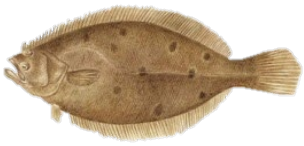
Summer Flounder Commercial Mesh Exemptions Framework Action

Framework 18 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan

Environmental Assessment, Regulatory Impact Review, and Initial Regulatory Flexibility Act Analysis



July 2025

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

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1 EXECUTIVE SUMMARY

1.1 PURPOSE OF THE ACTION

As described in more detail in Section 4.1, the purposes of this action are to consider modifications to summer flounder commercial minimum mesh exemption programs, including:

- **Consider revisions to the area associated with the Small Mesh Exemption Program (SMEP).** This action will consider modifications to the area associated with the SMEP for summer flounder, including evaluating suggested revisions made by fishing industry representatives during the Fall 2023 review process for this exemption.
- **Consider revisions to the annual review criteria associated with the SMEP.** This action will consider modifying the process and review criteria for the SMEP which guides the NOAA Fisheries Regional Administrator in their decision regarding whether to rescind the exemption for a given season. This action will update these criteria using information that was not available at the time the exemption was originally established, including recent data on exemption use and discard trends.
- **Consider modifications to the definition of flynet gear relative to the flynet exemption to the summer flounder minimum mesh size:** This action will consider modifying the regulatory definition of a flynet as it relates to the flynet exemption to the summer flounder commercial minimum mesh size. Changes would be considered in light of changes in the use and configuration of commercial trawl gear since this exemption was put in place in the 1990s.

1.2 SUMMARY OF ALTERNATIVES CONSIDERED

Small Mesh Exemption Area Boundaries

This action considers two alternatives for boundaries to the Small Mesh Exemption Area:

- **Alternative 1A:** No Action/Status Quo. This Alternative would maintain the current SMEP western demarcation line at longitude 72° 30.0'W (see Section 5.1.1). Vessels issued a Letter of Authorization (LOA) for this program may fish east of this line from November 1 through April 30 using mesh smaller than the required summer flounder minimum mesh sizes of 5.5-inch diamond or 6.0-inch square and retain more than 200 pounds of summer flounder.
- **Alternative 1B:** Starting south of Long Island, this alternative would move the westward demarcation line for the SMEP approximately 5 miles west to 72°37'W longitude, following this longitude south until intersection with the northeast corner of the scup Southern Gear Restricted Area (GRA) at 39°20'N and 72°37'W. The line would then follow along the eastern border of the southern scup GRA to 37°N latitude, which would form the southern boundary of the expanded area running eastward until the intersection with the current SMEP boundary at that latitude (see Section 5.1.2).

Small Mesh Exemption Area Review Criteria

This action considers three alternatives for the SMEP review criteria:

- **Alternative 2A:** No Action/Status Quo. This alternative would keep the current regulations as is such that: "The Regional Administrator may terminate this exemption if he/she determines, after a review of sea sampling data, that vessels fishing under the exemption are discarding on average more than 10 percent, by weight, of their entire catch of summer flounder per trip. If the Regional Administrator makes such a determination, he/she shall publish notification in the Federal Register terminating the exemption for the remainder of the exemption season" (see Section 5.2.1).
- **Alternative 2B:** This alternative would increase the trigger percentage from 10 to 25 percent, meaning if vessels fishing under the exemption are on average discarding more than the 25 percent, by weight, of their entire catch of summer flounder per trip, the Regional Administrator may terminate the exemption for the upcoming or remainder of the current exemption period by publishing a notification in the Federal Register (see Section 5.2.2.).
- **Alternative 2C:** This alternative would also increase the trigger percentage to a 25 percent threshold, but would trigger a more in-depth review of SMEP discards rather than serving as the primary trigger for consideration of rescinding the exemption. Under this alternative, if vessels fishing under the exemption are on average discarding more than 25 percent, by weight, of their entire summer flounder catch, this would trigger a more detailed review, proposed to be conducted or reviewed by the Monitoring Committee. The intent of this review would be to identify factors contributing to any issues with discards, and identify whether such problems could be addressed by adjusting management measures and/or rescinding the exemption(see Section 5.2.3).

Flynet Exemption

This action considers two alternatives for the flynet exemption:

- **Alternative 3A:** No Action/Status Quo. This alternative would make no changes to the current regulatory definition of a flynet, which is exempt from the summer flounder minimum mesh size requirements. The current regulatory definition of a fly net is a two-seam otter trawl where the net has large mesh in the wings that measures 8" to 64", the first body (belly) section of the net has 35 or more meshes that are at least 8", and the mesh decreases in size throughout the body of the net to 2 inches (5 cm) or smaller towards the terminus of the net (see Section 5.3.1).
- **Alternative 3B:** This alternative would modify the regulatory definition of a flynet to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh size in the wings of 64", and 3) revise the description of the amount of large mesh required in the body of the net (see Section 5.3.2).

1.3 SUMMARY OF IMPACTS OF ALTERNATIVES

1.3.1 Impacts of Small Mesh Exemption Program Boundary Modifications

Summer Flounder and Non-Target Species Impacts

As described in Section 7.1.1, the boundary options for the SMEP are both expected to result in slight positive impacts to the summer flounder resource. Alternative 1A would maintain the existing boundary, and therefore the distribution of fishing effort and catch and discard rates for summer flounder would remain similar to current levels. Under Alternative 1B, some vessels already operating west of the demarcation line to target other species in small mesh fisheries could retain slightly more summer flounder than allowed under current regulations. In addition, some vessels may choose to slightly redistribute effort from the existing into the expanded portions of the SMEP to take advantage of the additional flexibility; However, these changes are not expected to notably increase overall summer flounder mortality given that most discarded summer flounder in the trawl fisheries are assumed to die, and this alternative would simply convert some of these dead discards to landings. The analysis provided in Section 7.1 and Appendix A indicates that encounter rates for legal sized and undersized summer flounder in the expanded portion of the SMEP are likely to be similar to the current SMEP. As such, overall mortality of summer flounder is expected to remain similar to current conditions, and the positive stock status for summer flounder is expected to be maintained under both alternatives, resulting in slight positive impacts.

For non-target species, interactions are likely to remain similar to recent levels under Alternative 1A. As such, Alternative 1A is not expected to result in a change in the stock status of any commercial non-target species and is likely to result in slight positive impacts on non-target species. Interactions with non-target species under Alternative 1B are more uncertain: they may remain similar to recent levels, or may increase or decrease with possible slight spatial redistributions of effort if some vessels choose to fish more in the expanded portions of the SMEP vs. the current SMEP. As such, Alternative 1B could result in impacts to non-target species that range from slight negative to slight positive, depending on how interaction rates change.

Habitat Impacts

The gear types used in the fisheries utilizing the SMEP are bottom otter trawls, which as described in Section 6.3, can negatively impact physical habitat. Alternatives 1A and 1B are not expected to increase the overall effort of trawl gear in the applicable areas, and the locations or gear types used are unlikely to notably change to a degree that would modify the current conditions of physical habitat. Under both Alternatives 1A and 1B, fishing gear will continue to have slight negative impacts on habitat (Section 7.1.2).

Protected Resources Impacts

As described in Section 7.1.3, available information does not indicate that the take of the relevant non-ESA listed marine mammals in commercial fisheries have gone beyond levels which would result in the inability of the populations to sustain themselves. For these stocks/species (e.g., pilot whales, common dolphins, and white-sided dolphins), it appears that the fishery management measures in place over this timeframe have resulted in interaction levels that are not expected to impair the stocks'/species' ability to remain at an optimum sustainable level (Appendix C). Under status quo fishing operations under Alternative 1A, it is expected that these negligible to slight positive impacts on these non-ESA listed species of marine mammals would continue. Interactions

with ESA-listed species under status quo fishing effort under 1A are considered to have some level of negative impacts to these species, meaning the impacts of Alternative 1A on ESA listed species are expected to be negligible to slight negative.

Under Alternative 1B, some vessels may slightly redistribute effort from the existing portions to the newly expanded portions of the SMEP. Such a shift is expected to be minor if it occurs, and overall effort is not expected to change notably. However, this shift could lead to an increase in gear use in the expanded portions of the area, which may overlap temporally with the presence of non-ESA listed marine mammals, meaning interactions with these marine mammal stocks could increase. Potential Biological Removal levels have not been exceeded for any of the non-ESA listed marine mammal species in the affected environment; as such, the impacts of Alternative 1B on non-ESA listed species of marine mammals are likely to range from negligible to slight negative, depending on the species/stock. For ESA-listed species, even under status quo, some level of negative impacts are expected. It is possible that a minor spatial shift in fishing effort could alter the spatial and temporal overlap of effort and ESA listed species in the SMEP area. Regardless of whether this overlap increases, any interactions would negatively impact ESA listed species. The impacts of Alternative 1B on ESA listed species are expected to be negligible to slight moderate negative, depending on the species.

Human Communities Impacts

Under Alternative 1A, the SMEP area would remain unchanged, maintaining existing fishing opportunities for summer flounder permit holders operating in the designated area to retain limited amounts of summer flounder bycatch. This provides additional revenue to participating vessels that would not be available without this designated exempted area. However, the current boundaries may limit economic opportunities for vessels that typically fish just outside the boundary, resulting in the need to discard some summer flounder. Alternative 1A would therefore be expected to have impacts on human communities ranging from slight negative to slight positive, depending on a given vessel's frequently fished areas and catch rates of summer flounder.

Under Alternative 1B, the westward expansion of the SMEP area would provide greater flexibility for commercial vessels to retain summer flounder bycatch from the expanded portion of the area that would otherwise be discarded. This would occur for vessels that are already targeting other species within the proposed expanded area, and/or for vessels that primarily operate in the existing SMEP, which would have greater flexibility in fishing locations that allowed higher retention of summer flounder. This could result in a small increase in summer flounder landings and resulting revenue. However, summer flounder would still account for a small fraction of total landings from these trips, which are primarily driven by other target species. Some summer flounder discards will continue to be driven by market conditions and other regulations, and some vessels may choose not operate in the expanded area. Overall, the socioeconomic impacts of Alternative 1B are expected to range from slight to moderate positive.

Summary of Impacts of Alternative Set 1

Table 1: Expected impacts of the SMEP boundary alternatives on each VEC, relative to current conditions, based on the rationale described in Section 7.1 A minus sign (–) signifies a negative impact and a plus sign (+) signifies a positive impact. "Mod" indicates a moderate impact, "Sl" indicates a slight impact, and "Negl" indicates a negligible impact. No impacts are expected to be significant.

Alternative	**Alternative 1A**	**Alternative 1B (Preferred)**
Description	***Current SMEP boundary***	***Revised/expanded SMEP boundary***
Summer Flounder Impacts	Sl+	Sl+
Non-Target Species Impacts	Sl+	Sl- to Sl+
Habitat Impacts	Sl-	Sl-
Protected Resources Impacts	*Marine Mammals, not ESA-Listed:* Negl. to Sl+ *ESA-Listed:* Negl. to Sl-	*Marine Mammals, not ESA-Listed:* Negl. to Sl - *ESA-Listed:* Negl. to Sl Mod -
Human Communities Impacts	Sl- to Sl+	Sl+ to Mod+

1.3.2 Impacts of Small Mesh Exemption Program Review Criteria Modifications

As described in Section 7.2, Alternative set 2 pertains to how the SMEP is annually reviewed by Council staff, the Monitoring Committee, the Council and Board, and the NOAA Fisheries Regional Administrator. These alternatives are primarily administrative in nature, impacting the observed discards percentage trigger for rescinding the exemption, and the timing and process for doing so. As these alternatives are not expected to alter any aspects of the fishery including overall fishing effort, locations fished, or fishing behavior, they are not expected to have any direct impacts to summer flounder, non-target species, physical habitat and EFH, or protected resources. However, these alternatives may have indirect impacts on human communities by impacting how frequently the exemption may be rescinded. Under Alternative 2A, relying on a threshold that was established under older data and fishery behavior assumptions may result in rescinding the exemption more often than is necessary to prevent problematic summer flounder discarding levels. This could result in indirect slight negative impacts to human communities by unnecessarily preventing use of this exemption in some years. Under Alternative 2B, the threshold would be updated to reflect more recent conditions, but there would be a less robust review process to determine whether rescinding the exemption is the appropriate course of action. This alternative may result in indirect slight negative to indirect slight positive impacts on human communities. Alternative 2C would allow for an additional review process to determine likely causes and appropriate management responses to discard issues, leading to indirect negligible to slight positive impacts on human communities by preventing the exemption from being rescinded unnecessarily (Table 2).

Summary of Impacts of Alternative Set 2

Table 2: Expected impacts of the SMEP evaluation methodology alternatives on each VEC, relative to current conditions, based on the rationale described in Section 7.2. A minus sign (–) signifies a negative impact and a plus sign (+) signifies a positive impact. "Mod" indicates a moderate impact, "Sl" indicates a slight impact, and "Negl" indicates a negligible impact. No impacts are expected to be significant.

Alternative	**Alternative 2A**	**Alternative 2B**	**Alternative 2C (Preferred)**
Description	***Current SMEP evaluation methodology***	***Modified Discard Trigger***	***Tiered Discard Monitoring Approach***
Summer Flounder Impacts	No impacts	No impacts	No impacts
Non-Target Species Impacts	No impacts	No impacts	No impacts
Habitat Impacts	No impacts	No impacts	No impacts
Protected Resources Impacts	No impacts	No impacts	No impacts
Human Communities Impacts	Indirect Sl-	Indirect Sl - to Sl +	Indirect Negl. To Sl +

1.3.3 Impacts of Flynet Exemption Revisions

As described in Section 7.3, Alternative set 3 pertains to the specific definition of a flynet under the flynet exemption to the minimum mesh size. These alternatives are primarily administrative in nature, in that they codify existing practice and modernize a regulatory definition that has become outdated. The original fishery for which this exemption was designed is no longer catching summer flounder, however, similar gear types are used in other fisheries, primarily for squid, herring, haddock, and scup. Flynet/high-rise gear types are not configured to efficiently target summer flounder, and overall use of this gear to target other species is not expected to change from current conditions. The primary impacts of this alternative will be expanding the range of gear that can utilize the exemption, allowing permit holders who use flynets not covered by the current regulatory definition to legally retain summer flounder bycatch in excess of 100 pounds in the summer and 200 pounds in the winter. Vessels who are currently discarding summer flounder in excess of those limits may see a potential minor increase in summer flounder landings and resulting revenue resulting from conversion of summer flounder discards to landings. Impacts to human communities from alternatives 3A and 3B range from slight negative to slight positive. As these alternatives are not expected to alter any aspects of the fishery including overall fishing effort, locations fished, or fishing behavior, they are not expected to have any direct impacts to summer flounder, non-target species, physical habitat and EFH, or protected resources (Table 3).

Summary of Impacts of Alternative Set 3

Table 3: Expected impacts of the flynet exemption definition alternatives on each VEC, relative to current conditions, based on the rationale described in Section 7.2. A minus sign (–) signifies a negative impact and a plus sign (+) signifies a positive impact. "Mod" indicates a moderate impact, "Sl" indicates a slight impact, and "Negl" indicates a negligible impact. No impacts are expected to be significant.

Alternative	**Alternative 3A**	**Alternative 3B (Preferred)**
Description	***Current Flynet Exemption Definition***	***Modified Flynet Exemption Definition***
Summer Flounder Impacts	No impacts	No impacts
Non-Target Species Impacts	No impacts	No impacts
Habitat Impacts	No impacts	No impacts
Protected Resources Impacts	No impacts	No impacts
Human Communities Impacts	Sl – to no impact	Negl. To Sl +

2 CONTENTS, TABLES, AND FIGURES

Contents

Tables

Figures

3 LIST OF ACRONYMS AND ABBREVIATIONS

Acronym	Meaning
ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
ALWTRP	Atlantic Large Whale Take Reduction Plan
ASMFC	Atlantic States Marine Fisheries Commission (Commission)
B_{MSY}	Biomass at maximum sustainable yield
CAMS	Catch Accounting Monitoring System
C.F.R.	Code of Federal Regulations
CEA	Cumulative Effects Assessment
CPUE	Catch per unit effort
CV	Coefficient of Variation
DPS	Distinct Population Segment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat

Acronym	Meaning
E.O.	Executive Order
ESA	Endangered Species Act
F	Fishing mortality rate
F_{MSY}	Fishing mortality at maximum sustainable yield
FMAT	Fishery Management Action Team
FMP	Fishery Management Plan
FR	Federal Register
GAR	Greater Atlantic Region
GARFO	Greater Atlantic Regional Fisheries Office (formerly Northeast Regional Office/NERO)
GOM	Gulf of Maine
GRA	Gear Restricted Area
HAPC	Habitat Area of Particular Concern
ITS	Incidental Take Statement
LOF	List of Fisheries
MAFMC	Mid-Atlantic Fishery Management Council (Council)
MC	Monitoring Committee
MMPA	Marine Mammal Protection Act
MSA	Magnuson-Stevens Fishery Conservation and Management Act (as currently amended)
MSY	Maximum Sustainable Yield
MT	Metric tons
NEFMC	New England Fishery Management Council
NEFOP	Northeast Fisheries Observer Program
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NS	National Standard
PBR	Potential Biological Removal
PDT	Plan Development Team
RFA	Regulatory Flexibility Act
RHL	Recreational Harvest Limit
RIR	Regulatory Impact Review
SARs	Stock Assessment Reports
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SBRM	Standardized Bycatch Reporting Methodology
SSB	Spawning Stock Biomass
SSC	Scientific and Statistical Committee
STDN	Sea Turtle Disentanglement Network
STSSN	Sea Turtle Stranding and Salvage Network
TAL	Total Allowable Landings
TED	Turtle Excluder Device
USFWS	U.S. Fish and Wildlife Service
VEC	Valued Ecosystem Component
VTR	Vessel Trip Report

4 BACKGROUND AND PURPOSE

This amendment is a joint action of the Mid-Atlantic Fishery Management Council (Council) and the Atlantic States Marine Fisheries Commission (Commission). The Council and Commission work cooperatively to develop commercial and recreational fishery regulations for summer flounder from Maine through North Carolina. The National Marine Fisheries Service (NMFS) serves as the federal implementation and enforcement entity. This cooperative management endeavor was developed because a significant portion of the catch is taken from both state (0-3 miles offshore) and federal waters (3-200 miles offshore).

4.1 SUMMER FLOUNDER MESH EXEMPTION PROGRAMS OVERVIEW

The SMEP and flynet exemptions provide exemptions to the commercial minimum mesh size regulations for the summer flounder trawl fishery, which require 5.5-inch diamond or 6.0-inch square mesh to retain more than 200 pounds of summer flounder from November through April, or 100 pounds of summer flounder from May through October. Both exemptions have been in place since 1993. In the Fall of 2023, the Council contracted a review of these exemptions, which identified the need to consider several changes to these exemption programs and resulted in the initiation of this action, as described in more detail in Section 4.2.

4.1.1 Small Mesh Exemption Program

Summer flounder moratorium permitted vessels fishing east of longitude 72° 30.0'W from November 1 through April 30 and using mesh smaller than the required summer flounder minimum mesh sizes may land more than 200 pounds of summer flounder under the SMEP. Participation in this program requires a Letter of Authorization (LOA) obtained through the NOAA Fisheries Greater Atlantic Regional Fisheries Office (GARFO). Vessels must be enrolled in the program for a minimum of 7 consecutive days and may not fish west (landward) of the line while holding the LOA. This exemption program was developed under Amendment 2 to the FMP and modified via Amendment 3 (both in 1993). The seven-day minimum enrollment period was implemented due to the administrative capacity needed to process vessel enrollment in the program.

This exemption program was initially suggested by the New England Fishery Management Council and industry participants. It was designed to allow vessels to retain some bycatch of summer flounder while operating in other small-mesh fisheries. At the time it was determined the exemption would not pose an issue for the stock because the mesh size requirement was designed to protect smaller summer flounder, which largely were not being caught in these offshore areas in the winter months. The exemption was thus viewed as consistent with the conservation goals of the FMP while reducing discard waste in the summer flounder fishery.

Current regulations state the Regional Administrator may terminate the SMEP for the remainder of a season if observer data determines that vessels fishing under the exemption are discarding more than 10 percent by weight, on average, of their entire catch of summer flounder per trip. Currently, the Monitoring Committee is responsible for this analysis, which is then reviewed by the Council and Board and informs the Regional Administrator's consideration of this issue.

4.1.2 Flynet Exemption

Since 1993, the flynet exemption established by Amendment 2 to the FMP has provided an exemption to the minimum mesh size requirements for vessels fishing with a two-seam otter trawl flynet with specifications defined in regulation (see Section 5.3.1). No permits or special reporting are required to utilize this exemption.

The original intent of this exemption was to accommodate the use of a specifically defined gear in a specific fishery. Flynets were generally fished 10-12 feet off the bottom between September and April from North Carolina to Cape Henlopen, Delaware, and primarily targeted bluefish and sciaenids. The North Carolina Division of Marine Fisheries provided additional data to support the exemption, indicating summer flounder were landed as incidental catch in the flynet fishery and comprised only 1-3% of the total trip catch (based on 1982 through 1989 data). Comparatively, summer flounder made up 62-94% of nearshore bottom trawl total trip catch and 10-72% for deep water otter trawls. Although flynets caught a higher proportion of undersized summer flounder (58.1%) versus nearshore bottom trawls and deep-water trawls (4.5% and 8.4%, respectively), summer flounder appeared in less than half of the flynet trawls and made up 0.2-0.8% of the catch between 1985 and 1988.

The existing flynet exemption has historically been evaluated annually using data from the state of North Carolina trip ticket program. In recent years, North Carolina data has indicated the flynet exemption is no longer being utilized today in that area/fishery, as summer flounder are no longer caught in that fishery and flynet fishery effort in the state has generally declined (Appendix B, Section 10.2.2). However, as further described in Section 4.2, the 2023 mesh exemptions review highlighted that flynet or "high-rise" type nets are being used by vessels outside of this North Carolina fishery. As further described in Section 7.3 and Appendix B, these net types are not designed to catch flatfish and generally catch small amounts of summer flounder; however, some summer flounder bycatch is associated with use of these nets. Some of trips with high-rise net types are retaining more than the 100 pounds (May through October) or 200 pounds (November through April) limits triggering the minimum mesh size requirement; however, it is not known how many of these trips are taken with gear types that meet the current definition vs. gear types that would only fall under the expanded definition. Based on industry feedback, it is believed that some of these landings may be from gear types that are non-compliant with the current regulations.

4.2 PURPOSE AND NEED FOR ACTION

There are three sets of alternatives for this action, their associated purposes and needs are below.

Purpose 1: Consider modifications to the westward boundary of the area associated with the Small Mesh Exemption Program to provide additional access and economic benefits to commercial fishing operators without compromising the conservation objectives of the FMP (Alternative Set 1).

Need for action item 1: Feedback from the commercial fishing industry indicates that the SMEP has become a very important program to maintain the economic viability of their businesses. Industry representatives recommended moving the demarcation line approximately 5 miles landward to facilitate the conduct of their fishing operations in other fisheries. The Council and Board recommended additional evaluation of this proposal, including further exploration of appropriate boundaries and the expected biological impacts to summer flounder.

Purpose 2: Consider changes to the evaluation methodology and criteria for triggering rescinding the Small Mesh Exemption Program (Alternative Set 2).

Need for action item 2: The current 10 percent threshold has been flagged as potentially no longer appropriate to provide meaningful information on whether discarding trends are problematic under this exemption. Because the exemption program is intended to minimize regulatory discards in small mesh fisheries targeting other species, rescinding the exemption could lead to an overall increase in summer flounder discards among these small mesh vessels. As such, evaluation criteria should be designed to identify major concerns with the use of the exemption program that may justify suspending the exemption program until those issues can be resolved. There are many reasons, regulatory and otherwise, that summer flounder are discarded (see Section 10.1.2 in Appendix A). Many of the regulatory constraints influencing discard rates and patterns today were different or not relevant during time periods of data used to establish this exemption and its evaluation criteria. There are also now more years of data available on use patterns for the exemption program. This action considers revisions to the review methodology to better reflect recent conditions and constraints.

Purpose 3: Consider whether changes to the regulatory definition of a flynet, as pertaining to the flynet exemption to the commercial summer flounder minimum mesh size, are warranted based on changes in trawl gear configuration and use since the exemption's original implementation (Alternative Set 3).

Need for action item 3: The original intent of this exemption was to accommodate a specific fishery, concentrated in North Carolina and extending north to Cape Henlopen, Delaware. Available data indicate that the exemption is no longer being utilized today in that area/fishery. However, industry feedback indicates that the flynet exemption has become an important component of specific fisheries throughout the Greater Atlantic Region, although according to industry feedback, some of the net types being utilized under the flynet exemption (i.e., "high rise nets") do not comply with the specific regulatory definition of a flynet. The term "high rise" net appears to be regional terminology for flynets and similar net types. The Monitoring Committee has identified this as a potential compliance and enforcement issue and/or indication of a potential need to revise the regulatory language. During the summer flounder mesh exemption review process, industry representatives proposed updating the definition of the term "flynet" to reflect modern gear configurations and use patterns under this exemption.

4.3 FMP OBJECTIVES FOR SUMMER FLOUNDER

The summer flounder FMP objectives were revised via Amendment 21 to the FMP (2020). The revised goals and objectives for summer flounder are as follows:

Goal 1: Ensure the biological sustainability of the summer flounder resource in order to maintain a sustainable summer flounder fishery.

> **Objective 1.1:** Prevent overfishing, and achieve and maintain sustainable spawning stock biomass levels that promote optimum yield in the fishery.

Goal 2: Support and enhance the development and implementation of effective management measures.

> **Objective 2.1:** Maintain and enhance effective partnership and coordination among the Council, Commission, Federal partners, and member states.

Objective 2.2: Promote understanding, compliance, and the effective enforcement of regulations.

Objective 2.3: Promote monitoring, data collection, and the development of ecosystem-based science that support and enhance effective management of the summer flounder resource.

Goal 3: Optimize economic and social benefits from the utilization of the summer flounder resource, balancing the needs and priorities of different user groups to achieve the greatest overall benefit to the nation.

Objective 3.1: Provide reasonable access to the fishery throughout the management unit. Fishery allocations and other management measures should balance responsiveness to changing social, economic, and ecological conditions with historic and current importance to various user groups and communities.

4.4 MANAGEMENT UNIT

The management unit for summer flounder in US waters is the western Atlantic Ocean from the southern border of North Carolina northward to the US-Canadian border.

5 MANAGEMENT ALTERNATIVES

This section describes the alternatives under consideration in this action including alternatives for revisions to the SMEP area boundaries (Section 5.1), revisions to the SMEP review criteria (Section 5.2), and revisions to the flynet exemption program (section 5.3). Alternatives that were considered but rejected are described in Section 5.4.

In addition to the alternatives described below, there is also information in Section 5.5 regarding three administrative changes to the SMEP and flynet exemption programs: (1) a modification to the minimum time frame an LOA must be held under the SMEP, (2) a change to future monitoring of the flynet exemption program and (3) a clarification to the regulatory language describing the flynet exemption evaluation. These items are not included as alternatives as they do not alter the FMP. These administrative changes will provide more information to the Monitoring and Technical Committees for program monitoring via addition of a Vessel Trip Report (VTR) code, and update language in the Federal regulations to be consistent with language in the FMP.

5.1 ALTERNATIVE SET 1: SMALL MESH EXEMPTION PROGRAM BOUNDARY REVISIONS

5.1.1 Alternative 1A: Status Quo (Non-preferred)

This alternative would maintain the current SMEP western demarcation line at longitude 72° 30.0'W (Figure 1). Vessels issued an LOA for this program may fish east of this line from November 1 through April 30 using mesh smaller than the required summer flounder minimum mesh sizes of 5.5-inch diamond or 6.0-inch square and retain more than 200 pounds of summer flounder.

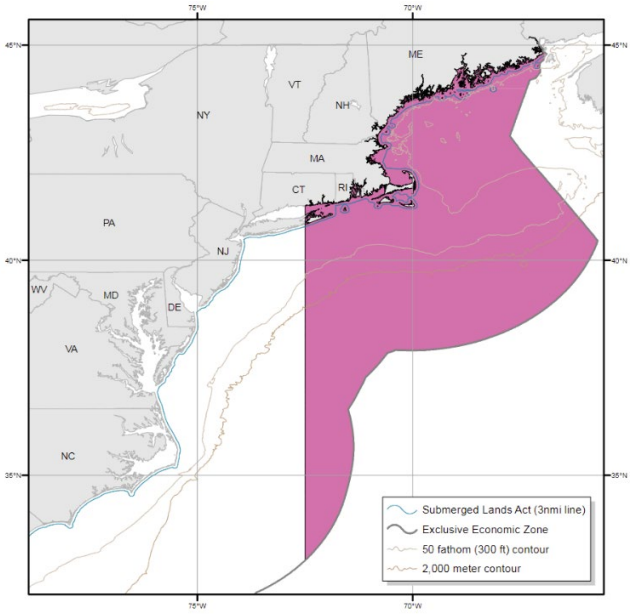

Figure 1: Status quo SMEP area (Alternative 1A).

5.1.2 Alternative 1B: Expanded SMEP Exemption Area (Preferred)

Starting south of Long Island, this alternative would move the westward demarcation line approximately 5 miles west to 72°37'W longitude, following this longitude south until intersection with the northeast corner of the scup Southern Gear Restricted Area (GRA) at 39°20'N and 72°37'W. The line would then follow along the eastern border of the southern scup GRA to 37°N latitude, which would form the southern boundary of the expanded area running eastward until the intersection with the current SMEP boundary at that latitude (Figure 2). Note, this alternative does not extend the line westward in Long Island Sound nor does it modify the southern portion of the SMEP south of the Frank R. Lautenberg deep sea coral protection area.[6]

While this has the appearance of notably increasing the SMEP area size, the effective change in terms of fishery access should be calculated after excluding portions of the area overlapping with the deep sea coral zone, where bottom tending gear is prohibited. There is already substantial overlap of the SMEP and coral zone where the SMEP is not able to be used; this alternative would increase the area of overlap. The calculated additional area, excluding the deep-sea coral zones where bottom tending gear is prohibited, is 4,943 km^2 (1,441 nmi^2). The timing of the exemption would remain unchanged (November 1-April 30).

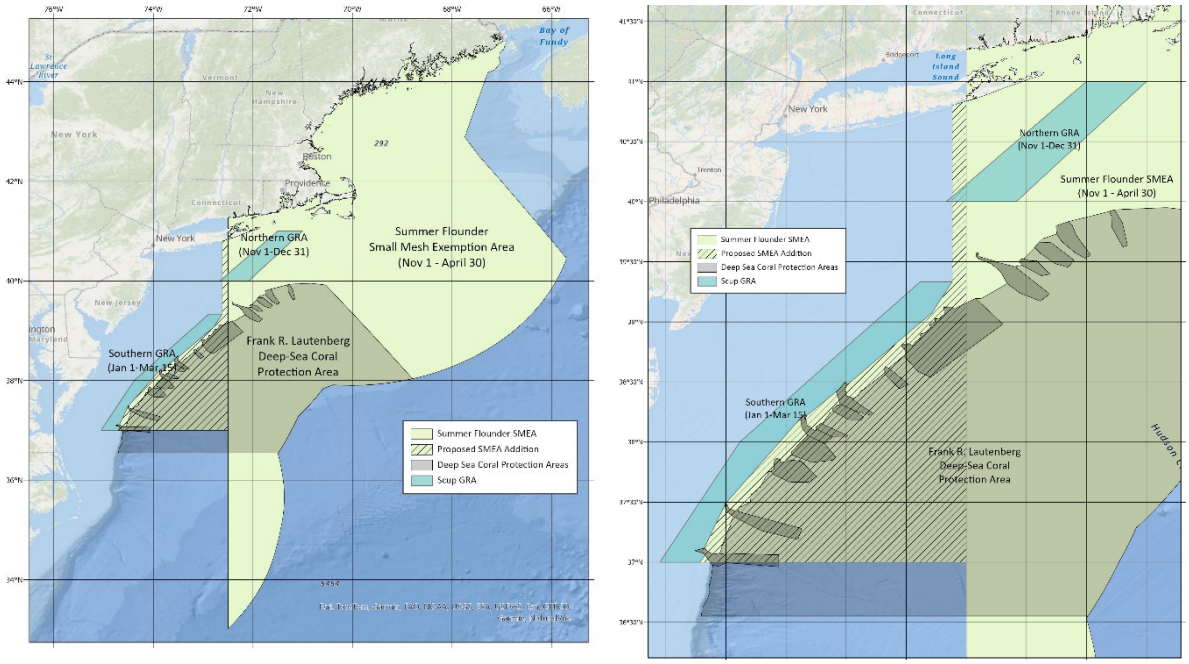

Figure 2: Alternative 1B, proposed expansion of the SMEP area.

5.2 ALTERNATIVE SET 2: SMALL MESH EXEMPTION PROGRAM REVIEW CRITERIA

5.2.1 Alternative 2A: Status Quo (Non-preferred)

This alternative would keep the current regulations as is such that: "The Regional Administrator may terminate this exemption if he/she determines, after a review of sea sampling data, that vessels fishing under the exemption are discarding on average more than 10 percent, by weight, of their entire catch of summer flounder per trip. If the Regional Administrator makes such a

determination, he/she shall publish notification in the Federal Register terminating the exemption for the remainder of the exemption season."

5.2.2 Alternative 2B: Modified Discard Trigger (Non-preferred)

This alternative would increase the trigger percentage from 10 to 25 percent, meaning if vessels fishing under the exemption are on average discarding more than the 25 percent, by weight, of their entire catch of summer flounder per trip, the Regional Administrator may terminate the exemption for the upcoming or remainder of the current exemption period by publishing a notification in the Federal Register. When reviewing this issue, the Regional Administrator may consider contextual factors that may have led to changes in discarding patterns during the year(s) evaluated.

While this has the appearance of notably increasing the discard trigger, this trigger represents a more realistic percentage of summer flounder expected to be discarded based on a revised and more accurate methodology for evaluating discards on LOA trips. The updated analysis uses observer data from trips known to be actively holding an SMEP LOA, whereas the previous analysis methodology used a series of assumptions to identify trips possibly participating in the SMEP. This difference in methodology, as well as a discrepancy in descriptions of the methodology between the regulations and the FMP[1], have led to the exemption not being rescinded despite average discards per trip exceeding the 10 percent threshold in recent years.

Based on the revised evaluation, an average of 25 percent of summer flounder discarded per trip reflects the status quo operations of observed trips using this LOA over the past 10 years (Table 16; Section 6.5.2.1), and also reflects the average percent of summer flounder discarded per trip on all bottom trawl trips year-round. As such, in practice this is not expected to increase the amount of summer flounder discarded before consideration of rescinding the exemption. When evaluating this threshold, it may be informative to use multiple years of data in a rolling average approach.

5.2.3 Alternative 2C: Tiered Discard Monitoring Approach (Preferred)

This alternative would also increase the trigger percentage to a 25 percent threshold, but would trigger a more in-depth review of SMEP discards rather than serving as the primary trigger for consideration of rescinding the exemption. Under this alternative, if vessels fishing under the exemption are on average discarding more than 25 percent, by weight, of their entire summer flounder catch, this would trigger a more detailed review, proposed to be conducted or reviewed by the Monitoring Committee. This additional review would seek to highlight major issues with the exemption program that need to be addressed (e.g., high/increasing discards of undersized summer flounder, high/increased targeting behavior with small mesh, and other concerns).

It is evident discard rates are variable on an annual basis (Table 23; Appendix A) and are commonly impacted by a variety of factors including but not limited to annual quotas, population structure and dynamics, market conditions, and other regulations (Figure 13; Appendix A). Updating the SMEP evaluation criteria to a 25 percent trigger in addition to including a Monitoring

[1] As described in the 2023 mesh exemptions review, differences in the language between Amendment 3 and the federal regulations created some confusion over the appropriate methodology to conduct the evaluation. Amendment 3 language stated that summer flounder discards should be evaluated for "vessels fishing seaward of the line," while the regulations specified "vessels fishing under the exemption." Using the new methodology linked to active LOAs, it is now possible to determine more precisely who is fishing under the exemption, whereas previously the evaluation was conducted based on vessels fishing seaward of the demarcation line.

Committee analysis process would facilitate a more comprehensive consideration of the drivers of and response to discards. The Monitoring Committee analysis could evaluate the amounts and percentages of kept and discarded summer flounder on LOA trips compared to non-LOA trips, investigate trends in discards over time, investigate discards of undersized and/or juvenile summer flounder on LOA vs. non-LOA trips and by area, and explore any other information that could inform whether to recommend rescinding the exemption or otherwise recommend changes to improve performance.[2] This could include review of whether there is a large proportion of trips targeting and/or keeping large amounts of summer flounder using small mesh gear (i.e., whether use of the program is moving more toward a small-mesh summer flounder fishery vs. allowing retention of incidental summer flounder catch). When conducting this evaluation, it may be informative to use multiple years of data in a rolling average approach.

This review would be conducted as soon as possible but no later than the next series of specifications setting or review meetings. The evaluation would be presented to the Board and Council for these groups to provide feedback and recommendations to the Regional Administrator. The Regional Administrator, based on review of this information, would consider whether the exemption should be rescinded for the upcoming or remainder of the current exemption period, or if other modifications to the program could be made in the near term to address the concerns.

5.3 ALTERNATIVE SET 3: FLYNET EXEMPTION PROGRAM

5.3.1 Alternative 3A: Status Quo (Non-preferred)

This alternative would make no changes to the current definition of a flynet:

Vessels fishing with a two-seam otter trawl flynet are exempt from the summer flounder minimum mesh size requirements. The regulatory definition of a fly net is a two-seam otter trawl with the following configuration:

- The net has large mesh in the wings that measures 8" to 64".
- The first body (belly) section of the net has 35 or more meshes that are at least 8".
- The mesh decreases in size throughout the body of the net to 2 inches (5 cm) or smaller towards the terminus of the net.

5.3.2 Alternative 3B: Modified Flynet Definition to Remove References to Two Seams and 64” Upper Bound of Mesh in Wings (Preferred)

This alternative would modify the flynet definition to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh size in the wings of 64”, and 3) revise the description of the amount of large mesh required in the body of the net.

Vessels fishing with an otter trawl flynet are exempt from the summer flounder minimum mesh size requirements. The regulatory definition of a fly net is an otter trawl with the following configuration:

- The net has large mesh in the wings that measures 8" or greater.

[2] If the Monitoring Committee recommended changes in addition to or instead of rescinding the exemption, those changes could be considered through either specifications or a separate future action, depending on the nature of the recommended change.

- The first body (belly) section of the net has at least 280 inches of mesh behind the sweep where the mesh size is at least 8".
- The mesh decreases in size throughout the body of the net toward the codend.

5.4 CONSIDERED BUT REJECTED ALTERNATIVES

At the April 2024 Council meeting, two other draft alternatives initially developed for this action were considered by the Council and Board and removed from further consideration in this amendment, including:

- Industry proposed revisions to SMEP area linked to coral zone boundaries: This alternative was very similar to Alternative 1B in the current document, but would have tied the SMEP area boundary expansion to the Frank R. Lautenberg Deep Sea Coral protected area and explicitly excluded the area where the SMEP overlapped with the coral area. This alternative was rejected given that in practice, it would have the same effect as the other boundary modification alternative (Alternative 1B in the current document), but included a more complicated boundary that would have complicated enforcement and compliance. See the April 2024 meeting materials for additional information.
- Rewrite definition to apply to flynet and high-rise gear with large mesh in the wings, with specifications informed by additional industry feedback and public comment: This alternative would have modified the flynet definition to describe flynet and high-rise nets with large mesh in the wings, with additional specific configuration details to be informed by industry feedback and public comment. This alternative was rejected because it was deemed unnecessary given that the existing Alternative 2B captured the intent of the flynet redefinition. See the April 2024 meeting materials for additional information.

5.5 ADMINISTRATIVE CHANGES TO THE EXEMPTION PROGRAMS

5.5.1 SMEP LOA Minimum Period

While not an option explicitly under consideration in this action, the PDT/FMAT has recommended the regulatory language describing the SMEP minimum enrollment period be revised to allow for a minimum enrollment period less than seven days. This can be done as an administrative change to the regulations via GARFO.

The summer flounder regulations prohibit vessels from fishing outside of the SMEP exemption area while enrolled in the SMEP and, currently, require vessels to remain in the program for a minimum period of seven days. The minimum enrollment period was implemented due to the need for NMFS staff to manually process LOA applications and withdrawals. NMFS anticipates future technological improvements that would eliminate the manual processing requirements for LOAs with simple qualification criteria (e.g., the vessel holds the relevant permit). When these changes are implemented, the seven-day-minimum enrollment period would no longer be necessary for the SMEP LOA. To support this change, this action would revise the summer flounder regulations to require a minimum enrollment period of not more than seven days, as specified by the Regional Administrator.

This change is intended to relieve a restriction. Under this revision, the most restrictive enrollment period is seven days, which is the same as the current requirement. The seven-day day minimum was implemented as part of the original SMEP within Amendment 2. This change does not make immediate changes to the minimum enrollment period but allows the Regional Administrator to

reduce the minimum enrollment period in the future. As such, it is not expected to have an immediate impact on any VEC. A less restrictive minimum enrollment period would provide vessels with greater flexibility to move between fishing inside and outside of the SMEP area. Vessels would be able to move between the areas more frequently, but may not necessarily increase or decrease overall effort inside of or outside of the SMEP or increase or decrease effort overall. As a result, the impacts of future changes to the minimum enrollment period are difficult to predict but are not expected to have significant impacts on any VEC.

5.5.2 Future Monitoring of the Flynet Exemption Program

To improve monitoring going forward, the Board and Council have expressed support for adding a flynet/high-rise net type gear code to VTR data collection forms. Without this change, evaluation of the flynet exemption would rely solely on observer data, as the previous methodology no longer reflects how the exemption is currently used outside of North Carolina. While the observer data captures "net type" in addition to gear type, some concerns have been raised about how this information is reported, i.e., the observer relies on what is reported by the captain, and terminology varies by fishery and region. In addition, the "net type" field is sometimes blank (on average about 2% of trips and 2% of hauls) or often recorded as an unknown trawl type (on average about 43% of trips and 41% of hauls; based on 2013-2022 observer data). In addition, observed trips represent a subset of total fishing effort, and observer coverage is variable over time and by gear category. As such, evaluation of observer data for this exemption should ideally consider multiple years of data, and caution should be used in the interpretation of this data.

The addition of a flynet VTR code is not an explicit option to be considered in this addendum, but a step GARFO will take at the request of the Board and Council. This would be a separate type of bottom otter trawl gear that could be selected when filling out the VTR (similar to how a separate code was recently added for large mesh belly panel gear to better analyze the use of this gear type). Gathering useable data from this additional gear code will rely on awareness of and consistent application of this gear type terminology, which has been acknowledged as a challenge. As such, communication of this change will be critical.

