6 Cumulative Impacts on Identified Valued Ecosystem Components

The impacts of the proposed preferred alternatives considered herein are expected to be positive since they are likely to provide neutral biological impacts as discussed above and positive socioeconomic benefits. The preferred alternatives are considered the most reasonable action to achieve the FMP's conservation objectives while optimizing the outcomes for fishing communities given the conservation objectives, as per the MSA and the objectives of the FMPs. The expected impacts of each alternative have been analyzed earlier in this section and are summarized in Table 1 in the Executive Summary for the No Action and preferred alternatives.

Definition of Cumulative Effects

A cumulative impact analysis is required by the Council on Environmental Quality's regulation for implementation of NEPA. Cumulative effects are defined under NEPA as "The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other action (40 CFR section 1508.7)."

The cumulative impacts of past, present, and future Federal fishery management actions (including the measures recommended in this document) should generally be positive. The mandates of the MSA as currently amended and of the NEPA require that management actions be taken only after consideration of impacts to the biological, physical, economic, and social dimensions of the human environment. Therefore, it is expected that under the current and proposed management regime, the long term cumulative impacts will contribute toward improving the human environment.

Temporal Scope

The temporal scope of this analysis is primarily focused on actions that have taken place since 1976, when fisheries management began under the MSA. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, the analysis considers the period between the expected effective date of this action (approximately January 1, 2016) and Dec 31, 2020, a period of five years. The temporal scope of this analysis does not extend beyond 2020 because the FMPs and the issues facing these fisheries may change in ways that can't be effectively predicted.

Geographic Scope

The geographic scope is the range of the fisheries in the Western Atlantic Ocean, as described in the Affected Environment and Environmental Impacts sections of the document. For endangered and protected species the geographic range is the total range of each species. The geographic range for socioeconomic impacts is defined as those fishing communities bordering the range of the Council-managed fisheries, which occur primarily from the U.S.- Canada border to Cape Hatteras, although the management unit includes all the coastal states from Maine to Florida.

Summary of the Past and Present Actions

Council/Fishing

The statutory basis for federal fisheries management is the MSA. The earliest management actions implemented under the Council's FMPs involved the sequential phasing out of foreign fishing for these species in US waters and the development of domestic fisheries. All Council-managed species are considered to be fully utilized by the US domestic fishery to the extent that sufficient availability will result in a full harvest of the various quotas. More recent actions have focused on stock rebuilding, reducing non-target catch and discards, reducing habitat impacts, and reducing protected species impacts. Limited access and/or catch shares have been established in all directed Council-managed fisheries to control capacity. All Council-managed fisheries have a variety of reporting and monitoring requirements to document catch and facilitate regulatory compliance. Based on the 2007 MSA reauthorization and the Council's ACL/AM Omnibus Amendment, the SSC now sets an upper limit (ABCs) on catches to avoid overfishing. There is also a Standardized Bycatch Reporting Methodology (SBRM) to evaluate discards and allocate observer coverage. A full list of Council FMPs and their amendments is available at <http://www.mafmc.org/fishery-management-plans>.

In addition, the annual (or multi-year) specifications process is intended to provide the opportunity for the Council and NMFS to regularly assess the status of the fisheries and to make necessary adjustments to ensure that there is a reasonable expectation of meeting the objectives of each FMP and the targets associated with any rebuilding programs under the FMP. Assuming general regulatory compliance, the cumulative impacts of past and present federal fishery management actions on each VEC should generally be associated with positive long-term outcomes. Constraining fishing effort through regulatory actions can often have negative short-term socio-economic impacts. These impacts are usually necessary to bring about long-term sustainability of a given resource. In the long-term, sustainability of a resource promotes positive effects on human communities, especially those that are economically dependent upon the managed resources.

Other/Non-Fishing

In addition to the direct effects on the environment from fishing, cumulative effects to the physical and biological dimensions of the environment also result from non-fishing activities. These include negative impacts from climate change, point source and non-point source pollution, shipping, dredging, and storm events. For example, the water temperature increase

from climate change has resulted in fish responses in both the Mid-Atlantic and New England waters (Overholtz et al 2011, NEFSC 2012).

Impacts from non-fishing activities generally relate to habitat loss from human interaction and alteration or natural disturbances. These activities are widespread and can have localized impacts to habitat such as accretion of sediments from at-sea disposal areas, oil and mineral resource exploration, aquaculture, construction of at-sea wind farms, bulk transportation of petrochemicals and significant storm events. In addition to EFH reviews mandated by the MSA, NMFS reviews some of these types of effects during the review process required by Section 404 of the Clean water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by Federal, state, and local authority. The jurisdiction of these activities is in "waters of the United States" and includes both riverine and marine habitats.

The ESA provides a way for NMFS to review and mitigate actions taken by other entities that may impact ESA-listed species and MMPA protected species whose management units are under NMFS' jurisdiction. NMFS and the USFWS share responsibility for implementing the ESA. ESA requires NMFS to designate "critical habitat" for any species it lists under the ESA (i.e., areas that contain physical or biological features essential to conservation, which may require special management considerations or protection) and to develop and implement recovery plans for threatened and endangered species.

Summary of the Reasonably Foreseeable Future Actions

Council/Fishing

The Council has a variety of management actions pending, and annual or multi-year specifications will continue for the foreseeable future to avoid overfishing and constrain fishing effort. Major expected actions are listed below: The Council is developing a Squid Amendment that will consider reducing capacity in the squid fishery. A Comprehensive Summer Flounder Amendment will review all aspects of summer flounder management and consider a variety of management actions to improve management of that fishery. The surfclam and ocean quahog fisheries will have an Amendment addressing excessive accumulation of quota shares. An Omnibus Amendment will address ways to fund observer coverage through industry funding when the NMFS baseline funding of observer coverage does not meet specific Council-management needs. An unmanaged forage amendment will prohibit the development of new and expansion of existing directed commercial fisheries on unmanaged forage species in Mid-Atlantic Federal waters until the Council has had the opportunity to consider available scientific information and potential impacts. Take reduction teams will periodically convene to recommend measures to reduce mortality and injury to marine mammals and sea turtles. The Council is beginning a comprehensive review of its EFH designations and will review the impacts from fishing on EFH.