The addition of a flynet gear code is administrative in nature. Operators are required to enter a gear code on their VTR data collection forms and would be required to switch to the flynet gear code for trips taken under the flynet exemption. This change is not expected to impact the prosecution of the summer flounder fishery (e.g., effort, distribution, fishing practices) nor increase the administrative burden on fishery participants. Therefore, it is not expected to impact the VECs.

5.5.3 Regulatory Language Change

While not an option explicitly under consideration in this action, the Council and Board supported an FMAT/PDT recommendation to revise the regulatory language describing the flynet exemption evaluation to reflect the original intent of the FMP. This can be done as an administrative correction to the regulations via GARFO.

The current evaluation methodology specified in the regulations is: "The Regional Administrator may terminate this exemption if he/she determines, after a review of sea sampling data, that vessels fishing under the exemption, on average, are discarding more than **1 percent of their entire catch of summer flounder per trip**. If the Regional Administrator makes such a determination, he/she shall publish notification in the Federal Register terminating the exemption for the remainder of the calendar year."[12] This represents a disconnect from the wording of the FMP amendment that originally developed this exemption. The wording in the FMP, and what the FMAT/PDT believe

was the intent, was the Regional Administrator could withdraw the exemption if the annual summer flounder catch in the flynet fishery **exceeds 1 percent of the total flynet catch on average**.

As this change provides a correction to the regulations, it is strictly administrative. Analysis of the flynet exemption, including the criteria for termination, can be found in Amendment 2. This distinction has not mattered in recent years because evaluation has relied on North Carolina flynet fishery data, and in recent years, summer flounder have not been landed in that fishery (see Appendix B; Section 10.2.2). However, if flynet/high-rise catch outside of North Carolina is considered, this would likely mean essentially any discards of summer flounder would exceed the 1 percent of summer flounder catch threshold reflected in the current wording of the regulations.

The Council and Board recommend the regulations be clarified to reflect the language in the FMP (summer flounder catch in the flynet fishery should not exceed 1 percent of the total flynet catch). Based on the current understanding of the flynet/high-rise net types that may be captured under a revised definition, and consideration of a 10-year observer dataset, it seems the original FMP language for this exemption considering whether "summer flounder catch exceeds 1% of the total catch" is still appropriate (Appendix B; Section 10.2.4).

6 DESCRIPTION OF THE AFFECTED ENVIRONMENT

The affected environment consists of those physical, biological, and human components of the environment expected to experience impacts if any of the actions considered in this document were to be implemented. This document focuses on five aspects of the affected environment, which are defined as valued ecosystem components (VECs; Beanlands and Duinker 1984).

The VECs include:

- Summer flounder (target species)
- Non-target species
- Physical habitat and Essential Fish Habitat
- Protected species
- Human communities

The following sections describe the recent condition of the VECs.

6.1 SUMMER FLOUNDER

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

Summer flounder are a demersal flatfish which spawn during the fall and winter over the open ocean over the continental shelf. From October to May, larvae and postlarvae migrate inshore, entering coastal and estuarine nursery areas. Juveniles are distributed inshore and in many estuaries throughout the range of the species during spring, summer, and fall. Adult summer flounder exhibit strong seasonal inshore-offshore movements, normally inhabiting shallow coastal and estuarine waters during the warmer months of the year and remaining offshore during the colder months.

Summer flounder habitat includes pelagic waters, demersal waters, saltmarsh creeks, seagrass beds, mudflats, and open bay areas from the Gulf of Maine through North Carolina. Summer flounder are opportunistic feeders; their prey includes a variety of fish and crustaceans. While the predators of adult summer flounder are not fully documented, larger predators such as large sharks, rays, and monkfish probably include summer flounder in their diets (Packer et al. 1999).

Spawning occurs during autumn and early winter, and the larvae are transported toward coastal areas by prevailing water currents. Development of post larvae and juveniles occurs primarily within bays and estuarine areas. Most fish are sexually mature by age 2. Summer flounder exhibit sexual dimorphism by size; most of the largest fish are females. Recent Northeast Fisheries Science Center (NEFSC) trawl survey data indicate that while female summer flounder grow faster (reaching a larger size at the same age), the sexes attain about the same maximum age (currently age 16 at 56 cm and 60 cm for males, and age 15 at 72 cm for females). Unsexed commercial fishery samples currently indicate a maximum age of 17 for a 72 cm fish (likely a female) and 20 for a 57 cm fish (likely a male; M. Terceiro, personal communication, May 2022).

In June 2023, the NEFSC provided the 2023 MTA for summer flounder using data through 2022, based on the model developed through the 66th Stock Assessment Workshop/Stock Assessment Review Committee (SAW/SARC) in 2018. Assessment results indicate that the summer flounder stock was not overfished, but that overfishing was occurring in 2022.

The 2023 MTA[3] revised the biological reference points for spawning stock biomass (SSB) and fishing mortality (F). SSB has generally decreased since 2003 and was estimated to be 90.38 million lb (40,994 mt) in 2022, about 83% of the updated biomass target reference point $SSB_{MSY\ proxy}$ = 109.26 million lb (49,561 mt; Figure 3).

Fishing mortality on the fully selected age 4 fish ranged between 0.756 and 1.601 during 1982-1996, followed by a period of decreasing F to a low of 0.257 in 2007. Post-2007, F rates increased but have been relatively stable since 2011. F in 2022 was estimated at 0.464, 103% of the updated fishing mortality threshold reference point ($F_{MSY\ proxy} = F_{35\%}$ = 0.451; Figure 4).

Average recruitment from 1982 to 2022 is 51 million fish at age 0. Recruitment of juvenile summer flounder has been below-average from 2011-2022, ranging from 27 to 43 million fish and averaging 36 million fish. The driving factors behind this period of below average recruitment have not been identified. While the 2018 year class was originally estimated to be above average (estimated in the previous assessment at 61 million fish), the 2023 MTA revised the recruitment estimate down to 43 million fish. Recruitment estimates for 2019-2022 range from 36 to 42 million fish at age 0, all below the time series average and near or slightly above the recent average (Figure 3).

[3] https://www.mafmc.org/s/e_Summer_flounder_MTA_2023_06_08.pdf

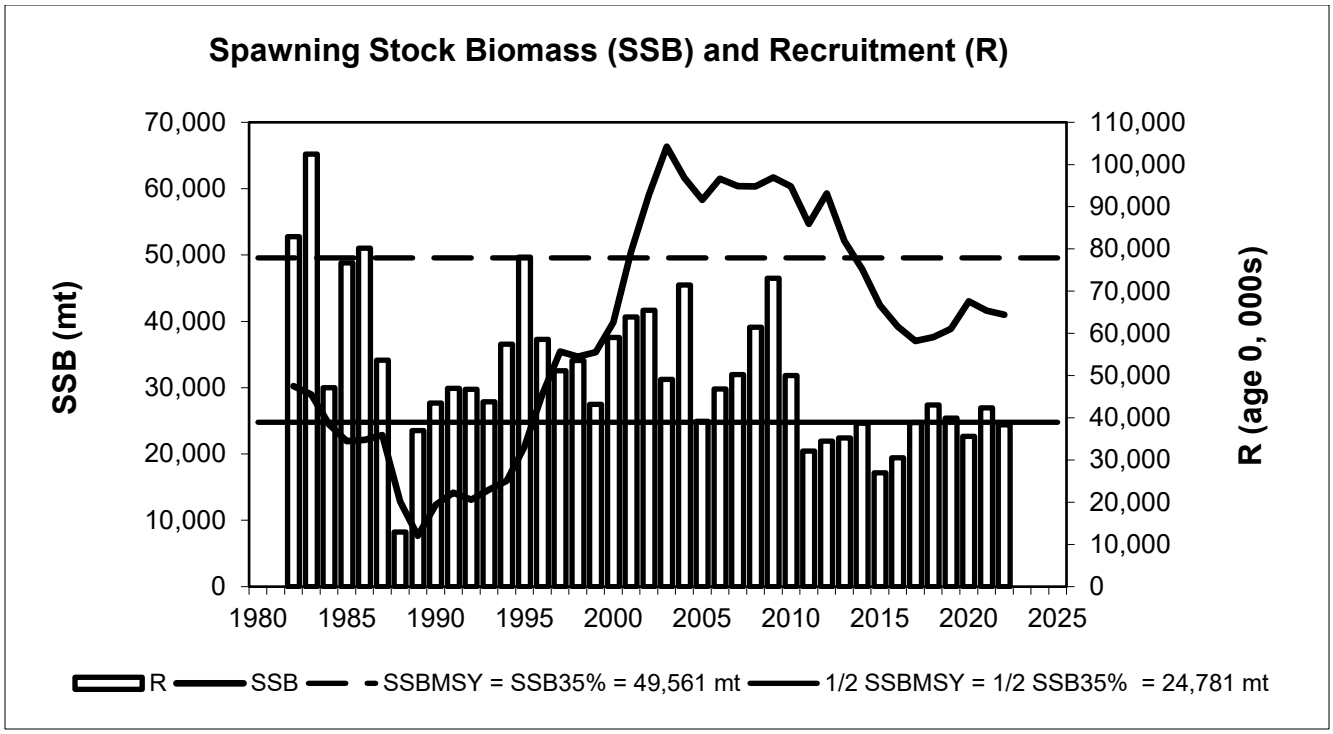

Figure 3: Summer flounder spawning stock biomass (SSB; solid line) and recruitment at age 0 (R; vertical bars),1982-2022. The horizontal dashed line is the updated target biomass reference point. The horizontal solid line is the updated threshold biomass reference point. Source: 2023 management track assessment.

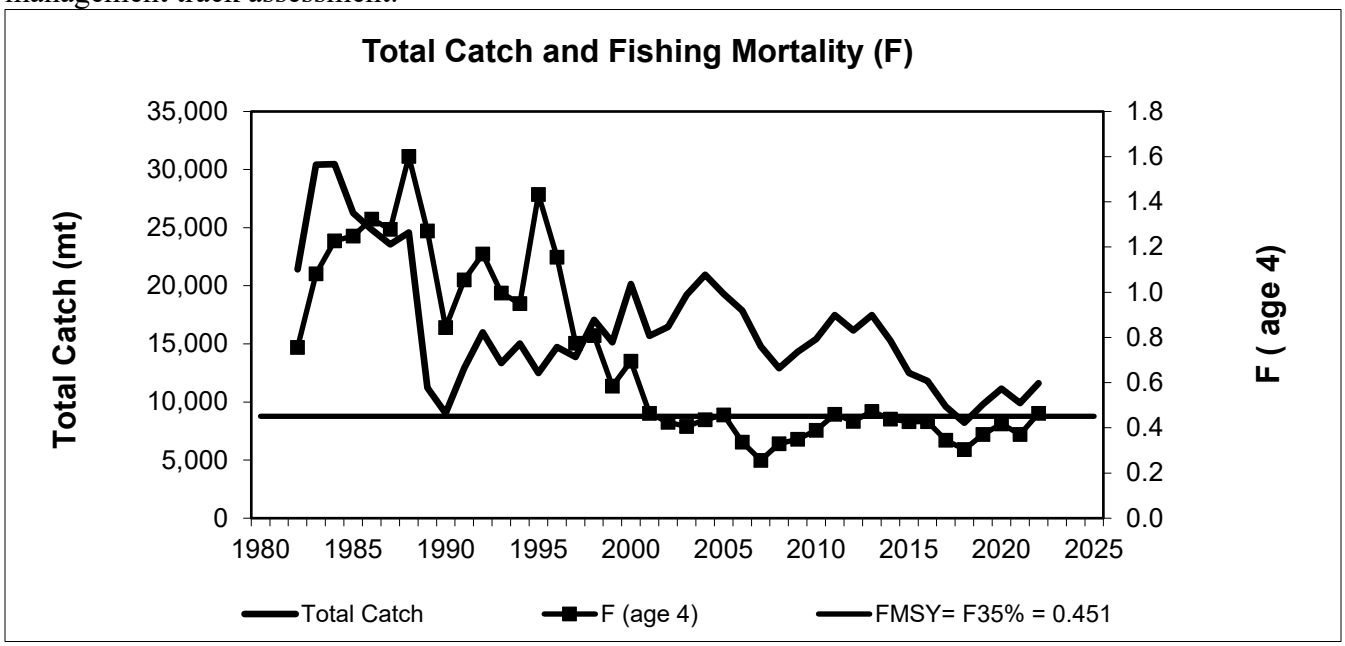

Figure 4: Total fishery catch (metric tons; mt; solid line) and fully-recruited fishing mortality (F, peak at age 4; squares) of summer flounder, 1982-2022. The horizontal solid line is the updated fishing mortality reference point. Source: 2023 management track assessment.

6.2 NON-TARGET SPECIES

The following sections describe non-target species in the commercial summer flounder fishery. Non-target species are those species caught incidentally while targeting other species. Non-target species may be retained or discarded.

6.2.1 Identification of Major Non-Target Species

It can be difficult to develop accurate quantitative estimates of catch of non-target species. The intended target species for any given tow or set is not always obvious. Fishermen may intend to target one or multiple species and the intended target species may change mid-trip. For example, the seasonal distributions of summer flounder, scup, and black sea bass are generally similar, and these species are often caught together. In some circumstances, scup can be a non-target species in the black sea bass fishery and vice versa. It is not always clear from the data which species is the primary target, which is a secondary target, and which species are not targeted but are sometimes landed if caught incidentally.

In addition, there are limitations to the data used to examine catch and discards (i.e., observer and vessel trip report [VTR] data). Observer data are available only for commercial fisheries and may not be representative of all fishing activity due to limited coverage, coverage rates which vary by gear type, and potential differences in behavior when observers are present. VTR data are available for commercial and for-hire fisheries. VTR data can be uncertain as they are based on fishermen's self-reported best estimates of catch.

The top non-target species in the commercial summer flounder fishery were identified based on raw data from Northeast Fisheries Observer Program (NEFOP) observed trips from 2019-2023 where summer flounder made up at least 75% of the landings by weight. Using this definition of a directed trip, the most common non-target species in the summer flounder fishery include little skate, Northern sea robin, and winter skate (Table 4).

Table 4: Percent of non-target species caught in observed trawls where summer flounder made up at least 75% of the observed landings, 2019-2023. Only those non-target species comprising at least 2% of the aggregate catch are listed.

Species	% of total catch on summer flounder observed directed trips, 2019-2023[a]
SKATE, LITTLE	18.5%
SEA ROBIN, NORTHERN	7.4%
SKATE, WINTER (BIG)	6.5%
SKATE, CLEARNOSE	5.6%
DOGFISH, SPINY	5.4%
DOGFISH, SMOOTH	2.5%
SCUP	2.5%
SKATE, BARNDOOR	2.2%
MONKFISH (GOOSEFISH)	2.0%
SKATE, NK	2.0%

[a] Percentages shown are aggregate totals over 2019-2023 and do not reflect the percentages of non-target species caught on individual trips. This analysis describes only observed trips and has not been expanded to the fishery as a whole.

All the species in Table 4, with the exception of sea robins, are managed by the Mid-Atlantic or New England Fishery Management Councils and/or the ASMFC. Management measures for Council managed species include AMs to address Annual Catch Limit (ACL) overages through reductions in landings limits in following years. AMs for these species take discards into account. These measures help to mitigate negative impacts from discards in the commercial fisheries.

6.2.2 Description and Status of Major Non-Target Species

The status of commercial non-target species relevant to this action is described below and summarized in Table 5.

Spiny dogfish are jointly managed by the MAFMC and the NEFMC. The Commission also has a complementary FMP for state waters. According to the 2023 Management Track Assessment, spiny dogfish is not overfished and overfishing is not occurring. Spawning stock biomass in 2022 was estimated to be at 101% of the target (NEFSC 2023).

Smooth dogfish are jointly managed by ASMFC as a part of the Atlantic Coastal Sharks management plan and NMFS as a part of the Atlantic Shark Highly Migratory Species management plan. According to the most recent assessment, the stock is not overfished and overfishing is not occurring (SEDAR 2015).

The MAFMC and the Commission cooperatively develop fishery regulations for scup off the east coast of the United States. According to the 2023 assessment, the scup stock from Cape Hatteras, North Carolina extending north to the US-Canada border was not overfished and overfishing was not occurring in 2022. Retrospective adjustments were made to the model results; Adjusted values are used in the projections and management. Adjustments have not been required in previous scup assessments given retrospective patterns were not strong in previous assessments. NEFSC is scheduled to provide a new management track assessment for scup in June 2025.

Monkfish are jointly managed by the MAFMC and the NEFMC. The status of the monkfish stocks changed in 2023 to unknown from not subject to overfishing and not overfished, based on the 2022 monkfish stock assessment. These changes were made because the 2013 assessment that supported the prior stock status determinations were rejected during the 2016 assessment due to an invalid ageing method. Analytical assessments have not been used for monkfish since 2013, and index-based approaches have been used since to determine catch advice. Additional information can be found in Monkfish Framework 13 (NEFMC 2023).

The Northeast skate complex is managed by the NEFMC and includes seven skate species, several of which are caught as non-target species in the summer flounder fishery. The fishing mortality reference points for skates are based on changes in biomass indices from the NEFSC bottom trawl survey. If the three-year moving average of the survey biomass index for a skate species declines by more than the average CV of the survey time series, then fishing mortality is assumed to be greater than F_{MSY} and it is concluded that overfishing is occurring. Based on the 2023 stock assessment update, NMFS has determined that little skate, winter skate, clearnose skate, and barndoor skate are not overfished and overfishing is not occurring (NEFMC 2024; NEFMC staff, pers. comm.).

Northern sea robins are not currently managed and have not been assessed, therefore their overfished and overfishing status is unknown (Table 5).

Table 5: Most recent stock status information for commercial non-target species identified in this action.

Species	Stock biomass status	Fishing mortality rate status
SKATE, LITTLE	Not overfished	Overfishing not occurring
SEA ROBIN, NORTHERN	Unknown (not assessed)	Unknown (not assessed)
SKATE, WINTER (BIG)	Not overfished	Overfishing not occurring
SKATE, CLEARNOSE	Not overfished	Overfishing not occurring
DOGFISH, SPINY	Not overfished	Overfishing not occurring
DOGFISH, SMOOTH	Not overfished	Overfishing not occurring
SCUP	Not overfished	Overfishing not occurring
SKATE, BARNDOOR	Not overfished	Overfishing not occurring
MONKFISH (GOOSEFISH)	Unknown	Unknown

6.3 HABITAT

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

6.3.1 Physical Environment

Summer flounder inhabit the northeast U.S. shelf ecosystem, which extends from the coast to the edge of the continental shelf from the Gulf of Maine through Cape Hatteras, including the slope sea offshore to the Gulf Stream. The northeast shelf ecosystem includes the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope (Figure 5).

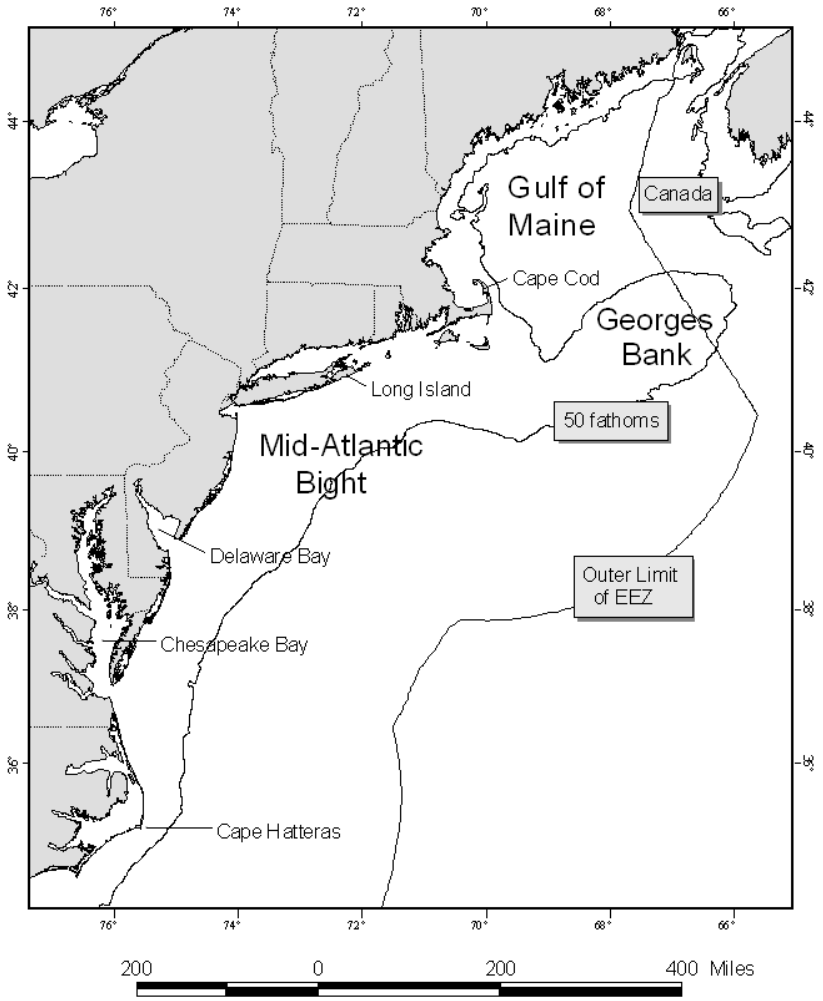

Figure 5: Northeast U.S. Shelf Ecosystem.

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

The continental slope begins at the continental shelf break and continues eastward with increasing depth until it becomes the continental rise. It is fairly homogenous, with exceptions at the shelf break, some canyons, the Hudson Shelf Valley, and in areas of glacially rafted hard bottom.

The continental shelf in this region was shaped largely by sea level fluctuations caused by past ice ages. The shelf's basic morphology and sediments derive from the retreat of the last ice sheet and the subsequent rise in sea level. Currents and waves have since modified this basic structure.

Shelf and slope waters of the Mid-Atlantic Bight have a slow southwestward flow that is occasionally interrupted by warm core rings or meanders from the Gulf Stream. On average, shelf water moves parallel to bathymetry isobars at speeds of 5 - 10 cm/s at the surface and 2 cm/s or

less at the bottom. Storm events can cause much more energetic variations in flow. Tidal currents on the inner shelf have a higher flow rate of 20 cm/s that increases to 100 cm/s near inlets.

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

Some sand ridges are more modern in origin than the shelf's glaciated morphology. Their formation is not well understood; however, they appear to develop from the sediments that erode from the shore face. They maintain their shape, so it is assumed that they are in equilibrium with modern current and storm regimes. They are usually grouped, with heights of about 10 m, lengths of 10 - 50 km and spacing of 2 km. Ridges are usually oriented at a slight angle towards shore, running in length from northeast to southwest. The seaward face usually has the steepest slope. Sand ridges are often covered with smaller similar forms such as sand waves, megaripples, and ripples. Swales occur between sand ridges. Since ridges are higher than the adjacent swales, they are exposed to more energy from water currents and experience more sediment mobility than swales. Ridges tend to contain less fine sand, silt and clay while relatively sheltered swales contain more of the finer particles. Swales have greater benthic macrofaunal density, species richness and biomass, due in part to the increased abundance of detrital food and the less physically rigorous conditions.

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

Sediments are uniformly distributed over the shelf in this region. A sheet of sand and gravel varying in thickness from 0 - 10 m covers most of the shelf. The mean bottom flow from the constant southwesterly current is not fast enough to move sand, so sediment transport must be episodic. Net sediment movement is in the same southwesterly direction as the current. The sands are mostly medium to coarse grains, with finer sand in the Hudson Shelf Valley and on the outer shelf. Mud is rare over most of the shelf, but is common in the Hudson Shelf Valley. Occasionally relic estuarine mud deposits are re-exposed in the swales between sand ridges. Fine sediment

content increases rapidly at the shelf break, which is sometimes called the "mud line," and sediments are 70 - 100% fine on the slope. On the slope, silty sand, silt, and clay predominate (Stevenson et al. 2004).

Greene et al. (2010) identified and described Ecological Marine Units in New England and the Mid-Atlantic based on sediment type, seabed form (a combination of slope and relative depth) [4], and benthic organisms. According to this classification scheme, the sediment composition off New England and the Mid-Atlantic is about 68% sand, 26% gravel, and 6% silt/mud. The seafloor is classified as about 52% flat, 26% depression, 19% slope, and 3% steep.

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

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

6.3.2 Essential Fish Habitat (EFH)

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

The broad definition of EFH has led the Mid-Atlantic and the New England Fishery Management Councils to identify EFH throughout most of the Northeast U.S. Shelf Ecosystem, ranging from areas out to the shelf break to wetlands, streams, and rivers. Table 6 summarizes EFH within the affected area of this action for federally managed species and life stages that are vulnerable to bottom tending fishing gear. EFH maps and text descriptions for these species and life stages can be found at www.fisheries.noaa.gov/resource/map/essential-fish-habitat-mapper.

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

Table 6: Geographic distributions and habitat characteristics of EFH designations for benthic fish and shellfish species within the affected environment of the action.

Species	Life Stage	Geographic Area	Depth (meters)	Habitat Type and Description
American plaice	Juveniles	Gulf of Maine and bays and estuaries from Passamaquoddy Bay to Saco Bay, Maine and from Massachusetts Bay to Cape Cod Bay, Massachusetts Bay	40-180	Sub-tidal benthic habitats on mud and sand, also found on gravel and sandy substrates bordering bedrock
American plaice	Adults	Gulf of Maine, Georges Bank and bays and estuaries from Passamaquoddy Bay to Saco Bay, Maine and from Massachusetts Bay to Cape Cod Bay, Massachusetts Bay	40-300	Sub-tidal benthic habitats on mud and sand, also gravel and sandy substrates bordering bedrock
Atlantic cod	Juveniles	Gulf of Maine, Georges Bank, and Southern New England, including nearshore waters from eastern Maine to Rhode Island and the following estuaries: Passamaquoddy Bay to Saco Bay; Massachusetts Bay, Boston Harbor, Cape Cod Bay, and Buzzards Bay	Mean high water-120	Structurally-complex intertidal and sub-tidal habitats, including eelgrass, mixed sand and gravel, and rocky habitats (gravel pavements, cobble, and boulder) with and without attached macroalgae and emergent epifauna
Atlantic cod	Adults	Gulf of Maine, Georges Bank, Southern New England, and the Mid-Atlantic to Delaware Bay, including the following estuaries: Passamaquoddy Bay to Saco Bay; Massachusetts Bay, Boston Harbor, Cape Cod Bay, and Buzzards Bay	30-160	Structurally complex sub-tidal hard bottom habitats with gravel, cobble, and boulder substrates with and without emergent epifauna and macroalgae, also sandy substrates and along deeper slopes of ledges
Atlantic halibut	Juveniles & Adults	Gulf of Maine, Georges Bank, and continental slope south of Georges Bank	60-140 and 400-700 on slope	Benthic habitats on sand, gravel, or clay substrates
Atlantic sea scallop	Eggs	Gulf of Maine coastal waters and offshore banks, Georges Bank, and the Mid-Atlantic, including the following estuaries: Passamaquoddy Bay to Sheepscot River; Casco Bay, Massachusetts Bay, and Cape Cod Bay	18-110	Inshore and offshore benthic habitats (see adults)
Atlantic sea scallop	Larvae	Gulf of Maine coastal waters and offshore banks, Georges Bank, and the Mid-Atlantic, including the following estuaries: Passamaquoddy Bay to Sheepscot River; Casco Bay, Massachusetts Bay, and Cape Cod Bay	No information	Inshore and offshore pelagic and benthic habitats: pelagic larvae ("spat"), settle on variety of hard surfaces, including shells, pebbles, and gravel and to macroalgae and other benthic organisms such as hydroids
Atlantic sea scallop	Juveniles	Gulf of Maine coastal waters and offshore banks, Georges Bank, and the Mid-Atlantic, including the following estuaries: Passamaquoddy Bay to Sheepscot River; Casco Bay, Great Bay, Massachusetts Bay, and Cape Cod Bay	18-110	Benthic habitats initially attached to shells, gravel, and small rocks (pebble, cobble), later free-swimming juveniles found in same habitats as adults

Species	Life Stage	Geographic Area	Depth (meters)	Habitat Type and Description
Atlantic sea scallop	Adults	Gulf of Maine coastal waters and offshore banks, Georges Bank, and the Mid-Atlantic, including the following estuaries: Passamaquoddy Bay to Sheepscot River; Casco Bay, Great Bay, Massachusetts Bay, and Cape Cod Bay	18-110	Benthic habitats with sand and gravel substrates
Atlantic surfclams	Juveniles and adults	Continental shelf from southwestern Gulf of Maine to Cape Hatteras, North Carolina	Surf zone to about 61, abundance low >38	In substrate to depth of 3 ft
Atlantic wolffish	Eggs	U.S. waters north of 41˚N latitude and east of 71˚W longitude	<100	Sub-tidal benthic habitats under rocks and boulders in nests
Atlantic wolffish	Juveniles	U.S. waters north of 41˚N latitude and east of 71˚W longitude	70-184	Sub-tidal benthic habitats
Atlantic wolffish	Adults	U.S. waters north of 41˚N latitude and east of 71˚W longitude	<173	A wide variety of sub-tidal sand and gravel substrates once they leave rocky spawning habitats, but not on muddy bottom
Barndoor skate	Juveniles and adults	Primarily on Georges Bank and in Southern New England and on the continental slope	40-400 on shelf and to 750 on slope	Sub-tidal benthic habitats on mud, sand, and gravel substrates
Black sea bass	Juveniles and adults	Continental shelf and estuarine waters from the southwestern Gulf of Maine and Cape Hatteras, North Carolina	Inshore in summer and spring	Benthic habitats with rough bottom, shellfish and eelgrass beds, man-made structures in sandy-shelly areas, also offshore clam beds and shell patches in winter
Clearnose skate	Juveniles	Inner continental shelf from New Jersey to the St. Johns River in Florida and certain bays and certain estuaries including Raritan Bay, inland New Jersey bays, Chesapeake Bay, and Delaware Bays	0-30	Sub-tidal benthic habitats on mud and sand, but also on gravelly and rocky bottom
Clearnose skate	Adults	Inner continental shelf from New Jersey to the St. Johns River in Florida and certain bays and certain estuaries including Raritan Bay, inland New Jersey bays, Chesapeake Bay, and Delaware Bays	0-40	Sub-tidal benthic habitats on mud and sand, but also on gravelly and rocky bottom
Golden tilefish	Juveniles and adults	Outer continental shelf and slope from U.S.-Canada boundary to the Virginia-North Carolina boundary	100-300	Burrows in semi-lithified clay substrate, may also utilize rocks, boulders, scour depressions beneath boulders, and exposed rock ledges as shelter
Haddock	Juveniles	Inshore and offshore waters in the Gulf of Maine, on Georges Bank, and on the continental shelf in the Mid-Atlantic region	40-140 and as shallow as 20 in coastal Gulf of Maine	Sub-tidal benthic habitats on hard sand (particularly smooth patches between rocks), mixed sand and shell, gravelly sand, and gravel
Haddock	Adults	Offshore waters in the Gulf of Maine, on Georges Bank, and on the continental shelf in Southern New England	50-160	Sub-tidal benthic habitats on hard sand (particularly smooth patches between rocks), mixed sand and shell, gravelly sand, and gravel and adjacent to boulders and cobbles along the margins of rocky reefs

Species	Life Stage	Geographic Area	Depth (meters)	Habitat Type and Description
Little skate	Juveniles	Coastal waters in the Gulf of Maine, Georges Bank, and the continental shelf in the Mid-Atlantic region as far south as Delaware Bay, including certain bays and estuaries in the Gulf of Maine	Mean high water-80	Intertidal and sub-tidal benthic habitats on sand and gravel, also found on mud
Little skate	Adults	Coastal waters in the Gulf of Maine, Georges Bank, and the continental shelf in the Mid-Atlantic region as far south as Delaware Bay, including certain bays and estuaries in the Gulf of Maine	Mean high water-100	Intertidal and sub-tidal benthic habitats on sand and gravel, also found on mud
Longfin inshore squid	Eggs	Inshore and offshore waters from Georges Bank southward to Cape Hatteras	Generally <50	Bottom habitats attached to variety of hard bottom types, macroalgae, sand, and mud
Monkfish	Juveniles	Gulf of Maine, outer continental shelf in the Mid-Atlantic, and the continental slope	50-400 in the Mid-Atlantic, 20-400 in the Gulf of Maine, and to 1000 on the slope	Sub-tidal benthic habitats on a variety of habitats, including hard sand, pebbles, gravel, broken shells, and soft mud, also seek shelter among rocks with attached algae
Monkfish	Adults	Gulf of Maine, outer continental shelf in the Mid-Atlantic, and the continental slope	50-400 in the Mid-Atlantic, 20-400 in the Gulf of Maine, and to 1000 on the slope	Sub-tidal benthic habitats on hard sand, pebbles, gravel, broken shells, and soft mud, but seem to prefer soft sediments, and, like juveniles, utilize the edges of rocky areas for feeding
Ocean pout	Eggs	Georges Bank, Gulf of Maine, and the Mid-Atlantic, including certain bays and estuaries in the Gulf of Maine	<100	Sub-tidal hard bottom habitats in sheltered nests, holes, or rocky crevices
Ocean pout	Juveniles	Gulf of Maine, on the continental shelf north of Cape May, New Jersey, on the southern portion of Georges Bank, and including certain bays and estuaries in the Gulf of Maine	Mean high water-120	Intertidal and sub-tidal benthic habitats on a wide variety of substrates, including shells, rocks, algae, soft sediments, sand, and gravel
Ocean pout	Adults	Gulf of Maine, Georges Bank, on the continental shelf north of Cape May, New Jersey, and including certain bays and estuaries in the Gulf of Maine	20-140	Sub-tidal benthic habitats on mud and sand, particularly in association with structure forming habitat types; i.e. shells, gravel, or boulders
Ocean quahogs	Juveniles and adults	Continental shelf from southern New England and Georges Bank to Virginia	9-244	In substrate to depth of 3 ft
Offshore hake	Juveniles	Outer continental shelf and slope from Georges Bank to 34° 40'N	160-750	Pelagic and benthic habitats
Offshore hake	Adults	Outer continental shelf and slope from Georges Bank to 34° 40'N	200-750	Pelagic and benthic habitats
Pollock	Juveniles	Inshore and offshore waters in the Gulf of Maine (including bays and estuaries in the Gulf of Maine), the Great South Channel, Long Island Sound, and Narragansett Bay, Rhode Island	Mean high water-180 in Gulf of Maine, Long Island Sound, and Narragansett Bay; 40-180 on Georges Bank	Intertidal and sub-tidal pelagic and benthic rocky bottom habitats with attached macroalgae, small juveniles in eelgrass beds, older juveniles move into deeper water habitats also occupied by adults

Species	Life Stage	Geographic Area	Depth (meters)	Habitat Type and Description
Pollock	Adults	Offshore Gulf of Maine waters, Massachusetts Bay and Cape Cod Bay, on the southern edge of Georges Bank, and in Long Island Sound	80-300 in Gulf of Maine and on Georges Bank; <80 in Long Island Sound, Cape Cod Bay, and Narragansett Bay	Pelagic and benthic habitats on the tops and edges of offshore banks and shoals with mixed rocky substrates, often with attached macro algae
Red hake	Juveniles	Gulf of Maine, Georges Bank, and the Mid-Atlantic, including Passamaquoddy Bay to Cape Cod Bay in the Gulf of Maine, Buzzards Bay and Narragansett Bay, Long Island Sound, Raritan Bay and the Hudson River, and lower Chesapeake Bay	Mean high water-80	Intertidal and sub-tidal soft bottom habitats, esp those that that provide shelter, such as depressions in muddy substrates, eelgrass, macroalgae, shells, anemone and polychaete tubes, on artificial reefs, and in live bivalves (e.g., scallops)
Red hake	Adults	In the Gulf of Maine, the Great South Channel, and on the outer continental shelf and slope from Georges Bank to North Carolina , including inshore bays and estuaries as far south as Chesapeake Bay	50-750 on shelf and slope, as shallow as 20 inshore	Sub-tidal benthic habitats in shell beds, on soft sediments (usually in depressions), also found on gravel and hard bottom and artificial reefs
Rosette skate	Juveniles and adults	Outer continental shelf from approximately 40˚N to Cape Hatteras, North Carolina	80-400	Benthic habitats with mud and sand substrates
Scup	Juveniles	Continental shelf between southwestern Gulf of Maine and Cape Hatteras, North Carolina and in nearshore and estuarine waters between Massachusetts and Virginia	No information	Benthic habitats, in association with inshore sand and mud substrates, mussel and eelgrass beds
Scup	Adults	Continental shelf and nearshore and estuarine waters between southwestern Gulf of Maine and Cape Hatteras, North Carolina	No information, generally overwinter offshore	Benthic habitats
Silver hake	Juveniles	Gulf of Maine, including certain bays and estuaries, and on the continental shelf as far south as Cape May, New Jersey	40-400 in Gulf of Maine, >10 in Mid-Atlantic	Pelagic and sandy sub-tidal benthic habitats in association with sand-waves, flat sand with amphipod tubes, shells, and in biogenic depressions
Silver hake	Adults	Gulf of Maine, including certain bays and estuaries, the southern portion of Georges Bank, and the outer continental shelf and some shallower coastal locations in the Mid-Atlantic	>35 in Gulf of Maine, 70-400 on Georges Bank and in the Mid-Atlantic	Pelagic and sandy sub-tidal benthic habitats, often in bottom depressions or in association with sand waves and shell fragments, also in mud habitats bordering deep boulder reefs, on over deep boulder reefs in the southwest Gulf of Maine
Smooth skate	Juveniles	Offshore Gulf of Maine, some coastal bays in Maine and New Hampshire, and on the continental slope from Georges Bank to North Carolina	100-400 offshore Gulf of Maine, <100 inshore Gulf of Maine, to 900 on slope	Benthic habitats, mostly on soft mud in deeper areas, but also on sand, broken shells, gravel, and pebbles on offshore banks in the Gulf of Maine
Smooth skate	Adults	Offshore Gulf of Maine and the continental slope from Georges Bank to North Carolina	100-400 offshore Gulf of Maine, to 900 on slope	Benthic habitats, mostly on soft mud in deeper areas, but also on sand, broken shells, gravel, and pebbles on offshore banks in the Gulf of Maine

Species	Life Stage	Geographic Area	Depth (meters)	Habitat Type and Description
Summer flounder	Juveniles	Continental shelf and estuaries from Cape Cod, Massachusetts, to Cape Canaveral, Florida	To maximum 152	Benthic habitats, including inshore estuaries, salt marsh creeks, seagrass beds, mudflats, and open bay areas
Summer flounder	Adults	Continental shelf from Cape Cod, Massachusetts, to Cape Canaveral, Florida, including shallow coastal and estuarine waters during warmer months	To maximum 152 in colder months	Benthic habitats
Spiny dogfish	Juveniles	Primarily the outer continental shelf and slope between Cape Hatteras and Georges Bank and in the Gulf of Maine	Deep water	Pelagic and epibenthic habitats
Spiny dogfish	Female sub-adults	Throughout the region	Wide depth range	Pelagic and epibenthic habitats
Spiny dogfish	Male sub-adults	Primarily in the Gulf of Maine and on the outer continental shelf from Georges Bank to Cape Hatteras	Wide depth range	Pelagic and epibenthic habitats
Spiny dogfish	Female adults	Throughout the region	Wide depth range	Pelagic and epibenthic habitats
Spiny dogfish	Male adults	Throughout the region	Wide depth range	Pelagic and epibenthic habitats
Thorny skate	Juveniles	Offshore Gulf of Maine, some coastal bays in the Gulf of Maine, and on the continental slope from Georges Bank to North Carolina	35-400 offshore Gulf of Maine, <35 inshore Gulf of Maine, to 900 om slope	Benthic habitats on a wide variety of bottom types, including sand, gravel, broken shells, pebbles, and soft mud
Thorny skate	Adults	Offshore Gulf of Maine and on the continental slope from Georges Bank to North Carolina	35-400 offshore Gulf of Maine, <35 inshore Gulf of Maine, to 900 om slope	Benthic habitats on a wide variety of bottom types, including sand, gravel, broken shells, pebbles, and soft mud
White hake	Juveniles	Gulf of Maine, Georges Bank, and Southern New England, including bays and estuaries in the Gulf of Maine	Mean high water - 300	Intertidal and sub-tidal estuarine and marine habitats on fine-grained, sandy substrates in eelgrass, macroalgae, and un-vegetated habitats
White hake	Adults	Gulf of Maine, including coastal bays and estuaries, and the outer continental shelf and slope	100-400 offshore Gulf of Maine, >25 inshore Gulf of Maine, to 900 on slope	Sub-tidal benthic habitats on fine-grained, muddy substrates and in mixed soft and rocky habitats
Windowpane flounder	Juveniles	Estuarine, coastal, and continental shelf waters from the Gulf of Maine to northern Florida, including bays and estuaries from Maine to Maryland	Mean high water - 60	Intertidal and sub-tidal benthic habitats on mud and sand substrates
Windowpane flounder	Adults	Estuarine, coastal, and continental shelf waters from the Gulf of Maine to Cape Hatteras, North Carolina, including bays and estuaries from Maine to Maryland	Mean high water - 70	Intertidal and sub-tidal benthic habitats on mud and sand substrates
Winter flounder	Eggs	Eastern Maine to Absecon Inlet, New Jersey (39° 22′N) and Georges Bank	0-5 south of Cape Cod, 0-70 Gulf of Maine and Georges Bank	Sub-tidal estuarine and coastal benthic habitats on mud, muddy sand, sand, gravel, submerged aquatic vegetation, and macroalgae

Species	Life Stage	Geographic Area	Depth (meters)	Habitat Type and Description
Winter flounder	Juveniles	Coastal Gulf of Maine, Georges Bank, and continental shelf in Southern New England and Mid-Atlantic to Absecon Inlet, New Jersey, including bays and estuaries from eastern Maine to northern New Jersey	Mean high water - 60	Intertidal and sub-tidal benthic habitats on a variety of bottom types, such as mud, sand, rocky substrates with attached macro algae, tidal wetlands, and eelgrass; young-of-the-year juveniles on muddy and sandy sediments in and adjacent to eelgrass and macroalgae, in bottom debris, and in marsh creeks
Winter flounder	Adults	Coastal Gulf of Maine, Georges Bank, and continental shelf in Southern New England and Mid-Atlantic to Absecon Inlet, New Jersey, including bays and estuaries from eastern Maine to northern New Jersey	Mean high water - 70	Intertidal and sub-tidal benthic habitats on muddy and sandy substrates, and on hard bottom on offshore banks; for spawning adults, also see eggs
Winter skate	Juveniles	Coastal waters from eastern Maine to Delaware Bay, including certain bays and estuaries from eastern Maine to Chincoteague Bay, Virginia, and on Georges Bank and the continental shelf in Southern New England and the Mid-Atlantic	0-90	Sub-tidal benthic habitats on sand and gravel substrates, are also found on mud
Winter skate	Adults	Coastal waters from eastern Maine to Delaware Bay, including certain bays and estuaries in Maine and New Hampshire, and on Georges Bank and the continental shelf in Southern New England and the Mid-Atlantic	0-80	Sub-tidal benthic habitats on sand and gravel substrates, are also found on mud
Witch flounder	Juveniles	Gulf of Maine and outer continental shelf and slope	50-400 and to 1500 on slope	Sub-tidal benthic habitats with mud and muddy sand substrates
Witch flounder	Adults	Gulf of Maine and outer continental shelf and slope	35-400 and to 1500 on slope	Sub-tidal benthic habitats with mud and muddy sand substrates
Yellowtail flounder	Juveniles	Gulf of Maine, Georges Bank, and the Mid-Atlantic, including certain bays and estuaries in the Gulf of Maine	20-80	Sub-tidal benthic habitats on sand and muddy sand
Yellowtail flounder	Adults	Gulf of Maine, Georges Bank, and the Mid-Atlantic, including certain bays and estuaries in the Gulf of Maine	25-90	Sub-tidal benthic habitats on sand and sand with mud, shell hash, gravel, and rocks

6.3.3 Fishery Impact Considerations

Only those gear types which contact the bottom impact physical habitat. The actions proposed in this document are relevant only to the commercial summer flounder fishery, which is prosecuted primarily with bottom trawl gear (Table 7).