Overall, the past, current, and reasonably foreseeable future actions fishery actions described in the above section have served to reduce fishing effort or the impacts of effort. These reductions have likely benefitted the managed species, habitat, protected resources, and non-target species. By ensuring the continued productivity of the managed resources, the human communities that benefit from catching the managed resources have also benefited in the long-term though at

times quota reductions or other restrictions may have caused or will cause short-term economic dislocations.

Other/Non-Fishing

To the extent allowed and/or required by law, the Council and NMFS will review the impacts of non-fishing activities on Council-managed resources and resources for which NMFS has authority. By having made and continuing to make recommendations on potential actions with have the potential to negatively impact the relevant VECs, some threats from non-fishing activities should be mitigated.

Cumulative Effects Analysis

As noted above, the cumulative impact of the Council's FMPs and annual specification processes has been positive since their implementation after passage of the MSA for both the resources and communities that depend on them. The elimination of foreign fishing, implementation of limited access, and control of fishing effort through implementation of annual specifications have had a positive impact on target and non-target species since the current domestic fisheries are being prosecuted at lower levels of fishing effort compared to the historical foreign fishery. The foreign fishery was also known to take substantial numbers of marine mammals including common dolphin, white sided dolphin, and pilot whales.

The Council continues to manage these resources in accordance with the National Standards required under the MSA. First and foremost the Council has strived to meet the obligations of National Standard 1 by adopting and implementing conservation and management measures that prevent overfishing, while achieving, on a continuing basis, the optimum yield for the managed species and the United States fishing industry. The Council uses the best scientific information available (National Standard 2) and manages these resources throughout their range (National Standard 3). The management measures do not discriminate between residents of different states (National Standard 4), and they do not have economic allocation as its sole purpose (National Standard 5). The measures account for variations in fisheries (National Standard 6), avoid unnecessary duplication (National Standard 7), they take into account fishing communities (National Standard 8), address bycatch (discards) in these fisheries (National Standard 9) and promote safety at sea (National Standard 10). By continuing to meet the National Standards requirements of the MSA through future FMP amendments and other actions, the Council should insure that cumulative impacts of these actions will remain positive. The cumulative effects of the proposed measures will be examined for the following five valued economic components: target/managed species, habitat, protected species, communities, and non-target species.

6.6.1. Target Fisheries and Managed Resources

First and foremost, the Council has met the obligations of National Standard 1 by adopting conservation and management measures that have prevented overfishing, while achieving, on a continuing basis, the optimum yield for the managed species. Many Council-managed species were overfished at some point and now none are overfished. –While Summer flounder is the only species currently experiencing overfishing, quota reductions are being implemented through the annual specifications process to provide corrective action. The most obvious and immediate

impact on the stocks managed under the Council occurs as a result of fishing mortality. Fishing mortality from all fishing activities that catch federally managed species is controlled and accounted for by annual specifications and incorporated into stock assessments.

In addition to mortality on managed resources due to fishing, there are other indirect effects from non-fishing anthropogenic activities in the Atlantic Ocean, but these are generally not quantifiable at present other than noting that climate change is likely to affect at least the distribution of these species (e.g. Overholtz et al 2011). Since these species occur over wide areas of the mid and north Atlantic Ocean and non-fishing impacts other than climate change are most likely to have nearshore and localized impacts, it is unlikely that any indirect anthropogenic activities currently substantially impact these populations, especially in comparison to the direct effects on these populations as a result of fishing.

As described above (Section 6.1), the preferred alternatives are expected to have minimal or neutral impacts on the stock size and sustainability of managed resources relative to the status quo. When considered together with other past and future actions, and non-fishing activities, the proposed action is not expected to contribute to cumulative impacts.

6.6.2 Non-target Species

As described in Section 5.2, bycatch includes the discard of whole fish at sea or elsewhere, including economic discards and regulatory discards, and fishing mortality due to an encounter with fishing gear that does not result in capture of fish (i.e., unobserved fishing mortality). Neither of the preferred alternatives in this action are expected to substantially promote or result in increased overall levels of discards relative to the status quo. This action is not expected to increase overall fishing effort or change the nature of current effort. Past measures implemented under Council FMPs which help to control or reduce discards of non-target species include: 1) limited entry and specifications which are intended to control or reduce fishing effort; 2) incidental and discard caps or allowances; 3) minimum mesh requirements; and 4) gear-restricted areas. The measures proposed under the preferred alternative, in conjunction with these past actions, should maintain reductions relative to historical levels of discards in these fisheries.

In addition to mortality on these stocks due to fishing, there are other indirect effects from non-fishing anthropogenic activities in the Atlantic Ocean (e.g. climate change, point source and non-point source pollution, shipping, dredging, etc.), but these are generally not quantifiable at present other than noting that climate change is likely to affect at least the distribution of some species (e.g. Overholtz et al 2011). Nonetheless, since most relevant species occur over wide areas of the mid and north Atlantic Ocean and inhabit both inshore and offshore waters, it is unlikely that any nearshore/localized indirect anthropogenic activity currently impacts these populations substantially, especially in relative comparison to the direct effects on these populations as a result of fishing.

In the near future an Omnibus Observer Amendment will specify ways that Councils can develop industry-funded observer programs, which should further assist efforts to evaluate and reduce discards and undesired incidental catch that is landed. The Omnibus Amendment will not necessarily result in immediately increased observer coverage because sufficient funds (from both industry for at-sea costs and NOAA for shoreside costs) may not be available. Rather, that

amendment will set up a mechanism for increasing observer coverage should sufficient funding become available.

As described above (Section 6.2), the preferred alternatives are not expected to have any impacts on non-target species resources relative to the status quo, so previous reductions in interactions should be maintained. Therefore no significant cumulative effects to the non-target species are expected when past and future actions are considered in combination with this proposed action.