Table 7: Percent of reported commercial summer flounder landings taken by gear category in 2023 based on Catch Accounting Monitoring System (CAMS) data.

Gear	Percent of Summer Flounder Landings
Bottom otter trawls	97%
Handlines	<2%
Sink gillnets	<0.5%
Other	<0.5% each

Stevenson et al. (2004) compiled a detailed summary of several studies on the impacts of a variety of gear types on marine habitats. Conclusions relevant for this action are briefly summarized below with a focus on bottom trawl gear since this is the predominant gear type used in commercial harvest of summer flounder.

Otter trawl doors can create furrows in sand, mud, and gravel/rocky substrates. Studies have found furrow depths that range from 2 to 10 cm. Bottom trawl gear can also re-suspend and disperse surface sediments and can smooth topographic features. It can also result in reduced abundance, and in some cases reduced diversity, of benthic species such as nematodes, polychaetes, and bivalves. It can also have short-term positive ecological impacts such as increased food value and increased chlorophyll production in surface sediments. The duration of these impacts varies by sediment type, depth, and frequency of the impact (e.g., a single trawl tow vs. repeated tows). Some studies documented effects that lasted only a few months. Other studies found effects that lasted up to 18 months. Impacts tend to have shorter durations in dynamic environments with less structured bottom composition compared to less dynamic environments with structured bottom. Shallower water, stronger bottom currents, more wave action, finer-grained sediments, and higher frequencies of natural disturbance are characteristics that make environments more dynamic (Stevenson et al. 2004).

Compared to otter trawls and dredges, Stevenson et al. (2004) summarized fewer studies on other bottom tending gears such as traps. Morgan and Chuenpagdee (2003) found that the impacts of bottom gill nets, traps, and longlines were generally limited to warm or shallow-water environments with rooted aquatic vegetation or "live bottom" environments (e.g., coral reefs). These impacts were of a lesser degree than those from bottom trawls and dredges. Eno et al. (2001) found that traps can bend, smother, and uproot sea pens in soft sediments; however, sea pen communities were largely able to recover within a few days of the impact.

The Mid-Atlantic Council developed some fishery management actions with the sole intent of protecting marine habitats. For example, in Amendment 9 to the Mackerel, Squids, and Butterfish FMP, the Council determined that bottom trawls used in Atlantic mackerel, longfin and *Illex* squid, and butterfish fisheries have the potential to adversely affect EFH for some federally-managed fisheries (MAFMC 2008). As a result of Amendment 9, closures to squid trawling were developed for portions of Lydonia and Oceanographer Canyons. Subsequent closures were implemented in these and Veatch and Norfolk Canyons to protect tilefish EFH by prohibiting all bottom trawling activity. In addition, amendment 16 to the Mackerel, Squid, and Butterfish FMP prohibits the use of all bottom-tending gear in fifteen discrete zones and one broad zone where deep sea corals are known or highly likely to occur (81 Federal Register 90246, December 14, 2016).

Actions implemented in the Summer Flounder, Scup, and Black Sea Bass FMP that affected species with overlapping EFH were considered in Amendment 13 (MAFMC 2002). The analysis in Amendment 13 indicated that no management measures were needed to minimize impacts to EFH because the trawl fisheries for summer flounder, scup, and black sea bass in federal waters are conducted primarily in high energy mobile sand and bottom habitat where gear impacts are minimal and/or temporary in nature.

6.4 PROTECTED SPECIES

Protected species are those afforded protection under the Endangered Species Act (ESA) of 1973 and/or the Marine Mammal Protection Act (MMPA) of 1972. Table 8 provides a list of protected species under NMFS jurisdiction that occur within the affected environment of the commercial summer flounder fishery; however, not all species have the potential to be impacted (e.g., become entangled or bycaught) by the operation of the fishery. Identification of protected species potentially impacted by the proposed action was based upon 1) the species' degree of overlap with the fishery; and 2) observed or documented interactions between the species and bottom trawl gear, the primary gear type used to prosecute the commercial summer flounder fishery. **Appendix C** provides detailed information used to evaluate these criteria, as well as our assessment of impacts to protected species provided in section 7.0.

Table 8: Species protected under the ESA and/or MMPA that may occur in the affected environment of the Summer Flounder, Scup, and Black Sea Bass FMP. Marine mammal species italicized and in bold are considered MMPA strategic stocks.[1]

Species	Status	Potentially impacted by this action?
Cetaceans		
North Atlantic right whale (Eubalaena glacialis)	***Endangered***	***Yes***
Humpback whale, West Indies DPS (*Megaptera novaeangliae*)	Protected (MMPA)	Yes
Fin whale (Balaenoptera physalus)	***Endangered***	***Yes***
Sei whale (Balaenoptera borealis)	***Endangered***	***Yes***
Blue whale (Balaenoptera musculus)	***Endangered***	***No***
Sperm whale (Physeter macrocephalus	***Endangered***	***Yes***
Minke whale (*Balaenoptera acutorostrata*)	Protected (MMPA)	Yes
Pilot whale *(Globicephala spp.)*[2]	Protected (MMPA)	Yes
Pygmy sperm whale (*Kogia breviceps*)	Protected (MMPA)	No
Dwarf sperm whale (*Kogia sima*)	Protected (MMPA)	No
Risso's dolphin (*Grampus griseus*)	Protected (MMPA)	Yes
Atlantic white-sided dolphin (*Lagenorhynchus acutus*)	Protected (MMPA)	Yes
Short Beaked Common dolphin (*Delphinus delphis*)	Protected (MMPA)	Yes
Atlantic Spotted dolphin (*Stenella frontalis*)	Protected (MMPA)	No
Striped dolphin (*Stenella coeruleoalba*)	Protected (MMPA)	No
Bottlenose dolphin, Western North Atlantic (WNA) Offshore Stock (*Tursiops truncatus*)	Protected (MMPA)	*Yes*
Bottlenose dolphin, WNA Northern Migratory Coastal Stock (Tursiops truncatus)	***Protected (MMPA)***	***No***
Bottlenose dolphin, WNA Southern Migratory Coastal Stock (Tursiops truncatus)	***Protected (MMPA)***	***No***
Harbor porpoise (*Phocoena phocoena*)	Protected (MMPA)	Yes
Sea Turtles		
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered	Yes
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered	Yes

Species	Status	Potentially impacted by this action?
Green sea turtle, North Atlantic DPS (*Chelonia mydas*)	Threatened	Yes
Loggerhead sea turtle (*Caretta caretta*), Northwest Atlantic Ocean DPS	Threatened	Yes
Hawksbill sea turtle (*Eretmochelys imbricate*)	Endangered	No
Fish		
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered	No
Giant manta ray (*Manta birostris)*	Threatened	Yes
Oceanic whitetip shark (*Carcharhinus longimanus*)	Threatened	No
Atlantic salmon (*Salmo salar*)	Endangered	Yes
Atlantic sturgeon *(Acipenser oxyrinchus)*		
Gulf of Maine DPS	Threatened	Yes
New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS	Endangered	Yes
Pinnipeds		
Harbor seal (*Phoca vitulina*)	Protected (MMPA)	Yes
Gray seal (*Halichoerus grypus*)	Protected (MMPA)	Yes
Harp seal (*Phoca groenlandicus*)	Protected (MMPA)	Yes
Hooded seal (*Cystophora cristata*)	Protected (MMPA)	Yes
Critical Habitat		
North Atlantic Right Whale	ESA Designated	No
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA Designated	No

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

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

6.5 SOCIAL AND ECONOMIC ENVIRONMENT

This section includes a description of the summer flounder commercial fisheries (Section 6.5.1), and some basic information about the utilization of the SMEP and flynet exemption (Section 6.5.2). Additional information characterizing the use of the exemption programs can be found in **Appendices A and B.**

6.5.1 Description of the Summer Flounder Fisheries

Figure 6 shows commercial and recreational landings and dead discards of summer flounder from 1996 through 2023. Total (commercial and recreational combined) summer flounder catch during this time period peaked in 2004, generally declining to a low in 2018, with a slight increase since then.

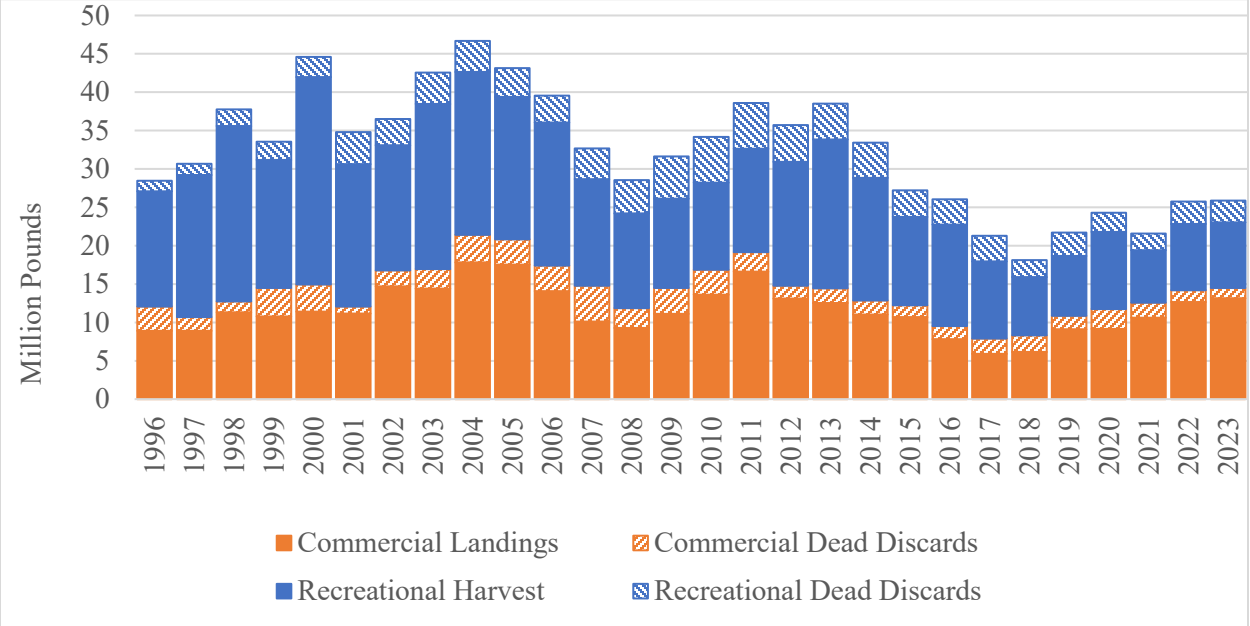

Figure 6: Commercial and recreational summer flounder landings and dead discards in millions of pounds, Maine-North Carolina, 1996-2023, based on CAMS data, MRIP data, and preliminary 2024 summer flounder data update information (S. Truesdell, pers. comm, June 2024). Recreational values reflect revised MRIP values.

Since 1996, commercial landings of summer flounder have ranged from a high of 17.84 million pounds in 2004, and a low of 5.89 million pounds in 2017 (Figure 6). In 2023, CAMS data indicate that commercial fishermen from Maine through North Carolina landed 13.14 million pounds of summer flounder, about 86% of the commercial quota (15.27 million pounds). Commercial dead catch has not exceeded the commercial ACL since 2018. Where commercial ACL overages have occurred, they are generally caused by higher-than-expected dead discards, as commercial fishery landings for summer flounder are typically well controlled to the commercial quota (Table 9).

Table 9: Summer flounder commercial landings, dead discards, and dead catch compared to the commercial quota and commercial ACL, 2015-2024. All values are in millions of pounds.

Year	Com. landings[a]	Com. quota	Quota overage/ underage	Com. dead discards[a]	Com. dead catch[a]	ACL	ACL overage/ underage
2015	10.68	11.07	**-4%**	1.55	12.23	13.34	**-8%**
2016	7.82	8.12	**-4%**	1.70	9.52	9.43	**+1%**
2017	5.89	5.66	**+4%**	2.00	7.89	6.57	**+20%**
2018	6.16	6.63	**-7%**	2.16	8.32	7.7	**+8%**
2019	9.12	10.98	**-17%**	1.73	10.85	13.53	**-20%**
2020	9.15	11.53	**-21%**	2.57	11.72	13.53	**-13%**
2021	10.62	12.49	**-15%**	1.96	12.58	14.63	**-14%**
2022	12.67	15.53	**-18%**	1.51	14.19	18.48	**-23%**
2023	13.14	15.27	**-14%**	1.34	14.48	18.21	**-20%**
2024	--	8.79	--	--	--	10.62	--

[a] Commercial landings for 2015-2023 and dead discards from 2020-2023 are based on CAMS data. Commercial dead discards for 2015-2019 are from the 2023 Management Track Assessment.

The commercial quota is divided among the states based on the allocation percentages specified in the FMP. Each state sets measures to achieve their state-specific commercial quotas. Two or more states may transfer or combine their summer flounder commercial quota under mutual agreement and with the approval of the NMFS Regional Administrator. The commercial allocations to the states were modified via Amendment 21, which became effective on January 1, 2021. This allocation system specifies that coastwide commercial quota up to 9.55 million pounds will be distributed according to the baseline allocations specified in Table 10 below (based on the pre-2021 state allocation percentages). When the coastwide quota exceeds 9.55 million pounds, the first 9.55 million pounds will be allocated according to the baseline percentages, but the *additional* quota amount beyond this trigger will be distributed by equal shares to all states except Maine, Delaware, and New Hampshire, which would split 1% of the additional quota (Table 10). The total percentage allocated annually to each state is dependent on how much additional quota beyond 9.55 million pounds, if any, is available in any given year. This allocation system is designed to provide for more equitable distribution of quota when stock biomass is higher, while considering the historic importance of the fishery to each state.

Table 10: Allocation of summer flounder commercial quota to the states. **The total state commercial quota allocation = baseline quota allocation + additional quota allocation.**

State	Allocation of baseline quota ≤9.55 mil lb	Allocation of additional quota beyond 9.55 mil lb
ME	0.04756%	0.333%
NH	0.00046%	0.333%
MA	6.82046%	12.375%
RI	15.68298%	12.375%
CT	2.25708%	12.375%
NY	7.64699%	12.375%
NJ	16.72499%	12.375%
DE	0.01779%	0.333%
MD	2.03910%	12.375%
VA	21.31676%	12.375%
NC	27.44584%	12.375%
Total	100%	100%

For 1996 through 2023, CAMS data indicate that summer flounder total ex-vessel revenue from Maine to North Carolina ranged from a low of $25.62 million in 1996 to a high of $42.19 million in 2005 (values adjusted to 2023 dollars to account for inflation). The mean price per pound ranged from a low of $2.11 in 2023 to a high of $5.11 in 2017 (both values in 2023 dollars). In 2023, 13.14 million pounds of summer flounder were landed generating $26.39 million in total ex-vessel revenue. Excluding records with missing value or landings information, the average price per pound in 2023 was $2.11 (Figure 7).

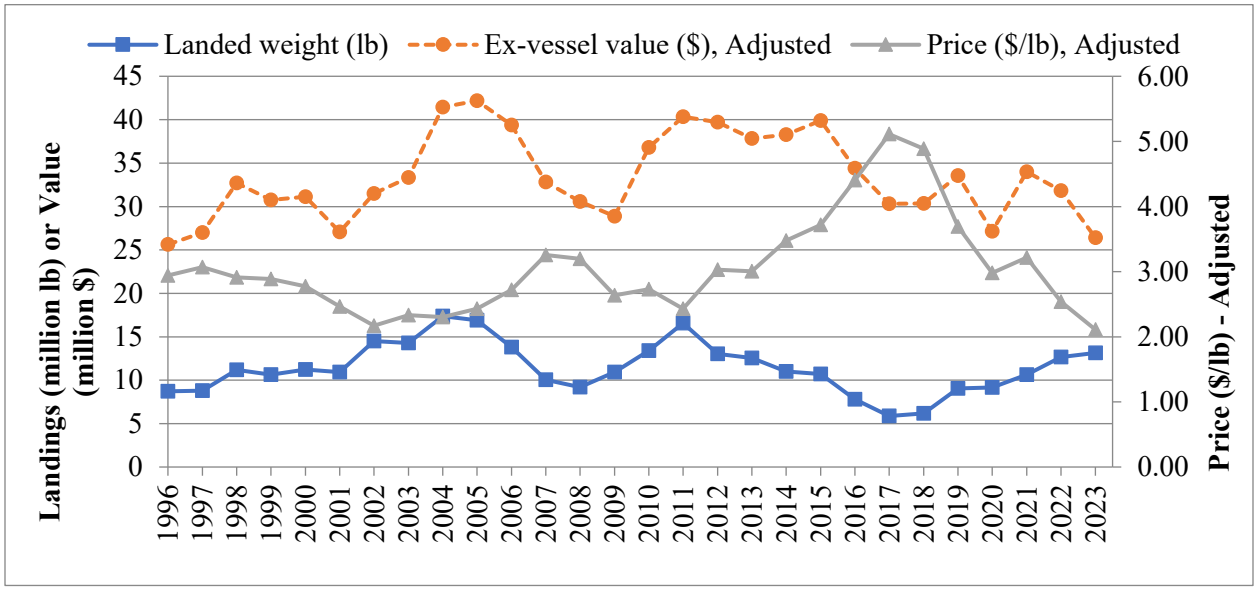

Figure 7: Landings, ex-vessel value, and price per pound for summer flounder, Maine through North Carolina, 1996-2023. Ex-vessel value and price are adjusted to real 2023 dollars using the

Gross Domestic Product Price Deflator (GDPDEF). Average price per pound calculations reflect removal of records with missing value and/or landings information.

CAMS data indicate that 97% of summer flounder landings in 2023 were taken by bottom otter trawls. Current regulations require a 14-inch total length minimum fish size in the commercial fishery. Trawl nets are required to have 5.5-inch diamond or 6-inch square minimum mesh in the entire net for vessels possessing more than the threshold amount of summer flounder (i.e., 200 lb from November 1-April 30 and 100 lb from May 1-October 31).

According to CAMS data, statistical areas 537 and 616 were responsible for the highest percentage of commercial summer flounder commercial landings in 2023 (28% and 21% respectively; Table 11; Figure 8). Statistical areas 539 and 611 had the highest number of trips that caught summer flounder (Table 11).

Over 170 federally permitted dealers from Maine through North Carolina bought summer flounder in 2023. More dealers from New York bought summer flounder than any other state (Table 12). All dealers combined bought approximately $26.39 million worth of summer flounder in 2023.

Since 1993, a moratorium permit has been required to fish commercially for summer flounder in federal waters. In 2023, 719 vessels held such permits.[5]

Federal dealer data indicate that at least 100,000 pounds of summer flounder were landed by commercial fishermen in 18 ports in 8 states in 2023 (as noted below, four of these ports are not included in the table as the associated landings values are confidential). These ports accounted for 93% of all 2023 commercial summer flounder landings. Point Judith, RI and Pt. Pleasant, NJ were the leading ports in 2023 in pounds of summer flounder landed, while Point Judith, RI was the leading port in number of vessels landing summer flounder (Table 13).

Table 11: Statistical areas that accounted for at least 5% of the total summer flounder landings in 2023, with associated number of trips, from CAMS data, which includes both state and federal dealer data as well as federal VTR data.

Statistical Area	Percent of 2023 Commercial Summer Flounder Catch	Number of Trips
537	28%	1,860
616	21%	604
613	14%	2,096
612	7%	911
539	7%	6,692
611	6%	4,227

[5] Source: https://www.greateratlantic.fisheries.noaa.gov/public/public/web/NEROINET/aps/permits/data/index.html

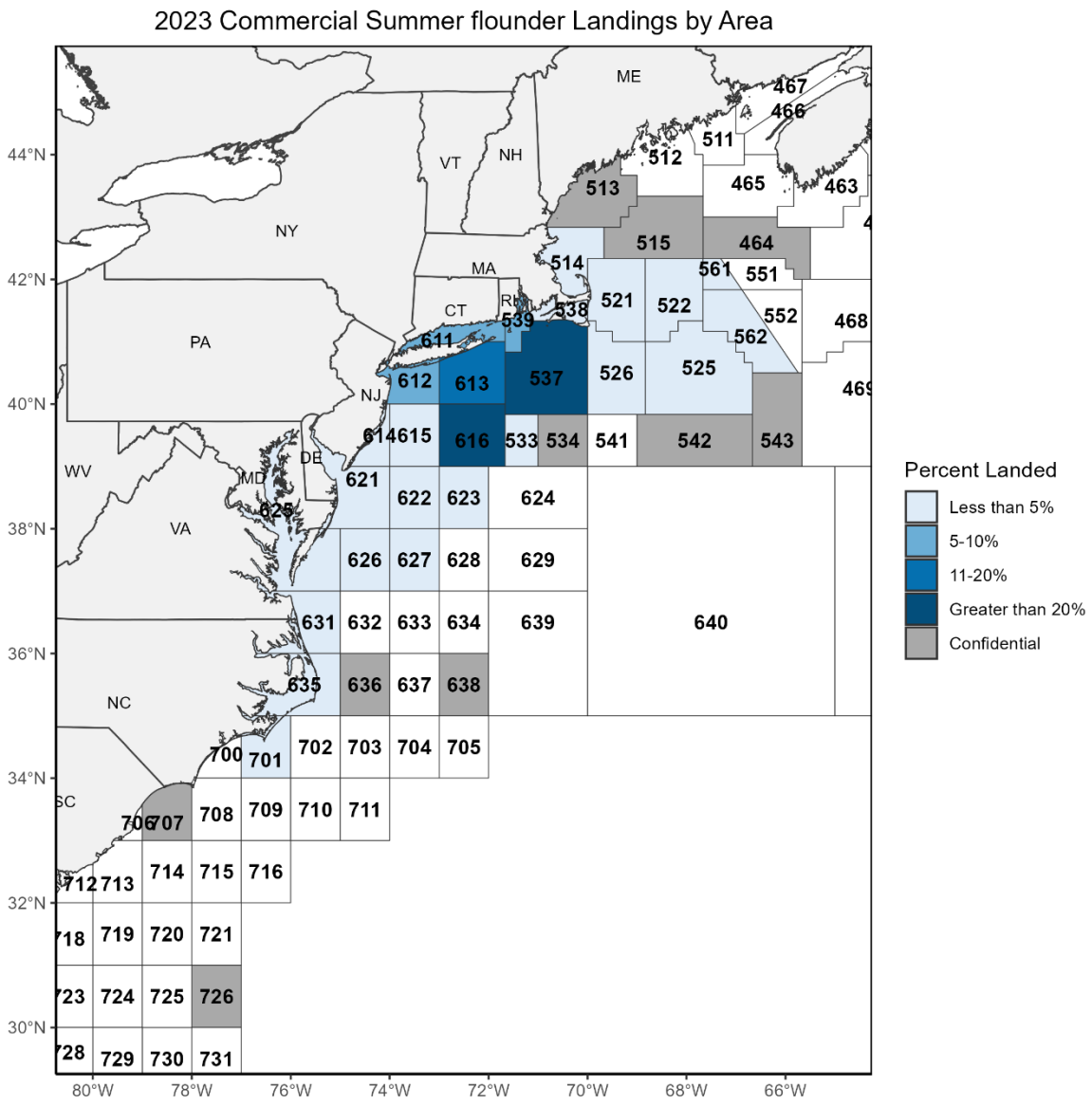

Figure 8: Proportion of commercial summer flounder landings (all vessel reported landings) by NMFS statistical area in 2023 based on CAMS data. Statistical areas marked "confidential" are associated with fewer than three vessels and/or dealers.

Table 12: Number of dealers per state which reported purchases of summer flounder in 2023. C = Confidential.

State	MA	RI	CT	NY	NJ	DE	MD	VA	NC
# of Dealers	35	28	14	45	23	C	3	12	11

Table 13: Ports reporting at least 100,000 pounds of commercial summer flounder landings in 2023, based on CAMS data. Note that four additional top ports are associated with more than 100,000 pounds of summer flounder landings, but they are not included in this table due to confidential landings data associated with fewer than three dealers.

Port	Commercial summer flounder landings (lb)	% of total	Number of vessels
POINT JUDITH, RI	2,074,267	16%	113
PT. PLEASANT, NJ	1,574,084	12%	34
NEWPORT NEWS, VA	1,201,358	9%	31
MONTAUK, NY	703,608	5%	64
NEW BEDFORD, MA	656,189	5%	58
STONINGTON, CT	479,818	4%	14
CAPE MAY, NJ	448,774	3%	39
HAMPTON BAYS, NY	440,875	3%	29
OCEAN CITY, MD	406,128	3%	13
EAST HAVEN, CT	276,487	2%	6
SHINNECOCK, NY	177,185	1%	17
CHINCOTEAGUE, VA	156,622	1%	9
WANCHESE, NC	139,306	1%	6
CHATHAM, MA	101,854	1%	22

6.5.2 Use of Exemption Programs

6.5.2.1 *SMEP Participation and Use*

As described below and in Appendix A, the SMEP is primarily used by fishing vessels in other, smaller mesh fisheries that also have commercial permits to land summer flounder. The program is intended to allow these vessels to retain more summer flounder that would otherwise be discarded when fishing east of the designated line during November through April.

Over the last ten years, SMEP LOAs have been issued to an average of 68 vessels each year for the relevant November-April time periods, with a slight increasing trend over these years (Figure 9). Between 2018-2022, about 13% of total annual summer flounder bottom trawl catch on average came from trips where an active LOA was held (regardless of mesh size used; see Table 20, Appendix A).

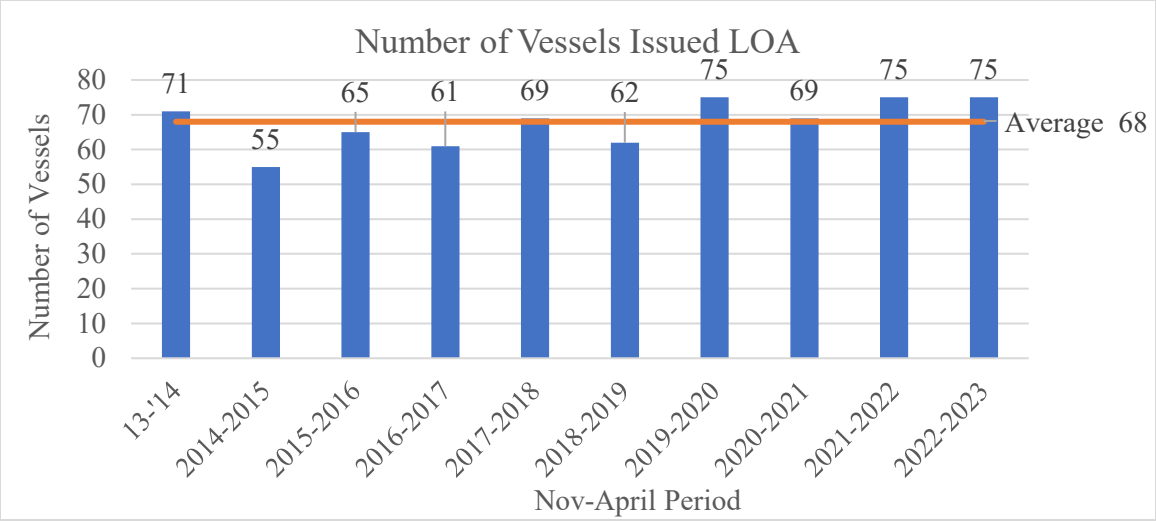

Figure 9: Number of vessels issued a SMEP LOA from November 2013 through April 2023. Some vessels held multiple LOAs within a season.

Vessel Trip Report (VTR), CAMS, and Northeast Fisheries Observer Program (NEFOP) data, all linked to trips where vessels held an active SMEP LOA, were used to characterize use of this exemption program.

Target species are reported for each haul in the observer data. 41% of observed hauls for active SMEP LOA holders over the November 2013 through April 2022 period using mesh smaller than 5.5-inches were reported as targeting longfin squid, followed by 25% of hauls reporting targeting summer flounder. Other common target species on observed SMEP trips using small mesh included scup and whiting, with other species accounting for 5% or less of hauls on these trips (Table 14).

Table 14: Top target species on observed trips for vessels with an active SMEP LOA, using mesh smaller than 5.5 inches, 2013-2022. The table shows top species as a percent of total observed hauls for these vessels over this period, number of unique trips, and number of unique permits.

Target Species	Percent of Hauls	Number of Trips	Number of Permits
Longfin Squid	41.3%	241	71
Summer Flounder	25.2%	225	68
Scup	14.9%	148	47
Silver Hake (Whiting)	7.7%	83	35
Atlantic Herring	5.0%	66	8
Black Sea Bass	1.7%	24	20

For all observed SMEP LOA trips with summer flounder catch using mesh smaller than 5.5 inches, average summer flounder landings were 746 pounds per trip and median landings were 301 pounds per trip. Mean discards were 165 pounds of summer flounder, and median discards were 30 pounds of summer flounder (Table 15). For most observed SMEP trips using small mesh, discards of summer flounder appear to be relatively low by weight, but can still be a notable proportion of total summer flounder catch on those trips since many trips are not catching substantial amounts

of summer flounder. On average, 24% of summer flounder caught were discarded per trip, with 50% of trips discarding more than 10% of their summer flounder catch (Table 16).

Table 15: Statistics for landings and discards of summer flounder on observed SMEP LOA trips with summer flounder catch using mesh smaller than 5.5 inches, November 2013 through April 2022. Landings and discard values are in pounds.

Statistic	Summer Flounder Landings	Statistic	Summer Flounder Discards
Mean per trip	746	**Mean per trip**	165
Median per trip	301	**Median per trip**	30
% of trips landings >2,000 lb	10%	**% of trips discards >2,000 lb**	1%
% of trips landings >500 lb	42%	**% of trips discards >500 lb**	7%
% of trips landings >200 lb	57%	**% of trips discards >200 lb**	17%
% of trips no landings	8%	**% of trips no discards**	20%

Table 16: Statistics for percent of summer flounder discarded on observed SMEP LOA trips with summer flounder catch using mesh smaller than 5.5 inches, November 2013-April 2022.

Metric	Value
Total observed trips with summer flounder catch	514
Avg % summer flounder discarded per trip	24%
Total % summer flounder discarded across all trips	18%
% of trips discarding more than 10% of summer flounder catch	50%

6.5.2.2 *Flynet Exemption Participation and Use*

As noted in Section 4.1.2, the flynet exemption was originally designed to accommodate the use of a specifically defined gear in a specific fishery. Flynets were generally fished 10-12 feet off the bottom between September and April from North Carolina to Cape Henlopen, Delaware, and primarily targeted bluefish and sciaenids. The existing flynet exemption has historically been evaluated annually using data from the state of North Carolina trip ticket program. In recent years, North Carolina data has indicated the flynet exemption is no longer being utilized today in that area/fishery, as summer flounder are no longer caught in that fishery and flynet fishery effort in the state has generally declined (Appendix B, Section 10.2.2).

Industry feedback indicates that the flynet exemption has become an important component of specific fisheries throughout the Greater Atlantic Region, although it has also been suggested that some of the net types being utilized under the flynet exemption do not comply with the specific regulatory definition of a flynet, and that there may be some confusion about when the exemption applies. The term “high rise net” is a regional term for a flynet, and other specific net type terminology is used in various locations and fisheries. Generally, flynet/high rise nets are a category of nets that have large mesh in the wings with mesh sizes gradually decreasing to the codend. The large mesh in the wings allows many flatfish to escape and is not ideal for targeting summer flounder. Additional descriptions of flynet/high-rise gear types, including other names of trawl types that may fit an expanded definition under Alternative set 3, are provided in

Appendix B, Section 10.2.1. These net types were associated with about 13% of observed bottom trawl haul between 2014-2022, and largely target haddock and longfin squid, with some effort also targeting scup, short-fin squid, black sea bass, and groundfish. Additional information characterizing the use of these net types can be found in Appendix B, and in Section 7.3.

7 ENVIRONMENTAL IMPACTS OF THE ALTERNATIVES

This EA analyzes the expected impacts of the alternatives on each VEC. The alternatives are compared to the current conditions of the VECs and to each other. They are compared to each other within each alternative set (e.g., the SMEP alternatives are only compared to the other SMEP alternatives). The alternatives are not compared to a theoretical condition where the fisheries are not operating. These fisheries have occurred for many decades and are expected to continue into the foreseeable future. The nature and extent of the management programs for these fisheries have been examined in detail in EAs and Environmental Impact Statements prepared for previously implemented management actions.

The current conditions of the VECs are summarized in Table 17 and described in more detail in Section 6. Impacts are described both in terms of their direction (negative, positive, or no impact) and their magnitude (slight, moderate, or high) based on the guidelines in Table 18.

The recent conditions of the VECs include the most recent stock status of summer flounder (Section 6.1), non-target species (Section 6.2), and protected species (Sections 6.4). They also include the fishing practices and levels of fishing effort and landings in commercial fishery for summer flounder over the most recent years, as well as recent economic characteristics of the fisheries (Section 6.5). They also include recent levels of habitat availability and quality (Section 6.3).

The expected impacts of the alternatives on each VEC are summarized in Sections 7.1-7.3. In general, alternatives which may result in overfishing or an overfished status for target or non-target species are considered to have negative impacts for those species. Conversely, alternatives which may result in decreased fishing mortality, ending overfishing, rebuilding to the target biomass level, maintaining biomass above the target level, or maintaining fishing mortality below the threshold level are considered to have positive impacts (Table 18).

As previously stated, bottom trawls are the predominant gear types in the summer flounder commercial fisheries and are the focus of the habitat impacts section given the potential for impacts to physical habitat from this gear (Sections 6.2.3).

Alternatives that improve the quality or quantity of habitat are expected to have positive impacts on habitat. Alternatives that degrade the quality or quantity or increase disturbance of habitat are expected to have negative impacts (Table 18). A reduction in fishing effort is likely to decrease the time that fishing gear is in the water, thus reducing the potential for interactions between fishing gear and habitat. However, most areas where summer flounder are fished have been fished by multiple fishing fleets over many decades and are unlikely to see a measurable improvement in their condition in response to a decrease in effort for an individual fishery.

The impacts of the alternatives on protected species take into account impacts to ESA-listed species, as well as impacts to non-ESA listed MMPA protected species in good condition (i.e., marine mammal stocks whose Potential Biological Removal (PBR) level have not been exceeded)

or poor condition (i.e., marine mammal stocks that have exceeded or are near exceeding their PBR level). For ESA-listed species, any action that results in interactions or take is expected to have negative impacts, including actions that reduce interactions. Actions expected to result in positive impacts on ESA-listed species include only those that contain specific measures to ensure no interactions (i.e., no take). No alternatives in this document would ensure no interactions with ESA-listed species. By definition, all ESA-listed species are in poor condition and any take can negatively impact their recovery. The stock conditions for marine mammals not listed under the ESA varies by species; however, all are in need of protection. For non-ESA listed marine mammal stocks that have their PBR level reached or exceeded, negative impacts would be expected from alternatives that result in the potential for interactions between fisheries and those stocks. For stocks with PBR levels that have not been exceeded, alternatives not expected to change fishing behavior or effort may have positive impacts by maintaining takes below the PBR level and approaching the zero mortality rate goal (Table 18).

Socioeconomic impacts are considered in relation to potential changes in landings, prices, revenues, and fishing opportunities. Alternatives which could lead to increased availability of target species and/or an increase in catch per unit effort (CPUE) could lead to increased landings. Increased landings are generally considered to have positive socioeconomic impacts because they could result in increased revenues; however, if an increase in landings leads to a decrease in price or a decrease in future availability for any of the landed species, then negative socioeconomic impacts could also occur.

The expected impacts of the alternatives on the VECs are derived from consideration of both the current conditions of the VECs and expected changes in fishing effort, fishing behavior, and the management process under each alternative. For this action, most of the expected impacts are driven by potential changes in commercial fishing effort as well as potential changes in the retention and discard rates of summer flounder as the result of modifications to the exemption programs. Fishing effort and discards are both influenced by a variety of interacting factors, including regulations (catch and landings limits, possession limits, gear restrictions, seasonal closures, etc.), availability of the species in question and other potential target species, market factors such as price of various species, and other factors. It is not possible to quantify with confidence how fishing effort or retention rates will change under each alternative; therefore, expected changes are described qualitatively. More details on the expected changes are included in the following sections.

Table 17: Recent conditions of VECs (described in more detail in Section 6).

VEC		Condition	
Target species (Section 6.1)	Summer flounder	Overfishing occurring	Not overfished
Non-target species (Section 6.2)	Little skate	Overfishing not occurring	Not overfished
	Northern sea robin	Unknown	Unknown
	Winter skate	Overfishing not occurring	Not overfished
	Clearnose skate	Overfishing not occurring	Not overfished
	Spiny dogfish	Overfishing not occurring	Not overfished
	Smooth Dogfish	Overfishing not occurring	Not overfished
	Scup	Overfishing not occurring	Not overfished
	Barndoor skate	Overfishing not occurring	Not overfished
	Monkfish	Unknown	Unknown
Habitat (Section 6.3)		Commercial fishing impacts are complex, variable, and typically adverse. Recreational fishing has minimal impacts on habitat. Non-fishing activities had historically negative but site-specific effects on habitat quality.	
Protected species (Section 6.4)	Sea turtles	Leatherback and Kemp's ridley sea turtles are endangered; loggerhead (NW Atlantic DPS) and green (North Atlantic DPS) sea turtles are threatened.	
	Fish	Atlantic salmon, shortnose sturgeon, and the New York Bight, Chesapeake, Carolina, and South Atlantic DPSs of Atlantic sturgeon are endangered. Atlantic sturgeon Gulf of Maine DPS, oceanic whitetip shark, and giant manta ray are threatened.	
	Large whales	All are protected under the MMPA. North Atlantic right, fin, blue, sei, and sperm whales are also listed as endangered under the ESA.	
	Small cetaceans	Pilot whales, pygmy sperm whales, dolphins, and harbor porpoise are protected under the MMPA. The Atlantic Trawl Gear Take Reduction Strategy was developed to identify measures to reduce the mortality and serious injury of small cetaceans in trawl gear.	
	Pinnipeds	Gray, harbor, hooded, and harp seals are protected under the MMPA.	
Human communities (Section 6.5)	Summer flounder	Commercial landings averaged 10.93 million pounds during 2019-2023, with $30.56 million average ex-vessel value for an average ex-vessel price of $2.91 per pound (2023 dollars). Recreational landings during 2019-2023 averaged 8.37 million pounds.	

Table 18: Guidelines for defining the direction and magnitude of the impacts of alternatives on the VECs.

VEC	Resource Condition	Direction of Impact		
		Positive (+)	**Negative (-)**	**No Impact (0)**
Target and Non-target Species	Overfished status defined by the MSA	Alternatives that would maintain or are projected to result in a stock status above an overfished condition*	Alternatives that would maintain or are projected to result in a stock status below an overfished condition*	Alternatives that do not impact stock / populations
ESA-listed Protected Species (endangered or threatened)	Populations at risk of extinction (endangered) or endangerment (threatened)	Alternatives that contain specific measures to ensure no interactions with protected species (i.e., no take)	Alternatives that result in interactions/take of listed resources, including actions that reduce interactions	Alternatives that do not impact ESA listed species
MMPA Protected Species (not also ESA listed)	Stock health may vary but populations remain impacted	Alternatives that will maintain takes below PBR and approaching the Zero Mortality Rate Goal	Alternatives that result in interactions with/take of marine mammals that could result in takes above PBR	Alternatives that do not impact marine mammals
Physical Environment / Habitat / EFH	Many habitats degraded from historical effort	Alternatives that improve the quality or quantity of habitat	Alternatives that degrade the quality, quantity or increase disturbance of habitat	Alternatives that do not impact habitat quality
Human Communities (Socioeconomic)	Highly variable but generally stable in recent years	Alternatives that increase revenue and social well-being of fishermen and/or communities	Alternatives that decrease revenue and social well-being of fishermen and/or communities	Alternatives that do not impact revenue and social well-being of fishermen and/or communities

	Magnitude of Impact	
A range of impact qualifiers is used to indicate any existing uncertainty	Negligible	To such a small degree to be indistinguishable from no impact
	Slight, as in slight positive or slight negative)	To a lesser degree / minor
	Moderately positive or negative	To an average degree (i.e., more than “slight”, but not “high”)
	High, as in high positive or high negative	To a substantial degree (not significant unless stated)
	Significant	Affecting the resource condition to a great degree (Companion Manual for NAO 216-6A, June 30, 2025)
	Likely	Some degree of uncertainty associated with the impact

*Actions that will substantially increase or decrease stock size, but do not change a stock status may have different impacts depending on the particular action and stock. Meaningful differences between alternatives may be illustrated by using another attribute aside from the MSA status, but this must be justified within the impact analysis.

7.1 IMPACTS OF SMALL MESH EXEMPTION PROGRAM ALTERNATIVES

The following section describes the expected impacts of each alternative to modify the SMEP area on summer flounder, non-target species, physical habitat, protected resources, and human communities.

Alternatives 1A and 1B are not expected to substantially modify the levels of fishing effort in and around the SMEP, as vessels using this exemption are generally targeting other species and will continue to fish in these areas regardless of the exemption boundaries. These alternatives are not expected to notably change the overall level of participation in the program, nor will they change the gear types or fishing methods used. For many vessels, effort and areas fished will remain similar to current conditions, as they are driven primarily by availability of other target species and by the regulations for those species. For these vessels, the main effects of these alternatives will be in retention and discard rates of summer flounder when they are encountered in the proposed SMEP expansion area. For other vessels, the different area designations for the SMEP between Alternatives 1A and 1B may have some influence on where they choose to fish for some trips resulting in a minor redistribution of effort, as described below.