6.6.3 Essential Fish Habitat (EFH)

The 2002 final rule for EFH requires that FMPs minimize to the extent practicable, adverse effects on EFH caused by fishing (section 600.815 (a) (2)). Pursuant to the final EFH regulations (50 CFR 600.815(a)(2)), FMPs must contain an evaluation of the potential adverse effects of fishing on EFH designated under the FMP, including effects of each fishing activity regulated under the FMP or other Federal FMPs. The evaluation should consider the effects of each fishing activity on each type of habitat found within EFH. FMPs must describe each fishing activity, review and discuss all available relevant information (such as information regarding the intensity, extent, and frequency of any adverse effect on EFH: the type of habitat within EFH that may be affected adversely; and the habitat functions that may be disturbed), and provide conclusions regarding whether and how each fishing activity adversely affects EFH. The evaluation should also consider the cumulative effects of multiple fishing activities on EFH. All of the Council's FMPs have undergone this process, and Section 5.3 provides relevant references.

Past fishery management actions taken through the FMP and annual specification process have had a positive cumulative effect on habitat and EFH. Many actions have constrained fishing effort and have implemented gear requirements, which may reduce negative habitat impacts. As required under the MSA, EFH and HAPCs were designated for some of the managed resources. It is anticipated that future management actions will result in additional direct or indirect positive effects on habitat through actions which protect EFH for federally-managed species and protect ecosystem services on which these species' productivity depends. These impacts could be broad in scope. All of the VECs are interrelated; therefore, the linkages among habitat quality and EFH, managed resources and non-target species productivity, and associated fishery yields should be considered. For habitat and EFH, 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 it is anticipated will continue to be, taken to improve the condition of habitat.

Impacts from non-fishing activities should generally be localized in near shore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on habitat is expected to be limited due to a lack of exposure to habitat at large. Agricultural and non-point runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on habitat and EFH is unquantifiable. As described above 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

resources under NMFS' and the Council's jurisdiction. There are some actions, which are beyond the scope of NMFS and Council management such as coastal population growth and climate changes, which may indirectly impact habitat and ecosystem productivity.

Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to habitat have had a neutral to positive cumulative effect. As described above (Section 6.3), the preferred alternatives are not expected to have any direct impacts on habitat relative to the status quo, so previous reductions in impacts should be maintained. Even though negative impacts are occurring from non-fishing activities, this action is not contributing to significant cumulative effects to habitat when considered together with past and future actions.

6.6.4 Protected Species

There are numerous species which inhabit the environment within the management unit of this FMP that are afforded protection under the Endangered Species Act (ESA) and/or the Marine Mammal Protection Act (MMPA). The species protected either by the ESA or the MMPA that can be found in the environment utilized by Council-managed fisheries are described in section 5.4.

Prior to the passage of the MSA and development of this FMP, the foreign prosecution of these fisheries occurred at much higher levels of fishing effort and were likely a major source of mortality for a number of marine mammal stocks, turtles, and sturgeon. The elimination of these fisheries and subsequent controlled development of the domestic fisheries have resulted in lower fishing effort levels. Past fishery management actions taken through the Councils FMPs and annual specification processes have thus had a positive cumulative effect on protected resources through the reduction of fishing effort (potential interactions) and implementation of gear requirements. It is anticipated that future management actions, specifically those recommended by gear take reduction teams for marine mammals and the ongoing development of strategies for sea turtle conservation will result in additional indirect positive effects for protected resources. These impacts could be broad in scope.

The indirectly negative actions related to non-fishing activities should be localized in near shore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on protected resources, relative to the range of many of the protected resources, is expected to be limited due to a lack of exposure to the population at large. Agricultural and non-point runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on protected resources either directly or indirectly is unquantifiable. As described above NMFS has several means, including ESA, under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' protected 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 protected resources under NMFS' jurisdiction.

As described above (Section 6.4), 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.

6.6.5 Human Communities

National Standard 8 of the MSA requires that management measures take into account fishing communities. Communities from Maine to Florida (but mostly Maine to North Carolina) are involved in the harvesting of the Council-managed species. Through implementation of the FMPs for these species the Council seeks to achieve the primary objective of the MSA, which is to achieve optimum yield from these fisheries. Council FMPs have guided the development of the domestic harvest and processing fishery infrastructure. Part of this fishery rationalization process included the development of limited access programs to control capitalization while maintaining harvests at levels that are sustainable. In addition, by meeting the National Standards prescribed in the MSA, the Council has strived to meet one of the primary objectives of the MSA - to achieve optimum yield in each fishery. In order to achieve long-term sustainable catches, past actions have caused quota reductions and associated short-term economic dislocations for human communities but these have led to long-term gains in stocks and sustainable harvest/revenues, positively impacting human communities. Short term negative impacts to conserve stocks for long-term positive impacts are likely to occur in the future as well.

The impact analysis above (Section 6.5) suggests that the preferred alternatives should have moderate positive human community/socioeconomic impacts by improving fishery stability, which can be important for business planning and market development according to fishery participants. Therefore, 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

6.7 Summary of Cumulative Impacts

The impacts of the preferred alternatives on the biological, physical, and human environment are described above. The overall implementation of the measures considered via this document are expected to generate minor positive impacts related to specifying stable quotas in Council-managed fisheries, which should assist businesses with planning and marketing. The proposed actions with their minor impacts, together with past and future actions are not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment. As long as management continues to prevent overfishing and rebuild overfished stocks if necessary, the fisheries and their associated communities should continue to benefit. As noted above, the historical development of the Council's FMPs resulted in a number of actions which have impacted these fisheries and other valued ecosystem components. The cumulative effects of past actions in conjunction with the proposed measures and possible future actions are discussed above. Within the construct of that analysis, we have concluded that no significant cumulative impacts will result from the proposed alternative.

7.0 WHAT LAWS APPLY TO THE ACTIONS CONSIDERED IN THIS DOCUMENT?

7.1 Magnuson-Stevens Fishery Conservation and Management Act

7.1.1 NATIONAL STANDARDS

Section 301 of the MSA requires that fishery management plans contain conservation and management measures that are consistent with the ten National Standards:

(1) Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

The Council's FMPs and ABC policies are specifically designed to avoid overfishing while also allowing the fisheries to achieve the specified quotas, i.e. optimum yield. This action only proposes to increase quota stability and should not increase the risk of overfishing or not achieving optimum yield.