Under Alternative 1B, the westward expansion of the SMEP area would allow vessels with an LOA to retain more than the incidental limit of summer flounder in approximately 4,943 km² of additional fishing grounds south of Long Island. This small expansion would provide greater flexibility for commercial vessels to retain summer flounder bycatch while fishing with small mesh for other target species, potentially reducing discards of legal-sized summer flounder. Given that the expansion of the SMEP would overlap with existing fishing grounds for other small-mesh fisheries, many vessels fishing in the newly expanded area would likely already be operating there targeting other species. Although many of these vessels may already participate in the SMEP, some vessels are not currently part of the program and they may decide to obtain an LOA to retain, rather than discard, summer flounder in the newly expanded area of the SMEP. If additional vessels joined the SMEP, relative to current operating conditions in the area, overall effort (e.g., tow duration) in these areas is not expected to change greatly because potential new beneficiaries of the revised SMEP would already be operating in the expanded area in other small-mesh fisheries.

However, some slight change in the spatial distribution of effort (e.g., a shift in effort from the current to the expanded area) is possible if vessels that fish in the existing portions of SMEP redistribute some amount of effort from the existing portions to the newly expanded portions. This could occur to a small degree given that portions of the expanded area are closer to key ports as well as overlapping with productive fishing grounds for target small-mesh species. The ability to use the SMEP in this expanded area could provide a marginal benefit to vessels that typically encounter summer flounder in their gear, which may contribute to the overall decisions about where to fish. Industry feedback does not suggest that a potential shift would be major, but the degree of change is difficult to quantify given various factors influencing effort (e.g., behavioral elements and dynamics in other fisheries). However, it is expected that the choice of where to fish for relevant vessels will continue to be primarily driven by availability of and regulatory considerations for main small mesh target species. Observer data linked to SMEP LOAs suggest that, while some trips reported summer flounder as among their target species, most trips are primarily targeting other, small mesh species (Appendix A, Table 20). Therefore, it is likely that the availability of species in small mesh fisheries (which has not been evaluated in the SMEP area) will have greater influence on effort distribution than the availability of the small mesh exemption

for summer flounder. Since summer flounder is not the target species for most SMEP LOA trips, the ability to retain more summer flounder in the expanded area is expected to provide only marginal economic benefit, so few vessels may be incentivized to alter their fishing behavior. The expanded SMEP area is also unlikely to drive vessels to target summer flounder in the expanded area. NMFS bottom trawl survey data covering the months SMEP is active (April 1 to November 30) indicate that similar proportions of legal sized summer flounder were found in the current and the proposed expanded SMEP areas; 11% and 12% of summer flounder survey catch, respectively (Appendix A, Figure 16).

7.1.1 Impacts on Summer Flounder and Non-Target Species

Alternative 1A: No Action/Status Quo

Alternative 1A would leave the SMEP unchanged, allowing vessels with an LOA fishing east of 72°30.0'W with mesh smaller than the minimum summer flounder mesh size to retain more than 200 lb of summer flounder. This alternative is expected to result in commercial fishing effort and catch rates of summer flounder in and around the exempted area that are similar to current levels. Access to this program will remain limited by the requirement to hold an LOA, and overall participation is not expected to change. Total dead catch of summer flounder will continue to be constrained by management measures designed to prevent overfishing, such as the annual catch and landing limits and associated measures to constrain catch, including gear and possession restrictions. This alternative is not expected to lead to overfishing of summer flounder or lead to the stock becoming overfished. Therefore, by maintaining the current stock status of summer flounder (not overfished) **Alternative 1A is expected to have slight positive impacts on summer flounder.**

Interactions with commercial non-target species are also likely to remain similar to recent levels; meaning Alternative 1A is not expected to result in a change in the stock status of any commercial non-target species. As described in Section 6.2, little skate, winter skate, clearnose skate, northern sea robin, and spiny dogfish make up at least 5% of observed catch in the summer flounder commercial fishery from 2018-2023. According to the most recent stock assessment information, winter, little, and clearnose skates, as well as spiny dogfish are not overfished, and overfishing is not occurring. Because this alternative is expected to maintain the positive stock status of these non-target species, slight positive impacts are expected. Although the stock status of northern sea robins is unknown (it has not been assessed), this alternative is not expected to substantially alter interactions with non-target species. Therefore, the status of sea robins is expected to remain unchanged, meaning a slight positive impact would be expected for this non-target species. Overall, **Alternative 1A is expected to have slight positive impacts to non-target species.**

Alternative 1B: Expanded SMEP Area

Under Alternative 1B, the westward boundary would shift approximately 5 miles westward south of Long Island to the northeastern most corner of the southern scup GRA, adding about 4,943 km^2 of additional SMEP-accessible waters after excluding the deep-sea coral zone where bottom tending gear is prohibited. As described above, some vessels fishing in the newly accessible area would likely already be operating there targeting other species. As described above, for vessels that generally fish in the existing portions of SMEP, Alternative 1B may slightly redistribute effort from the existing portions to the newly expanded portions. This potential shift is expected to be minor if it occurs, and overall effort in the current and expanded SMEP areas is not expected to

change notably. Slight changes in the retention and discard patterns for summer flounder could occur, given that vessels in the expanded area would be able to retain more of their summer flounder catch (compared to what they could retain under Alternative 1A). As such, discard rates would theoretically decrease under Alternative 1B, but overall mortality is not expected to change notably as most discarded summer flounder in the trawl fisheries are assumed to die (80%), and this alternative would simply convert some of these dead discards to landings Any shifts in discard rates or retention levels will remain within the constraints of the existing and any future catch and landing limits.

Undersized summer flounder (less than 14 inches total length) will still be discarded within the expanded SMEP in accordance with existing size limit regulations. An analysis of NMFS bottom trawl survey data from November-April, 1990-2019, suggests that the proportions of undersized summer flounder are similar between the current and expanded SMEP areas – 11% and 12% of summer flounder catch in this area, respectively. Adult fish (rather than juveniles) accounted for the majority of undersized summer flounder. In the current and expanded SMEP areas, just under 90% of all summer flounder caught were legal sized, adult fish (Appendix A). Given the similar distribution of summer flounder between the SMEP areas under Alternatives 1A and 1B (i.e., majority legal sized fish), some amount of summer flounder that would be discarded under 1A could be retained under 1B. In other words, overall discards of legal sized summer flounder are expected to decrease under 1B, and discards of undersized summer flounder are expected to remain similar to current levels. A detailed analysis of the presence and abundance of undersized and juvenile summer flounder, based on NMFS bottom trawl survey length data from the Northeast Regional Habitat Assessment (1990–2019), is provided in Appendix A.

The magnitude of discard decreases is difficult to predict, given that total dead discards are influenced by multiple factors beyond regulatory measures, including market conditions, the availability of target species, and year-class strength. These variables will continue to be monitored and accounted for when setting future catch and landings limits. Given the above information, **Alternative 1B is expected to maintain the positive stock status of summer flounder and result in slight positive impacts to the resource.**

Interactions with commercial non-target species under Alternative 1B would likely remain similar to recent levels, with possible slight spatial redistributions of effort if some vessels choose to fish more in the expanded portions of the SMEP vs. the current SMEP. If such small shifts occur, they could theoretically shift the interaction rates with non-target species, if non-target species are distributed differently between the existing and expanded areas of the SMEP. This potential effect is expected to be minor, but if it occurs, **Alternative 1B could result in impacts to non-target species that range from slight negative to slight positive,** depending on how interaction rates change.

Compared to Alternative 1A, Alternative 1B is likely to have similar impacts to summer flounder, as overall mortality and discards of undersized fish are expected to remain similar to current levels under both alternatives. For non-target species, Alternative 1B is expected to have similar impacts to Alternative 1A, but these impacts are slightly more uncertain and could be more positive or more negative than 1A, depending on how effort changes and whether increased effort in the expanded area would increase the catch rates of non-target species.

7.1.2 Impacts on Physical Habitat and EFH

The gear types used in the fisheries utilizing the SMEP are bottom otter trawls, which as described in Section 6.3, can negatively impact physical habitat. Neither Alternative 1A nor 1B for the SMEP boundaries are likely to increase the overall effort of trawl gear in the applicable areas and simply allow existing fisheries operating in those areas to retain more summer flounder when encountered. The locations or gear types used are unlikely to notably change to a degree that would modify the current conditions of physical habitat.

Under both Alternatives 1A and 1B, fishing gear will continue to have negative impacts on habitat; however, this is not expected to result in additional impacts beyond those caused in recent years by these and many other fisheries which operate in the same areas. For these reasons, **both Alternatives 1A and 1B are expected to have slight negative impacts to physical habitat**. The scale of these slight negative impacts is not expected to vary across alternatives.

7.1.3 Impacts on Protected Species

As described in the introduction to Section 7, the impacts on protected species may vary between ESA-listed and MMPA-protected species. Any action that could result in take of ESA-listed species is expected to have some level of negative impacts, including actions that reduce interactions. Impacts for MMPA-protected species vary based on the stock condition of each species and the potential for each alternative to impact fishing effort. For marine mammal stocks/species that have their PBR level reached or exceeded, some negative impacts would be expected from any alternative that has the potential to interact with these species or stocks. For species that are at more sustainable levels (i.e., PBR levels have not been exceeded), any action not expected to change fishing behavior or effort such that interaction risks increase relative to what has been seen in the fishery previously, may have positive impacts by maintaining takes below the PBR level and approaching the Zero Mortality Rate Goal (Table 18).

Interaction risks to protected species are strongly associated with the amount of gear in the water, the duration of time the gear is in the water (e.g., tow time, soak time), and the level of overlap between the fishery and listed species' ranges. Based on this and the information provided above, impacts to MMPA protected species (not also ESA-listed) and ESA listed species are considered below.

Alternative 1A: No Action/Status Quo

Under Alternative 1A, the SMEP area would remain unchanged, allowing vessels with an LOA to retain more than an incidental amount of summer flounder when fishing east of 72°30.0'W using mesh smaller than the minimum summer flounder mesh size. This status quo approach maintains existing fishing opportunities for summer flounder permit holders operating in the designated area, enabling them to retain limited amounts of summer flounder bycatch while primarily targeting other species. Since the spatial boundaries of the SMEP would remain as is, Alternative 1A is not expected to alter status quo fishing behavior or effort levels. Therefore, existing impacts to MMPA and ESA listed species would be maintained and are provided below.

Impacts to MMPA-Protected Species (Not ESA Listed)

Review of the information provided in Table 6 and Appendix C indicates that the marine mammal species (non-ESA-listed) that have the potential to be impacted by the proposed action are those species in which PBR levels have not been exceeded. As a result, based on the most recent

information (see Appendix C), there is no indication that the take of non-ESA listed marine mammals in commercial fisheries have gone beyond levels which would result in the inability of the populations to sustain themselves.

Taking into consideration the above, **the impacts of Alternative 1A on non-ESA listed species of marine mammals are likely to range from negligible to slight positive**, depending on the species/stock. Specifically, for these stocks/species (e.g., pilot whales, common dolphins, and white-sided dolphins), it appears that the fishery management measures in place over this timeframe have resulted in interaction levels that are not expected to impair the stocks'/species' ability to remain at an optimum sustainable level (Appendix C). These fishery management measures, therefore, have resulted in indirect slight positive impacts to these non-ESA listed marine mammal species/stocks. Should future fishery management actions maintain status quo operating conditions (as expected under Alternative 1A), it is expected that these slight positive impacts on these non-ESA listed species of marine mammals would remain. As provided above, Alternative 1A expected to result in status quo levels of commercial fishing effort (i.e., no impact to the amount of gear in the water or duration of time gear is in the water). Given this, the impacts of Alternative 1A on these non-ESA listed species of marine mammals are expected to be negligible to slight positive.

Impacts to ESA-Listed Species

As previously stated, any interactions with ESA-listed species, even under status quo, are considered to have some level of negative impacts to these species. Interaction risks to protected species are strongly associated with the amount of gear in the water, gear soak or tow duration, as well as the area of overlap, either in space or time, of the gear and a protected species. Commercial fishing effort under Alternative 1A is expected to remain at levels similar to recent years. Based on this information, and information provided in Section 6.4 and Appendix C, the **impacts of Alternative 1A on ESA listed species are expected to be negligible to slight negative,** depending on the species, with negligible impacts expected for those ESA-listed species identified in Table 39, Appendix C, as not expected to be impacted by the proposed action.

Alternative 1B: Expanded SMEP Area

As noted above, Alternative 1B is not expected to substantially modify the levels of fishing effort in and around the existing and expanded portions of the SMEP, as vessels using this exemption are generally targeting other species and will continue to fish in these areas regardless of the exemption boundaries. Alternative 1B is not expected to notably change the overall level of participation in the program, nor will it change the gear types or fishing methods used. However, some slight change in the spatial distribution of effort (e.g., a shift in effort from the current to the expanded area) is possible if vessels that fish in the existing portions of SMEP redistribute effort from the existing portions to the newly expanded portions. As described above, any shift of this type is expected to be minor, as the availability of the SMEP should not be a major driver of effort for these vessels, which are choosing fishing locations primarily based on availability of and regulations for other small mesh target species.

As previously noted, interaction risks to protected species (ESA-listed and/or MMPA protected) are strongly associated with the amount of gear in the water, the duration of time the gear is in the water (e.g., soak or tow duration), and the presence of protected species in the same area and time as the gear, with risk of an interaction increasing with increases in of any of these factors. Because

Alternative 1B may result in a minor shift of fishing effort into the expanded area, there could be more gear in the water in that area. If this phenomenon overlaps temporally with the presence of protected species in the expanded SMEP area, interactions with protected species could increase. Taking into consideration the above information on fishing effort and behavior, as well as the information provided under the protected species impacts assessment of Alternative 1A, Section 6.4, and Appendix C, the impacts of Alternative 1B on protected species are likely to range from negligible to slight moderate negative, with **negligible to slight negative impacts expected for MMPA (non-ESA listed) protected species, and negligible to slight moderate negative impacts expected for ESA-listed species.**

Relative to Alternative 1A, given the potential for effort to be redistributed and result in more gear being present in the expanded area of the SMEP, Alternative 1B is likely to have negligible to slight moderate negative impacts on protected species.

7.1.4 Impacts on Human Communities

The following sections describe the expected socioeconomic impacts of each alternative on commercial vessel and summer flounder permit holders. The impacts are based on expected changes in commercial revenues, fishing opportunities, and efficiency of fishing operations. Impacts are expected to occur to those commercial operators who hold permits for summer flounder, as a summer flounder permit is required to sell summer flounder to a federal dealer, and therefore to allow a vessel to take advantage of this exemption program. Impacts are expected to be driven primarily by changes in revenue from the differing ability to retain and sell summer flounder bycatch when targeting other species with small mesh gear.

Alternative 1A: No Action/Status Quo

Under Alternative 1A, the SMEP area would remain unchanged, allowing vessels with an LOA to retain more than 200 pounds of summer flounder during November through April when fishing east of 72°30.0'W using mesh smaller than the minimum summer flounder mesh size. This status quo approach maintains existing fishing opportunities for summer flounder permit holders operating in the designated area, enabling them to retain limited amounts of summer flounder bycatch (in accordance with applicable state possession limits) while primarily targeting other species. Since the spatial boundaries of the SMEP would remain as is, vessels fishing within this area would continue to benefit from the ability to land additional summer flounder bycatch under current retention limits while fishing with smaller mesh than required by the summer flounder regulations. This provides additional revenue to participating vessels that would not be available without this designated exempted area.

However, the current boundaries may have slight negative impacts on vessels fishing just outside the boundary, which may encounter legal-sized summer flounder that they are forced to discard once in excess of 200 pounds. This restriction may contribute to continued discard losses and lost revenue potential. As such, **Alternative 1A would be expected to continue to provide impacts on human communities ranging from slight negative to slight positive**, depending on a given vessel's frequently fished areas and catch rates of summer flounder.

Alternative 1B: Expanded SMEP Area

Under Alternative 1B, the westward expansion of the SMEP area would allow vessels with an LOA to retain more than an incidental amount of summer flounder in approximately 4,943 km² of additional fishing grounds south of Long Island. This expansion would provide greater flexibility

for commercial vessels to retain summer flounder bycatch while fishing with small mesh for other target species, potentially reducing discards of legal-sized summer flounder. Given this small expansion would overlap with existing fishing grounds for other small-mesh fisheries, the change is expected to provide modest economic benefits by enabling vessels that currently operate in the expansion area to legally retain a portion of summer flounder that would otherwise be discarded. In addition, vessels that currently operate in the existing SMEP would have greater flexibility to fish in the expanded area while retaining more than 200 pounds of summer flounder.

Analysis provided in Appendix A (Section 10.1), suggests that the expansion could result in a modest increase in summer flounder landings, but overall impacts are expected to be limited. From 2018 to 2022, vessels using small-mesh gear in the current SMEP area retained approximately 0.3% to 2% of their total catch as summer flounder. Given similar catch composition patterns would be expected, vessels operating in the expanded area would be expected to retain an additional 5,000 to 15,000 pounds of legal-sized summer flounder annually. Based on recent years' average ex-vessel price of approximately $2.50 per pound, this could translate into a revenue increase of $12,500 to $37,500 per year across participating vessels. While this represents a slight economic benefit, summer flounder would still account for a small fraction of total landings from these trips, which are primarily driven by other target species.

The expanded SMEP area will provide flexibility by creating more summer flounder retention opportunities. Increased retention could increase profits to some degree. However, it should be noted that broader market conditions (e.g., demand for the primary target species and fluctuations in summer flounder pricing) and regulatory constraints (e.g., state quotas and management measures such as possession limits) will continue to play a significant role in determining the economic impacts of these trips. Additionally, some vessels that currently fish in the original SMEP area may choose not to operate, or to operate minimally, in the expanded area. Therefore, the expanded area may not fundamentally alter the profitability of some vessels while it could slightly to moderately increase the profitability of others. Therefore, the **overall socioeconomic impacts of Alternative 1B are expected to range from slight to moderate positive.**

Because Alternative 1B provides vessels with additional opportunities to retain some summer flounder that would have otherwise been discarded, the impacts on human communities under Alternative 1B are expected to be more positive than under 1A.

7.2 Impacts of Small Mesh Exemption Program Monitoring Alternatives

Alternative set 2 pertains to how the SMEP is annually reviewed by Council staff, the Monitoring Committee, the Council and Board, and the NOAA Fisheries Regional Administrator. Currently, the Regional Administrator may terminate this exemption if he/she determines, after a review of sea sampling data, that vessels fishing under the exemption are discarding on average more than 10 percent, by weight, of their entire catch of summer flounder per trip. If the Regional Administrator makes such a determination, he/she shall publish notification in the Federal Register terminating the exemption for the remainder of the exemption season" (see Section 5.2.1). As described in section 5, the alternatives under this set consider whether to revise this review methodology and the associated criteria for rescinding the SMEP. These alternatives are primarily administrative in nature, impacting the observed discards percentage trigger for rescinding the exemption, and the timing and process for doing so.

None of the alternatives 2A, 2B, or 2C are expected to change the current prosecution of the fishery, including the locations, timing, fishing behavior, or overall degree of fishing effort relative to current operating conditions. However, these alternatives could impact the frequency with which the exemption may be rescinded, which as a result could lead to differing summer flounder retention versus discard rates on commercial vessels that typically participate in the SMEP. Therefore, these alternatives (2A, 2B, and 2C) could have an indirect impact on commercial revenue associated with summer flounder on these commercial trips and ultimately human communities as described in more detail below. In contrast, because these alternatives are not expected to change fishing behavior or fishing effort, it is not anticipated that Alternative 2A, 2B, or 2C will have a direct or indirect impact on other VECs, including summer flounder, non-target species, physical habitat and EFH, or protected resources, as described below.

7.2.1 Impacts on Summer Flounder and Non-Target Species

As noted above, Alternative set 2 would not have a direct or indirect impact on summer flounder or non-target species. Alternatives 2A, 2B, and 2C are not expected to change the current prosecution of the fisheries using the exemption, including the locations, timing, fishing behavior, and overall degree of fishing effort relative to current conditions. The only difference between the three alternatives is the administrative process used to review the exemption, which could impact the frequency with which the exemption is rescinded but is not expected to impact other aspects of the operation of these fisheries. However, even if the SMEP is rescinded in a given year, small-mesh commercial vessels would still be allowed to fish within the SMEP boundary but would be unable to retain more than 200 pounds of summer flounder and any summer flounder caught beyond that 200-pound limit would need to be discarded. Total summer flounder mortality would not be expected to change, only potentially the proportion of summer flounder landed versus discarded by small mesh vessels targeting other species. Similarly, because changes in fishing effort are not expected, direct or indirect impacts on non-target species are also not expected. As such, none of the alternatives considered for the SMEP monitoring (2A, 2B, and 2C) are expected to have a direct or indirect impact on summer flounder and non-target species.

7.2.2 Impacts on Physical Habitat and EFH

As noted above, Alternative Set 2 would have no direct or indirect impact on physical habitat or EFH, due to its administrative nature and the fact that it affects only the process by which the SMEP is reviewed annually by Council staff, the Monitoring Committee, the Council and Board, and the NOAA Fisheries Regional Administrator. This is not expected to impact the locations, timing, fishing behavior, and overall degree of fishing effort relative to current conditions, and any changes in the frequency of rescinding the exemption are not expected to have impacts on physical habitat and EFH.

7.2.3 Impacts on Protected Species

As noted above, Alternative Set 2 would have no direct or indirect impact on protected species, due to its administrative nature and the fact that it affects only the process by which the SMEP is reviewed annually by Council staff, the Monitoring Committee, the Council and Board, and the NOAA Fisheries Regional Administrator. This is not expected to impact the locations, timing, fishing behavior, and overall degree of fishing effort relative to current conditions, and any changes in the frequency of rescinding the exemption are not expected to have impacts on protected species.

7.2.4 Impacts on Human Communities

The following sections describe the expected socioeconomic impacts of each alternative on commercial vessels and summer flounder permit holders. The impacts are based on expected changes in commercial revenues, fishing opportunities, and efficiency of fishing operations. Impacts are expected to occur to those commercial operators who hold permits for summer flounder, as a summer flounder permit is required to sell summer flounder to a federal dealer, and therefore to allow a vessel to take advantage of this exemption program. Indirect impacts driven by the SMEP monitoring alternatives are expected to be driven primarily by potential impacts if the SMEP was rescinded in a given year and potential changes in revenue from the differing ability to retain and sell summer flounder bycatch when targeting other species with small mesh gear.

Alternative 2A: No Action/Status Quo

Alternative 2A would maintain the existing method and percentage used to trigger rescinding the SMEP. This includes the existing criterion that allows the Regional Administrator to rescind the exemption if vessels discard, on average, more than 10 percent by weight of their total summer flounder catch per trip (see Section 5.2.2).

While this approach preserves the status quo, it relies on a method of calculating discard rates and a threshold that were established using older data and assumptions about fishery behavior that may no longer reflect current conditions. As a result, there is potential for the exemption to be rescinded in circumstances where vessel behavior may not actually warrant such action, given more recent trends in bycatch and discard practices. This could lead to rescinding the SMEP more frequently than necessary. If rescinded, participating vessels would be prevented from retaining additional summer flounder to supplement their trip revenue and likely experience increased regulatory discards. Therefore, this alternative could result in **indirect slight negative socioeconomic impact** on commercial vessels that use the SMEP, especially those that rely more heavily on incidental summer flounder catch to supplement trip revenue.

Alternative 2B: Modified Discard Trigger

Alternative 2B would revise the current threshold for rescinding the SMEP by increasing the discard trigger from 10 percent to 25 percent of total summer flounder catch per trip, by weight. Under this alternative, the Regional Administrator may rescind the exemption for the upcoming or remaining portion of the exemption period if, based on observer data, vessels operating under the exemption are found to be discarding more than 25 percent of summer flounder per trip on average.

As described in Section 5.2.1, in evaluating this threshold, the Regional Administrator may also consider contextual factors that may have contributed to variations in discarding behavior over the assessment period. While the proposed revision appears to significantly increase the discard threshold, it more accurately reflects current fishery operations and incorporates a refined methodology for calculating discards.

From a socioeconomic perspective, Alternative 2B is not expected to materially increase discards or alter fishing behavior. However, it may reduce the likelihood of exemption rescissions compared to Alternative 2A but without providing the additional flexibility of 2C as described in more detail below. As shown in Table 24 (Appendix A, Section 10.1.3), since 2013 the average percent of summer flounder discarded per trip in some years does exceed 25%, and therefore under this option if similar discard trends were to happen in the future could result in the SMEP being rescinded for the remainder of that year of the following year.

Additionally, Alternative 2B would maintain the rescission process by the Regional Administrator through a notification in the Federal Register. Although under this alternative the Regional Administrator could still consider contextual factors after evaluating the 25% discard threshold to inform a final determination, there would be minimal opportunities for public comment and to precisely identify the management concern and how it could be best addressed prior to the rescission of the program compared to Alternative 2C. This could result in the exemption being rescinded despite the discard threshold being triggered by something that rescinding the exemption would not address. Therefore, although Alternative 2B better aligns the discard trigger with observed discard rates from SMEP authorized trips, it does not provide the same level of flexibility as Alternative 2C. Alternative 2B could result in **indirect slight negative to indirect slight positive socioeconomic impact** on commercial vessels that use the SMEP, especially those that rely more heavily on incidental summer flounder catch to supplement trip revenue.

Alternative 2C: Tiered Discard Monitoring Approach (preferred)

Alternative 2C is similar to Alternative 2B but rather than the trigger immediately rescinding the exemption, it would instead first trigger a more in-depth review of SMEP discards. This review would be conducted or reviewed by the Monitoring Committee, with the intent of identifying major problems that could be addressed by adjusting management measures and/or rescinding the exemption (see Section 5.2.3).

The approach under Alternative 2C would require some additional staff time and resources for the evaluation, and time for the Board/Council and ultimately the Regional Administrator to respond. This additional time would be used to conduct a more thorough consideration of the data, including more precisely identifying management concerns and how they may be addressed. Because observer data are heavily relied upon during the review process, typical data lags associated with observer data processing may impact time between observed data triggering concerns and management response. However, despite the potential increased timeline Alternative 2C provides additional flexibility to ensure an appropriate management response to the relevant summer flounder discards issue compared to Alternatives 2A and 2B.

Additionally, given the tiered approach to Alternative 2C, there would be ample time for public feedback and if the analysis were to identify a major issue with the exemption in terms of discard rates, patterns, etc., a separate management action may be necessary. In this case, the Council and Board would likely need to prioritize a separate action to modify the SMEP which would be associated with a separate impacts analysis and public comment opportunities.

Therefore, compared to Alternatives 2A and 2B, 2C is the least likely to result in the unnecessary rescission of the SMEP and provides greater flexibility to assess the appropriate management response to any future discard patterns. Alternative 2C would result in **indirect negligible to slight positive socioeconomic impact** on commercial vessels that use the SMEP, especially those that rely more heavily on incidental summer flounder catch to supplement trip revenue.

7.3 IMPACTS OF FLYNET EXEMPTION ALTERNATIVES

Alternative set 3 considers how a flynet should be defined under the flynet exemption to the minimum mesh size. For reasons described below, this alternative set is primarily administrative and neither alternative 3A nor 3B is expected to change the current prosecution of the fishery, including the locations, timing, fishing behavior, or overall degree of fishing effort relative to

current operating conditions. As such, they are not expected to have any direct or indirect impacts on most VECs, including summer flounder, non-target species, physical habitat and EFH, or protected resources. However, as described below, the alternatives would impact the proportion of summer flounder able to be legally retained vs. discarded for some vessels, resulting in potential economic impacts for vessels that fish with these gear types.

Alternative 3A would leave the flynet exemption unchanged, allowing vessels fishing with a two-seam otter trawl flynet with specifications defined in regulation (see Section 5.3.1). No permits or special reporting are required to utilize this exemption. The original intent of this exemption was to accommodate the use of a specifically defined gear in a specific, and relatively small fishery primarily targeting bluefish and sciaenids. The existing flynet exemption has historically been evaluated annually using data from the state of North Carolina trip ticket program. In recent years, North Carolina data has indicated the flynet exemption is no longer being utilized today in that area/fishery, as summer flounder are no longer caught in that fishery and flynet fishery effort in the state has generally declined (Appendix B, Section 10.2.2). However, the 2023 mesh exemptions review highlighted that flynet or "high-rise" type nets are being used by vessels outside of this North Carolina fishery. Some of these vessels are likely to be fishing with nets that comply with the existing flynet exemption, while other types of high-rise nets do not technically comply with the regulatory definition of a flynet despite having a very similar gear configuration. The term "high rise net" is a regional term for a flynet, and other specific net type terminology is used in various locations and fisheries. Gear configuration details are complex and nets are often highly customized, and there are not always precise definitions available for net types found in the observer data to assess whether they meet the current definition. Thus, it is difficult to quantify the degree to which current use of high-rise/flynet type gears falls within the current vs. proposed expanded definition, and to assess whether these vessels are complying with existing regulations. Industry feedback indicates that some vessels are likely using the exemption, i.e., retaining more than the trigger amounts of summer flounder, with gear that does not meet the existing exempted definition, while other vessels may be complying with the regulations and discarding summer flounder in excess of these limits.

Under Alternative 3B, the regulatory definition of a flynet would be revised to modernize the regulations to encompass a broader range of flynet/high-rise gear. Specifically, the definition would be modified to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh size in the wings of 64", and 3) revise the description of the amount of large mesh required in the body of the net (see Section 5.3.2). Generally, flynet/high rise nets are a category of nets that have large mesh in the wings with mesh sizes gradually decreasing to the codend. The large mesh in the wings allows many flatfish to escape and is not ideal for targeting summer flounder. Additional descriptions of flynet/high-rise gear types, including other names of trawl types that, based on industry feedback, may fit an expanded definition under Alternative set 3, are provided in Appendix B Section 10.2.1. These net types were associated with about 13% of observed bottom trawl haul between 2014-2022. According to observer data from 2007-2022, the top species caught and landed with these trawl gear types are short-fin squid and Atlantic herring, followed by longfin squid, haddock, and scup (Appendix B; Table 33). The top discarded species by weight are spiny dogfish and winter skate, followed by unknown fish and little skate (Appendix B; Table 34). Summer flounder represented 0.7% of the total observed catch by weight in these gear types, including 0.6% of observed landings and 1% of observed discards (Table 33, Appendix B, Section 10.2.3). Median total catch of summer flounder in these gear types is about 87 pounds

per trip, with median discards of about 8 pounds per trip (Table 35, Appendix B, Section 10.2.3). Additional characterization of the use of these nets can be found in Appendix B.

Because this gear is not efficient for catching summer flounder, use of these net types is expected to remain driven by other target species, and summer flounder is expected to remain a minor component of the bycatch in these nets. Under both Alternative 3A and Alternative 3B, overall effort, locations fished, and fishing methods would not be expected to change from current conditions. The modified definition under Alternative 3B is intended to modernize and broaden the current regulatory definition of a flynet, and reduce regulatory discards of summer flounder in fisheries where they are a minor component of bycatch.

This exemption will continue to be closely monitored for any potential issues. Going forward, with the understanding that North Carolina data is no longer sufficient to monitor the exemption, evaluations will rely on observer and VTR data (once the additional gear type field is added to the VTR forms, see Section 5.5.2).

7.3.1 Impacts on Summer Flounder and Non-Target Species

As noted above, under both alternatives 3A and 3B, no changes are expected to overall effort, locations fished, and fishing methods using these gear types. The difference between alternative 3A and 3B primarily impacts the amount of summer flounder able to be legally retained vs. discarded, however, given that this gear type is not used to target summer flounder, rates of encountering and catching summer flounder in all of the applicable net types are expected to remain similar to current conditions. Overall summer flounder mortality is not expected to change under either alternative. Total dead catch of summer flounder will continue to be constrained by management measures designed to prevent overfishing, such as the annual catch and landing limits and associated measures to constrain catch, including gear and possession restrictions. As such, these alternatives are not expected to have any direct or indirect impacts on summer flounder.

7.3.2 Impacts on Physical Habitat and EFH

Under both Alternatives 3A and 3B, no changes are expected to overall effort, locations fished, and fishing methods using these gear types. As such, neither alternative is expected to have direct or indirect impacts on habitat and EFH.

7.3.3 Impacts on Protected Species

Under both Alternatives 3A and 3B, no changes are expected to overall effort, locations fished, and fishing methods using these gear types. These alternatives will not alter the amount of gear in the water or the prosecution of the fisheries. As such, neither alternative is expected to have direct or indirect impacts on protected species.

7.3.4 Impacts on Human Communities

Alternative 3A: No Action/Status Quo

Alternative 3A would leave the flynet exemption unchanged, allowing vessels fishing with a two-seam otter trawl flynet with specifications defined in regulation (see Section 5.3.1). No special permits or reporting requirements are required to utilize this exemption.

This status quo approach under Alternative 3A maintains existing fishing opportunities for summer flounder permit holders when using a flynet as defined specifically in the regulations, enabling them, while targeting other species, to retain summer flounder bycatch beyond the seasonal

possession limits triggering the minimum mesh size. However, the exemption does not appear to be used in the fishery it was originally intended for, and it seems that many other flynet/high-rise net types, which similarly allow the majority of summer flounder to escape through large mesh near the opening, do not meet the regulatory definition under Alternative 3A. Therefore, the additional economic benefit of retaining additional summer flounder under 3A is limited, and more theoretical than practical under current use conditions. Some members of industry indicate that some vessels may be using the exemption with gear types that are similar to, but do not exactly fit, the current regulatory definition. These vessels may be benefitting economically from retaining additional summer flounder, but are not operating in compliance with current regulations.

The current flynet definition may have slight negative impacts on summer flounder permit holders targeting other species with modern-day "flynet/high-rise" nets that don't meet the current regulatory definition. Maintaining this outdated regulatory definition of a flynet no longer meets the modern-day use of this exemption and may be contributing to regulatory discards of summer flounder and lost revenue potential for these vessels. As such, Alternative 3A **would be expected to continue to result in impacts on human communities ranging from slight negative to no impact,** depending on a given vessel's use of these types of "flynet/high-rise" nets and their catch rates of summer flounder.

Alternative 3B: Modified Flynet Definition

Under Alternative 3B, the regulatory definition of a flynet would be modified to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh size in the wings of 64", and 3) revise the description of the amount of large mesh required in the body of the net (see Section 5.3.2). Public comments and observer data indicate that the net types that fall under an expanded definition are not designed to catch flatfish and generally have very low catch of summer flounder due to their design. However, some summer flounder are caught incidentally in the fisheries using these net types. The regulatory revision of the flynet definition is intended to modernize this exemption and provide additional flexibility for fishing vessels to retain incidental catch of summer flounder while targeting other species, thereby reducing regulatory discards of legal sized summer flounder.

As noted above, summer flounder are a small component of catch in these net types, representing about 0.7% of the total observed catch by weight (Table 33, Appendix B, Section 10.2.3). Median total catch of summer flounder in these gear types is about 455 pounds per trip, with discards averaging about 100 pounds per trip, based on observer data from 2007-2022. Median landings for the same trips are 87 pounds per trip, with median discards of 8 pounds per trip (Table 35, Section 10.2.3, Appendix B).

On observed trips November through April, about 14% had summer flounder landings over 200 pounds (the possession limit triggering the minimum mesh requirement during that time of year), with median landings on these trips of 725 pounds. For May through October trips, about 27% had landings over the summer possession limit trigger of 100 pounds, with median landings on these trips of 245 pounds (Table 36, Section 10.2.3, Appendix B). As noted above, it is not possible to interpret how much of these landings above these seasonal possession limits are taken with gear types that meet the current definition vs. gear types that would only fall under the expanded definition. Based on industry feedback, it is believed that some of these landings may be non-compliant with the current regulations. Under Alternative 3B, these vessels would be expected to continue to land more than the incidental limits triggering the minimum mesh size. While these

landings are not typically large, they can provide supplemental income for these vessels while targeting other species and help offset trip costs.

Other vessels are not typically retaining more than 200 pounds of summer flounder in the winter and 100 pounds in the summer, either because they are not catching amounts of summer flounder above that threshold, or they are discarding summer flounder above those levels for regulatory or other reasons. These discards may be due to the mesh possession threshold regulations, or they may be the result of other regulatory or market reasons, including lack of permits to land and sell summer flounder. For vessels permitted to land summer flounder, it is possible that the expanded flynet definition under Alternative 3B would allow them to decrease regulatory discards when summer flounder is encountered. However, the amounts of summer flounder discarded on these trips that might be converted to landings is small, averaging 57 pounds per trip November through April and 53 pounds per trip May through October. On average, trips with landings at or below the poundage thresholds triggering the minimum mesh size are only discarding 14-17% of their already low summer flounder catch (Table 37, Section 10.2.3, Appendix B), meaning there typically are not large amounts of discards that could be converted to landings under an exemption definition change.

Overall, summer flounder permitted vessels fishing with gear types falling under the revised flynet definition in Alternative 3B are likely to experience **negligible to slight positive impacts from this alternative**, and more positive impacts compared to alternative 3A. Vessels that do not typically encounter more than the threshold amounts of summer flounder or that are fishing with gear types that are already compliant with the existing definition are likely to experience negligible impacts, while vessels that are newly able to retain more than the 100/200 pounds thresholds may experience slight positive economic benefits from converting small amounts of summer flounder discards to landings.

7.4 CUMULATIVE EFFECTS ANALYSIS

7.4.1 Introduction

The purpose of the cumulative effects analysis is to consider the combined effects of many actions on the human environment over time that would be missed if each action were evaluated separately. It is not practical to analyze the cumulative effects of an action from every conceivable perspective. Rather, the intent is to focus on those effects that are truly meaningful.

A cumulative effects assessment (CEA) makes effect determinations based on a combination of 1) impacts from past, present, and reasonably foreseeable future actions; 2) the baseline conditions of the VECs (the combined effects from past, present, and reasonably foreseeable future actions plus the present condition of the VEC); and 3) impacts of the alternatives under consideration for this action. The following sections address the significance of the expected cumulative impacts as they relate to the federally managed summer flounder fishery.

7.4.1.1 *Consideration of the VECs*

The valued ecosystem components for the summer flounder fishery is generally the “place” where the impacts of management actions occur and are identified in Section 6.

- Summer flounder and non-target species
- Physical environment and EFH

- Protected species (ESA and MMPA protected species)
- Human communities

The cumulative effects analysis identifies and characterizes the impacts on the VECs by the alternatives under consideration when analyzed in the context of other past, present, and reasonably foreseeable future actions.

7.4.1.2 *Geographic Boundaries*

The analysis of impacts focuses on actions related to the commercial harvest of summer flounder. The Western Atlantic Ocean is the core geographic scope for each of the VECs. The core geographic scope for the managed species is the management unit for summer flounder described in Section 4.4. For non-target species, those ranges may be expanded and would depend on the range of each species in the Western Atlantic Ocean. For habitat, the core geographic scope is focused on EFH within the EEZ but includes all habitat utilized by summer flounder and non-target species in the Western Atlantic Ocean. The core geographic scope for protected species is their range in the Western Atlantic Ocean. For human communities, the core geographic boundaries are defined as those U.S. fishing communities in coastal states from Maine through North Carolina directly involved in the commercial harvest or processing of summer flounder (Section 6.5).

7.4.1.3 *Temporal Boundaries*

Overall, while the effects of the historical summer flounder fisheries are important and considered in the analysis, the temporal scope of past and present actions for summer flounder and non-target species and other fisheries, the physical environment and EFH, and human communities is primarily focused on actions that occurred after FMP implementation (1988 for summer flounder). An assessment using this timeframe demonstrates the changes to resources and the human environment that have resulted through management under the Council process and through U.S. prosecution of the fishery. For protected species, the scope of past and present actions is focused on the 1980s and 1990s (when NMFS began generating stock assessments for marine mammals and sea turtles that inhabit waters of the U.S. EEZ) through the present.

The temporal scope of future actions for all VECs extends to 2030, five years beyond the intended initial implementation of this action. The dynamic nature of resource management for these species and lack of information on projects that may occur in the future make it difficult to predict impacts beyond this timeframe with any certainty. The impacts discussed in this section are focused on the cumulative effects of the proposed action (i.e., the suite of preferred alternatives) in combination with the relevant past, present, and reasonably foreseeable future actions over these time scales.

7.4.2 Relevant Actions Other Than Those Proposed in this Document

This section summarizes the past, present, and reasonably foreseeable future actions and effects that are relevant for this cumulative effects assessment. Some past actions are still relevant to the present and/or future actions.

7.4.2.1 Fishery Management Actions

Summer Flounder, Scup, and Black Sea Bass FMP Actions

Past, present, and reasonably foreseeable future actions for summer flounder management include the establishment of the original FMP, all subsequent amendments and frameworks, and the setting

of annual specifications (ACLs and measures to constrain catch and harvest). Key actions are described below.

Target Species (Summer Flounder)

Past and Present Actions: The original joint MAMFC/ASMFC Summer Flounder FMP was implemented in 1988. Amendment 2 (1993) enacted the bulk of the fishery management program including fishery allocations and regulations to reduce fishing mortality. These actions had positive impacts on target species by controlling fishing mortality, rebuilding the stocks, and contributing to long-term sustainable management of the stocks.

Additional amendments and framework actions have allowed for or required reduced fishing mortality rates for these species, commercial quota transfers, research set-aside, gear restrictions, protection of the spawning classes, and reducing discards. These actions had positive impacts on the stock.

Amendment 15 established ACLs and AMs consistent with the 2007 revisions to the Magnuson-Stevens Act. Related to this requirement, the Council annually implements or reviews catch and landings limits for each species consistent with the recommendations of the SSC, and reviews other management measures as necessary to prevent catch limits from being exceeded and to meet the objectives of the FMP.

Standardized Bycatch Reporting Methodology (SBRM) amendments, which cover Federal waters fisheries managed by the New England and/or Mid-Atlantic Councils, have updated the monitoring programs for federally managed species. The first SBRM amendment became effective in 2008, and an update to these measures was finalized in June 2015 (Amendment 17 to the Summer Flounder, Scup, and Black Sea Bass FMP; 80 FR 37182). The updated regulations created a new prioritization process for allocation of observers, improving monitoring of managed resources. The SBRM amendments had indirect positive impacts on target species by improving monitoring for total removals.

The Council's Unmanaged Forage Omnibus Amendment, implemented in 2017, established a commercial possession limit for over 50 forage species which were previously unmanaged in federal waters. This action has ongoing positive impacts to target, non-target, and protected species by protecting many forage species and limiting the expansion of any existing fishing effort on forage stocks.

Amendment 21 revised the summer flounder commercial quota allocation starting January 1, 2021 and modified the FMP objectives for summer flounder. This action included a range of expected social and economic impacts from high (but not significant) negative to high (but not significant) positive depending on the state, vessel, or other stakeholder entity affected.