(2) Conservation and management measures shall be based upon the best scientific information available.

The data sources considered and evaluated during the development of this action include, but are not limited to: permit data, landings data from vessel trip reports, information from resource trawl surveys, sea sampling (observer) data, data from the dealer weighout purchase reports, peer-reviewed assessments and original literature, and descriptive information provided by fishery participants and the public. To the best of the Council's knowledge these data sources constitute the best scientific information available. All analyses based on these data have been reviewed by National Marine Fisheries Service and the public.

(3) To the extent practicable, an individual stock of fish shall be managed as a unit throughout its range, and interrelated stocks of fish shall be managed as a unit or in close coordination.

The Council's FMPs manage stocks as units throughout their ranges.

(4) Conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges.

The proposed management measures are not expected to discriminate between residents of different States. This action does not allocate or assign fishing privileges among various fishermen.

(5) Conservation and management measures shall, where practicable, consider efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

The proposed measures should not impact the overall efficiency of utilization of fishery resources. Fishery participants have reported that quota stability should help them in terms of business planning and marketing.

(6) Conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches.

Changes in fisheries occur continuously, both as the result of human activity (for example, new technologies or shifting market demand) and natural variation (for example, oceanographic perturbations). In order to provide the greatest flexibility possible for future management decisions, the Council's FMPs include a Framework adjustment mechanism that can be used to quickly adjust the FMPs when appropriate as conditions change.

(7) Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.

As always, the Council considered the costs and benefits associated with the management measures proposed in the action when developing this action. This action should not create any duplications related to Council-managed fisheries.

(8) Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse economic impacts on such communities.

As described in Section 6, this action is expected to have positive human community impacts.

(9) Conservation and management measures shall, to the extent practicable, (A) minimize bycatch and (B) to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

The MSA defines “bycatch” as fish that are harvested in a fishery, but are not retained (sold, transferred, or kept for personal use), including economic discards and regulatory discards. Incidentally landed catch are fish, other than the target species, that are harvested while fishing for a target species and retained and/or sold. The proposed measures should have no impact on bycatch and previous actions have reduced bycatch to the extent practicable.

(10) Conservation and management measures shall, to the extent practicable, promote the safety of human life at sea.

Fishing is a dangerous occupation; participants must constantly balance the risks imposed by weather against the economic benefits. According to the National Standard guidelines, the safety of the fishing vessel and the protection from injury of persons aboard the vessel are considered the same as “safety of human life at sea. The safety of a vessel and the people aboard is ultimately the responsibility of the master of that vessel. Each master makes many decisions about vessel maintenance and loading and about the capabilities of the vessel and crew to operate safely in a variety of weather and sea conditions. This national standard does not replace the judgment or relieve the responsibility of the vessel master related to vessel safety. The proposed measures should have no impact on safety because they will not change or cause to change the operation of any fishery.

7.1.2 OTHER REQUIRED PROVISIONS OF THE MAGNUSON-STEVENSON ACT

Section 303 of the MSA contains 15 additional required provisions for FMPs, which are listed and discussed below. Nothing in this action is expected to contravene any of these required provisions.

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are-- (A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery; (B) described in this subsection or subsection (b), or both; and (C) consistent with the National Standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law

The Council’s FMPs have evolved over time and currently use Acceptable Biological Catch (ABC) recommendations from the Council's Scientific and Statistical Committee to sustainably manage its fisheries. Under the umbrella of limiting catch to the ABC, a variety of other management and conservation measures have been developed to meet the goals of the fishery management plan and remain consistent with the National Standards. The current measures are codified in the Code of Federal Regulations (50 C.F.R. § 648 Subpart B -

<http://www.ecfr.gov/cgi-bin/text->

<http://www.ecfr.gov/ecfr/SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50>) and summarized at <http://www.greateratlantic.fisheries.noaa.gov/regs/info.html>.

This action proposes to enhance quota stability without substantively increasing the risk of overfishing. As such, the existing and proposed management measures should continue to promote the long-term health and stability of the fisheries consistent with the MSA.

(2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any

Every FMP Amendment and NEPA analysis contains this information. This document also updates relevant summary information in Section 5.

(3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification

This provision is addressed via assessments that are conducted through a peer-reviewed process at the NMFS Northeast Fisheries Science Center. The available information is summarized in every Amendment and Specifications document – see Section 5. Full assessment reports are available at: <http://www.nefsc.noaa.gov/saw/>.

(4) assess and specify-- (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3); (B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing; and (C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States

Based on past performance, if fish are sufficiently abundant and available, the domestic fishery has the desire and ability to fully harvest the available quotas, and domestic processors can process the resulting products.

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors

Previous Amendments have specified the data that must be submitted to NMFS in the form of vessel monitoring systems (VMS), vessel trip reports, vessel monitoring, and dealer transactions.

(6) consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery

There are no such requests pending, but the FMPs contain provisions for framework actions to make modifications regarding access/permitting if necessary.

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), 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

Section 5 of this document summarizes essential fish habitat (EFH) information that has been created for the Council's FMPs through previous actions.

(8) in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan

The preparation of this action included a review of the scientific data available to assess the impacts of all alternatives considered. No additional data was deemed needed for effective implementation of the Council's FMPs.

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on-- (A) participants in the fisheries and fishing communities affected by the plan or amendment; and (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants;

Section 6.5 of this document provides an assessment of the likely effects on fishery participants and communities from the considered actions. No negative and moderate positive impacts are expected for fishery participants.

(10) specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery

All Council FMPs depend on assessments to develop overfishing/overfished determination criteria. This action would facilitate more rapid incorporation of new peer-reviewed criteria determination criteria. The Council's risk policy should prevent a stock from becoming overfished but if a stock does become overfished, a rebuilding plan would be instituted via an amendment to the relevant FMP.

(11) establish a standardized reporting methodology [SBRM] to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority-- (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided

NMFS has recently implemented a new SBRM – see <http://www.nefsc.noaa.gov/fsb/SBRM/> for details.

(12) assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish

Through the annual specifications process the Council evaluates recreational discards of all Council-managed stocks and considers measures to minimize mortality and ensure the extended survival of such fish as appropriate.

(13) include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors

Every FMP Amendment and NEPA analysis contains this information. This document also updates relevant summary information in Section 5.

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

No rebuilding plans are active (or necessary).

(15) establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.

The annual specifications process addresses this requirement. Acceptable Biological Catch recommendations from the Council's Scientific and Statistical Committee are designed to avoid overfishing and form the upper bounds on catches. There are a variety of proactive and reactive accountability measures for these fisheries, fully described at: <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50#50:12.0.1.1.5.2>. The minor modifications proposed in this action would still result in annual catch limits that avoid overfishing, and they do not affect accountability measures.

7.1.3 DISCRETIONARY PROVISIONS OF THE MAGNUSON-STEVENSON ACT

Section 303b of the MSA contains 14 additional discretionary provisions for Fishery Management Plans (available at http://www.fisheries.noaa.gov/sfa/laws_policies/msa/msa_2007.html). Given the limited scope of this action, there are no issues or impacts related to such provisions.

7.1.4 ESSENTIAL FISH HABITAT ASSESSMENT

The measures under the preferred alternatives proposed in this action are not expected to result in substantial changes in effort. Therefore, the Council concluded in section 6 of this document that the proposed measures will have no additional adverse impacts on EFH. Thus no mitigation is necessary. The adverse impacts of fishing for Council-managed fisheries have been reduced to the extent practicable through other actions in each respective FMP. EFH impacts will continue to be monitored and addressed as appropriate in each respective FMP.

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7.2 NEPA

7.2.1 Finding of No Significant Impact (FONSI)

The Council on Environmental Quality (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 National Oceanic and Atmospheric Administration 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. These include:

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?

Overall fishing effort is not expected to increase in magnitude under the proposed action (see section 6 of this document). In addition, none of the proposed measures are expected to substantially alter fishing methods, activities or the spatial and/or temporal distribution of fishing effort. Therefore the proposed action is unlikely to result in cumulative adverse effects (including any that could have a substantial effect on the target species or non-target species). There should be some positive (but not significant) socioeconomic impacts under the proposed measures.

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

None of the measures should alter the manner in which the industry conducts fishing activities. Therefore, the proposed actions in these fisheries are not expected to 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?

A variety of types of commercial fishing already occur in the management area, and although it is possible that historic or cultural resources such as shipwrecks could be present, vessels try to avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the preferred alternatives would result in substantial impacts to unique areas. Also, the proposed measures are not expected to result in any increases in overall fishing effort or changes to the nature of fishing effort.

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

No, the effects on the human environment of the proposed measures are based on the best available scientific information and are not likely to be highly controversial. The impacts of the proposed measures on the human environment are described in Section 6 and would only

establish a process to specify constant multi-year ABCs and clarify that the biological status determination criteria for each of the species managed under the fishery management plans, would be automatically based upon the best scientific information.

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

While there is always a degree of variability in the year to year performance of fisheries, the proposed actions are not expected to increase overall effort or to alter fishing methods and activities. As a result, the effects on the human environment of the proposed measures are not highly uncertain nor do they involve unique or uncertain risks (see section 6.0 of this document).

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 slightly modifies the existing processes for setting annual specifications and incorporating new stock assessment information and is thus not likely to establish new precedent for future actions with significant effects or to represent a decision in principle about a future consideration. Under the proposed action, the SSC would still provide recommendations using the best available science and the Council would have the option of using the status-quo ABC procedures as well.

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

The impacts of the preferred alternatives on the biological, physical, and human environment are described in section 6. The overall interaction of the proposed action, when considered with other actions, is expected to generate positive impacts, but would not 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?

A variety of types of commercial fishing already occur in the management area, and although it is possible that historic or cultural resources such as shipwrecks could be present, vessels try to avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the preferred alternatives would result in substantial impacts to unique areas. Also, the proposed measures are not expected to result in any increases in overall fishing effort or changes to the nature of fishing effort.

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?

The proposed action is not expected to alter overall fishing operations, lead to a substantial

increase of fishing effort, or alter the spatial and/or temporal distribution of current fishing effort in a manner that would increase interaction rates with protected species (see Section 5.0 and 6.0).

This action falls within the range of impacts considered in ESA section 7 informal consultation completed on the tile fish fishery and the Atlantic surfclam and ocean quahog fishery, as well as formal consultation completed on seven FMPs (Northeast multispecies, monkfish, spiny dogfish, Atlantic bluefish, Northeast skate complex, mackerel/squid/butterfish, and summer flounder/scup/black sea bass; see section 5.4). The formal consultation resulted in the issuance of the Batched Fisheries Biological Opinion on 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 section 5.4, the proposed action is not likely to adversely affect any designated critical habitat. Specifically, the tilefish, Atlantic surfclam and ocean quahog, spiny dogfish, Atlantic bluefish, mackerel/squid/butterfish, and summer flounder/scup/black sea bass fisheries will not affect the essential physical and biological features of North Atlantic right whale or loggerhead (Northwest Atlantic Ocean DPS) sea turtle critical habitat and therefore, will not result in the destruction or adverse modification of critical habitat (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?

Overall fishing effort is not expected to increase in magnitude under the action (see section 6.0 of this document). In addition, none of the proposed measures are expected to alter fishing methods, activities, or the spatial and/or temporal distribution of fishing effort. Thus, it is not expected that they would 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 as described in this Section.

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 adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act (see section 6 of this document) because the proposed measures are not expected to result in any increases in overall fishing effort or changes to the nature of fishing effort.

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

The proposed action is not expected to adversely affect managed fish species (see section 6 of this document). The proposed measures should lead to more stable quotas while not

substantively impacting the risk of overfishing, and total catch over time would also not substantively change.

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 have more than minimal impacts to habitat (see section 6 of this document) because the proposed measures are not expected to result in any increases in overall fishing effort or changes to the nature of fishing effort.