Amendment 22 (2022) revised the allocations of summer flounder, scup, and black sea bass to the commercial and recreational sectors. These changes were intended to better reflect current information about the historic proportions of catch and landings from the commercial and recreational sectors, and for all three species, these changes shifted allocation from the commercial to the recreational sector.

The Recreational Harvest Control Rule Framework/Addenda (Framework 17 to the Council's FMP; 2022) revised the process for setting recreational measures (bag, size, and season limits) for

summer flounder, scup, and black sea bass, adopting the Percent Change Approach for use starting with the 2023 recreational measures. This action also includes modifications to the recreational accountability measures for these species. The action was intended to ensure that measures prevent overfishing, are reflective of stock status, appropriately account for uncertainty in the recreational data, take into consideration angler preferences, and provide an appropriate level of stability and predictability in changes from year to year.

Reasonably Foreseeable Future Actions:

The Council and Commission are currently developing a Recreational Measures Setting (RMS) Framework/Addenda that will serve as a follow-on action to the Recreational Harvest Control Rule Framework/Addenda, which implemented the Percent Change Approach for setting recreational management measures. In adopting the Percent Change Approach, the Council and the Commission's Interstate Fishery Management Program Policy Board (Policy Board) agreed it should sunset by the end of 2025 with the goal of considering an improved measures setting process, as developed through this management action, starting with 2026 measures.

The MAFMC and ASMFC have also initiated an amendment to consider options for managing for-hire recreational fisheries separately from other recreational fishing modes (referred to as sector separation). These management actions will contribute to continued sustainable management of the stocks.

Non-Target Species

Past and Present Actions: Summer Flounder, Scup, and Black Sea Bass FMP actions in the past and present have had mostly positive impacts on non-target species. Specific gear and area restrictions have reduced bycatch of various non-target species. Effort controls and increased efficiency of the fleet have also likely reduced impacts on non-target species. As described in Section 6.2, most of the relevant non-target species have a positive stock condition.

The Council's Unmanaged Forage Omnibus Amendment, implemented in 2017, established a commercial possession limit for over 50 forage species which were previously unmanaged in federal waters. This action has ongoing positive impacts to target, non-target, and protected species by protecting many forage species and limiting the expansion of any existing fishing effort on forage stocks.

Physical Habitat and EFH

Past and Present Actions: Amendment 12 (1998) designated EFH for summer flounder, scup, and black sea bass, which resulted in indirect positive impacts on habitat and the summer flounder, scup, and black sea bass stocks via the ability to identify, monitor, and protect important habitats for these species.

Actions implemented in the Summer Flounder, Scup, and Black Sea Bass FMP that affected species with overlapping EFH were considered in Amendment 13 (MAFMC 2002). The analysis in Amendment 13 indicated that no management measures were needed to minimize impacts to EFH because the trawl fisheries for summer flounder, scup, and black sea bass in federal waters are conducted primarily in high energy mobile sand and bottom habitat where gear impacts are minimal and/or temporary in nature. The principal gears used in the recreational fisheries for summer flounder, scup, and black sea bass are rod and reel and handline. These gears have minimal adverse impacts on EFH in the region (Stevenson et al. 2004).

Reasonably Foreseeable Future Actions: The Council is developing an Omnibus Essential Fish Habitat Amendment which will consider outcomes of the 5-year EFH review required under the Magnuson Stevens Act while amending fishery management plans for the Council, as needed. This action is an opportunity to utilize the best available fish habitat science to improve EFH designations and support the Council's fish habitat conservation efforts while supporting the EFH consultation process.

Protected Resources

Past and Present Actions: NMFS has implemented specific actions to reduce injury and mortality of protected species from gear interactions.

As provided in Appendix C, NMFS developed an Atlantic trawl gear take reduction strategy (Strategy) for long-finned pilot whales (*Globicephala melas*), short-finned pilot whales (*Globicephala macrorhynchus*), white-sided dolphins (*Lagenorhynchus acutus*), and common dolphins (*Delphinus delphis*). The Strategy identifies voluntary measures for trawl fisheries to reduce the incidental capture of small cetaceans. In addition, as provided in Appendix C, NMFS requires summer flounder trawlers fishing in the summer flounder fishery-sea turtle protection area to use turtle excluder devices (TEDs; 50 CFR 223.206) in their trawl gear. TEDs allow sea turtles to escape the trawl net, reducing injury and mortality resulting from capture in the net.

On May 27, 2021, the NMFS completed formal consultation pursuant to section 7 of the ESA of 1973, as amended, and issued a biological opinion (2021 Opinion) on the authorization of eight FMPs, two interstate fishery management plans (ISFMP), and the implementation of the New England Fishery Management Council's Omnibus Essential Fish Habitat (EFH) Amendment 2. On September 13, 2023, NMFS issued a 7(a)(2)/7(d) memorandum that reinitiated consultation on the 2021 Biological Opinion; this memorandum was replaced with an updated 7(a)(2)/7(d) memorandum issued by NMFS on January 8, 2025. Consultation is currently ongoing; additional information on the reinitiation is provided in Section 8.2.

Reasonably Foreseeable Future Actions:

In 2022, NOAA Fisheries held various forums to gather information from the public, fishing industry, and other stakeholder groups to inform any future measures for reducing sea turtle bycatch in trawl fisheries. Potential considerations to reduce sea turtle bycatch included ideas such as geographically extending the requirement of TEDs northward, other gear modifications, or reduced tow times. Although no action has been taken by NMFS to date, the agency continues to seek input on various informational needs identified at: Sea Turtle Bycatch Reduction in Trawl Fisheries: Summer Flounder Trawls | NOAA Fisheries

On July 19, 2023, NMFS issued a proposed rule to designate new areas of critical habitat and modify existing critical habitat for threatened and endangered distinct population segments (DPSs) of the green sea turtle, in areas under U.S. jurisdiction, pursuant to the ESA (88 FR 46572). The comment period on the proposed rule closed on October 17, 2023; rule making is currently ongoing.

These above measures, whether proposed or final, would likely have some degree of positive impacts on these protected species by reducing the number of interactions with fishing gear, and

therefore, reducing the risk of injury and mortality to these protected species and/or adversely affecting habitat.

Human Communities

Past and Present Actions: All actions taken under the Summer Flounder, Scup, and Black Sea Bass FMP have had effects on human communities. None were developed to primarily address elements of fishing related businesses and communities, but many actions included specific measures designed to improve flexibility and efficiency. In general, actions that prevent overfishing have long-term economic benefits for businesses and communities that depend on those resources; however, many actions may lead to short-term negative economic impacts by reducing landings.

Amendments 2, 8, 9, and 10 (1993, 1996, and 1997) had major implications for human communities by limiting participation and allocating the resources by state, and imposing other gear and permitting requirements. Amendments 8 and 9 incorporated scup and black sea bass into the summer flounder FMP and implemented a number of management measures for scup and black sea bass including commercial quotas, commercial gear requirements, minimum size limits, recreational harvest limits (RHLs), and permit and reporting requirements. These major actions resulted in mixed impacts to human communities by imposing costs and eliminating some participants, but improving management's ability to control harvest and maintain positive biological conditions for the stock.

Frameworks 2 and 6 (2001 and 2004) for the recreational fishery provided overall positive benefits to human communities by allowing for increased management flexibility within the constraints of ACLs.

Amendment 15 (2011) established ACLs and AMs to bring the FMP into compliance with the new requirements of the MSA, establishing a control rule for setting annual fishery specifications. This action and associated annual specifications resulted in constraints on effort and revenues in the fishery; however, ACLs and other measures resulted in positive impacts on the stocks that will continue to positively impact human communities in the future.

Amendment 21 revised the summer flounder commercial quota allocation starting January 1, 2021 and modified the FMP objectives for summer flounder. This action included a range of expected social and economic impacts from high (but not significant) negative to high (but not significant) positive depending on the state, vessel, or other stakeholder entity affected.

Amendment 22 (2022) revised the allocations of summer flounder, scup, and black sea bass to the commercial and recreational sectors. These changes were intended to better reflect current information about the historic proportions of catch and landings from the commercial and recreational sectors. The revised allocations are summarized in the table below. For all three species, these changes shift allocation from the commercial to the recreational sector.

The Recreational Harvest Control Rule Framework/Addenda (Framework 17 to the Council's FMP; 2022) revised the process for setting recreational measures (bag, size, and season limits) for summer flounder, scup, and black sea bass, adopting the Percent Change Approach for use starting with the 2023 recreational measures. This action also includes modifications to the recreational accountability measures for these species. The action was intended to ensure that measures prevent overfishing, are reflective of stock status, appropriately account for uncertainty in the recreational

data, take into consideration angler preferences, and provide an appropriate level of stability and predictability in changes from year to year.

Reasonably Foreseeable Future Actions: The Council and Commission are currently developing a Recreational Measures Setting (RMS) Framework/Addenda that will serve as a follow-on action to the Recreational Harvest Control Rule Framework/Addenda, which implemented the Percent Change Approach for setting recreational management measures. In adopting the Percent Change Approach, the Council and the Commission's Interstate Fishery Management Program Policy Board (Policy Board) agreed it should sunset by the end of 2025 with the goal of considering an improved measures setting process, as developed through this management action, starting with 2026 measures.

The MAFMC and ASMFC have also initiated an amendment to consider options for managing for-hire recreational fisheries separately from other recreational fishing modes (referred to as sector separation) and options related to recreational catch accounting, such as private angler reporting and enhanced vessel trip report requirements. These management actions aim to increase stability in recreational measures while continuing sustainable management of the fishery, which should benefit the recreational community. Sector separation could allow management measures to be tailored to the unique needs of the party/charter sector and private recreational fishing sectors.

Over the temporal scope of the future effects of this action (5 years), the Council will continue to implement annual specifications to manage the resource for sustainability, which are expected to have moderate negative to moderate positive impacts on fishing communities depending on the total catch limits.

Other Fishery Management Actions

In addition to the summer flounder, scup, and black sea bass FMP, there are many other FMPs and associated fishery management actions for other species that impacted these VECs over the temporal scale described in Section 7.4.1.3. These include FMPs managed by the Mid-Atlantic Fishery Management Council, New England Fishery Management Council, Atlantic States Marine Fisheries Commission, and to a lesser extent the South Atlantic Fishery Management Council. Omnibus amendments are also frequently developed to amend multiple FMPs at once. Actions associated with other FMPs and omnibus amendments have included measures to regulate fishing effort for other species, measures to protect habitat and forage species, and fishery monitoring and reporting requirements.

As with the summer flounder, scup, and black sea bass actions described above, other FMP actions have had positive long-term cumulative impacts on managed and non-target species because they constrain fishing effort and manage stocks at sustainable levels. As previously stated, constraining fishing effort can have negative short-term socioeconomic impacts and long-term positive impacts. These actions have typically had slight negative impacts on habitat, due to continued fishing operations preventing impacted habitats from recovering; however, some actions had long-term positive impacts through designating or protecting important habitats. FMP actions have also had a range of impacts on protected species, including generally slight negative impacts on ESA-listed species, and slight negative to indirect slight positive impacts on non ESA-listed marine mammals, depending on the species.

Fishery Management Action Summary

The Council has taken many actions to manage commercial and recreational fisheries. The MSA is the statutory basis for federal fisheries management. The cumulative impacts on the VECs of past, present, and reasonably foreseeable future federal fishery management actions under the MSA should generally be associated with positive long-term outcomes because they constrain fishing effort and manage stocks at sustainable levels. Constraining fishing effort through regulatory actions can have negative short-term socioeconomic impacts. These impacts are sometimes necessary to bring about long-term sustainability of a resource, and as such should promote positive effects on human communities in the long-term.

7.4.2.1 *Non-Fishing Impacts*

7.4.2.2 Other Human Activities

Non-fishing activities that occur in the marine nearshore and offshore environments and connected watersheds can cause loss or degradation of habitat and/or affect the species that utilize those areas. The impacts of most nearshore, human-induced, non-fishing activities tend to be localized in the areas where they occur, although effects on highly mobile species could be felt throughout their populations. For offshore projects, some impacts may be localized while others may have regional influence, especially for larger projects. The following discussion of impacts is based on past assessments of activities and assumes these activities will continue as projects are proposed.

Examples of non-fishing activities include point source and non-point source pollution, shipping, dredging/deepening, wind energy development, oil and gas development, construction, and other activities. Specific examples include at-sea disposal areas, oil and mineral resource exploration, aquaculture, construction of offshore wind energy projects, and bulk transportation of petrochemicals. Episodic storm events and the restoration activities that follow can also cause impacts. The impacts from these activities primarily stem from habitat loss and alteration due to human interaction or natural disturbances. These activities are widespread and can have localized impacts on habitat related to accretion of sediments, pollutants, habitat conversion, and shifting currents and thermoclines. For protected species, primary concerns associated with non-fishing activities include vessel strikes, dredge interactions (especially for sea turtles and sturgeon), and underwater noise. These activities have both direct and indirect impacts on protected species. Wherever these activities co-occur, they are likely to work additively or synergistically to decrease habitat quality and as such may indirectly constrain the productivity of managed species, non-target species, and protected species. Decreased habitat suitability tends to reduce the tolerance of these VECs to the impacts of fishing effort. Non-fishing activities can cause target, non-target, and protected species to shift their distributions away from preferred areas and may also lead to decreased reproductive ability and success (e.g., from current changes, spawning disruptions, and behavior changes), disrupted or modified food web interactions, and increased disease. While localized impacts may be more severe, the overall impact on the affected species and their habitats on a population level is unknown, but likely to have impacts that mostly range from no impact to slight negative, depending on the species and activity.

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

may affect habitat for their managed species. Agencies need to respond to, but do not necessarily need to adopt these recommendations. Habitat conservation measures serve to potentially minimize the extent and magnitude of indirect negative impacts federally-permitted activities could have on resources under NMFS' jurisdiction. In addition to guidelines mandated by the MSA, NMFS evaluates non-fishing effects during the review processes 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 authorities. Non-fishing activities must also meet the mandates under the ESA, specifically Section 7(a)(2),[6] which ensures that agency actions do not jeopardize the continued existence of endangered species and their critical habitat.

In recent years, offshore wind energy and oil and gas exploration have become more relevant activities in the Greater Atlantic region. They are expected to impact all VECs, as described below.

Impacts of Offshore Wind Energy Development on Target, Non-target, and Protected Species and the Physical Environment

Five offshore wind energy projects from southern New England through Virginia, with a cumulative total of up to 399 turbines once completed, are either operational or are currently undergoing construction. Over twenty additional projects in federal waters are in various stages of the planning process but have not yet been fully permitted. Pursuant to the Executive Order, "Temporary Withdrawal of All Areas on the Outer Continental Shelf from Offshore Wind Leasing and Review of the Federal Government's Leasing and Permitting Practices for Wind Projects,"[7] permitting and development of those additional projects is not reasonably foreseeable in the short term.

Construction, operation, and eventual decommissioning of offshore wind energy projects may have both direct and indirect impacts on marine species. For example, changes in species distribution may result from habitat conversion and changes in oceanographic processes due to the addition of thousands of new hard structures in the ocean if all planned projects are built (i.e., turbine and offshore substation foundations, as well as external cable armoring where needed). Temporary behavior changes may occur for some species due to factors such as construction and operations noise and electromagnetic fields. Some species may experience injury or mortality (e.g., due to noise and physical impacts during construction). Changes in larval dispersal could result from changes in oceanographic conditions. Changes in physical and biological habitats could impact the distribution of predator and prey species. The impacts will vary by species based on their life history, migration patterns, and habitat use. Some species may benefit from the additional hard structures placed in the ocean, while others will be negatively impacted. Hogan et al. (2023) should be referenced for an in-depth synthesis of synthesized current and past scientific research examining the interactions between offshore wind, fisheries, and marine ecosystems. This report summarized the current state of scientific knowledge and data gaps for impacts including benthic

[6] "Each Federal agency shall, in consultation with and with the assistance of the Secretary, insure that any action authorized, funded, or carried out by such agency (hereinafter in this section referred to as an "agency action") is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of critical habitat."

[7] https://www.whitehouse.gov/presidential-actions/2025/01/temporary-withdrawal-of-all-areas-on-the-outer-continental-shelf-from-offshore-wind-leasing-and-review-of-the-federal-governments-leasing-and-permitting-practices-for-wind-projects/

habitat modification, physical habitat modification, offshore wind interactions with oceanographic processes, and ecosystem impacts on phytoplankton and zooplankton. Impacts could occur from changes to habitat in the areas of wind turbines, offshore substations, and cable corridors and increased vessel traffic to and from these areas.

Wind energy survey and construction activities, as well as operations throughout the life of the projects will substantially affect NMFS scientific research surveys, including stock assessment surveys for fisheries and protected species and ecological monitoring surveys. Disruption of these surveys could increase scientific uncertainty in survey results and may significantly affect NMFS' ability to monitor the health, status, and behavior of marine species (including protected species) and their habitat use within this region. Based on existing regional Fishery Management Councils' ABC control rule processes and risk policies (e.g., 50 CFR §§ 648.20 and 21), increased assessment uncertainty could result in lower commercial quotas and RHLs that may reduce the likelihood of overharvesting and mitigate associated biological impacts on fish stocks. However, this would also result in lower fishing revenues and reduced recreational fishing opportunities, which could result in indirect negative impacts on fishing communities.

Socioeconomic Impacts of Offshore Wind Energy Development

Wind lease areas in New England and the Mid-Atlantic regions overlap with the summer flounder fisheries. The socioeconomic impacts of offshore wind energy on commercial fisheries could be generally negative due to the overlap of wind energy areas with productive fishing grounds. Fishing effort will be temporarily displaced during construction of wind projects. Restricted fishing access is not anticipated during the operational phase of any planned projects; however, some fishermen may choose not to operate within the project areas due to safety concerns. Any reduced fishing access (either due to restrictions or safety concerns) as a result of offshore wind energy development would result in a negative overall effect to the fishery. In some cases, effort could be displaced to another area, which could partially compensate for potential economic losses if vessel operators choose not to operate in the wind energy areas.

There could also be social and economic benefits in the form of jobs associated with construction and maintenance, and replacement of some electricity generated using fossil fuels with renewable sources (AWEA 2020).

It remains unclear how fishing or transiting to and from fishing grounds will be affected by the presence of a wind energy project. While no offshore wind developers have expressed an intent to exclude fishing vessels from project areas once construction is complete, it could be difficult for operators to tow bottom-tending mobile gear or transit amongst the wind turbines, depending on the spacing and orientation of the array and weather conditions.[8] If vessel operators choose to avoid fishing or transiting within wind project areas, effort displacement and additional steaming time could result in negative socioeconomic impacts to affected communities, including increased user conflicts, decreased catch and associated revenue, safety concerns, and increased fuel costs. If vessels elect to fish within wind project areas, effects could be both positive and negative due to increased catch rates for some species with some gear types (e.g., recreational catches of

[8] The United States Coast Guard has considered transit and safety issues related to the Massachusetts and Rhode Island lease areas in a recent port access route study, and has recommended uniform 1 mile spacing in east-west and north-south directions between turbines to facilitate access for fishing, transit, and search and rescue operations. Future studies in other regions could result in different spacing recommendations (USCG 2020).

structure orienting species such as black sea bass) and reduced catches and associated revenues for other species and gear types (e.g., mobile bottom tending gear), user conflicts, gear damage/loss, and increased risk of allision or collision.

Impacts of Oil and Gas Development on Biological and Socioeconomic Resources

The timeframe for potential impacts from oil and gas development activities considered in this document includes leasing and possible surveys, depending on the direction of the Bureau of Ocean Energy Management's 5-year planning process in the North and Mid-Atlantic regions. The Eleventh National Outer Continental Shelf Oil and Gas Leasing Program was announced in 2025. Seismic surveys to detect and quantify mineral resources in the seabed impact marine species and the acoustic environment within which marine species live. These surveys have uncertain impacts on fish behaviors that could cumulatively lead to negative population level impacts. For protected species (sea turtle, fish, small cetacean, pinniped, large whale), the severity of these behavioral or physiological impacts is based on the species' hearing threshold, the overlap of this threshold with the frequencies emitted by the survey, as well as the duration of time the surveys would operate, as these factors influence exposure rate (Ellison et al. 2011, Ellison et al. 2018, Finneran 2015, Finneran 2016, Madsen et al. 2006, Nelms et al. 2016, Nowacek et al. 2007, Nowacek et al. 2015, NRC 2000, NRC 2003, NRC 2005, Piniak 2012, Popper et al. 2014, Richardson et al. 1995, Thomsen et al. 2006, Weilgart 2013). If marine species are affected by seismic surveys, then so in turn the fishermen targeting these species would be affected. However, such surveys could increase jobs, which may provide some positive effects on human communities (BOEM 2020). It is important to understand that seismic surveys for mineral resources are different from surveys used to characterize submarine geology for offshore wind installations, and thus these two types of activities are expected to have different impacts on marine species.

Offshore Energy Summary

The overall impact of offshore wind energy and oil and gas exploration on the affected species and their habitats at a population level is unknown, but likely to range from moderate positive to moderate negative, depending on the species and the number and locations of projects that occur. The individual project phases (site assessment, construction, operation, and decommissioning) as well as different aspects of the technology (foundation types, cables/pipelines, turbines) will have varying impacts on resources. Mitigation efforts, such as habitat conservation measures, time of year construction restrictions, layout modifications, and fishery compensation funds could lessen the magnitude of negative impacts. The overall socioeconomic impacts are likely slight positive to moderate negative (i.e., potentially positive due to a potential increase in jobs and recreational fishing opportunities, but negative due to displacement and disruption of commercial fishing effort).

7.4.2.3 Global Climate Change

Global climate change affects all components of marine ecosystems, including human communities. Physical changes that are occurring and will continue to occur to these systems include sea-level rise, changes in sediment deposition; changes in ocean circulation; increased frequency, intensity, and duration of extreme climate events; changing ocean chemistry; and warming ocean temperatures. The rates of physical and chemical changes in marine ecosystems have been most rapid in recent decades (Johnson et al. 2019). Emerging evidence demonstrates that these physical changes are resulting in direct and indirect ecological responses within marine ecosystems, which may alter the fundamental production characteristics of marine systems

(Stenseth et al. 2002). The general trend of changes can be explained by warming causing increased ocean stratification, which reduces primary production, lowering energy supply for higher trophic levels and changing metabolic rates. Different responses to warming can lead to altered food-web structures and ecosystem-level changes. Shifts in spatial distribution are generally to higher latitudes (i.e., poleward) and to deeper waters as species seek cooler waters within their normal temperature preferences. Climate change will also potentially exacerbate the stresses imposed by fishing and other non-fishing human activities and stressors. Survival of marine species under a changing climate depends on their ability to adapt to change, but also how and to what degree those other human activities influence their natural adaptive capacity.

Results from the Northeast Fisheries Climate Vulnerability Assessment indicate that climate change could have impacts on Council-managed species that range from negative to positive, depending on the adaptability of each species to the changing environment (Hare et al. 2016).

Based on this assessment, summer flounder was determined to have a moderate vulnerability to climate change. The exposure of summer flounder to the effects of climate change was determined to be "very high" due to the impacts of ocean surface temperature, ocean acidification, and air temperature. Exposure to all three factors occurs during all life stages. Summer flounder is an obligate estuarine-dependent species. Spawning occurs on the shelf and juveniles inhabit estuaries. Adults make seasonal north-south migrations exposing them to changing conditions inshore and offshore. The distributional vulnerability of summer flounder was ranked as "high," given that summer flounder spawn in shelf waters and eggs and larvae are broadly dispersed. Adults use a range of habitats including estuarine, coastal, and shelf. The life history of the species has a strong potential to enable shifts in distribution. Summer flounder were thus determined to have low biological sensitivity to climate change (Hare et al. 2016).[9]

Overall vulnerability results for additional Greater Atlantic species, including most of the non-target species identified in this action, are shown in Figure 10 (Hare et al. 2016). While the effects of climate change may benefit some habitats and the populations of species through increased availability of food and nutrients, reduced energetic costs, or decreased competition and predation, a shift in environmental conditions outside the normal range can result in negative impacts for those habitats and species unable to adapt. This, in turn, may lead to higher mortality, reduced growth, smaller size, and reduced reproduction or populations. Thus, already stressed populations are expected to be less resilient and more vulnerable to climate impacts. Climate change is expected to have impacts that range from positive to negative depending on the species. However, future mitigation and adaptation strategies to climate change may mitigate some of these impacts. The science of predicting, evaluating, monitoring and categorizing these changes continues to evolve. The social and economic impacts of climate change will depend on stakeholder and community dependence on fisheries, and their capacity to adapt to change. Commercial and recreational fisheries may adapt in different ways, and methods of adaptation will differ among regions. In addition to added scientific uncertainty, climate change will introduce implementation uncertainty and other challenges to effective conservation and management.

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

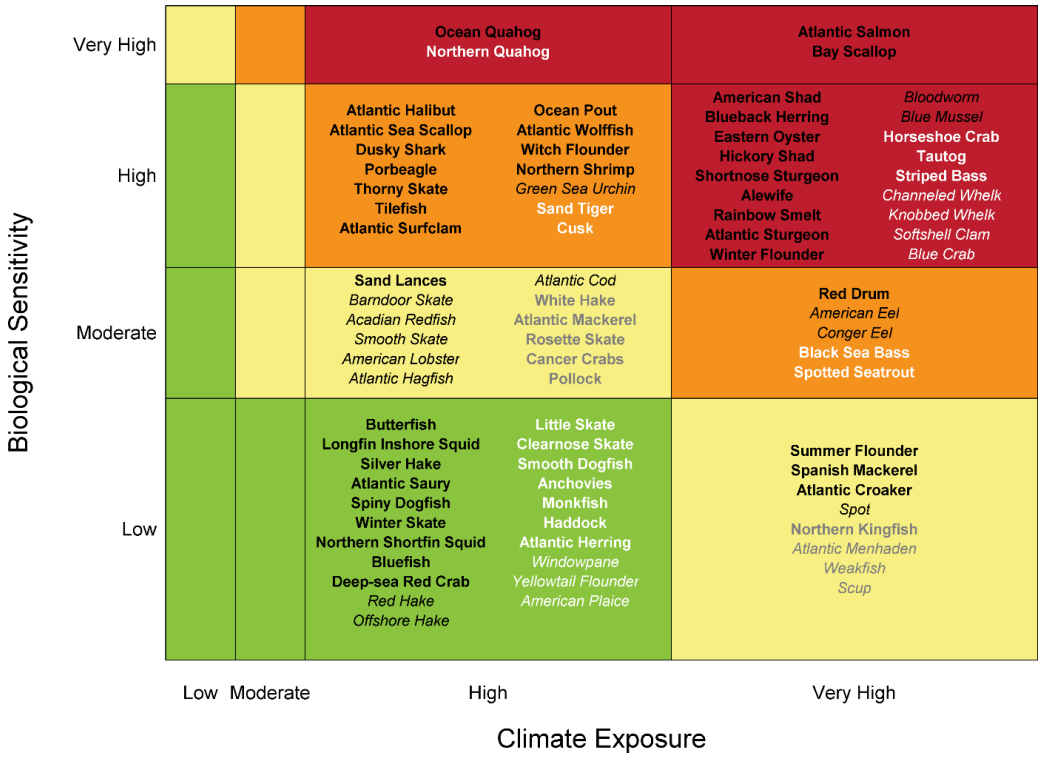

Figure 10: Overall climate vulnerability scores for Greater Atlantic Region species, with summer flounder highlighted with a black box. Overall climate vulnerability is denoted by color: low (green), moderate (yellow), high (orange), and very high (red). Certainty in score is denoted by text font and text color: very high certainty (>95%, black, bold font), high certainty (90–95%, black, italic font), moderate certainty (66–90%, white or gray, bold font), low certainty (<66%, white or gray, italic font). Figure source: Hare et al. 2016.

7.4.3 Summary of Effects of the Proposed Actions

The preferred alternatives in this action are:

- **Alternative 1B:** Revise the westward demarcation line for the SMEP to expand the exempted area. The line would be moved approximately 5 miles west to 72°37'W longitude, following this longitude south until intersection with the northeast corner of the scup Southern Gear Restricted Area (GRA) at 39°20'N and 72°37'W. The line would then follow along the eastern border of the southern scup GRA to 37°N latitude, which would form the southern boundary of the expanded area running eastward until the intersection with the current SMEP boundary at that latitude (see Section 5.1.2).
- **Alternative 2C:** Revise the SMEP evaluation methodology, such that if SMEP participating vessels are discarding more than 25 percent of their summer flounder catch on average, it would trigger a more in-depth review of SMEP discards. This review would be conducted or reviewed by the Monitoring Committee, with the intent of identifying major problems that could be addressed by adjusting management measures and/or rescinding the exemption (see Section 5.2.3).
- **Alternative 3B:** This alternative would modify the regulatory definition of a flynet to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh

size in the wings of 64", and 3) revise the description of the amount of large mesh required in the body of the net (see Section 5.3.2).

The impacts of the proposed actions are described in Sections 7.1 through 7.3 and are summarized in Section 1.3 of this EA.

7.4.4 Magnitude and Significance of Cumulative Effects

In determining the magnitude and significance of the cumulative impacts of the preferred alternatives, the incremental impacts of the direct and indirect impacts should be considered, on a VEC-by-VEC basis, in addition to the effects of all actions (those identified and discussed relative to the past, present, and reasonably foreseeable future actions of both fishing and non-fishing actions). Sections 7.1 through 7.3 provide a summary of likely impacts of the management alternatives contained in this action. The CEA baseline represents the sum of past, present, and reasonably foreseeable future actions and conditions of each VEC. When an alternative has a positive impact on a VEC, for example, reduced fishing mortality on a managed species, it has a positive cumulative effect on the stock size of the species when combined with other actions that were also designed to increase stock size. In contrast, when an alternative has negative effects on a VEC, such as increased mortality, the cumulative effect on the VEC would be negative and tend to reduce the positive effects of the other actions. The resultant positive and negative cumulative effects are described below for each VEC. As previously described, non-fishing impacts on the VECs generally range from no impact to slight negative.

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

As described in Section 6, summer flounder and all primary non-target species except sea robins are managed by the Mid-Atlantic or New England Fishery Management Councils. Sea robins are unmanaged. Past fishery management actions taken through the respective FMPs and the annual specifications process ensure that stocks are managed sustainably and that measures are consistent with the objectives of the FMP under the guidance of the MSA. These actions have generally had a positive cumulative effect on these species. It is anticipated that future management actions will have additional indirect positive effects on the target species through actions which reduce and monitor bycatch, protect habitat, and protect the ecosystem services on which the productivity of these species depend.

As noted previously, the preferred alternatives would likely result in similar levels of commercial fishing effort relative to current conditions. Therefore, the impacts of the fisheries on summer flounder and non-target species are expected to be mostly positive with the potential for slight negative impacts to some non-target species for the preferred alternatives. The preferred alternatives would positively reinforce the past and anticipated positive cumulative effects on target and non-target species by achieving the objectives specified in the FMPs.

When the direct and indirect effects of the preferred alternatives are considered in combination with all other actions (i.e., past, present, and reasonably foreseeable future actions), the cumulative effects are expected to yield non-significant positive impacts on summer flounder and non-target species.

7.4.4.2 *Magnitude and Significance of Cumulative Effects on Physical Environment*

Past fishery management actions and annual specifications process have had positive cumulative effects on habitat. The actions have constrained fishing effort at both local and larger scales and have implemented gear requirements which reduce impacts on habitat. EFH and Habitat Areas of Particular Concern (HAPC) were designated for the managed species. It is anticipated that future management actions will result in additional direct or indirect positive effects on habitat through actions which protect EFH and protect ecosystem services on which these species' productivity depends.

As previously described, many additional non-fishing activities are concentrated near-shore and likely work either additively or synergistically to decrease habitat quality. The effects of these actions, combined with impacts resulting from years of commercial fishing activity, have negatively affected habitat. These impacts could be broad in scope. All the VECs are interrelated; therefore, the linkages among habitat quality, target and non-target species productivity, and associated fishery yields should be considered. Some actions, such as coastal population growth and climate change may indirectly impact habitat and ecosystem productivity; however, these actions are beyond the scope of NMFS and Council management. Reductions in overall fishing effort and protection of sensitive habitats have mitigated some negative effects.

As previously noted, none of the preferred alternatives are expected to result in significantly increased levels of fishing effort or changes to the character of that effort relative to current conditions. Although the impacted areas have been fished for many years with many different gear types and therefore will not likely be further impacted by these measures, continued fishing effort will continue to impact habitats. Therefore, the slight negative impacts of the fishery on the physical environment are not expected to change relative to the current condition under the preferred alternatives.

When the direct and indirect effects of the preferred alternatives are considered in combination with all other actions (i.e., past, present, and reasonably foreseeable future actions), the cumulative effects are expected to yield non-significant slight negative impacts on the physical environment and EFH.

7.4.4.3 *Magnitude and Significance of Cumulative Effects on Protected Species*

Taking into consideration the above information and information provided in Section 6.4 and Appendix C, past fishery management actions taken through the respective FMPs and annual specifications process have had slight indirect positive cumulative effects on protected species. The actions have constrained fishing effort both at a large scale and locally, and have implemented, pursuant to the ESA, MMPA, or MSA, gear modifications, requirements, and management areas. These measures and/or actions have served to reduce interactions between protected species and fishing gear. It is anticipated that future management actions will result in additional indirect positive effects on protected species. These impacts could be broad in scope.

The preferred alternatives would not substantially modify current levels of fishing effort in terms of the overall amount of effort, timing, and location. They would allow existing fishing effort to continue, with the potential for a minor shift of fishing effort into the expanded SMEP area. As described in more detail in Section 7, this is expected to result in negligible to slight moderate negative impacts to protected species.

When the direct and indirect effects of the preferred alternatives are considered in combination with fishery management actions (i.e., past, present, and reasonably foreseeable future actions) and non-fishing impacts, the cumulative effects are expected to yield non-significant slight negative impacts to slight positive impacts.

7.4.4.4 *Magnitude and Significance of Cumulative Effects on Human Communities*

Past fishery management actions taken through the respective FMPs and annual specifications process have had both positive and negative cumulative effects on human communities. They have benefitted domestic fisheries through sustainable fishery management, but have also reduced participation in fisheries and imposed management measures such as catch limits and gear restrictions which have limited potential revenues and impacted efficiency and costs.

It is anticipated that future fishery management actions will result in positive effects for human communities due to sustainable management practices, although additional indirect negative effects on some human communities could occur if management actions result in reduced revenues. Overall, the past, present, and reasonably foreseeable future actions have had overall positive cumulative effects for human communities. Despite the potential for negative short-term effects due to reduced revenues, positive long-term effects are expected due to the long-term sustainability of the managed stocks.

By providing revenues and contributing to the overall functioning of and employment in coastal communities, the summer flounder commercial fishery has both direct and indirect positive social impacts. As previously described, the preferred alternatives are unlikely to result in substantial changes to levels of fishing effort or the character of that effort relative to current conditions.

When the direct and indirect effects of the preferred alternatives are considered in combination with all other actions (i.e., past, present, and reasonably foreseeable future actions), the cumulative effects are expected to yield non-significant slight positive impacts.

7.4.5 Proposed Action on all the VECs

The Council's preferred alternatives (i.e., the proposed action) are described in Section 5. The direct and indirect impacts of the proposed action on the VECs are described in Sections 7.1 through 7.3. The magnitude and significance of the cumulative effects, including additive and synergistic effects of the proposed action, as well as past, present, and future actions, have been taken into account (Section 7.4.4).

In summary, the information in these sections indicates that when considered in conjunction with all other relevant past, present, and reasonably foreseeable future actions, the preferred alternatives are not expected to result in any significant impacts, positive or negative. The preferred alternatives are consistent with other management measures that have been implemented in the past for these fisheries. These measures are part of a broader management scheme for summer flounder which has helped to rebuild stocks and ensure long-term sustainability, while minimizing environmental impacts.

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

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

There are no significant cumulative effects associated with the preferred alternatives based on the information and analyses presented in this document and in past FMP documents. Cumulatively, through 2030, it is anticipated that the cumulative effects will range from positive to slight negative, depending on the VEC (Table 19).

Table 19: Summary of cumulative effects of preferred alternatives.

Description	Target species	Non-target species	Habitat	Protected species	Human communities
Impacts of preferred alternatives	No impact to slight positive (Sections 7.1.1, 7.2.1, 7.3.1)	Slight negative to slight positive (Sections 7.1.1, 7.2.1., 7.3.1)	No impact to slight negative (Sections 7.1.2, 7.2.2, 7.3.2)	No impact to slight moderate negative (Sections 7.1.3, 7.2.3, 7.3.3)	Negligible to moderate positive (Sections 7.1.4, 7.2.4, 7.3.4)
Combined cumulative effects assessment baseline conditions	Positive	Positive	Slight negative	Slight negative to slight positive	Positive
Cumulative effects (all non-significant)	Positive (Section 7.4.4.1)	Positive (Section 7.4.4.1)	Slight negative (Section 7.4.4.2)	Slight negative to slight positive (Section 7.4.4.3)	Slight positive (Section 7.4.4.4)

8 OTHER APPLICABLE LAWS

8.1 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT (MSA)

8.1.1 National Standards

Section 301 of the MSA requires that FMPs contain conservation and management measures that are consistent with ten National Standards. The Council continues to meet the obligations of National Standard 1 by adopting and implementing conservation and management measures that will continue to prevent overfishing while achieving, on a continuing basis, optimum yield for summer flounder, scup, and black sea bass and the U.S. fishing industry. To achieve optimum yield, both scientific and management uncertainty are addressed when establishing catch limits.

The Council develops recommendations that do not exceed the ABC recommendations of the Scientific and Statistical Committee, which explicitly address scientific uncertainty. The Council considers management uncertainty and other social, economic, and ecological factors, when recommending Annual Catch Targets. The Council uses the best scientific information available (National Standard 2) and manages these species throughout their range (National Standard 3). These management measures do not discriminate among residents of different states (National Standard 4) and they do not have economic allocation as their sole purpose (National Standard 5). The measures account for variations in the fisheries (National Standard 6) and avoid unnecessary duplication (National Standard 7). They take into account the fishing communities (National Standard 8) and they promote safety at sea (National Standard 10). The proposed actions are consistent with National Standard 9, which addresses bycatch in fisheries. The Council has implemented many regulations that have indirectly reduced fishing gear impacts on EFH (Section 8.1.2). By continuing to meet the National Standards requirements of the MSA through future FMP amendments, framework actions, and the annual specification setting process, the Council will ensure that cumulative impacts of these actions will remain positive overall for the managed species, the ports and communities that depend on these fisheries, and the Nation as a whole.

8.1.2 Essential Fish Habitat Assessment

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

Description of Action

As described in more detail in Section 5, the preferred alternatives would modify two exemptions to the summer flounder commercial minimum mesh size requirements, including 1) the SMEP, and 2) the flynet exemption. These changes are intended to modernize these requirements with consideration of current fishing industry gear use and practices and to provide additional flexibility to fishery participants while reducing regulatory discards and continuing to meet the conservation objectives of the FMP.

Potential Adverse Effects of the Action on EFH

The types of habitat impacts caused by the gears used in the summer flounder fishery (predominantly bottom otter trawl) are summarized in section 6.3.3.

As described in Section 7, under the preferred alternatives for the expansion of the SMEP area and the revision to the flynet exemption definition, existing habitat impacts from this fishery are expected to continue largely unchanged. Overall effort in the fisheries will still be controlled by annual catch limits and associated regulations. Fishing locations, amount of gear in the water, and timing of fishing are not expected to change notably in a manner that would modify existing impacts to habitat. The habitats that are impacted by the summer flounder fishery have been impacted by many fisheries over many years. The levels of fishing effort expected under the preferred alternatives are not expected to cause additional habitat damage, but they are expected to limit the recovery of previously impacted areas. The preferred alternative for the SMEP monitoring methodology is not expected to have any direct impacts on habitat. Thus, the overall proposed action is expected to have continued slight negative impacts on habitat and EFH.

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

Amendment 13 considered measures in the Summer Flounder, Scup, and Black Sea Bass FMP which impact EFH (MAFMC 2002). The analysis in Amendment 13 indicated that no management

measures were needed to minimize impacts to EFH because the trawl fisheries for summer flounder, scup, and black sea bass in federal waters are conducted primarily in high energy mobile sand habitat where gear impacts are minimal and/or temporary in nature. Hook and line are the principal gears used in the recreational fishery for all three species. These gears have minimal adverse impacts on EFH in the region (Stevenson et al. 2004). These characteristics of the fisheries have not changed since Amendment 13. None of the alternatives included in this document were designed to avoid, minimize, or mitigate adverse impacts on EFH.

Section 6.3.3 lists examples of management measures previously implemented by the Council with the intent of minimizing the impacts of various fisheries on habitat. None of these measures substantially restrict the summer flounder fishery.

Conclusions

Overall, the preferred alternatives are expected to have slight negative impacts on EFH; therefore, an EFH consultation is required.

8.2 ENDANGERED SPECIES ACT

Section 7 of the ESA requires federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species and do not adversely affect designated critical habitat of listed species.

On May 27, 2021, the National Marine Fisheries Service's (NMFS) completed formal consultation pursuant to section 7 of the ESA of 1973, as amended, and issued a biological opinion (2021 Opinion) on the authorization of eight fishery management plans (FMP), two interstate fishery management plans (ISFMP), and the implementation of the New England Fishery Management Council's Omnibus Essential Fish Habitat (EFH) Amendment 2.[10] The 2021 Opinion considered the effects of the authorization of these FMPs, ISFMPs, and the implementation of the Omnibus EFH Amendment on ESA-listed species and designated critical habitat, and determined that those actions were not likely to jeopardize the continued existence of any ESA-listed species or destroy or adversely modify designated critical habitats of such species under NMFS jurisdiction. An Incidental Take Statement (ITS) was issued in the 2021 Opinion. The ITS includes reasonable and prudent measures and their implementing terms and conditions, which NMFS determined are necessary or appropriate to minimize impacts of the incidental take in the fisheries assessed in the 2021 Opinion.

On September 13, 2023, NMFS issued a 7(a)(2)/7(d) memorandum that reinitiated consultation on the 2021 Opinion. The Federal actions to be addressed in this reinitiation of consultation include the authorization of the Federal fisheries conducted under the aforementioned eight Federal FMPs (see footnote 9). The reinitiated consultation will not include the American lobster and Jonah crab fisheries, which are authorized under ISFMPs. On December 29, 2022, President Biden signed the Consolidated Appropriations Act (CAA), 2023, which included the following provision specific to NMFS' regulation of the American lobster and Jonah crab fishery to protect right whales, "Notwithstanding any other provision of law ... for the period beginning on the date of

[10] The eight Federal FMPs considered in the May 27, 2021, Biological Opinion include: (1) Atlantic Bluefish; (2) Atlantic Deep-Sea Red Crab; (3) Mackerel, Squid, and Butterfish; (4) Monkfish; (5) Northeast Multispecies; (6) Northeast Skate Complex; (7) Spiny Dogfish; and (8) Summer Flounder, Scup, and Black Sea Bass. The two ISFMPs are American Lobster and Jonah Crab.

enactment of this Act and ending on December 31, 2028, the Final Rule ... shall be deemed sufficient to ensure that the continued Federal and State authorizations of the American lobster and Jonah crab fisheries are in full compliance with the Marine Mammal Protection Act of 1972 (16 U.S.C. 1361 et seq.) and the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq.)." Given this, the American lobster and Jonah crab fisheries remain in compliance with the ESA through December 31, 2028.