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 adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystem because the proposed measures are not expected to result in any increases in overall fishing effort or changes to the nature of fishing effort.

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

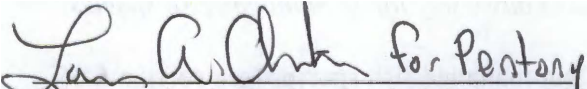
This action is not expected to have increased negative effects on biodiversity or ecosystem function because the proposed measures are not expected to result in any increases in overall fishing effort or changes to the nature of fishing effort.

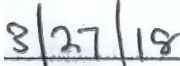
16. Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

There is no evidence or indication that these fisheries have ever resulted or would ever result in the introduction or spread of nonindigenous species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the Omnibus Acceptable Biological Catch Framework, it is hereby determined that the proposed measures will not significantly impact the quality of the human environment as described 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 EIS for this action is not necessary.


Greater Atlantic Regional Administrator, NOAA


Date

7.3 Marine Mammal Protection Act

The various species that are afforded protection under the Marine Mammal Protection Act of 1972 (MMPA) and are found in the areas of the Councils FMPs are described in Section 5.4. None of the measures are expected to alter fishing methods or activities or result in increased effort. The Council has reviewed the impacts of the proposed measures on marine mammals and concluded that the management actions proposed are consistent with the provisions of the MMPA and would not alter existing measures to protect the species likely to inhabit the management units of the subject fisheries. For further information on the potential impacts of the proposed management action, see Section 6.4 of this Environmental Assessment.

7.4 Endangered Species Act

Section 7(a)(2) of the ESA requires that each Federal agency shall ensure that any action authorized, funded, or carried out by such agency is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat of such species. When the action of a Federal agency may affect species listed as threatened or endangered, that agency is required to consult with either the NOAA Fisheries Service (NMFS) or U.S. Fish and Wildlife Service (FWS), depending upon the species that may be affected.

As provided in Section 5.4, since 2014, NMFS has completed ESA section 7 informal consultations on the surfclam and ocean quahog fisheries. Due to the fact that there have been no observed interactions of any ESA listed species with clam dredges (NMFS NEFSC FSB 2015, 2016, 2017), the consultations conclude that the surfclam and ocean quahog fishery is not likely to adversely affect any ESA-listed species or designated critical habitat under NMFS's jurisdiction. Similar conclusions were made for the tilefish fishery in an informal consultation issued by NMFS on October 27, 2017.

Formal consultation was completed the Northeast multispecies, monkfish, spiny dogfish, Atlantic bluefish, Northeast skate complex, mackerel/squid/butterfish, and summer flounder/scup/black sea bass. The formal consultation resulted in the issuance of the Batched Fisheries Biological Opinion on December 16, 2013. The 2013 Opinion concluded that the seven fisheries may adversely affect, but was not likely to jeopardize the continued existence of any ESA listed species. However, 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 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. 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 any 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.

7.5 Administrative Procedures Act

Section 553 of the Administrative Procedure Act establishes 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 adequate notice and opportunity for comment. At this time, the Council is not requesting any abridgement of the normal rulemaking process for this action.

7.6 Paperwork Reduction Act

The purpose of the Paperwork Reduction Act is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. If appropriate, a Paperwork Reduction Act package prepared in support of this action and the information collection required by the proposed action, including forms and supporting statements, will be submitted when implementation action is taken, but no changes to existing requirements are proposed in this action.

7.7 Coastal Zone Management Act

Section 307(c)(1) of the Federal Coastal Zone Management Act of 1972 requires that all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. Pursuant to the Coastal Zone Management Act regulations at 15 CFR 930.35, a negative determination may be made if there are no coastal effects and the subject action: (1) Is identified by a state agency on its list, as described in ' 930.34(b), or through case-by-case monitoring of unlisted activities; or (2) which is the same as or is similar to activities for which consistency determinations have been prepared in the past; or (3) for which the Federal agency undertook a thorough consistency assessment and

developed initial findings on the coastal effects of the activity. Accordingly, NMFS has determined that this action would have no effect on any coastal use or resources of any state. Letters documenting the NMFS negative determination, along with this document, were sent to the coastal zone management program offices of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida. A list of the specific state contacts and a copy of the letters are available upon request.

7.8 Section 515 (Data Quality Act)

Pursuant to NOAA guidelines implementing section 515 of Public Law 106-554 (the Data Quality Act), all information products released to the public must first undergo a Pre-Dissemination Review to ensure and maximize the quality, objectivity, utility, and integrity of the information (including statistical information) disseminated by or for Federal agencies. The following section addresses these requirements.

Utility

The information presented in this document should be helpful to the intended users (the affected public) by presenting a clear description of the purpose and need of the proposed action, the measures proposed, and the impacts of those measures. A discussion of the reasons for selecting the proposed action is included so that intended users may have a full understanding of the proposed action and its implications, as well as the Council's rationale.

Until a proposed rule is prepared and published, this document is the principal means by which the information contained herein is available to the public. The information provided in this document is based on the most recent available information from the relevant data sources. The development of this document and the decisions made by the Council to propose this action are the result of a multi-stage public process. Thus, the information pertaining to management measures contained in this document has been improved based on comments from the public, the fishing industry, members of the Council, and NMFS.

The Federal Register notice that announces the proposed rule and the final rule and implementing regulations will be made available in printed publication, on the website for the Northeast Regional Office, and through the Regulations.gov website. The Federal Register documents will provide metric conversions for all measurements.

Integrity

Prior to dissemination, information associated with this action, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information. All electronic information disseminated by NOAA Fisheries Service adheres to the standards set out in Appendix III, ASecurity of Automated Information Resources,⁶ of OMB Circular A-130; the Computer Security Act; and the Government Information Security Act. All confidential information (e.g., dealer purchase reports) is safeguarded pursuant to the Privacy Act; Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business, and financial information); the Confidentiality of Statistics provisions of the MSA; and NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics.

Objectivity

For purposes of the Pre-Dissemination Review, this document is considered to be a Natural Resource Plan. Accordingly, the document adheres to the published standards of the MSA; the Operational Guidelines, FMP Process; the EFH Guidelines; the National Standard Guidelines; and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act.