On January 8, 2025, NMFS issued a memorandum titled, "Section 7(a)(2) and 7(d) Determinations for the Extended Reinitiation Period for Endangered Species Act Section 7 Consultation on Eight Fishery Management Plans." This memorandum determined that the authorization of these fisheries during the extended reinitiation period would not violate section 7(d) of the ESA and would not be likely to jeopardize the continued existence of ESA-listed large whales, sea turtles, Atlantic sturgeon, Atlantic salmon, or giant manta rays, or adversely modify designated critical habitat.

Given the information provided above, the Council has determined that the proposed action does not entail making any changes to the summer flounder fishery during the extended reinitiation period that would cause an increase in interactions with or effects to ESA-listed species or their critical habitat beyond those considered in NMFS' January 8, 2025, memorandum. Therefore, the proposed action is consistent with NMFS' January 8, 2025, 7(a)(2) and 7(d) determinations.

8.3 MARINE MAMMAL PROTECTION ACT

Section 6.4 and Appendix C describe the marine mammal species which inhabit the affected environment of this action. As described in those sections, various marine mammal species have the potential to interact with the gear types used in the commercial summer flounder fishery (predominately bottom trawl). The impacts of the proposed measures on marine mammals (Section 7) are consistent with the provisions of the MMPA. The preferred alternatives would not alter existing measures to protect marine mammals.

A final determination of consistency with the MMPA will be made by NMFS during rulemaking for this action.

8.4 COASTAL ZONE MANAGEMENT ACT

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

8.5 ADMINISTRATIVE PROCEDURES ACT

Sections 551-553 of the Federal Administrative Procedure Act establish procedural requirements applicable to informal rulemaking by federal agencies. The purpose of these requirements is to

ensure public access to the Federal rulemaking process and to give the public notice and opportunity to comment before the agency promulgates new regulations.

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

- April 10, 2024 Council and Board meeting in Atlantic City, NJ
- June 4, 2024 Council and Board meeting in Riverhead, NY
- August 13, 2024 Council and Board meeting in Philadelphia, PA
- Public hearings held via webinar on the following dates:
    - September 16, 2024
    - September 17, 2024
- October 24, 2024 Council and Board meeting in Annapolis, MD

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

8.6 DATA QUALITY ACT

Utility of Information Product

This document includes a description of the alternatives considered, the preferred actions and rationale for selection, and any changes to the implementing regulations of the FMP. As such, this document enables the implementing agency (NMFS) to make a decision on implementation of the changes proposed through this document serves as a supporting document for the proposed rule.

The preferred alternatives were developed consistent with the FMP, MSA, and other applicable laws. They were developed through a multi-stage process that was open to review by affected members of the public. The public had the opportunity to review and comment on management measures during a number of public meetings (Section 8.5). The public will have further opportunity to comment on this action once NMFS publishes a request for comments notice in the Federal Register.

Integrity of Information Product

This information product meets the standards for integrity under the following types of documents: Other/Discussion (e.g., Confidentiality of Statistics of the MSA; NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act).

Objectivity of Information Product

The category of information product that applies here is "Natural Resource Plans." Section 8 describes how this document was developed to be consistent with any applicable laws, including the MSA. The analyses used to develop the alternatives (i.e., policy choices) are based upon the

best scientific information available. The most up to date information was used to develop this EA which evaluates the impacts of those alternatives (Section 7). The specialists who worked with these core data sets and population assessment models are familiar with the most recent analytical techniques and are familiar with the available data and information relevant to the summer flounder fisheries.

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

8.7 EXECUTIVE ORDER 13123 (FEDERALISM)

Executive Order 13132 established nine fundamental federalism principles for federal agencies to follow when developing and implementing actions with federalism implications. It also lists a series of policy making criteria to which federal agencies must adhere when formulating and implementing policies that have federalism implications. This document does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order 13132. The affected states have been closely involved in the development of the proposed fishery specifications through their representation on the Council and/or the Commission.

8.8 PAPERWORK REDUCTION ACT

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

8.9 REGULATORY FLEXIBILITY ACT

8.9.1 Introduction

The Regulatory Flexibility Act (RFA), codified at 5 U.S.C. 600-611, is 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 federal regulations. Major goals of the RFA are: 1) to increase agency awareness and understanding of the impact of their regulations on small business; 2) to require that agencies communicate and explain their findings to the public; and 3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse impacts on small entities as a group distinct from other entities and on 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 NMFS' certification that the proposed regulations will not have a "significant impact on a substantial number of small entities" and that an IRFA is preliminarily not needed in this case.

8.9.2 Basis and Purpose of the Rule

This action is taken under the authority of the Magnuson-Stevens Fishery Conservation and Management Act and regulations at 50 CFR part 648. Section 4.2 includes the NEPA purpose and need for this action. There are three regulatory actions considered in this document, including potential modifications to 1) the area of the SMEP; 2) the SMEP annual review criteria: and 3) the current definition of a flynet.

As described in more detail in Section 5, the preferred alternatives would modify the summer flounder SMEP and flynet exemption. For the area of the SMEP the preferred alternative would slightly expand the area approximately 5 miles west to 72°37'W longitude, following this longitude south until intersection with the northeast corner of the scup Southern Gear Restricted Area (GRA) at 39°20'N and 72°37'W. The line would then follow along the eastern border of the southern scup GRA to 37°N latitude, which would form the southern boundary of the expanded area running eastward until the intersection with the current SMEP boundary at that latitude (Figure 2). For alternative set two, the preferred alternative would increase the average summer flounder discard percentage threshold triggering consideration of recission of the SMEP from 10% to 25%, but rather than serving as the primary trigger for rescinding the SMEP, it would instead trigger a more in-depth review of SMEP discards. The preferred alternative for the third regulatory action considered in this document would modify the flynet definition to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh size in the wings of 64", and 3) revise the description of the amount of large mesh required in the body of the net. The preferred proposed modifications to the SMEP area, discard threshold, and flynet definition are intended to modernize these requirements with consideration of current fishing industry gear use and practices, and to provide additional flexibility to fishery participants while continuing to meet the conservation objectives of the FMP.

8.9.3 Description and Number of Regulated Entities to which the Rule Applies

The entities (i.e., the small and large businesses) that may be affected by this action include fishing operations with federal moratorium (commercial) permits for summer flounder. This section focuses on entities which held a federal summer flounder moratorium permit in 2023.

For Regulatory Flexibility Act purposes only, NMFS established a small business size standard for businesses, including their affiliates, whose primary industry is commercial or recreational fishing (50 CFR §200.2). A business primarily engaged in fishing is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its

affiliates) and has combined annual receipts not in excess of $11 million, for all its affiliated operations worldwide.

For this analysis, vessel ownership data[11] from permit application documentation were used to identify all individuals who own fishing vessels. Ownership entities were defined based on common ownership personnel listed on these applications. Permits with identical ownership personnel were categorized as a single ownership entity. For example, if five permits list the same seven individuals as co-owners, those seven individuals are considered one ownership entity for those five permits. However, if some of those individuals also co-own additional vessels with different subsets of the original group or with new partners, those arrangements are treated as separate ownership entities. Vessels were grouped accordingly, and the resulting ownership groupings, referred to as entities or affiliates, were then used to identify small and large businesses potentially affected by this action. An affiliate was classified as a commercial fishing affiliate if the majority of its 2023 revenue came from commercial fishing. Affiliates were designated as small or large businesses based on their average annual revenues from 2019 through 2023.

In 2023, 719 vessels held federal summer flounder moratorium permits.[12] Note as described above, to harvest summer flounder in federal waters a vessel must obtain this permit and therefore, we expect that the proposed regulation would only directly impact the vessels holding a federal summer flounder moratorium permit. Each vessel may be individually owned or part of a larger corporate ownership structure, and for RFA purposes, it is the ownership entity that is ultimately regulated by the proposed action. Ownership entities are identified on June 1 of each year based on the list of all permit numbers, for the most recent complete calendar year, that have applied for any type of Northeast Federal fishing permit. The current ownership data set is based on the permits identified above and identifying each corresponding ownership affiliation information from calendar year 2023. For each affiliation, a five-year trailing average revenues (calendar years 2019 – 2023) is used to define the industry size determination (small or large), per the Small Business Administration (SBA) guidance.

Ownership data collected from permit holders indicate that in 2023 there were 416 unique business entities that held at least one permit that could be directly regulated by the proposed action (Table 20). Of these business entities, there were a total of 636 affiliated summer flounder permits with an average of 1.5 permits per affiliate. Of the 416 affiliate, 363 were classified as a commercial fishing business and of the commercial fishing businesses 355 (98%) were classified as small businesses and 8 (2%) were classified as large businesses.

Table 20: Industry affiliate summary statistics derived from the 2019-2023 affiliate data provided by the NMFS NEFSC Social Science Branch.

Total unique entities	Average num. of permits/entity	Total num. affiliated federal summer flounder permits	Num. of commercial businesses	Num. of large entities	Num. of small entities
416	1.5	636	363	8	355

[11] Affiliate data for 2019-2023 were provided by the NMFS NEFSC Social Science Branch. This is the latest affiliate data set available for analysis.

[12] Source: https://www.greateratlantic.fisheries.noaa.gov/public/public/web/NEROINET/aps/permits/data/index.html

8.9.4 Economic Impacts on Regulated Entities

The expected impacts of the proposed action were analyzed by employing quantitative approaches to the extent possible. Effects on profitability associated with the proposed measures should be evaluated by looking at the impact of the modifications on individual business entities' costs and revenues. Changes in gross revenues were used as a proxy for profitability. Where quantitative data were not available, qualitative analyses were conducted.

The 8 potentially impacted primarily commercial large business affiliates had an average total annual revenue of $19.1 million during 2019-2023, and of that, an average of $292,749 was attributed to summer flounder. On average, summer flounder accounted for about 1.5% of total annual revenues for these 8 large businesses.

The 355 potentially impacted primarily commercial small business affiliates had an average total annual revenue of $1.42 million during 2019-2023, and of that, an average of $54,751 was attributed to commercial landings of summer flounder. On average, summer flounder accounted for 4% of the total revenues for these 355 small businesses.

Some individual businesses had a much higher dependence on summer flounder than the averages listed above. For example, 66 (19%) of the 355 primarily commercial small business affiliates received at least 25% (and for 8 of which it accounted for at least 50%) of their average total annual revenues from summer flounder landings during 2019-2023. The affiliates with a higher dependence on summer flounder will experience the positive or negative effects of this action to a greater extent than those with a lower dependence on these species.

As described in more detail in section 7, the preferred proposed modifications to the summer flounder commercial minimum mesh exemptions are expected to result in negligible to moderate positive socioeconomic impacts for commercial fishery participants because they would allow for additional flexibility for fishing vessels to retain incidental catch of summer flounder while targeting other species and therefore would be expected to result in an increase in revenues.

8.9.5 Analysis of Non-Preferred Alternatives

Additional non-preferred alternatives were also considered. All alternatives are described in detail in Section 5, primarily including status quo options to the commercial minimum mesh exemption programs.

When considering the economic impacts of the alternatives under the Regulatory Flexibility Act and Executive Order 12866, consideration should also be given to those non-preferred alternatives which would result in higher net benefits or lower costs to small entities while still achieving the stated objective of the action.

Under this action, the preferred alternatives considered resulted in the greatest expected positive impacts or less negative impacts on the commercial sector. As described in Section 7, the non-preferred alternative for Alternative sets 1-3 would result in no change or essentially no change to the commercial minimum mesh exemption programs, and in multiple cases include outdated regulations that no longer reflect the reality of the fishery. Therefore, necessitating the need to update these regulations.

8.9.6 Conclusion

Based on the analysis provided above the modified commercial summer flounder minimum mesh size exemptions will not have a significant adverse impact on a substantial number of small entities, and small entities will not be disproportionately impacted relative to large entities. As a result, an initial regulatory flexibility analysis is not required and none has been prepared.

8.10 REGULATORY IMPACT REVIEW

8.10.1 Determination of Significance Under EO 12866

EO 12866 requires a Regulatory Impact Review (RIR) to enhance planning and coordination with respect to new and existing regulations. This EO requires the Office of Management and Budget to review regulatory programs that are considered to be "significant." This section 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.

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

- 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, competition, jobs, the environment, public health or safety, or State, local, territorial, or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise legal or policy issues for which centralized review would meaningfully further the President's priorities or the principles set forth in this Executive order, as specifically authorized in a timely manner by the Administrator of OIRA in each case.

8.10.2 Objectives for and Description of the Proposed Action

As described in more detail in Section 5, the preferred alternatives would modernize the summer flounder minimum mesh exemptions, the SMEP and flynet exemption. Specifically, for the defined SMEP area, the preferred alternative would slightly expand the area approximately 5 miles west to 72°37'W longitude, following this longitude south until intersection with the northeast corner of the scup Southern Gear Restricted Area (GRA) at 39°20'N and 72°37'W. The line would then follow along the eastern border of the southern scup GRA to 37°N latitude, which would form the southern boundary of the expanded area running eastward until the intersection with the current SMEP boundary at that latitude (Figure 2). Additionally, this proposed action would also modify the SMEP review criteria. For alternative set two, the preferred alternative would increase the average summer flounder discard percentage threshold triggering consideration of the recission of the exemption from 10% to 25%, but rather than serving as the primary trigger for rescinding the SMEP, it would instead trigger a more in-depth review of SMEP discards. Lastly, the final proposed change in the action would revise to the regulatory definition of a flynet to 1) remove the reference to two seams, 2) remove the reference to the upper range of the mesh size in the

wings of 64", and 3) revise the description of the amount of large mesh required in the body of the net . Alternatives that were considered but rejected are described in Section 5.4.

8.10.3 Baseline Conditions for Determination of Significance

As described in more detail above, the preferred alternatives would 1) expand the current SMEP area, 2) update the SMEP review criteria by increasing the average discard trigger and serving as a trigger for a more in-depth analysis of SMEP discards, and 3) update the current definition of a flynet. As described in more detail in Section 7, the anticipated impact of the preferred alternatives would result in direct impacts to human communities ranging from slight to moderate positive (for the SMEP area expansion and flynet definition change), and indirect impacts on human communities ranging from negligible to slight positive (for the SMEP review criteria).

The extent of the impact is dependent on the utilization of the SMEP and flynet exemption. Since 1996, commercial landings of summer flounder have ranged from a high of 17.84 million pounds in 2004, and a low of 5.89 million pounds in 2017 (Figure 6). In 2023, commercial data from CAMS indicated that commercial fishermen from Maine through North Carolina landed 13.14 million pounds of summer flounder, about 86% of the commercial quota (15.27 million pounds). Commercial dead catch has not exceeded the commercial ACL since 2018, and in years prior, where commercial ACL overages have occurred, they are generally caused by higher-than-expected dead discards (Table 9). In 2023, ex-vessel revenues totaled $26.39 million with an average price of $2.11 per pound. Nearly 97% of landings were taken by bottom otter trawls. Key ports for landings included Point Judith, RI; Pt. Pleasant, NJ; and Newport News, VA, with over 700 vessels holding a federal summer flounder moratorium permit. Additionally, as described in Section 8.9, an analysis of economic impacts to commercial summer flounder affiliates highlighted that the modified commercial summer flounder minimum mesh size exemptions will not have a significant adverse impact on a substantial number of small entities, and small entities will not be disproportionately impacted relative to large entities.

SMEP Proposed Modifications

Over the past 10 years on average, about 68 vessels have participated in the SMEP annually (Figure 9). Between 2018-2022, about 13% of total annual summer flounder bottom trawl catch on average came from trips where an active LOA was held (regardless of mesh size used; see Table 20, Appendix A). As described in Appendix A, the expansion could result in a modest increase in summer flounder landings, but overall impacts are expected to be limited. From 2018 to 2022, vessels using small-mesh gear in the current SMEP area retained approximately 0.3% to 2% of their total catch as summer flounder. Given similar catch composition patterns would be expected, vessels operating in the expanded area would be expected to retain an additional 5,000 to 15,000 pounds of legal-sized summer flounder annually. Based on recent years' average ex-vessel price of approximately $2.50 per pound, this could translate into a revenue increase of $12,500 to $37,500 per year across participating vessels. While this represents a slight economic benefit, summer flounder would still account for a small fraction of total landings from these trips, which are primarily driven by other target species.

Flynet Proposed Modifications

Based on observer data, the net types that fall under the expanded definition of a flynet do not regularly encounter summer flounder and the primary targeted species include: species caught and landed with these trawl gear types are short-fin squid and Atlantic herring, followed by longfin

squid, haddock, and scup (Table 33). Which was further supported by industry feedback and the understanding of the design and fishing behavior of these net types. Although these net types are not designed to catch flatfish, summer flounder are occasionally caught incidentally in fisheries using these net types. Based on observer data, summer flounder caught in these nets represents about 0.7% of their total observed catch by weight, including 0.6% landings and 0.1% discards (Table 35).

Given that gear configuration details are complex and nets are often highly customized, there are not always precise definitions available for net types found in the observer data to assess whether they meet the current definition of a flynet. Thus, it is difficult to quantify the degree to which current use of flynet type gears falls within the current vs. proposed expanded definition, and to assess whether these vessels are complying with existing regulations and to what degree such vessels will economically benefit from the expanded definition.

However, because this gear is not efficient for catching summer flounder, use of these net types is expected to remain driven by other target species, and summer flounder is expected to remain a minor component of the bycatch in these nets.

8.10.4 Summary of Economic Effects of the Proposed Measures

The socioeconomic impacts of the preferred alternatives are described in Section 7. These impacts derive for the proposed changes to the commercial summer flounder small mesh exemption programs. Alternative 1B to revise the SMEP area is expected to have slight to moderate socioeconomic impacts on the commercial fishery. Alternative 2C (revisions to the review methodology for the SMEP) is not expected to have direct impacts to human communities, but as described in Section 7.2.4, is expected to have indirect impacts ranging from negligible to slight positive. Alternative 3B (revisions to the flynet exemption) is expected to have impacts to human communities ranging from negligible to slight positive.

As previously described, the preferred alternatives could allow additional flexibility in the retention of incidentally caught summer flounder when targeting other species, and therefore some potentially additional commercial revenue.

8.10.5 Determination of Significant Regulatory Action

The proposed action does not constitute a significant regulatory action under EO 12866 as it will not have an annual effect on the economy of more than $100 million and is not predicted to have a significant adverse impact on ports or owner/operators of commercial businesses. In addition, this action is consistent with previous actions by the Council and NMFS. There is no known conflict with other agencies. There are no known impacts on any entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof. There are no known conflicts with other legal mandates, the President's priorities, or the principles set forth in Executive Order 12866. The proposed actions are not precedent-setting or novel. As such, the Proposed Action is not considered significant as defined by EO 12866.

9 LITERATURE CITED

ASMFC (Atlantic States Marine Fisheries Commission). 2017. 2017 Atlantic sturgeon benchmark stock assessment and peer review report. October 18, 2017. 456 pp.

ASMFC (Atlantic States Marine Fisheries Commission). 2024. 2024 Atlantic sturgeon Stock Assessment Update. August 2024. 89 pp. Available at: https:/www.fisheries.noaa.gov/s3/2024-09/66be3e37AtlanticSturgeonStockAssessmentUpdate_August2024_0.pdf.

ASSRT (Atlantic Sturgeon Status Review Team). 2007. Status review of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). Report to National Marine Fisheries Service, Northeast Regional Office. February 23, 2007. 174 p.

Baum, E.T. 1997. *Maine Atlantic Salmon - A National Treasure*. Atlantic Salmon Unlimited. Hermon, Maine.

Beanlands, G.E., and P. N. Duinker. 1984. Ecological framework adjustment for environmental impact assessment. *Journal of Environmental Management*. 8:3.

Blumenthal, J.M., J.L. Solomon, C.D. Bell, T.J. Austin, G. Ebanks-Petrie, M.S. Coyne, A.C. Broderick, and B.J. Godley. 2006. Satellite tracking highlights the need for international cooperation in marine turtle management. *Endangered Species Research.* 2:51-61.

BOEM (Bureau of Ocean and Energy Management). 2020. *Vineyard Wind 1 Offshore Wind Energy Project Supplement to the Draft Environmental Impact Statement.* Appendix A.

Bolten, A. B., L. B. Crowder, M. G. Dodd, A. M. Lauritsen, J. A. Musick, B. A. Schroeder, and B. E. Witherington. 2019. Recovery plan for the Northwest Atlantic Population of the loggerhead sea turtle (Caretta caretta) second revision (2008). Assessment of progress toward recovery. Northwest Atlantic Loggerhead Recovery Team.

Braun-McNeill, J., and S.P. Epperly. 2002. Spatial and temporal distribution of sea turtles in the western North Atlantic and the U.S. Gulf of Mexico from Marine Recreational Fishery Statistics Survey (MRFSS). *Marine Fisheries Review*. 64(4):50-56.

Braun-McNeill, J., C.R. Sasso, S.P.Epperly, C. Rivero. 2008. Feasibility of using sea surface temperature imagery to mitigate cheloniid sea turtle–fishery interactions off the coast of northeastern USA. *Endangered Species Research*. 5: 257–266.

Breece, M.W., A.L. Higgs, and D.A. Fox. 2021. Spawning Intervals, Timing, and Riverine Habitat Use of Adult Atlantic Sturgeon in the Hudson River. Transactions of the American Fisheries Society 150(4): 528–37. https://doi.org/10.1002/tafs.10304.

Breece, M.W., A.L. Higgs, and D.A. Fox. 2021. Spawning Intervals, Timing, and Riverine Habitat Use of Adult Atlantic Sturgeon in the Hudson River. Transactions of the American Fisheries Society 150(4): 528–37. https://doi.org/10.1002/tafs.10304.

Caillouet, C. W., S. W. Raborn, D. J. Shaver, N. F. Putman, B. J. Gallaway, and K. L. Mansfield. 2018. Did declining carrying capacity for the Kemp's ridley sea turtle population within the Gulf of Mexico contribute to the nesting setback in 2010− 2017? Chelonian Conservation and Biology **17**(1): 123-133.

Collins, M. R. and T. I. J. Smith. 1997. Distribution of shortnose and Atlantic sturgeons in South Carolina. *North American Journal of Fisheries Management*. 17: 995-1000.

Dadswell, M. 2006. A review of the status of Atlantic sturgeon in Canada, with comparisons to populations in the United States and Europe. *Fisheries*. 31: 218-229.

Dodge, K.L., B. Galuardi, T. J. Miller, and M. E. Lutcavage. 2014. Leatherback turtle movements, dive behavior, and habitat characteristics in ecoregions of the northwest Atlantic Ocean. *PLOS ONE*. 9 (3) e91726: 1-17.

Dovel, W.L. and T.J. Berggren. 1983. Atlantic sturgeon of the Hudson River Estuary, New York. *New York Fish and Game Journal*. 30: 140-172.

Dunton, K.J., A. Jordaan, K.A. McKown, D.O. Conover, and M.J. Frisk. 2010. Abundance and distribution of Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*) within the northwest Atlantic Ocean, determined from five fishery-independent surveys. *Fishery Bulletin*. 108:450-465.

Dunton, K.J., A. Jordaan, D. O. Conover, K.A. McKown, L. A. Bonacci, and M. G. Frisk. 2015. Marine Distribution and Habitat Use of Atlantic Sturgeon in New York Lead to Fisheries Interactions and Bycatch. Marine and Coastal Fisheries: Dynamics, Management, and Ecosystem Science 7:18–32.

Eckert, S.A., D. Bagley, S. Kubis, L. Ehrhart, C. Johnson, K. Stewart, and D. DeFreese. 2006. Internesting and postnesting movements of foraging habitats of leatherback sea turtles (*Dermochelys coriacea*) nesting in Florida. *Chelonian Conservation and Biology*. 5(2): 239-248.

Eno, N.C., D.S MacDonald, J.A.M. Kinnear, S.C Amos, C.J. Chapman, R.A Clark, F.P.D Bunker, Munro, C. 2001. Effects of crustacean traps on benthic fauna. *ICES Journal of Marine Science*. 58:11-20.

Epperly, S.P., J. Braun, and A.J. Chester. 1995a. Aerial surveys for sea turtles in North Carolina inshore waters. *Fishery Bulletin*. 93: 254-261.

Epperly, S.P., J. Braun, A.J. Chester, F.A. Cross, J.V. Merriner, and P.A. Tester. 1995b.Winter distribution of sea turtles in the vicinity of Cape Hatteras and their interactions with the summer flounder trawl fishery. *Bulletin of Marine Science*. 56(2): 547-568.

Epperly, S.P., J. Braun, and A. Veishlow. 1995c. Sea turtles in North Carolina waters. Conservation Biology 9(2):384-394.

Erickson, D. L., A. Kahnle, M. J. Millard, E. A. Mora, M. Bryja, A. Higgs, J. Mohler, M. DuFour, G. Kenney, J. Sweka, and E. K. Pikitch. 2011. Use of pop-up satellite archival tags to identify oceanic-migratory patterns for adult Atlantic Sturgeon, *Acipenser oxyrinchus oxyrinchus* Mitchell, 1815. *Journal of Applied Ichthyology*. 27: 356–365.

Farmer, Nicholas A. et al. 2022. The distribution of manta rays in the western North Atlantic Ocean off the eastern United States. Nature Sci. Reports 12:6544. https://doi.org/10/1038/s41598-022-10482-8

Fay, C., M. Bartron, S. Craig, A. Hecht, J. Pruden, R. Saunders, T. Sheehan, and J. Trial. 2006. Status review for anadromous Atlantic salmon (*Salmo salar*) in the United States. Report to the National Marine Fisheries Service and U.S. Fish and Wildlife Service. 294 pages.

Gaichas, S., J. Hare, M. Pinsky, G. DePiper, O. Jensen, T. Lederhouse, J. Link, D. Lipton, R. Seagraves, J. Manderson, and M. Clark. 2015. Climate change and variability: a white paper to inform the Mid-Atlantic Fishery Management Council on the impact of climate change on fishery science and management. Second draft. Available at: http://www.mafmc.org/eafm/

Gladys Porter Zoo. 2013. Gladys Porter Zoo's Preliminary Annual Report on the Mexico/United States of America Population Restoration Project for the Kemp's Ridley Sea Turtle, Lepidochelys kempii, on the Coasts of Tamaulipas, Mexico 2013.

Greene, J.K., M.G. Anderson, J. Odell, and N. Steinberg, eds. 2010. The Northwest Atlantic Marine Ecoregional Assessment: Species, Habitats and Ecosystems. Phase One. The Nature Conservancy, Eastern U.S. Division, Boston, MA. Available at: www.conservationgateway.org

Griffin, D.B., S. R. Murphy, M. G. Frick, A. C. Broderick, J. W. Coker, M. S. Coyne, M. G. Dodd, M. H. Godfrey, B. J. Godley, L. A. Hawkes, T. M. Murphy, K. L. Williams, and M. J. Witt. 2013. Foraging habitats and migration corridors utilized by a recovering subpopulation of adult female loggerhead sea turtles: implications for conservation. *Marine Biology.* 160: 3071–3086.

Hare, J.A., W.E. Morrison, M.W. Nelson, M.M. Stachura, E.J. Teeters, R.B. Griffis, et al. 2016. A Vulnerability Assessment of Fish and Invertebrates to Climate Change on the Northeast U.S.

Continental Shelf. PLoS ONE 11(2). Available at: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0146756.

Hawkes, L.A., A.C. Broderick, M.S. Coyne, M.H. Godfrey, L.-F. Lopez-Jurado, P. Lopez Suarez, S.E. Merino, N. Varo-Cruz, and B.J. Godley. 2006. Phenotypically linked dichotomy in sea turtle foraging requires multiple conservation approaches. *Current Biology*. 16: 990-995.

Hawkes, L.A., M.J. Witt, A.C. Broderick, J.W. Coker, M.S. Coyne, M. Dodd, M.G. Frick, M.H. Godfrey, D.B. Griffin, S.R. Murphy, T.M. Murphy, K.L. Williams, and B.J. Godley. 2011. Home on the range: spatial ecology of loggerhead turtles in Atlantic waters of the USA. *Diversity and Distributions*. 17: 624–640.

Hayes, S.A., E. Josephson, K. Maze-Foley, and P. E. Rosel. 2019. US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2018. NOAA Technical Memorandum NMFS-NE-258.

Hayes, S.A., E. Josephson, K. Maze-Foley, and P. E. Rosel. 2021. US Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2020. NOAA Technical Memorandum NMFS-NE-271.

Hayes S.A., E. Josephson, K. Maze-Foley, P.E. Rosel & J. McCordic. 2024. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments - 2023. U.S. Department of Commerce. NOAA Technical Memorandum NMFS-NE-321. 371 p.

Heppell, S. S., D. T. Crouse, L. B. Crowder, S. P. Epperly, W. Gabriel, T. Henwood, R. Márquez, and N. B. Thompson. 2005. A population model to estimate recovery time, population size, and management impacts on Kemp's ridley sea turtles. Chelonian Conservation and Biology 4(4): 767-773.

Hyvarinen, P., P. Suuronen and T. Laaksonen. 2006. Short-term movement of wild and reared Atlantic salmon smolts in brackish water estuary – preliminary study. *Fisheries Management and Ecology*. 13(6): 399 -401.

James, M.C., R.A. Myers, and C.A. Ottenmeyer. 2005. Behaviour of leatherback sea turtles, *Dermochelys coriacea*, during the migratory cycle. *Proceedings of the Royal Society B*. 272: 1547-1555.

James, M.C., S.A. Sherrill-Mix, K. Martin, and R. A. Myers. 2006. Canadian waters provide critical foraging habitat for leatherback sea turtles. *Biological Conservation*. 133: 347-357.

Johnson, M.R., Boelke, C., Chiarella, L.A., and Greene, K. 2019. Guidance for Integrating Climate Change Information in Greater Atlantic Region Habitat Conservation Division Consultation Processes. Greater Atlantic Region Policy Series 19-01. 235p. https://www.greateratlantic.fisheries.noaa.gov/policyseries/index.php/GARPS/article/view/3

Kazyak, D.C., S.L. White, B.A. Lubinski, R. Johnson, and M. Eackles. 2021. Stock Composition of Atlantic Sturgeon (Acipenser Oxyrinchus Oxyrinchus) Encountered in Marine and Estuarine Environments on the U.S. Atlantic Coast. Conservation Genetics 22(5): 767–81. https://doi.org/10.1007/s10592-021-01361-2.

Kocik. J.F., S.E. Wigley, and D. Kircheis. 2014. Annual bycatch update Atlantic salmon 2013. U.S. Atlantic Salmon Assessment Committee Working Paper 2014:05. Old Lyme, CT. 6 p. (cited with permission of authors).

Kynard, B., M. Horgan, M. Kieffer, and D. Seibel. 2000. Habitat used by shortnose sturgeon in two Massachusetts rivers, with notes on estuarine Atlantic sturgeon: a hierarchical approach. *Transactions of the American Fisheries Society*. 129: 487-503.

Lacroix, G.L. and P. McCurdy. 1996. Migratory behavior of post-smolt Atlantic salmon during initial stages of seaward migration. *Journal of Fish Biology*. 49: 1086-1101.

Lacroix, G. L, P. McCurdy, and D. Knox. 2004. Migration of Atlantic salmon post smolts in relation to habitat use in a coastal system. *Transactions of the American Fisheries Society*. 133(6):1455-1471.

Lacroix, G.L. and D. Knox. 2005. Distribution of Atlantic salmon (*Salmo salar*) postsmolts of different origins in the Bay of Fundy and Gulf of Maine and evaluation of factors affecting migration, growth, and survival. *Canadian Journal of Fisheries and Aquatic Science*. 62: 1363–1376.

Laney, R.W., J.E. Hightower, B.R. Versak, M.F. Mangold, W.W. Cole Jr., and S.E. Winslow 2007. Distribution, habitat use, and size of Atlantic sturgeon captured during cooperative winter tagging cruises, 1988–2006. Pages 167-182. In: J. Munro, D. Hatin, J. E. Hightower, K. McKown, K. J. Sulak, A. W. Kahnle, and F. Caron, (editors), Anadromous sturgeons: Habitats, threats, and management. American Fisheries Society Symposium 56, Bethesda, MD.

Lucey, S. M. and J. A. Nye. 2010. Shifting species assemblages in the northeast US continental shelf large marine ecosystem. *Marine Ecology Progress Series*. 415: 23-33.

MAFMC (Mid-Atlantic Fishery Management Council). 2002. Amendment 13 to the Summer Flounder, Scup, and Black Sea Bass Fishery Management Plan. 552 p. + append. Available at: http://www.mafmc.org/fisheries/fmp/sf-s-bsb

MAFMC (Mid-Atlantic Fishery Management Council). 2008. Amendment 9 to the Atlantic Mackerel, Squid, and Butterfish Fishery Management Plan. 461 p. Available at: http://www.mafmc.org/s/SMB_Amend_9_Vol_1.pdf.

Mansfield, K.L., V.S. Saba, J. Keinath, and J.A. Musick. 2009. Satellite telemetry reveals adichotomy in migration strategies among juvenile loggerhead sea turtles in the northwest Atlantic. *Marine Biology*. 156:2555-2570.

Marshall, A. et al. 2022. Mobula birostris (amended version of 2020 assessment). The IUCN Red List of Threatened Species 2022:eT198921A214397182. https://dx.doi.org/10.2305/IUCN.UK.2022-1.RLTS.T198921A214397182.en

McAfee B. 2024. 2024 discard estimation, precision, and sample size analysis for 14 federally managed species groups in the waters off the northeastern United States. US Dept Commer Northeast Fish Sci Cent Tech Memo 318. 184 p. (no discards of salmon from July 2022-June 2023).

McClellan, C.M., and A.J. Read. 2007. Complexity and variation in loggerhead sea turtle life history. *Biology Letters.* 3:592-594

Miller, T. and G. Shepard. 2011. Summary of discard estimates for Atlantic sturgeon. Northeast Fisheries Science Center, Population Dynamics Branch, August 2011.

Miller, M. H. and C. Klimovich. 2017. Endangered Species Act status review report: Giant manta ray (*Manta birostris*) and reef manta ray (*Manta alfredi*). National Marine Fisheries Service, Silver Spring, Maryland, September. Available from: https://repository.library.noaa.gov/view/noaa/17096.

Mitchell, G.H., R.D. Kenney, A.M. Farak, and R.J. Campbell. 2003. Evaluation of occurrence of endangered and threatened marine species in naval ship trial areas and transit lanes in the Gulf of Maine and offshore of Georges Bank. NUWC-NPT Technical Memo 02-121A. 113 p.

Morgan, L. E. and R. Chuenpagdee. 2003. Shifting gears: addressing the collateral impacts of fishing methods in U.S. Waters. Pew Science Series. Available at: http://www.pewtrusts.org/en/research-and-analysis/reports/2003/05/01/shifting-gears-addressing-the-collateral-impacts-of-fishing-methods-in-us-waters Moore, M.J. and J. M. van der Hoop. 2012. The Painful Side of Trap and Fixed Net Fisheries: Chronic Entanglement of Large Whales. Journal of Marine Biology, Volume 2012, Article ID 230653, 4 pages

Morreale, S.J. and E.A. Standora. 2005. Western North Atlantic waters: Crucial developmental habitat for Kemp's ridley and loggerhead sea turtles. *Chelonian Conservation Biology*. 4(4):872-882.

Murphy, T.M., S.R. Murphy, D.B. Griffin, and C. P. Hope. 2006. Recent occurrence, spatial distribution and temporal variability of leatherback turtles (*Dermochelys coriacea*) in nearshore waters of South Carolina, USA. *Chelonian Conservation Biology*. 5(2): 216-224.

Murray, K.T., 2008. Estimated average annual bycatch of loggerhead sea turtles (*Caretta caretta*) in US Mid-Atlantic bottom otter trawl gear, 1996–2004, second ed. Northeast Fisheries Science Center Reference Document 08-20, p. 32. Available at: http://www.nefsc.noaa.gov/publications/crd/crd0820

Murray, K.T. 2015. The importance of location and operational fishing factors in estimating and reducing loggerhead turtle (*Caretta caretta*) interactions in U.S. bottom trawl gear. *Fisheries Research*. 172: 440–451.

Murray, K. T. 2020. Estimated magnitude of sea turtle interactions and mortality in U.S. bottom trawl gear, 2014-2018. National Marine Fisheries Service, Woods Hole, Massachusetts, 2020. Northeast Fisheries Science Center Technical Memorandum No. NMFS-NE-260.

NEFMC (New England Fishery Management Council). 2023. Monkfish Fishery Management Plan Framework Adjustment 13 Environmental Assessment. 165 p. Available at: https://d23h0vhsm26o6d.cloudfront.net/Monkfish-FW13-Environmental-Assessment_2023-07-11-165734_jfml.pdf

NEFMC (New England Fishery Management Council). 2024. Northeast Skate Complex Fishery Management Plan Framework Adjustment 12. 175 p. Available at: https://d23h0vhsm26o6d.cloudfront.net/240530-Skate-FW12-final-submission.pdf.

Northeast Fisheries Science Center (NEFSC). 2023. Atlantic Spiny Dogfish 2023 Management Track Assessment Report. 9p. Available at: https://www.mafmc.org/s/e1_2023-Spiny-Dogfish-MT-assessment-report.pdf.

NMFS (National Marine Fisheries Service). 2021a. Endangered Species Act Section 7 Consultation on the: (a) Authorization of the American Lobster, Atlantic Bluefish, Atlantic, Deep-Sea Red Crab, Mackerel/Squid/Butterfish, Monkfish, Northeast Multispecies, Northeast Skate Complex, Spiny Dogfish, Summer Flounder/Scup/Black Sea Bass, and Jonah Crab Fisheries and (b) Implementation of the New England Fishery Management Council's Omnibus Essential Fish Habitat Amendment 2. National Marine Fisheries Service, Greater Atlantic Regional Fisheries Office, Gloucester, Massachusetts; May 2021.

NMFS (National Marine Fisheries Service). 2021b. Final Environmental Impact Statement, Regulatory Impact Review, and Final Regulatory Flexibility Analysis for Amending the Atlantic Large Whale Take Reduction Plan: Risk Reduction Rule. Prepared by: NOAA's National Marine Fisheries Service and Industrial Economics, Incorporated; June 2021. https://www.fisheries.noaa.gov/new-england-mid-atlantic/marine-mammal-protection/atlantic-large-whale-take-reduction-plan.

NMFS (National Marine Fisheries Service). 2024. Draft Recovery Plan for the Giant Manta Ray (Mobula birostris). October 2024, Version 1. NOAA Fisheries, Office of Protected Resources, Silver Spring, MD. 20901. 59 pages.

NMFS and USFWS (National Marine Fisheries Service and U.S. Fish and Wildlife Service). 1991. Recovery Plan for U.S. Population of Atlantic Green Turtle (Chelonia mydas). Washington, DC: U.S. Department of Commerce and U.S. Department of the Interior. 58 p.

NMFS and USFWS (National Marine Fisheries Service and U.S. Fish and Wildlife Service). 1992. Recovery plan for leatherback turtles (*Dermochelys coriacea*) in the U.S. Caribbean, Atlantic, and Gulf of Mexico. National Marine Fisheries Service, Washington, D.C. 65 p.

NMFS (National Marine Fisheries Service), USFWS (U.S. Fish and Wildlife Service), and SEMARNAT. 2011. Bi-National Recovery Plan for the Kemp's Ridley Sea Turtle (*Lepidochelys kempii*), Second Revision. National Marine Fisheries Service, Silver Spring, Maryland. 156 pp. + appendices.

NMFS and USFWS. 2020. Endangered Species Act status review of the leatherback turtle (*Dermochelys coriacea*). Report to the National Marine Fisheries Service Office of Protected Resources and U.S. Fish and Wildlife Service.

NOAA. 2016. Species in the Spotlight Priority Actions: 2016-2020 Atlantic Salmon (Salmo salar). Atlantic Salmon Five Year Action Plan.

Nye, J. A., T. M. Joyce, Y.O. Kwon, and J.S. Link. 2011. Silver hake tracks changes in Northwest Atlantic circulation. *Nature Communications*. 2:412.

O'Leary, S.J., K. J. Dunton, T. L. King, M. G. Frisk, and D.D. Chapman. 2014. Genetic diversity and effective size of Atlantic sturgeon, *Acipenser oxyrhinchus oxyrhinchus*, river spawning populations estimated from the microsatellite genotypes of marine-captured juveniles. *Conservation Genetics*. 15(5):1173-1181.

Packer, D. B, S. J. Griesbach, P. L. Berrien, C. A. Zetlin, D. L. Johnson, and W.W. Morse. 1999. Essential Fish Habitat Source Document: Summer Flounder, *Paralichthys dentatus*, Life History and Habitat Characteristics. NOAA Technical Memorandum NMFS-NE-151.

Pinsky, M.L., B. Worm, M.J. Fogarty, J.L. Sarmiento, and S.A. Levin. 2013. Marine taxa track local climate velocities. *Science*. 341(6151): 1239-1242.

Precoda K and Lyssikatos M. 2024. Estimates of cetacean and pinniped bycatch in the Northeast and Mid-Atlantic bottom trawl fisheries, 2022. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 24-05; 15 p.

Precoda K and Murray K. 2024. Estimated magnitude of sea turtle interactions in U.S. bottom trawl gear, 2019-2023. US Dept. Commerce, Northeast Fisheries Sci. Ctr. Ref. Doc. 24-08; 18 pp.

Reddin, D.G. 1985. Atlantic salmon (*Salmo salar*) on and east of the Grand Bank. *Journal of Northwest Atlantic Fisheries Science*. 6(2):157-164.

Reddin, D.G and P.B. Short. 1991. Postsmolt Atlantic salmon (*Salmo salar*) in the Labrador Sea. *Canadian Journal of Fisheries and Aquatic Science*. 48:2-6.

Reddin, D.G and K.D. Friedland. 1993. Marine environmental factors influencing the movement and survival of Atlantic salmon. 4th Int. Atlantic Salmon Symposium. St. Andrews, N.B. Canada.

Restrepo, J, E. G. Webster, I. Ramos, and R. A. Valverde.2023. Recent decline of green turtle Chelonia mydas nesting trend at Tortuguero, Costa Rica. Endang Species Res 51: 59–72.