This information product uses information of known quality from sources acceptable to the relevant scientific and technical communities. Stock status (including estimates of biomass and fishing mortality) reported in this product are based on either assessments subject to peer-review through the Stock Assessment Review Committee or on updates of those assessments prepared by scientists of the Northeast Fisheries Science Center. Landing and revenue information is based on information collected through the Vessel Trip Report and Commercial Dealer databases. Information on catch composition, by tow, is based on reports collected by the NOAA Fisheries Service observer program and incorporated into the sea sampling or observer database systems. These reports are developed using an approved, scientifically valid sampling process. In addition to these sources, additional information is presented that has been accepted and published in peer-reviewed journals or by scientific organizations. Original analyses in this document were prepared using data from accepted and audited sources, and the analyses have been reviewed by NMFS staff with expertise on the subject matter.

Despite current data limitations, the conservation and management measures proposed for this action were selected based upon the best scientific information available. The analyses conducted in support of the proposed action were conducted using information from the most recent complete calendar years, generally through 2014 except as noted. As appropriate, the data used in the analyses provide the best available information on the number of seafood dealers operating in the northeast, the number, amount, and value of fish purchases made by these dealers. Specialists (including professional members of plan development teams, technical teams, committees, and Council staff) who worked with these data are familiar with the most current analytical techniques and with the available data and information relevant to these fisheries.

The policy choices are clearly articulated in Section 3 of this document as are the management alternatives considered in this action (see Section 4). The supporting science and analyses, upon which the policy choices are based, are described in sections 5 and 6 of this document. All supporting materials, information, data, and analyses within this document have been, to the maximum extent practicable, properly referenced according to commonly accepted standards for scientific literature to ensure transparency.

The review process used in preparation of this document involves the responsible Council, the Northeast Fisheries Science Center, the Northeast Regional Office, and NOAA Fisheries Service Headquarters. The Center's technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, population biology, and the social sciences. The Council review process involves public meetings at which affected stakeholders have opportunity to provide comments on the document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the action proposed in this document and clearance of any rules prepared to implement resulting regulations is conducted by staff at NOAA Fisheries Service Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

7.9 Regulatory Flexibility Analysis

The purpose of the Regulatory Flexibility Act is to reduce the impacts of burdensome regulations and recordkeeping requirements on small businesses. To achieve this goal, the Regulatory Flexibility Act requires Federal agencies to describe and analyze the effects of proposed regulations, and possible alternatives, on small business entities. To this end, this document contains an Initial Regulatory Flexibility Analysis, found at section 11.0 at the end of this document, which includes an assessment of the effects (or lack thereof) that the proposed action and other alternatives are expected to have on small entities.

7.10 E.O. 12866 (Regulatory Planning and Review)

The purpose of Executive Order 12866 is to enhance planning and coordination with respect to new and existing regulations through a Regulatory Impact Review. This Executive Order requires the Office of Management and Budget (OMB) to review regulatory programs that are considered to be significant. Section 11.0 at the end of this document includes the Regulatory Impact Review, which includes an assessment of the costs and benefits of the proposed action, in accordance with the guidelines established by Executive Order 12866. The analysis shows 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.

7.11 E.O. 13132 (Federalism)

This E.O. established nine fundamental federalism principles for Federal agencies to follow when developing and implementing actions with federalism implications. The E.O. also lists a series of policy-making criteria to which Federal agencies must adhere when formulating and implementing policies that have federalism implications. However, no federalism issues or

implications have been identified relative to the measures proposed measures. This action does not contain policies with federalism implications sufficient to warrant preparation of an assessment under E.O. 13132. The affected states have been closely involved in the development of the proposed management measures through their representation on the Council (all affected states are represented as voting members of at least one Regional Fishery Management Council). No comments were received from any state officials relative to any federalism implications that may be associated with this action

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9.0 LIST OF AGENCIES AND PERSONS CONSULTED

In preparing this document the Council consulted with the NMFS, New England and South Atlantic Fishery Management Councils, Fish and Wildlife Service, Department of State, and the states of Maine through Florida through their membership on the Mid-Atlantic, New England and /or South Atlantic Fishery Management Councils. In addition, states that are members within the management unit were be consulted through the Coastal Zone Management Program consistency process. Letters were sent to each of the following states within the management unit reviewing the consistency of the proposed action relative to states' Coastal Zone Management Programs: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia and Florida.

10.0 LIST OF PREPARERS AND POINT OF CONTACT

This environmental assessment was prepared by the following member of the Council staff: Jason Didden. Questions about this environmental assessment or additional copies may be obtained by contacting Jason Didden, Mid-Atlantic Fishery Management Council, 800 N. State Street, Dover, DE 19901 (302-674-2331). This Environmental Assessment may also be accessed by visiting the NMFS Northeast Region website at <http://www.nero.noaa.gov/regs/>.

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11.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS AND REGULATORY IMPACT REVIEW

11.1 Initial Regulatory Flexibility 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 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 frequently has a bearing on its ability to comply with a Federal regulation. 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.

This document provides the factual basis supporting a certification that the proposed regulations will not have a “significant impact on a substantial number of small entities” and that an IRFA is not needed in this case. Certifying an action must include the following elements, and each element is subsequently elaborated upon below:

- A. A statement of basis and purpose of the rule
- B. A description and estimate of the number of small entities to which the rule applies
- C. Description and estimate of economic impacts on small entities, by entity size and Industry
- D. An explanation of the criteria used to evaluate whether the rule would impose significant economic impacts
- E. An explanation of the criteria used to evaluate whether the rule would impose impacts on a substantial number of small entities
- F. A description of, and an explanation of the basis for, assumptions used

A – Basis and purpose of the rule

The bases of the rules proposed in this action are the provisions of the MSA for federal fishery management to avoid overfishing while achieving optimum yield. The purposes of the rules associated with the preferred alternatives are to 1) create more stable quotas and 2) to streamline the incorporation of new scientific data. To assist with further evaluation of the measures proposed in this document, a summary of the preferred alternatives is provided next. A full description of all alternatives is provided in Section 4.

Alternative 2 – Overfishing Probability Averaging (PREFERRED) - Currently when an assessment is available that provides fishing mortality reference points accepted by the SSC, the SSC recommends ABCs that are projected to result in a given probability of either achieving a rebuilding plan's fishing mortality target (specified in a rebuilding plan) or for other stocks not in a rebuilding plan, a given probability of overfishing (0%-40% percent depending on the biology and size of a fish stock per the Council's risk policy). This alternative would simply make it consistent with the Council's risk policy for the SSC to specify constant multi-year ABCs if the average of the probabilities of overfishing equal the appropriate goal (0%-40% depending on the current procedures). The resulting ABC must also always result in less than a 50% probability of overfishing in any one year. For any three year period, an averaged ABC would result in slightly less chance of overfishing in some years and slightly more of a chance of overfishing in other years compared to a non-averaged ABC based on year to year projections, but given the inherent uncertainty involved in assessments the differences are not expected to be meaningful from a biological perspective.

Alternative 3 – Response to New Accepted/Approved Biological Status Determination Criteria (PREFERRED) - Under this alternative, the biological status determination criteria for each of the species managed under the fishery management plans would be automatically based upon the best scientific information consistent with National Standards 1 and 2. Summer flounder, scup, black sea bass, surfclam, ocean quahog, and spiny dogfish are already handled this way. This action would institute the above procedure for bluefish, tilefish, mackerel, longfin squid, *Illex* squid, and butterfish. Since best available science requirements have dictated that accepted assessment information be utilized by the SSC in setting quotas, new assessment information has been utilized immediately for quota setting but this would clarify and simplify the administrative procedures for doing so.

B – Description and estimate of the number of small entities to which the rule applies

The measures proposed in this action apply to the vessels that hold permits for Council-managed fisheries since all species have ABCs set by the SSC. According to NMFS permit data, at the end of 2014, there were 4,712 vessels with at least one active Northeast federal fishing permit, either commercial or party/charter (some vessels have both commercial and party/charter permits and most vessels have more than one permit). Of these, 3,064 had at least one commercial or party/charter permit for a fishery managed by the Council. Some economic entities own more than one permitted vessel, and analysis of ownership data found that there were 2,343 economic entities that had at least one Council permitted-vessel, and 2,324 were classified as small business entities. Their fishery type based on sources of 2014 revenues was 643 as finfish entities, 670 as shellfish entities, 409 as for-hire entities, and 602 had no commercial revenue in 2014. Of the small entities with revenues in 2014, their average revenues in 2014 were

approximately \$307,000 for finfish entities, \$136,000 for for-hire entities, and \$605,000 for shellfish entities.

C – Description and estimate of economic impacts on small entities

As described in Section 6, the proposed alternatives are expected to have moderate positive socioeconomic impacts related to improved business planning and marketing from obtaining stable multi-year quotas.

D/E – An explanation of the criteria used to evaluate whether the rule would impose significant economic impacts/ An explanation of the criteria used to evaluate whether the rule would impose impacts on a substantial number of small entities

Section C describes why the rule is not expected to impose significant economic impacts (see Section 6 for additional details).

F – A description of, and an explanation of the basis for, assumptions

Other than those described in the above analyses, the primary assumption utilized is that there is no direct impact of having a three year quota that changes slightly each year over three years (the status quo) compared to a quota that is level, when the total over three years is the same in both cases. For example, it is assumed that the direct economic impacts of having a quota of 14,000 mt, 15,000 mt, and 16,000 mt over three years would be the same as having a quota of 15,000 mt for each of the three years. Given the total catch over three years is the same in both cases, it is assumed that moving to stable three year quotas will provide indirect benefits in terms of stability for business planning and marketing purposes.

11.2 Regulatory Impact Review

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 (OMB) to review regulatory programs that are considered to be “significant.” Section 6 assesses of the costs and benefits of the Proposed Action and found the impacts to be mostly neutral or positive. The analysis included in 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, where 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.

OBJECTIVES

The objectives of the Council's FMPs are described in Section 3.3 but they generally seek to obtain sustainable fisheries in an efficient manner. Consistent with these objectives, this action seeks to facilitate stable quotas that should also avoid overfishing.

AFFECTED ENTITIES

A description of the entities affected by this action is provided in section 11.1 above, and Section 5.5 provides additional detail on activity of the Council's managed fisheries.

PROBLEM STATEMENT

This action is necessary to address two issues that have been identified with the current processes for setting acceptable biological catches (ABCs) and incorporating new biological status determination criteria. The issues are:

1. Moving to multi-year specifications has not provided as much quota stability as anticipated because applying target mortality rates to stock projections will result in different ABCs and quotas each year if the projections of stock size vary each year (and they typically will). The variation is compounded if the goal mortality rates themselves vary, which they will if stock size is below the target of the biomass associated with maximum sustainable yield.
2. Several species have adopted automatic incorporation of new accepted/approved biological status determination criteria (summer flounder, scup, black sea bass, spiny dogfish, surfclam, ocean quahog), but some have/are not (bluefish, tilefish, mackerel, squids, and butterfly).

ANALYSIS OF ALTERNATIVES

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. As described in Section 6, there are expected to be only moderate and positive benefits from this action. This supports a determination that this action is not significant for purposes of Executive Order 12866.

There should not be substantial distributional issues (all fishery participants are impacted similarly), and impacts on income and employment should mirror the impacts on fishing revenues described above (i.e. should be moderately positive). As described in Section 6, the Council has concluded that no significant cumulative impacts will result from the proposed measures. There are no other expected social concerns.

DETERMINATION OF EXECUTIVE ORDER 12866 SIGNIFICANCE

Given the analysis in Section 6 and summary information above, the action overall should have moderately positive, but not significant, impacts on participants in the Council's fisheries. 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 makes minor modifications to existing processes and as such does not raise novel legal or policy issues. Therefore the Proposed Action is not considered significant as defined by Executive Order 12866.

THIS IS THE END OF THIS DOCUMENT