Rider, Mitchell J. et al. 2024. Where the leatherbacks roam: movement behavior analyses reveal novel foraging locations along the Northwest Atlantic shelf. Frontiers Marine Sci. 11:1325139. doi: 10.3389/fmars.2024.1325139s

Sasso, C. R. and S. P. Epperly. 2006. Seasonal sea turtle mortality risk from forced submergence in bottom trawls. Fisheries Research **81**(1): 86-88.

SEDAR. 2015. SEDAR 39 Stock Assessment Report: HMS Atlantic smooth dogfish. North Charleston (SC): SEDAR.

Sheehan, T.F., D.G. Reddin, G. Chaput and M.D. Renkawitz. 2012. SALSEA North America: Apelagic ecosystem survey targeting Atlantic salmon in the Northwest Atlantic. *ICES Journal of Marine Science*. 69(9):1580-1588.

Shoop, C.R., and R.D. Kenney. 1992. Seasonal distributions and abundance of loggerhead and leatherback sea turtles in waters of the northeastern United States. *Herpetological Monographs*. 6:43-67.

Steimle, FW, and CA Zetlin. 2000. Reef habitats in the middle Atlantic bight: abundance, distribution, associated biological communities, and fishery resource use. *Marine Fisheries Review*. 62: 24-42.. 62: 24-42.

Stein, A. B., K. D. Friedland, and M. Sutherland. 2004. Atlantic sturgeon marine bycatch and mortality on the continental shelf of the Northeast United States. *North American Journal of Fisheries Management*. 24: 171-183.

Stenseth, N.C, Mysterud, A., Otterson, G., Hurrell, J.W., Chan, K., and M. Lima. 2002 Ecological Effects of Climate Fluctuations. Science 297(5585); 1292-1296.

Stevenson, D., L. Chiarella, D. Stephan, R. Reid, K. Wilhelm, J. McCarthy, M. Pentony. 2004. Characterization of the fishing practices and marine benthic ecosystems of the Northeast U.S. Shelf, and an evaluation of the potential effects of fishing on Essential Fish Habitat. NOAA Technical Memorandum NMFS-NE-181; 179 p.

USASAC (U.S. Atlantic Salmon Assessment Committee). 2013. Annual reports 2001 through 2012. Annual Report of the U.S. Atlantic Salmon Assessment Committee.

USFWS and NMFS. 2018. Recovery plan for the Gulf of Maine Distinct Population Segment of Atlantic salmon (Salmo salar). 74 pp.

Waldman, J.R., T. King, T. Savoy, L. Maceda, C. Grunwald, and I. Wirgin. 2013. Stock origins of subadult and adult Atlantic sturgeon, *Acipenser oxyrinchus*, in a non-natal estuary, Long Island Sound. *Estuaries and Coasts*. 36:257–267.

Warden, M.L. 2011a. Modeling loggerhead sea turtle (*Caretta caretta*) interactions with US Mid-Atlantic bottom trawl gear for fish and scallops, 2005–2008. *Biological Conservation*. 144: 2202–2212.

Warden, M.L. 2011b. Proration of loggerhead sea turtle (*Caretta caretta*) interactions in US Mid-Atlantic bottom otter trawls for fish and scallops, 2005-2008, by managed species landed. NEFSC Reference Document 11-04; 8 p. Available at: http://www.nefsc.noaa.gov/publications/crd/

Weinberg, J. R. 2005. Bathymetric shift in the distribution of Atlantic surfclams: response to warmer ocean temperature. *ICES Journal of Marine Science*. 62(7): 1444-1453.

Wirgin, I., L. Maceda, J.R. Waldman, S. Wehrell, M. Dadswell, and T. King. 2012. Stock origin of migratory Atlantic sturgeon in the Minas Basin, Inner Bay of Fundy, Canada, determined by microsatellite and mitochondrial DNA analyses. *Transactions of the American Fisheries Society.* 141(5): 1389-1398.

Wirgin, I., M. W. Breece , D. A. Fox , L. Maceda , K. W. Wark, and T. King. 2015a. Origin of Atlantic sturgeon collected off the Delaware coast during spring months. North American *Journal of Fisheries Management*. 35: 20–30.

Wirgin, I., L. Maceda, C. Grunwald, and T. L. King. 2015b. Population origin of Atlantic sturgeon *Acipenser oxyrinchus oxyrinchus* by-catch in U.S. Atlantic coast fisheries. Journal of Fish Biology 86(4):1251–1270.

10 APPENDICES

10.1 APPENDIX A: SMEP SUPPORTING ANALYSIS

10.1.1 Additional Characterization of SMEP Use

Because vessels with an active LOA are restricted to trips east of the demarcation line, many vessels hold several LOAs for varying lengths of time throughout a given November-April period. On average over the past ten years, about 44% of vessels held the LOA for the full November-April time frame (Figure 11).

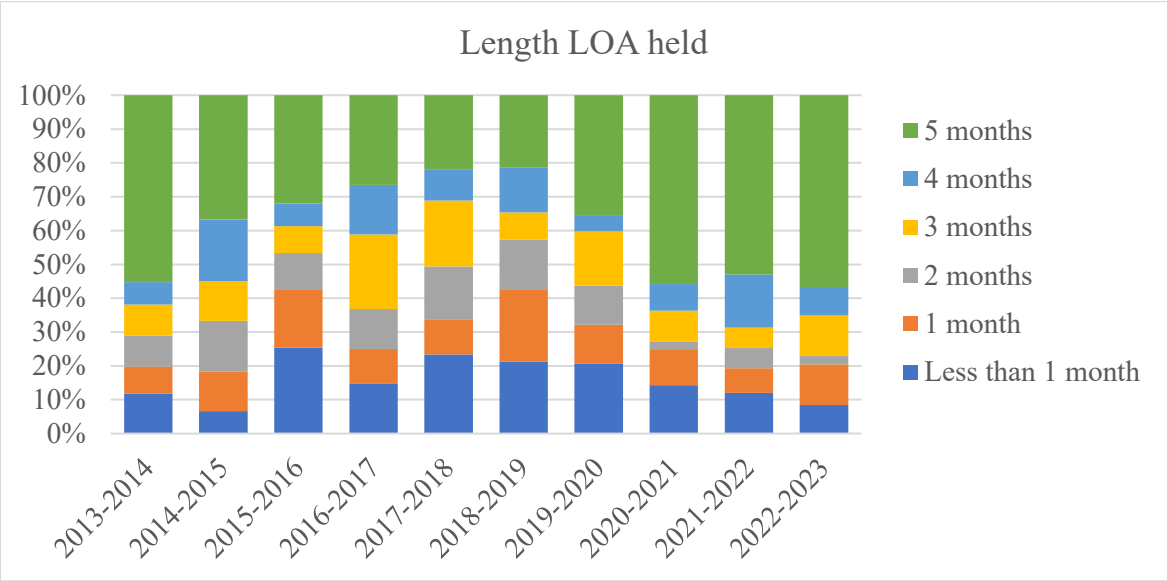

Figure 11: Active LOA length for each November-April SMEP season from November 2013-April 2023. Some vessels may be represented multiple times within the same season if they held multiple LOAs for less than 180 days.

CAMS data were used to calculate the proportion of annual summer flounder bottom trawl landings and discards originating from LOA trips vs. non-LOA trips. As shown in Table 20, based on this information, since 2018 about 14% of total annual summer flounder bottom trawl catch on average came from trips where an active LOA was held.[13]

[13] This dataset did not separate trips or hauls by mesh size used. Not all trips or hauls occurring while an LOA is held are necessarily using small mesh (in other words, some proportion of "LOA catch" is coming from trips where an LOA would not have been needed to retain more than 200 pounds of summer flounder).

Table 21: Proportion of annual summer flounder bottom trawl landings and discards from SMEP LOA vs. non-LOA trips, based on 2018-2022 CAMS data.

Year(s)	% LOA Landings	% LOA Discards	% Non-LOA Landings	% Non-LOA Discards
2018	9%	1%	70%	20%
2019	10%	1%	75%	13%
2020	13%	1%	74%	13%
2021	16%	1%	77%	7%
2022	17%	1%	77%	5%
Average (2018-2022)	**13%**	**1%**	**74%**	**11%**

VTR data from November 1, 2022 through April 30, 2023 indicate over this period, 90% of LOA trips were using bottom otter trawl gear, with the remaining 10% utilizing other or unknown gear types (small numbers of trips for unnamed "other" gear types, other bottom trawl types, scallop dredge, and sink gillnets). As some of these other gear types are non-trawl gears, these vessels would not be actively using the SMEP on every trip. Observer data for November 2013 through April 2022 indicate 100% of observed trips over this period associated with an active SMEP LOA were using bottom otter trawl gear.

On 1,246 observed trips associated with an active SMEP LOA from November 2013 through April 2022, about 40% of hauls used a mesh size at or above the summer flounder minimum diamond mesh size of 5.5 inches, while 57% used mesh smaller than 5.5 inches and/or a small mesh codend liner (Table 22). The LOA/exemption is not necessary for vessels fishing with mesh over the 5.5-inch minimum size; however, many vessels holding LOAs are using a mix of different gear configurations on different trips or portions of trips while the LOA is active.

Table 22: Trips and hauls for observed bottom otter trawl trips with an active SMEP LOA, 2013-2022, by mesh size category (above and below the summer flounder 5.5" diamond mesh requirement).

Gear Type and Mesh Size Category	% of Hauls	Number of Unique Trips[a]	Number of Unique Permits[a]
≥5.5 inch[b]	40%	637	87
<5.5 inch[b]	57%	624	92
Unknown	3%	38	25
Total	**100%**	**1,246**	**109**

[a] Number of trips and permits do not add to the total given that some trips and some permits are associated with use of multiple mesh size categories.

[b] Observer mesh size data is reported as an average of 10 individual mesh measurements, in millimeters. For this analysis, mesh size was converted to inches and rounded to the nearest tenth of an inch, so conversion and rounding error may be present for some observations.

Of all observed hauls linked to SMEP LOAs from November 2013 through April 2022 where mesh smaller than 5.5 inches was used, 67% of hauls caught summer flounder, and 82% of observed trips caught summer flounder at some point on the trip. Of the hauls targeting summer flounder, 95% caught summer flounder (Table 23).

Table 23: Observed trips, hauls, and permits for observer data linked to SMEP LOAs, for trips and hauls where mesh smaller than 5.5 inches was used, November 2013 through April 2022.

Statistic	**Trips**	**Hauls**	**Permits**
All Observed SMEP LOA	624	3,879	92
Caught Summer Flounder	514	2,606	89
Targeted Summer Flounder	225	977	68
Targeted & Caught Summer Flounder	223	931	68

10.1.2 Discard Reasons

Discard reasons for summer flounder discards on observed LOA and non-LOA trips were evaluated using observer data from 2013-2022. As shown in Figure 12, size limit regulations are the top reported discard reason (in terms of the percent of records, or hauls) over the last 10 years for both LOA and non-LOA trips. Observed LOA trips show a notably higher percentage of records in this category vs. non-LOA trips (70% vs. 49%). When evaluated by poundage, this reason represents a smaller proportion of discards due to the lower poundage associated with smaller fish.

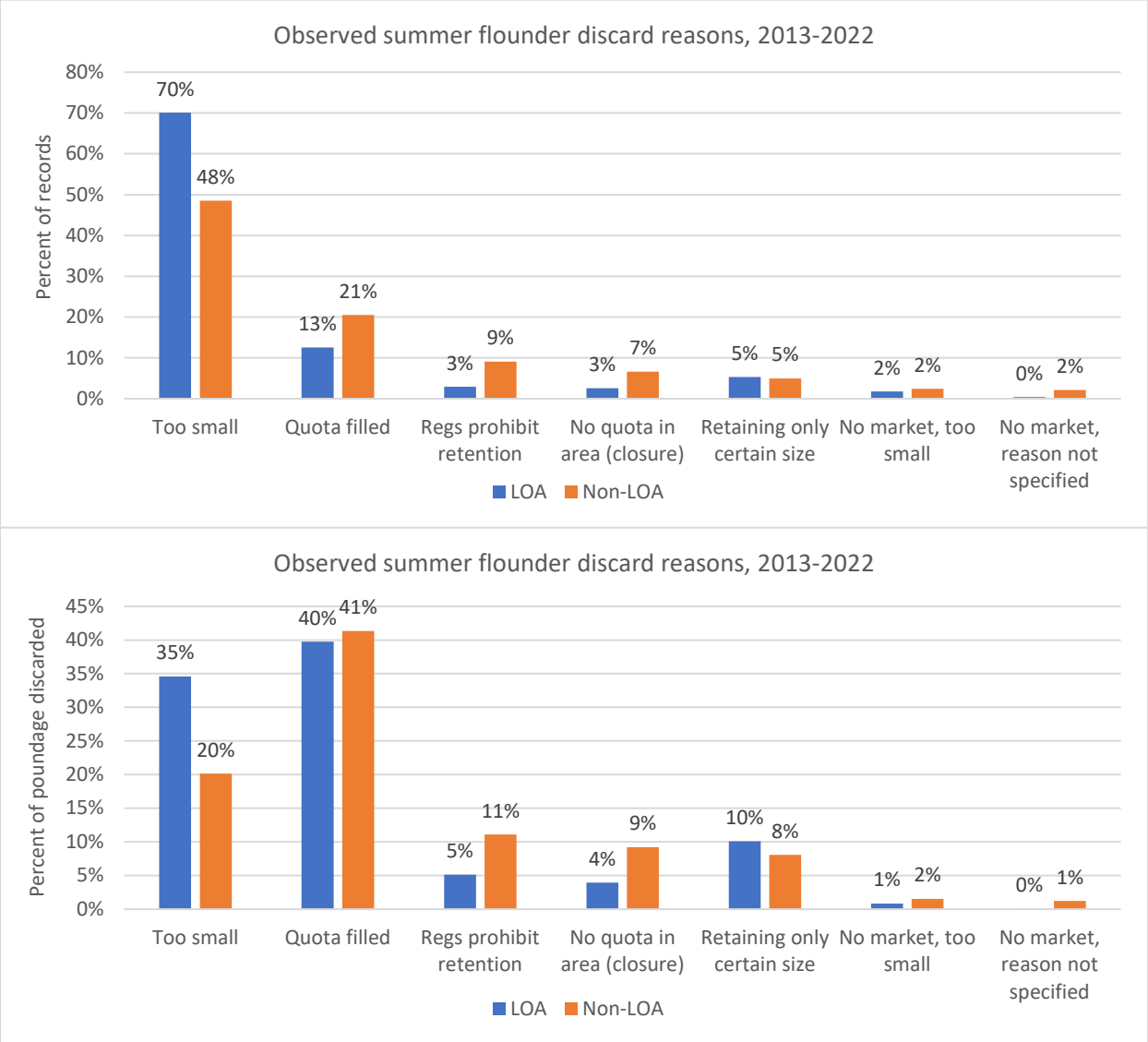

Figure 12: Observed summer flounder discard reasons for LOA and non-LOA trips by percent of records and percent of pounds discarded, 2013-2022. LOA trips are November-April; non-LOA trips are year-round.

10.1.3 Trip Level Discard Characterization

Although annual discards of summer flounder on observed LOA trips are variable from year to year, in terms of poundage, average and median per trip discards appear to be low (Table 24 and Table 24). Discards on observed LOA trips also appear to be similar to all trawl trips (LOA trips not separated out; Table 24). A small percentage of observed trips have large observed discard amounts; this is true of both LOA and non-LOA trips.

Table 24: Statistics on summer flounder discards for observed bottom trawl trips, 2013-2022, comparing Small Mesh Exemption Program LOA trips using small mesh and all observed trawl trips during the specified time period.

Statistic	Discards – SMEP LOAs using small mesh (<5.5 in)	Discards- all trawl Nov-Apr[a]	Discards – all trawl year-round[a]
Total observed trips with summer flounder catch	514	2,726	7,560
Mean discards	165	168	129
Median discards	30	27	15
% trips discards>2000lb	1%	1%	1%
% trips discards>500lb	7%	9%	6%
% trips discards>200lb	17%	20%	15%
% trips no discards	20%	23%	26%
% trips discarding more than 10% catch	50%	41%	45%
Avg % summer flounder discarded per trip	24%	24%	25%
Total % summer flounder discarded from combined trips	18%	8%	12%

[a] SMEP LOA trips are not excluded from these columns, so there is some overlap of these categories. "All trawl" columns include all mesh sizes.

Table 25: Annual statistics on summer flounder annual discards for observed Small Mesh Exemption Program LOA trips using small mesh only. Discards are in pounds, and percent discarded is by weight.

Discards – SMEP LOAs using small mesh	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total observed trips with summer flounder catch	11	28	54	44	80	81	85	28	34	69	71
Mean discards	76	114	275	292	148	189	137	136	108	97	191
Median discards	4	34	40	11	24	49	30	50	22	8	44
% trips discards>2,000lb	0%	0%	2%	2%	0%	1%	2%	0%	0%	0%	1%
% trips discards>500lb	0%	4%	13%	14%	8%	7%	2%	7%	9%	4%	8%
% trips discards>200lb	18%	21%	19%	18%	15%	22%	15%	18%	15%	13%	21%
% trips no discards	45%	21%	13%	36%	19%	12%	14%	11%	21%	35%	23%
% trips discarding more than 10% catch	45%	36%	48%	34%	56%	67%	55%	36%	44%	42%	41%
Avg % summer flounder discarded per trip	37%	14%	27%	16%	32%	34%	19%	18%	13%	22%	21%
Total % summer flounder discarded from combined trips	32%	11%	29%	26%	27%	33%	15%	9%	10%	8%	10%

The average percent of summer flounder discarded per LOA trip decreases as the landings of summer flounder on those trips increases. Trips landing over 1,000 pounds of summer flounder are generally below the current 10% SMEP evaluation trigger on average. However, the majority of observed LOA trips from 2013-2022 landed less than 500 pounds of summer flounder; these trips are on average discarding about 34% of their total summer flounder catch (Figure 13).

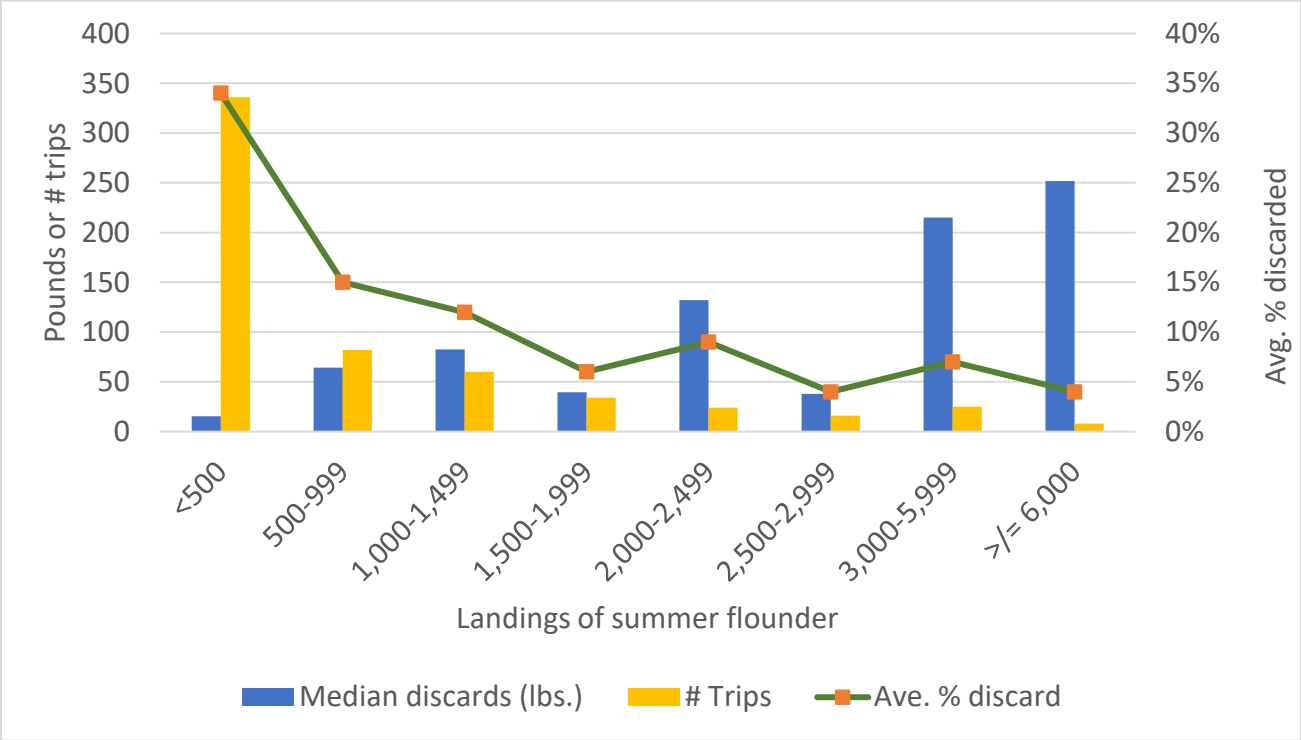

Figure 13: Summer flounder discard statistics by amount of summer flounder landed, based on observed SMEP LOA trips using small mesh (<5.5 inches), 2013-2022.

10.1.4 Discard Length Frequency

Length information available for observed trips was compiled for LOA vs. non-LOA trips from 2013-2022. Figure 14 shows the observed number of discarded fish by length for LOA vs. non-LOA trips, as well as the percent of observed discard lengths. LOA trips are associated with a higher proportion of observed discard lengths for smaller fish and fish below the 14-inch commercial minimum size (Figure 14; Table 25).

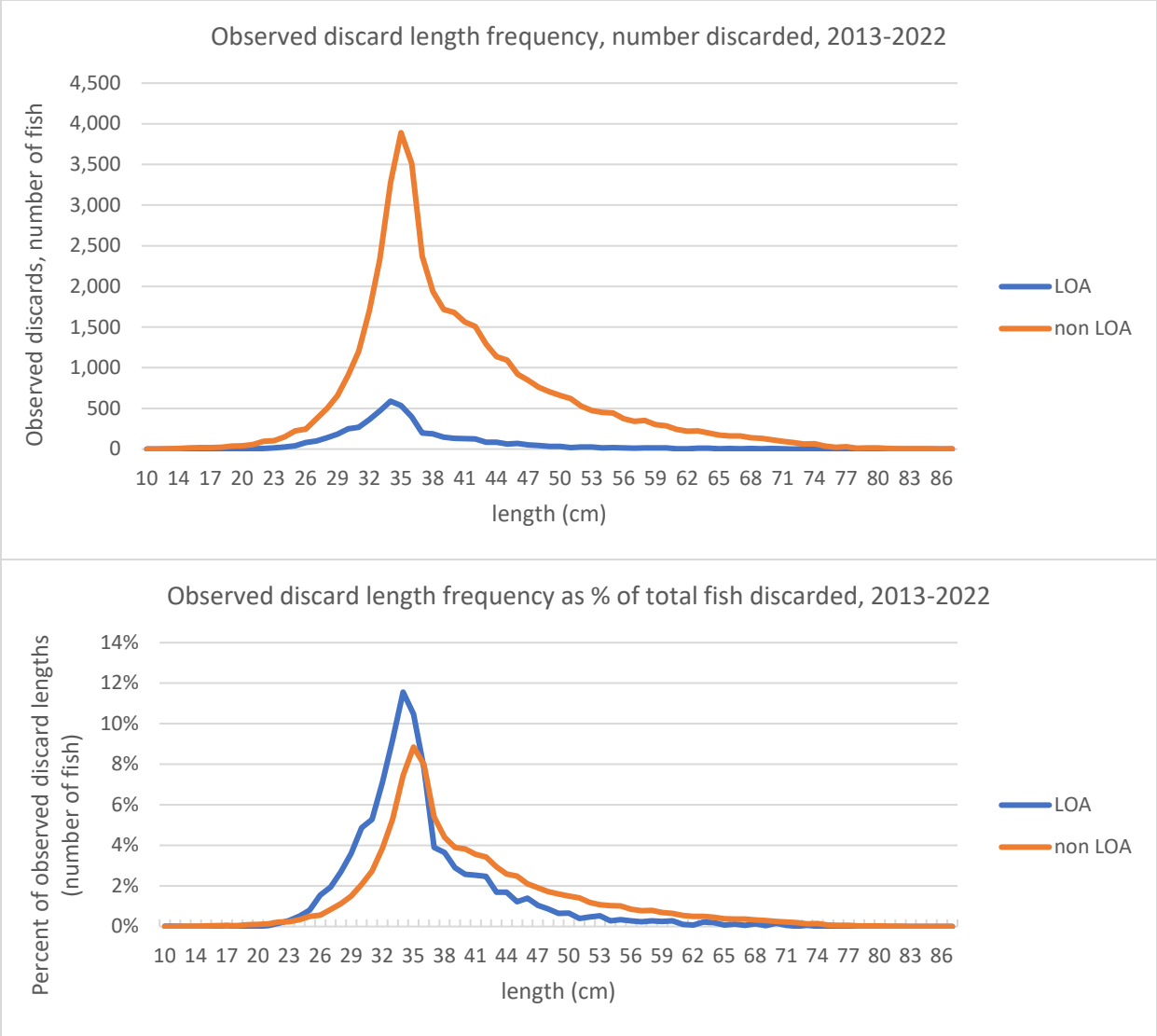

Figure 14: Observed discard length frequency for summer flounder, 2013-2022. Summer flounder minimum size = 14 inches or ~36 cm.

Table 26: Total observed discards and percent of discards below 14-inch minimum size, 2013-2022 observer data.

Statistic	LOA	Non-LOA
Total observed discards (pounds)	5,095	43,966
% of discards under minimum size	60%	36%

10.1.5 Analysis of Juvenile and Undersized Summer Flounder in SMEP Area Using Fishery Independent Survey Data

The availability of juvenile and undersized summer flounder in the SMEP area (current and potential proposed) was investigated using fishery independent trawl survey data. The Northeast Regional Habitat Assessment Data Explorer[14] includes mapped length data for state and federal trawl surveys. While the spatial and temporal overlap between the surveys and the SMEP area/timing are limited, some information is available to assess the abundance of juvenile (<30 cm or 11.8 inches) and undersized (<35.6 cm or 14 inches) summer flounder in the SMEP area during November 1-April 30, and how abundance varies for the proposed expanded area.

Data was first filtered to include records from 1990 to the most recent year of trawl survey data availability within NRHA, 2019. Subsequent exploration focused on spatial coverage and temporal alignment. The NMFS bottom trawl survey is the only survey that spans both the current and proposed areas within the November-April exemption timeframe. The NEAMAP, Massachusetts Bottom Trawl, Rhode Island Narragansett Bay Trawl and Long Island Sound Bottom Trawl surveys were all considered for inclusion in these analyses as they do intersect with the current SMEP area. However, these surveys occur well inshore and are unlikely to provide informative data on summer flounder relative to this exemption program. In addition, the NEAMAP and Massachusetts Bottom Trawl survey do not occur within the November-April time frame, and the Long Island Sound Bottom Trawl and Rhode Island Narragansett Bay Trawl do not occur within the proposed expanded SMEP area (Table 27, Figure 15, Table 28).

Table 27: Survey and timing available to potentially evaluate summer flounder within SMEP area (current and proposed).

Survey	Months Surveyed
Connecticut Long Island Sound Trawl	4, 5, 6, 8, 9, 10, 11
Massachusetts Bottom Trawl	5, 9, 10
NEAMAP Bottom Trawl	5, 6, 9, 10
NMFS Bottom Trawl	1, 2, 3, 4, 5, 6, 9, 10, 11
Rhode Island Narragansett Bay Trawl	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

[14] https://nrha.shinyapps.io/dataexplorer/#!/

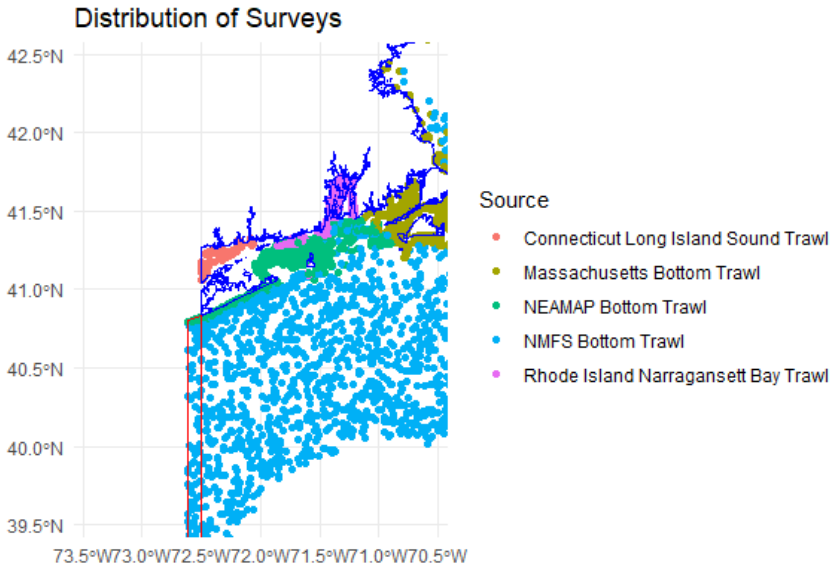

Figure 15: Distribution of surveys available to potentially evaluate summer flounder within SMEP area (current and proposed).

Table 28: Summary of the number of records from each survey in the current Small Mesh Exemption Area and the Proposed Exemption Area by date and life stage, 1990-2019. Only NMFS covers both proposed and current areas for the Nov 1-April 30th SMEP timing.

Survey	Season	Stage 30cm	Legal size 35.6cm	Small Mesh Exemption Area	Number of Records
Connecticut Long Island Sound Trawl	Nov 1 - Apr 30	Adult	legal sized	current	25
Connecticut Long Island Sound Trawl	Nov 1 - Apr 30	Adult	undersized	current	12
Connecticut Long Island Sound Trawl	Nov 1 - Apr 30	Juv	undersized	current	16
Connecticut Long Island Sound Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	411
Connecticut Long Island Sound Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	235
Connecticut Long Island Sound Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	161
Massachusetts Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	2602
Massachusetts Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	1051
Massachusetts Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	495
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	668
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	proposed	16
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	404
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	proposed	17
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	248
NEAMAP Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	proposed	26
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	legal sized	current	1543
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	legal sized	proposed	403
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	undersized	current	561
NMFS Bottom Trawl	Nov 1 - Apr 30	Adult	undersized	proposed	125
NMFS Bottom Trawl	Nov 1 - Apr 30	Juv	undersized	current	345
NMFS Bottom Trawl	Nov 1 - Apr 30	Juv	undersized	proposed	59
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	1319
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	proposed	38
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	251
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Adult	undersized	proposed	16
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	94
NMFS Bottom Trawl	Outside Nov 1 - Apr 30	Juv	undersized	proposed	19
Rhode Island Narragansett Bay Trawl	Nov 1 - Apr 30	Adult	legal sized	current	129
Rhode Island Narragansett Bay Trawl	Nov 1 - Apr 30	Adult	undersized	current	54
Rhode Island Narragansett Bay Trawl	Nov 1 - Apr 30	Juv	undersized	current	87
Rhode Island Narragansett Bay Trawl	Outside Nov 1 - Apr 30	Adult	legal sized	current	2007
Rhode Island Narragansett Bay Trawl	Outside Nov 1 - Apr 30	Adult	undersized	current	788
Rhode Island Narragansett Bay Trawl	Outside Nov 1 - Apr 30	Juv	undersized	current	450

Figure 16 shows the spatial distribution of legal sized vs. undersized summer flounder from the NMFS bottom trawl survey length data, while Figure 17 shows juvenile vs. adult summer flounder.

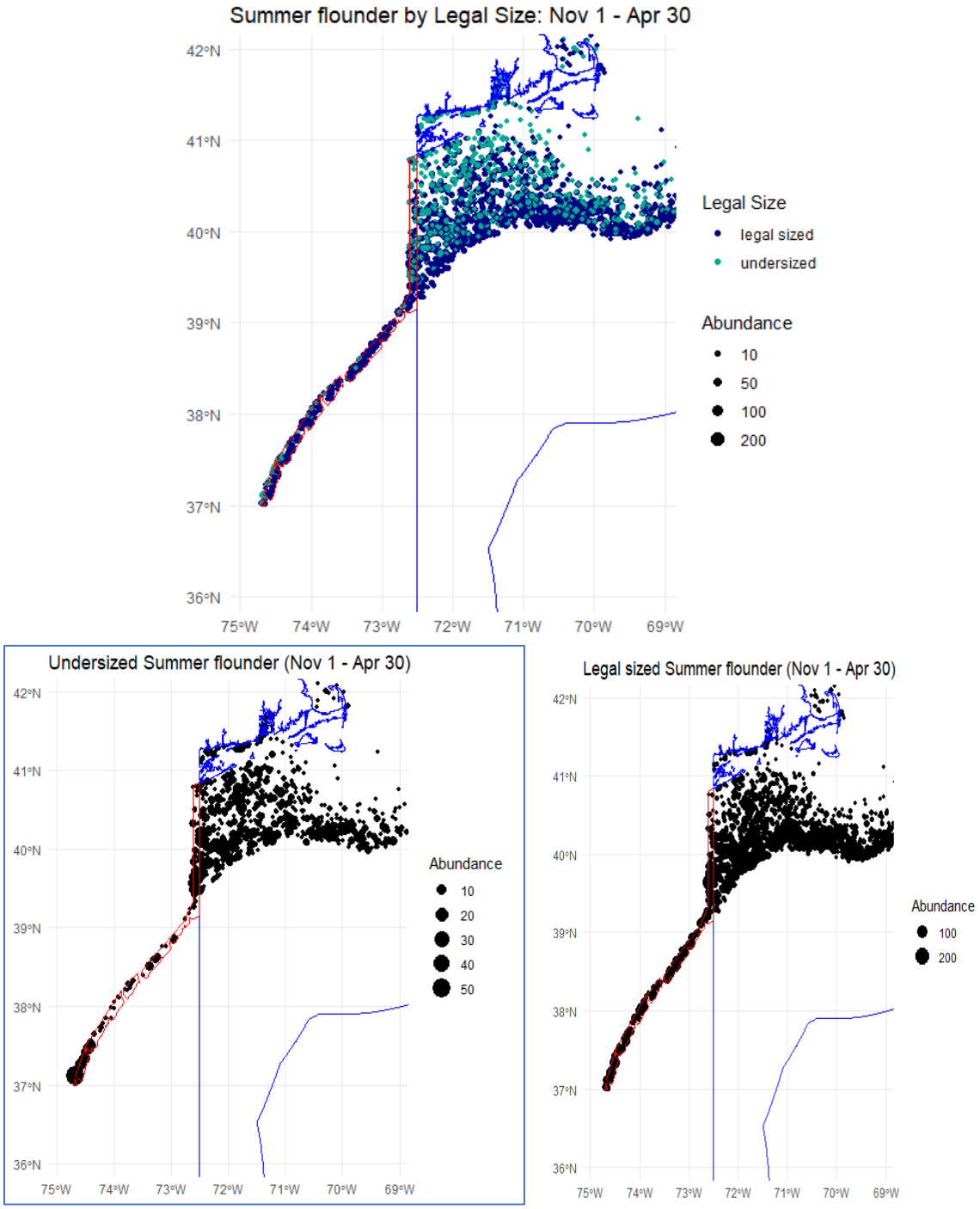

Figure 16: Spatial extent of observations of undersized vs. legal sized (above and below 14-inch commercial minimum size) for NMFS bottom trawl survey data, 1990-2019. The current SMEP area is represented by the blue line, with potential additional area (excluding deep sea coral zones, see draft Alternatives 1B and 1C) outlined in red.

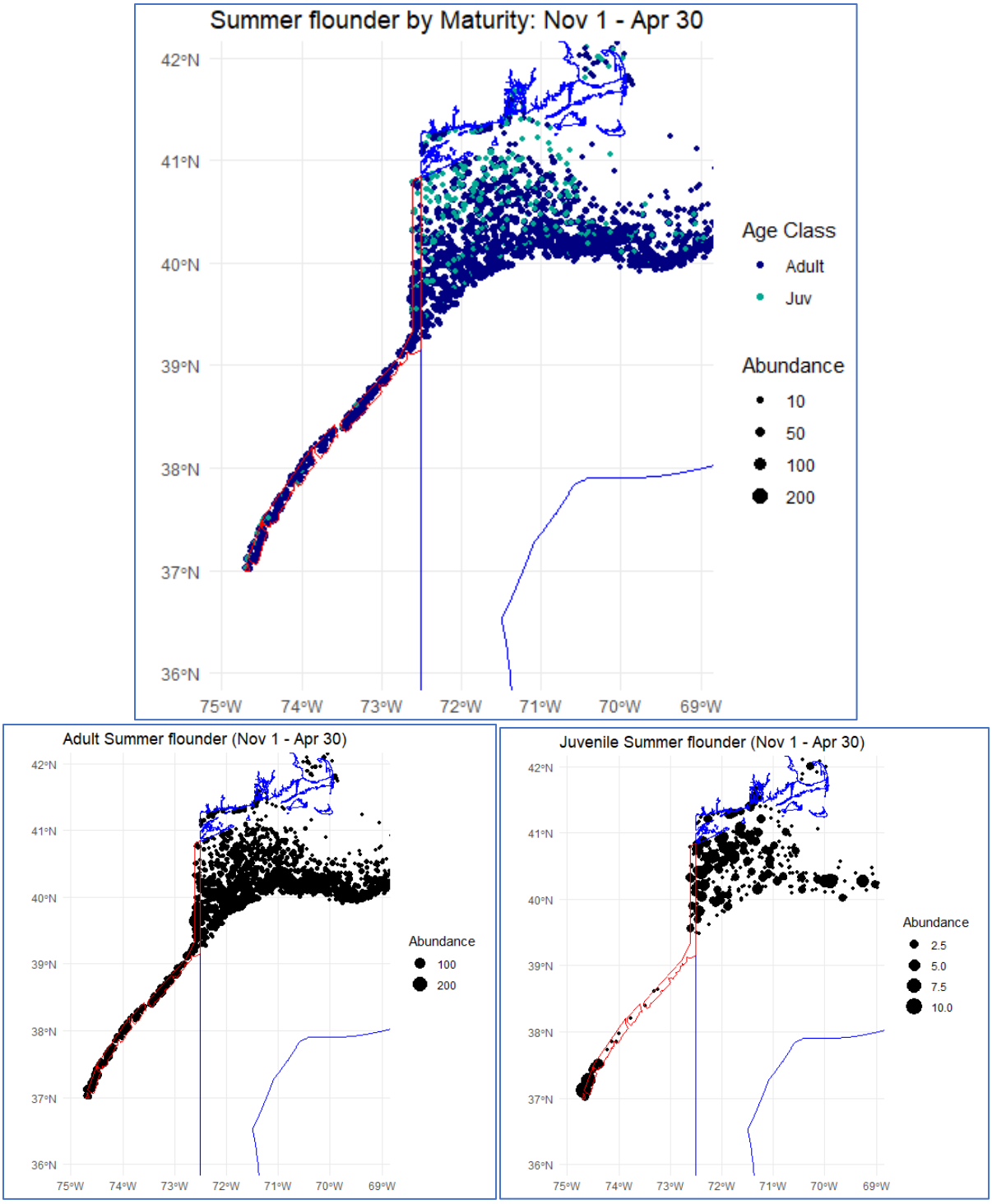

Figure 17: Spatial extent of observations of juvenile vs. mature summer flounder (above and below 30 cm) for NMFS bottom trawl survey data, 1990-2019. The current SMEP area is represented by the blue line, with potential additional area (excluding deep sea coral zones, see draft Alternatives 1B and 1C) outlined in red.

Figure 18 shows the summer flounder distribution by length category for all NRHA surveys with summer flounder data (NMFS Bottom Trawl, Connecticut Long Island Sound Trawl, New Jersey Ocean Stock Assessment, Rhode Island Narragansett Bay Trawl, Massachusetts Bottom Trawl, NEAMAP Bottom Trawl), within and outside the current SMEP and proposed expanded area. This preliminary work used an aggregated data set beginning in 1990; future work will identify whether more recent data sets suggest alternative patterns that could impact the interpretation of the data.

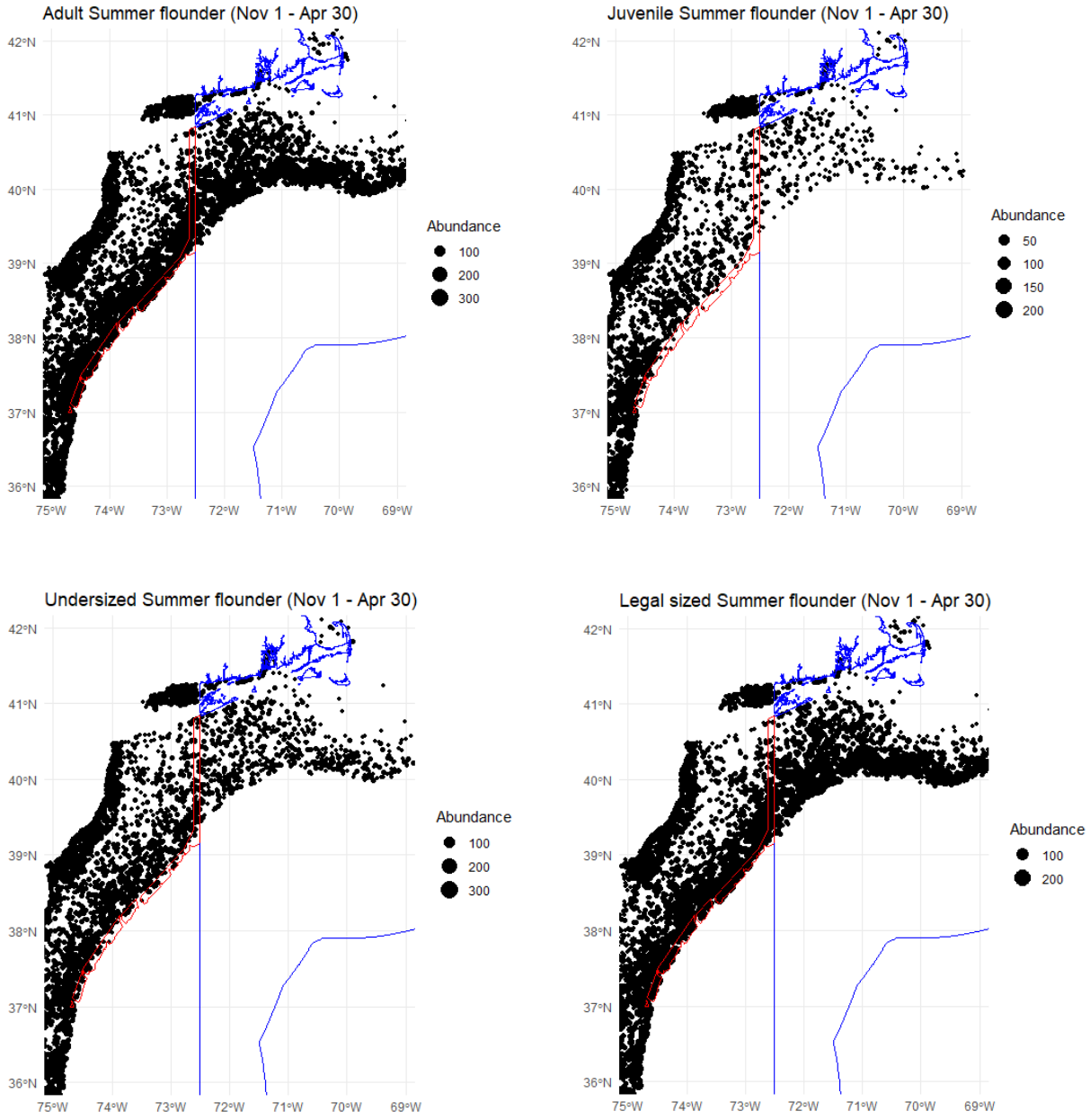

Figure 18: Summer flounder trawl survey distribution within and outside the SMEP area from November-April, 1990-2019, for all trawl surveys in NRHA with summer flounder data for this time period.

As indicated in Table 29, most summer flounder captured by the survey during this time period are legal sized adult fish. The proportions of summer flounder under the commercial minimum size (under 14 inches, including both mature and immature fish) appear to be similar between the current SMEP area (11% of summer flounder survey catch in this area) and the proposed expanded SMEP area (12%) of summer flounder survey catch in this area).

Table 29: Percentage of total summer flounder in the NMFS bottom trawl (November 1-April 30, 1990-2019) in each category outside the SMEP, within the current SMEP, and within the proposed expanded area.

Location	Legal Size	Maturity	Total Abundance	Percent of total	Percent within evaluated area
current	legal sized	Adult	13525	28.9	89%
current	undersized	Adult	1216	2.6	8%
current	undersized	Juv	448	1.0	3%
outside	legal sized	Adult	13191	28.2	47%
outside	undersized	Adult	6702	14.3	24%
outside	undersized	Juv	8403	18.0	30%
proposed	legal sized	Adult	2913	6.2	88%
proposed	undersized	Adult	310	0.7	9%
proposed	undersized	Juv	90	0.2	3%

10.2 Appendix B: Flynet Exemption Supporting Analysis

10.2.1 Gear Definitions and Descriptions

Figure 19 provides a generalized schematic of a bottom trawl for reference.

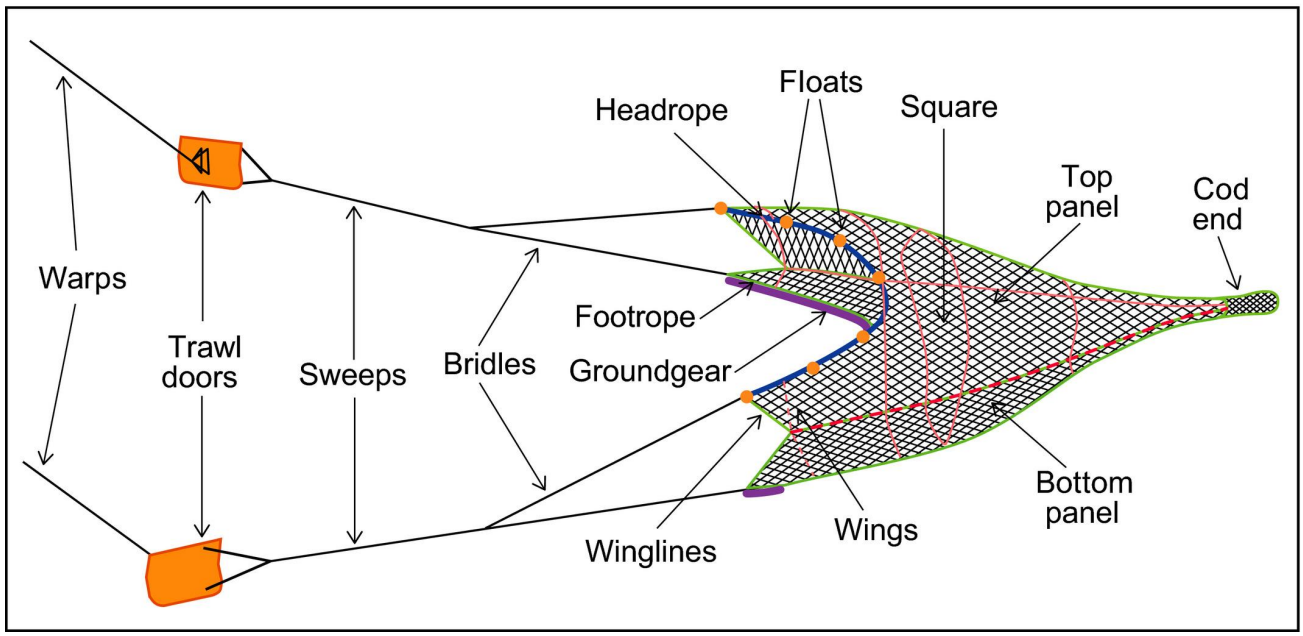

Figure 19: Schematic of a typical bottom trawl. Source: McConnaughey RA, Hiddink JG, Jennings S, et al. Choosing best practices for managing impacts of trawl fishing on seabed habitats and biota. Fish Fish. 2020; 21: 319–337. https://doi.org/10.1111/faf.12431.

Several otter trawl net types used in the Greater Atlantic region may be relevant to an expanded or modified definition of a flynet for the purposes of the flynet exemption. However, defining some of these net types consistently and clearly can be a challenge. Most nets are made with custom specifications, and the exact configuration often varies even among net types that may be called by the same name. Terminology for a given net type can also vary by region and fishery.
During the mesh exemptions review process in the Fall of 2023, industry representatives provided input on the types of nets that may be appropriate to consider in an expanded flynet definition (Table 29). These net types are either two- or four-seam high-rise nets having large mesh in the wings with mesh sizes gradually decreasing to the codend. The large mesh in the wings allows many flatfish to escape and is not ideal for targeting summer flounder.

Additional definitions related to gear configuration and net types, including definitions for trawl types not proposed for potential inclusion in this exemption can be found in the April 2024 Summer Flounder Commercial Minimum Mesh Exemption Framework/Addendum Discussion Document.

Table 30: Possible net types recommended for consideration by fishing industry comments during Fall 2023 mesh exemptions review. Definitions from: 2021 Observer Operations Manual.[15]

Net type	Description
Balloon Trawl	A two-seam trawl with a high mouth, lighter net material, and floats attached to the headrope so the footrope floats just above the bottom.
Eliminator Trawl	Typically a four-seam, three-bridle trawl with large mesh in the forward part of the net. Large meshes in the bottom belly act as a separator device for the escape of non-target groundfish species. Mesh sizes decrease as the net tapers towards the codend.
Flynet	A high profiled trawl with large wing mesh sizes that slowly taper to smaller mesh sizes in the body extension and codend. The headrope is usually slightly larger than the footrope. Uses a large number of floats to keep the net slightly off the bottom. *Regulatory definition for this exemption specifies two seams, but observer data show some reported use of four seam flynets.
Haddock Separator Trawl	A groundfish trawl with two codend extensions arranged one over the other. A codend is attached to the upper extension, and the bottom extension is left open with no codend attached. A horizontal mesh panel separates the upper and lower extensions.
Millionaire Trawl	A four-seam trawl typically used in the squid fishery. Very large openings in the mouth and large mesh in the wings.
Rope Separator Trawl	A four-seam bottom trawl net modified to include both a horizontal separator panel (consisting of parallel lines of fiber rope) and an escape opening in the bottom belly of the net below the separator panel.
Ruhle Trawl	A four-seam groundfish net with large meshes (8-foot meshes) in the wings and bottom belly of the net. The trawl must have kite panels that meet the regulated minimum surface area. The Ruhle Trawl is a specific type of Eliminator Trawl.

Preliminary conversations with gear experts[16] suggest the mesh size in the wings, particularly in the middle part of the trawl behind the sweep, is the most important part to regulate for flatfish to escape. A larger mesh regulation and potentially a maximum number of meshes should be considered here, as allowing for too many large meshes may mean the mesh will close up while the gear is towed.

The number of seams on an otter trawl primarily impacts the opening shape of a net. For example, a 4-seam compared to a 2-seam net creates a higher dome-shape opening. This sort of opening is designed primarily for fish that occupy or swim up just above the bottom, and is not ideal for catching flatfish that reside on the bottom. Therefore, the removal of the reference to the number of the seams in the regulatory definition of a flynet appear unlikely to directly impact the proportions of summer flounder targeted, caught, or discarded using this exemption, although it would expand the number of vessels that could theoretically use the exemption. As noted below, additional evaluation of the differences in catch characteristics between 2- and 4-seam nets is planned, but overall these net types do not appear to catch substantial amounts of summer flounder.

[15] Note that this suggested list originally included "**pelagic pair trawl**" and "**pelagic single trawl**" net types. It was determined that these net types apply almost exclusively to midwater trawls, which operate fully off the bottom and catch negligible amounts of summer flounder. As such, these net types were removed from this list.

[16] Northeast Trawl Advisory Panel members Pingguo He and Mike Pol, pers. comm., March 2024.

Nets with more than 4 seams do exist (e.g., 6 seam nets), but are very uncommon for bottom trawls and are designed more for mid-water trawling.

10.2.2 North Carolina Flynet Data

The Monitoring Committee reviews data from the North Carolina flynet fishery as the bulk of flynet landings in the Greater Atlantic region are thought to originate from North Carolina, though the flynet fishery in North Carolina is small. Landings in the North Carolina flynet fishery have generally declined over time (Table 31), and little to no summer flounder have been landed in this fishery in recent years. Past discussions have suggested that other states such as Virginia, New Jersey, and Maryland may also have small amounts of flynet landings, but data are limited or unavailable for these states to accurately assess such landings.

Table 31: North Carolina flynet fishery summer flounder landings in pounds, as a percent of total North Carolina flynet landings, and as a percent of total North Carolina commercial summer flounder landings, 2005-2023. Some values are confidential but as denoted below are <2,000 pounds in those years.

Year	Summer Flounder Flynet Landings (lbs.)	% of Total NC Flynet Landings	% of total NC commercial summer flounder landings
2005	4,102	0.05%	0.10%
2006	5,752	0.07%	0.15%
2007	7,067	0.13%	0.26%
2008	3,147	0.08%	0.07%
2009	2,842	0.05%	0.10%
2010	<2,000 lbs.	<0.05%	<0.06%
2011	<2,000 lbs.	<0.05%	<0.07%
2012	<2,000 lbs.	<0.05%	<0.18%
2013	0	0%	0.00%
2014	<2,000 lbs.	<0.05%	<0.07%
2015	0	0%	0.00%
2016	0	0%	0.00%
2017	0	0%	0.00%
2018	0	0%	0.00%
2019	0	0%	0.00%
2020	0	0%	0.00%
2021	0	0%	0.00%
2022	0	0%	0.00%
2023	0	0%	0.00%

10.2.3 Characterization of Flynet and High-Rise Gear Use

Observer data was used to characterize the use of flynet/high-rise type nets in comparison with other trawl net types. This data is associated with caveats and should be interpreted with caution. Observers record a "net type" field in addition to a broader gear category field, and also collect other information related to specific configuration of a trawl. Net type in the observer data is recorded based on what is reported to the observer by the captain[17], and not all captains use the same terminology. In addition, net type information in the observer data is often missing or reported as "unknown." Therefore, while observer data over a number of years can provide a general sense of the use of different gear types, it should be interpreted with caution, and industry feedback on these analyses will be helpful.

Prevalence vs. Other Trawl Types

The net types associated with potential revisions to the flynet definition (Table 30) were associated with about 13% of all observed bottom trawl hauls from 2014-2022 (regardless of target species; Table 29).

Table 32: Percent of hauls and observed trips by net category for all observed bottom trawl trips, 2014-2022. Includes all observed trawl trips regardless of target species or catch of summer flounder.

Net Category	Percent of Hauls	Observed trips[a]
NOT considered "flynet" or high-rise (e.g., flatfish trawl, groundfish trawl, etc.)	86.9%	8,534
Potential flynet/high-rise nets (e.g., balloon trawl, eliminator trawl, flynet, etc.)	13.1%	1,155

[a] This column indicates that this gear type was used at some point on a trip, not necessarily for every haul. Many vessels use multiple gear types within a single trip.

Target Species

For flynet/high-rise type gears identified for possible inclusion in a revised flynet definition, the top target species according to observer data are listed in Table 33. For all of these gear types combined, the largest proportion of hauls were targeting haddock or longfin squid. A good proportion of hauls also targeted scup, short-fin squid, black sea bass, and groundfish. Summer flounder was identified as the primary target species on about 3.7% of observed flynet/high-rise type gear hauls from 2007-2022.

For all of these species, flynet or high-rise gear types are only a portion of the net types used to target them, ranging from 1-62% of hauls vs. other trawl gear types (Figure 20).

For confidentiality reasons, target species cannot be broken down for all individual net types. However, of the different industry recommended flynet/high-rise net types, only balloon trawls and flynets appear to have a meaningful percent of hauls targeting summer flounder, about 6-7%

[17] Observers are also instructed to visually verify trawl gear components and configurations.

of their total hauls. Other industry recommended flynet/high-rise net types appear to very rarely report targeting summer flounder within a haul.

Table 33: Top target species recorded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.[a] Species shown represent those target species collectively accounting for 90% of observed hauls.

Target Species[b]	Percent of observed hauls	Observed trips
Haddock	20.1%	274
Squid, Atl Long-Fin	19.1%	383
Scup	9.9%	392
Squid, Short-Fin	8.7%	176
Sea Bass, Black	8.0%	283
Groundfish, NK	7.2%	114
Croaker, Atlantic	4.2%	122
Flounder, Summer (Fluke)	3.7%	237
Cod, Atlantic	3.1%	112
Flounder, Winter (Blackback)	2.3%	51
Herring, Atlantic	2.2%	89
Pollock	1.5%	59

[a] Gear types include flynets, balloon trawls, eliminator trawls, haddock separator trawls, millionaire trawls, rope separator trawls, and Ruhle trawls.

[b] Observer records can include up to five target species per haul; for simplicity, only the first target species listed is included in this analysis.

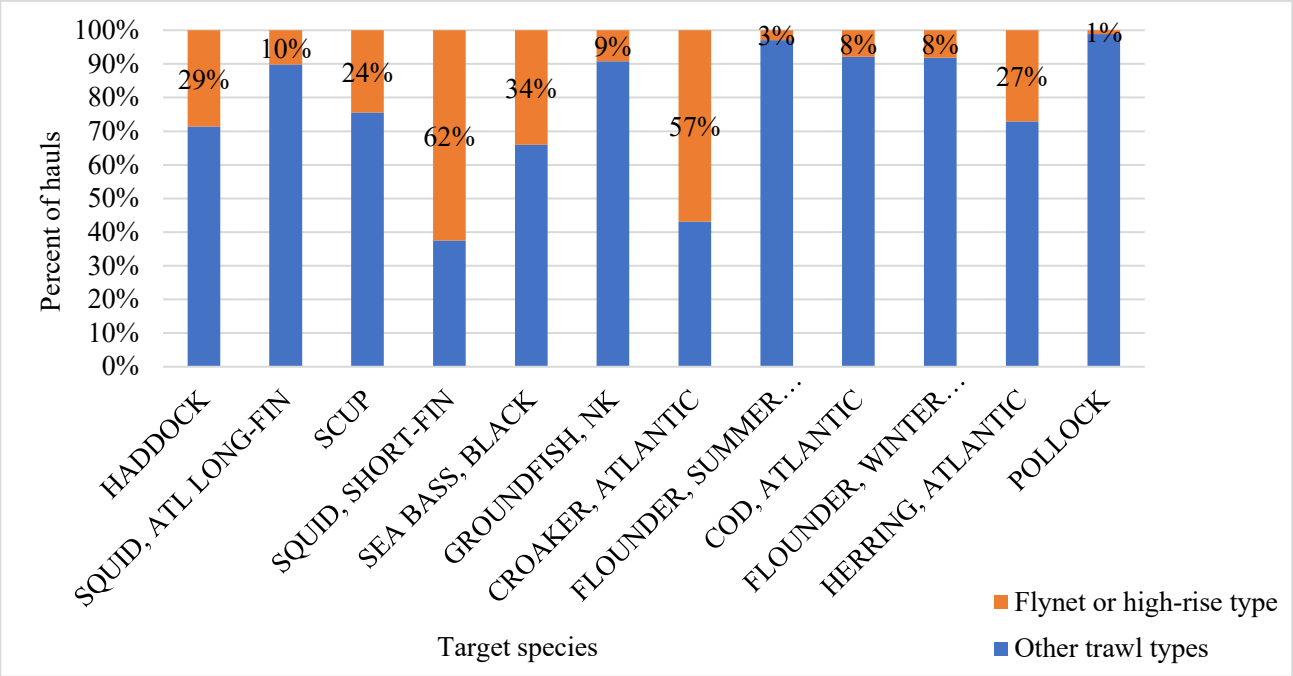

Figure 20: For top target species of flynet and high-rise type gear, percent of total observed trawl hauls represented by flynet-type gear vs. Other trawl types, from 2007-2022 observer data.

Caught Species

According to observer data from 2007-2022, the top species caught and landed with these trawl gear types are short-fin squid and Atlantic herring, followed by longfin squid, haddock, and scup (Table 33). The top discarded species by weight are spiny dogfish and winter skate, followed by unknown fish and little skate (Table 34).

Summer flounder represents 0.7% of the total observed catch by weight in these gear types, including 0.6% of observed landings and 0.9% of observed discards. Average total catch of summer flounder in these gear types is about 455 pounds per trip, with discards averaging about 100 pounds per trip. Due to the highly customized nature of these net types, complexities in their design, variation in terminology, and limited information on configuration contained in the observer data, it is not possible to assess how much of this catch is from nets that meet the existing regulatory definition of a flynet or the proposed expanded definition.

Table 34: Top caught and landed species recorded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.[a] Species shown represent those caught species collectively accounting for 90% of observed catch, with the exception of summer flounder which is shown for comparison purposes.

Species	Percent of total flynet/high-rise gear catch by weight	Percent of total flynet/high-rise gear landings by weight	Percent of total flynet gear trips with catch
Squid, Short-Fin	35.7%	41.6%	32.3%
Herring, Atlantic	11.0%	13.0%	20.36%
Squid, Atl Long-Fin	8.7%	10.1%	63.07%
Haddock	6.9%	7.7%	26.4%
Scup	5.2%	5.2%	48.6%
Butterfish	4.0%	3.8%	53.3%
Dogfish, Spiny	3.2%	0.1%	64.8%
Croaker, Atlantic	2.8%	3.2%	7.85%
Mackerel, Atlantic	2.4%	2.8%	26.09%
Skate, Winter (Big)	2.3%	0.6%	47.5%
Fish, Nk	1.6%	0.4%	19.4%
Sea Bass, Black	1.6%	1.5%	48.94%
Summer Flounder	*0.7%*	*0.6%*	*60.7%*

[a] Gear types include flynets, balloon trawls, eliminator trawls, haddock separator trawls, pelagic pair trawls, pelagic single trawls, millionaire trawls, rope separator trawls, and Ruhle trawls.

Table 35: Top discarded species recorded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.[a] Species shown represent the top 10 discarded species, collectively totaling 69% of observed discarded weight in these gear types, with the exception of summer flounder which is shown for comparison purposes.

Species	Percent of total flynet/high-rise gear discards by weight	Observed trips
Dogfish, Spiny	20.0%	1,242
Skate, Winter (Big)	11.3%	790
Fish, Nk	7.7%	364
Skate, Little	7.2%	1,014
Butterfish	5.0%	867
Scup	4.9%	866
Squid, Short-Fin	4.3%	503
Haddock	3.1%	400
Skate, Nk	2.6%	197
Sea Robin, Northern	2.5%	806
Summer Flounder	*1.0%*	*841*

[a] Gear types include flynets, balloon trawls, eliminator trawls, haddock separator trawls, pelagic pair trawls, pelagic single trawls, millionaire trawls, rope separator trawls, and Ruhle trawls.

Table 36: Average and median summer flounder discards, landings, total catch, and percent of summer flounder discarded on observed trawl hauls for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.

Statistic	Observed summer flounder discards (lb)	Observed summer flounder landings (lb)	Observed summer flounder catch (lb)	% summer flounder discarded
Average	100	355	455	34%
Median	8	49	87	9%

Table 37: Number of observed trips with landings exceeding the poundage threshold triggering the minimum mesh requirement, trips with landings exceeding the trigger as a percent of total observed trips with summer flounder catch, and median summer flounder landings on these trips, for all flynet-type net types identified for possible inclusion in an expanded flynet definition, 2007-2022.

Discard trigger	Number of observed trips with landings exceeding trigger	Trips with landings exceeding trigger as a percent of total observed trips with summer flounder catch	Median landings on observed trips exceeding trigger
November-April (200 lb trigger)	172	14%	725 lb
May-October (100 lb trigger)	264	27%	245 lb

Table 38: Number of trips landing more than 200 pounds of summer flounder November through April or more than 100 pounds of summer flounder May through October, on observed trawl trips 2007-2022, with associated summer flounder discard statistics.

November-April	**Discards or Landings (lbs)**
Trips with summer flounder landings <=200 lb	353
Avg summer flounder discards	57
Median summer flounder discards	76
Max summer flounder discards	1030
Avg. % summer flounder discarded	14%
May through October	
Trips with summer flounder landings <=100 lb	270
Avg summer flounder discards	53
Median summer flounder discards	11
Max summer flounder discards	783
Avg. % summer flounder discarded	17%

10.2.4 Flynet Exemption Evaluation Methodology

As described in Section 5.5.3, the Council and Board supported an FMAT/PDT recommendation to revise the regulatory language describing the flynet exemption evaluation to reflect the original intent of the FMP. The current evaluation methodology specified in the regulations is: "The Regional Administrator may terminate this exemption if he/she determines, after a review of sea sampling data, that vessels fishing under the exemption, on average, are discarding more than 1 percent of their entire catch of summer flounder per trip. If the Regional Administrator makes such a determination, he/she shall publish notification in the Federal Register terminating the exemption for the remainder of the calendar year." This represents a disconnect from the wording of the FMP amendment that originally developed this exemption. The wording in the FMP, and what the FMAT/PDT believe was the intent, was that the Regional Administrator could withdraw the exemption if the annual average summer flounder catch in the flynet fishery exceeds 1 percent of the total flynet catch. Observer data for 2013-2022 of the flynet/high-rise net types that may be captured under a revised definition appear to indicate that this threshold remains appropriate (Table 39).

Table 39: Proportion of summer flounder catch compared to total catch and number of trips, for all observed trawl trips 2013-2022, using flynet-type net types identified for possible inclusion in an expanded flynet definition. Gear types include flynets, balloon, eliminator, haddock separator, pelagic pair, millionaire, rope separator, and Ruhle trawls.

Year	Proportion of SF catch compared to total catch	Distinct # of trips catching SF
2013	0.66%	79
2014	0.38%	93
2015	0.52%	93
2016	0.53%	65
2017	0.29%	143
2018	0.56%	126
2019	0.78%	94
2020	0.85%	31
2021	0.42%	31
2022	1.02%	55
Average	**0.75%**	**78**

10.3 APPENDIX C: PROTECTED SPECIES AFFECTED ENVIRONMENT

Protected Species are those afforded protection under the Endangered Species Act (ESA) of 1973 and/or the Marine Mammal Protection Act (MMPA) of 1972. Table 40 provides a list of protected species under NMFS jurisdiction that occur in the affected environment of the commercial summer flounder fishery, and that have the potential to be impacted by the proposed action (i.e., there have been observed/documented interactions in the fishery or with gear types like those used in the fishery (i.e., bottom trawl gear)).

Table 40: Species protected under the ESA and/or MMPA that may occur in the affected environment of the commercial summer flounder fishery. Marine mammal species italicized and in bold are considered MMPA strategic stocks.[1]

Species	Status	Potentially impacted by this action?
Cetaceans		
North Atlantic right whale (Eubalaena glacialis)	***Endangered***	***No***
Humpback whale, West Indies DPS (*Megaptera novaeangliae*)	Protected (MMPA)	Yes
Fin whale (Balaenoptera physalus)	***Endangered***	***No***
Sei whale (Balaenoptera borealis)	***Endangered***	***No***
Blue whale (Balaenoptera musculus)	***Endangered***	***No***
Sperm whale (Physeter macrocephalus)	***Endangered***	***No***
Minke whale (*Balaenoptera acutorostrata*)	Protected (MMPA)	No
Pilot whale (*Globicephala spp.*)[2]	Protected (MMPA)	Yes
Pygmy sperm whale (*Kogia breviceps*)	Protected (MMPA)	No
Dwarf sperm whale (*Kogia sima*)	Protected (MMPA)	No
Risso's dolphin (*Grampus griseus*)	Protected (MMPA)	Yes
Atlantic white-sided dolphin (*Lagenorhynchus acutus*)	Protected (MMPA)	Yes
Short Beaked Common dolphin (*Delphinus delphis*)	Protected (MMPA)	Yes
Atlantic Spotted dolphin (*Stenella frontalis*)	Protected (MMPA)	No
Striped dolphin (*Stenella coeruleoalba*)	Protected (MMPA)	No
Bottlenose dolphin, Western North Atlantic (WNA) Offshore Stock (*Tursiops truncatus*)	Protected (MMPA)	Yes
Bottlenose dolphin, WNA Northern Migratory Coastal Stock (Tursiops truncatus)	***Protected (MMPA)***	***No***
Bottlenose dolphin, WNA Southern Migratory Coastal Stock (Tursiops truncatus)	***Protected (MMPA)***	***No***
Harbor porpoise (*Phocoena phocoena*)	Protected (MMPA)	Yes
Sea Turtles		
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered	Yes
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered	Yes
Green sea turtle, North Atlantic DPS (*Chelonia mydas*)	Threatened	Yes
Loggerhead sea turtle (*Caretta caretta*), Northwest Atlantic Ocean DPS	Threatened	Yes
Hawksbill sea turtle (*Eretmochelys imbricate*)	Endangered	No
Fish		
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered	No
Giant manta ray (*Manta birostris*)	Threatened	Yes

Species	Status	Potentially impacted by this action?
Oceanic whitetip shark (*Carcharhinus longimanus*)	Threatened	No
Atlantic salmon (*Salmo salar*)	Endangered	Yes
Atlantic sturgeon (*Acipenser oxyrinchus*)		
Gulf of Maine DPS	Threatened	Yes
New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS	Endangered	Yes
Pinnipeds		
Harbor seal (*Phoca vitulina*)	Protected (MMPA)	Yes
Gray seal (*Halichoerus grypus*)	Protected (MMPA)	Yes
Harp seal (*Phoca groenlandicus*)	Protected (MMPA)	Yes
Hooded seal (*Cystophora cristata*)	Protected (MMPA)	Yes
Critical Habitat		
North Atlantic Right Whale	ESA Designated	No
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA Designated	No

[1] A strategic stock is defined under the MMPA as a marine mammal stock for which: (1) the level of direct human-caused mortality exceeds the potential biological removal level; (2) based on the best available scientific information, is declining and is likely to be listed as a threatened species under the ESA within the foreseeable future; and/or (3) is listed as a threatened or endangered species under the ESA, or is designated as depleted under the MMPA (Section 3 of the MMPA of 1972).
[2] There are 2 species of pilot whales: long finned (*G. melas*) and short finned (*G. macrorhynchus*). Due to the difficulties in identifying the species at sea, they are often just referred to as Globicephala spp.

10.3.1 Species and Critical Habitat Not Likely Impacted by the Proposed Action

Based on available information, it has been determined that this action is unlikely to impact multiple ESA listed and/or MMPA protected species or any designated critical habitat (Table 1). This determination has been made because either the occurrence of the species is not known to overlap with the area primarily affected by the action and/or based on the most recent ten years of information on documented interactions between the species and the primary gear type (i.e., bottom trawl) used to prosecute the commercial summer flounder fishery (Greater Atlantic Region (GAR) Marine Animal Incident Database, unpublished data; NMFS Marine Mammal Stock Assessment Reports (SARs) for the Atlantic Region; NMFS NEFSC observer/sea sampling database, unpublished data; NMFS NEFSC marine mammal (small cetacean, pinniped, baleen whale) serious injury and mortality reports; MMPA List of Fisheries (LOF); NMFS 2021a).[18] In the case of critical habitat, this determination has been made because the action will not affect the essential physical and biological features of critical habitat identified in Table . and therefore, will not result in the destruction or adverse modification of any species critical habitat (NMFS 2021a).

10.3.2 Species Potentially Impacted by the Proposed Action

To identify protected species potentially impacted by the proposed action, we considered:

[18] For marine mammal species (ESA listed or MMPA protected), the most recent 10 years of information on estimated serious injury and mortality in commercial fisheries covers the timeframe between 2013-2022. For ESA listed species of sea turtles and fish, information on observer or documented interactions with fishing gear is from 2014-2023.

(1) information on species occurrence in the affected environment of the fishery; this helps to inform the degree of overlap between the fishery and the species; and,

(2) observed or documented records of protected species interactions with bottom trawl gear (regardless of fishery); this helps to inform potential interaction risks between the fishery and the species.

The following sections provide detailed information on each of the items above; however, in general the following sources were referenced or queried to help identify MMPA or ESA-listed species potentially impacted by the action:

- MMPA species: NMFS Marine Mammal SARs for the Atlantic Region, MMPA List of Fisheries (LOF), NMFS (2021b), NMFS NEFSC observer/sea sampling database (unpublished data), and NMFS NEFSC marine mammal (small cetacean, pinniped, baleen whale) serious injury and mortality reports.
- ESA-listed species: NMFS NEFSC observer/sea sampling, Sea Turtle Disentanglement Network (STDN), the GAR Marine Animal Incident databases, and NMFS' May 27, 2021, Batched Fisheries Biological Opinion (NMFS 2021a).

10.3.2.1 Sea Turtles

Below is a summary of the status and trends, and the occurrence and distribution of sea turtles in the affected environment of the commercial summer flounder fishery. More information on the range-wide status of affected sea turtles species, and their life history is in several published documents, including NMFS (2021a); sea turtle status reviews (Seminoff et al. 2015; NMFS & USFWS 2015, 2020, 2023), and recovery plans for the loggerhead (Northwest Atlantic DPS) sea turtle (Bolten et al. 2019), leatherback sea turtle (NMFS & USFWS 1992), Kemp's ridley sea turtle (NMFS et al. 2011), and green sea turtle (North Atlantic DPS) (NMFS & USFWS 1991).

Status and Trends

Four sea turtle species could be impacted by the proposed action: Northwest Atlantic Ocean DPS of loggerhead, Kemp's ridley, North Atlantic DPS of green, and leatherback sea turtles (Table). Although stock assessments and similar reviews have been completed for sea turtles none have been able to develop a reliable estimate of absolute population size. As a result, nest counts are used to inform population trends for sea turtle species.

For the Northwest Atlantic Ocean DPS of loggerhead sea turtles, there are five unique recovery units that comprise the DPS. Nesting trends for each of these recovery units are variable; however, Peninsular Florida nesting beaches comprise most of the nesting in the DPS (see Index Nesting Beach Survey Totals from 1989-2024). Over the long-term, this DPS is considered stable and short-term nesting trends for loggerhead sea turtles have shown some increases (Bolten et al. 2019, NMFS and USFWS 2023).

For Kemp's ridley sea turtles, from 1980-2003, the number of nests at three primary nesting beaches (Rancho Nuevo, Tepehuajes, and Playa Dos) increased 15% annually (Heppell et al. 2005a); however, due to recent declines in nest counts, decreased survival of immature and adult sea turtles, and updated population modeling, this rate is not expected to continue (Caillouet et al. 2018; NMFS & USFWS 2015). Following a significant, unexplained 1-year decline in 2010, Kemp's ridley nests in Mexico increased to 21,797 in 2012 (Gladys Porter Zoo 2013). After another decline, nesting increased with a record high season in 2017, with 24,586 nests recorded

(Figure 6). In 2022, 17,362 nests were recorded, but the most recent year of available nesting (2023) found 2,121 nests (Sea Turtle Early Restoration Project Team 2023). At this time, it is unclear whether the increases and declines in nesting seen over the past decade-and-a-half represents a population oscillating around an equilibrium point, if the recent three years (2020-2022) of relatively steady nesting indicates that equilibrium point, or if nesting will decline or increase in the future. As a result, a current population trend or trajectory cannot be ascertain for this species.

The North Atlantic DPS of green sea turtle, overall, is showing a mixed trend in nesting. Green turtle nesting in Florida is increasing, with a record breaking year in 2023 with 76,645 nests, and Caribbean Mexico and Cuba nesting also continues to increase. However, a recent analysis of 51 years of nesting data shows a recent (beginning in 2009) downward trend in green turtle nesting at Tortuguero, the largest nesting assemblage for this DPS (Restrepo et al. 2023). As anthropogenic threats to this species continue, the differences in nesting trends will need to be monitored to verify the North Atlantic DPS resiliency to future perturbations.

Leatherback turtle nesting in the Northwest Atlantic is showing an overall negative trend, with the most notable decrease occurring during the most recent time frame of 2008 to 2017 (NW Atlantic Leatherback Working Group 2018). The leatherback status review in 2020 concluded that leatherbacks are exhibiting an overall decreasing trend in annual nesting activity (NMFS and USFWS 2020). Given continued anthropogenic threats to the species, the leatherback's resilience to additional perturbation both within the Northwest Atlantic and worldwide is low (NMFS 2021a).

Occurrence and Distribution

Hard-shelled sea turtles - In U.S. Northwest Atlantic waters, hard-shelled turtles commonly occur throughout the continental shelf from Florida to Cape Cod, MA, although their presence varies with the seasons due to changes in water temperature (Braun-McNeill et al. 2008; Braun & Epperly 1996; Epperly et al. 1995a,b; Mitchell et al. 2003; Shoop & Kenney 1992; TEWG 2009; Blumenthal et al. 2006; Braun-McNeill & Epperly 2002; Griffin et al. 2013; Hawkes et al. 2006; Hawkes et al. 2011; Mansfield et al. 2009; McClellan & Read 2007; Mitchell et al. 2003; Morreale & Standora 2005). As coastal water temperatures warm in the spring, loggerheads begin to migrate to inshore waters of the southeast United States and also move up the Atlantic Coast (Braun-McNeill & Epperly 2002; Epperly et al. 1995a,b,c; Griffin et al. 2013; Morreale & Standora 2005), occurring in Virginia foraging areas as early as late April and on the most northern foraging grounds in the GOM in June (Shoop & Kenney 1992). The trend is reversed in the fall as water temperatures cool. The large majority leave the GOM by September, but some remain in Mid-Atlantic and Northeast areas until late fall (i.e., November). By December, sea turtles have migrated south to waters off Cape Hatteras, North Carolina and further south, and hard-shelled sea turtles can occur year-round in these waters (Epperly et al. 1995b; Griffin et al. 2013; Hawkes et al. 2011; Shoop & Kenney 1992).

Leatherback sea turtles - Leatherbacks, a pelagic species, are known to use coastal waters of the U.S. continental shelf and to have a greater tolerance for colder water than hard-shelled sea turtles (James et al. 2005; Eckert et al. 2006; Murphy et al. 2006; NMFS and USFWS 2013b; Dodge et al. 2014). Leatherback sea turtles engage in routine migrations between northern temperate and tropical waters (NMFS and USFWS 1992; James et al. 2005; James et al. 2006; Dodge et al. 2014). They are found in more northern waters (i.e., Gulf of Maine) in a similar time frame as hard-shelled

sea turtles, with most leaving the Northwest Atlantic shelves by mid-November (James et al. 2005; James et al. 2006; Dodge et al. 2014). The mid-Atlantic bight may serve as an important foraging ground for this species (Rider et al. 2024).

10.3.2.2 Large Whales

Status and Trends

Humpback whales are the only large whale species that has the potential to be impacted by the proposed action (Table 40). Review of the last stock assessment report completed on humpback whales indicates that the population trend for this species is unknown as a trend analysis has not been conducted (Hayes et al. 2019).

Occurrence and Distribution

Humpback whales occur in the Northwest Atlantic Ocean and may be present in these waters throughout the year. Table 41 provides an overview of species occurrence and distribution in the affected environment of the commercial summer flounder fishery. For additional information on humpback whales refer to: NMFS Marine Mammal SARs for the Atlantic Region.

Table 41: Humpback whale occurrence, distribution, and habitat use in the affected environment of the commercial summer flounder fishery.

Species	Occurrence/Distribution/Habitat Use in the Affected Environment
Humpback	Distributed throughout all continental shelf waters of the Mid-Atlantic (SNE included), GOM, and GB throughout the year. New England waters (GOM and GB) = Foraging Grounds (~March-November); however, acoustic detections of humpbacks indicate year-round presence in New England waters, including the waters of Stellwagen Bank. Mid-Atlantic waters: Increasing evidence that mid-Atlantic areas are becoming an important habitat for juvenile humpback whales. Since 2011, increased sightings of humpback whales in the New York-New Jersey Harbor Estuary, in waters off Long Island, and along the shelf break east of New York and New Jersey. Increasing visual and acoustic evidence of whales remaining in mid- and high-latitudes throughout the winter (e.g., Mid- Atlantic: waters near Chesapeake and Delaware Bays, peak presence about January through March; Massachusetts Bay: peak presence about March-May and September-December).
Notes: SNE=Southern New England; GOM=Gulf of Maine; GB=Georges Bank ***Sources*:** Marine Mammal SARs for the Atlantic Region	

10.3.2.3 Small Cetaceans

Status and Trends

Risso's, white-sided, short beaked common, and bottlenose dolphins (Western North Atlantic Offshore stock); long and short –finned pilot whales; and harbor porpoise could be impacted by the proposed action (Table). A trend analysis has not been conducted for long-finned pilot whales, harbor porpoise, and Risso's, white-sided, and short-beaked common dolphins; as a result, the population trajectory for these species is unknown (Hayes et al. 2024). For short-finned pilot whales a generalized linear model indicated no significant trend in the abundance estimates (Hayes et al 2024). For the Western North Atlantic Offshore stock, no statistically significant trend in population size for this species has been documented; however, the high level of uncertainty in the estimates limits the ability to detect a statistically significant trend (Hayes et al. 2024).

Occurrence and Distribution

Atlantic white sided dolphins, short and long finned pilot whales, Risso's dolphins, short beaked common dolphins, harbor porpoise, and bottlenose dolphins (offshore stock) are found throughout the year in the Northwest Atlantic Ocean (see NMFS Marine Mammal SARs for the Atlantic Region). Within this range, however, there are seasonal shifts in species distribution and abundance. Table provides an overview of species occurrence and distribution in the affected environment of the commercial summer flounder fishery. For additional information on small cetacean occurrence and distribution in the Northwest Atlantic, refer to NMFS Marine Mammal SARs for the Atlantic Region.

Table 42: Small cetacean occurrence and distribution in the affected environment of the commercial summer flounder fishery.

Species	Occurrence and Distribution in the Affected Environment
Atlantic White Sided Dolphin	● Distributed throughout the continental shelf waters (primarily to 100 m) of the Mid-Atlantic (north of 35°N), SNE, GB, and GOM; however, most common in continental shelf waters from Hudson Canyon (~ 39°N) to GB, and into the GOM. ● **January-May**: low densities found from GB to Jeffreys Ledge. ● **June-September**: Large densities found from GB, through the GOM. ● **October-December**: intermediate densities found from southern GB to southern GOM. ● South of GB (SNE and Mid-Atlantic), particularly around Hudson Canyon, low densities found year-round, ● Virginia (VA) and North Carolina (NC) waters represent southern extent of species range during winter months.
Short Beaked Common Dolphin	● Regularly found throughout the continental shelf-edge-slope waters (primarily between the 100-2,000 m isobaths) of the Mid-Atlantic, SNE, and GB (esp. in Oceanographer, Hydrographer, Block, and Hudson Canyons). ● Less common south of Cape Hatteras, NC, although schools have been reported as far south as the Georgia/South Carolina border. ● **January-May**: occur from waters off Cape Hatteras, NC, to GB (35° to 42°N). ● **Mid-summer-autumn**: Occur in the GOM and on GB; *Peak abundance* found on GB in the autumn.

Species	Occurrence and Distribution in the Affected Environment
Risso's Dolphin	● **Spring through fall**: Distributed along the continental shelf edge from Cape Hatteras, NC, to GB. ● **Winter**: distributed in the Mid-Atlantic Bight, extending into oceanic waters. ● Rarely seen in the GOM; primarily a Mid-Atlantic continental shelf edge species (can be found year-round).
Harbor Porpoise	● Distributed throughout the continental shelf waters of the Mid-Atlantic, SNE, GB, and GOM. ● **July-September**: Concentrated in the northern GOM (waters <150 meters); low numbers can be found on GB. ● **October-December**: widely dispersed in waters from New Jersey (NJ) to Maine (ME); seen from the coastline to deep waters (>1,800 meters). ● **January-March**: intermediate densities in waters off NJ to NC; low densities found in waters off New York (NY) to GOM. ● **April-June**: widely dispersed from NJ to ME; seen from the coastline to deep waters (>1,800 meters). ● Passive acoustic monitoring indicates regular presence from January through May offshore of Maryland.
Bottlenose Dolphin	**Western North Atlantic Offshore Stock** ● Distributed primarily along the outer continental shelf and continental slope in the Northwest Atlantic from GB to Florida (FL). ● Depths of occurrence: ≥40 meters
Pilot Whales: *Short- and Long-Finned*	**Short- Finned Pilot Whales** ● Except for area of overlap (see below), primarily occur south of 40°N (Mid-Atlantic and SNE waters); although low numbers have been found along the southern flank of GB, but no further than 41°N. ● Distributed primarily near the continental shelf break of the Mid-Atlantic and SNE (i.e., off Nantucket Shoals). **Long-Finned Pilot Whales** ● Except for area of overlap (see below), primarily occur north of 42°N . ● Winter to early spring: distributed principally along the continental shelf edge off the northeastern U.S. coast. ● Late spring through fall: movements and distribution shift onto GB and into the GOM and more northern waters. ● Species tends to occupy areas of high relief or submerged banks. **Area of Species Overlap:** along the mid-Atlantic shelf break between Delaware and the southern flank of GB.
Notes: Information is representative of small cetacean occurrence in the Northwest Atlantic continental shelf waters out to 2,000 m depth ***Sources*:** Hayes et al. 2024	

10.3.2.4 Pinnipeds

Status and Trends

Harbor, gray, harp and hooded seals are identified as having the potential to be impacted by the proposed action (Table). Based on Hayes et al. (2019), Hayes et al. (2022), and Hayes et al. (2024), the status of the Western North Atlantic harbor seal and hooded seal, relative to Optimum Sustainable Population (OSP), in the U.S. Atlantic EEZ is unknown; gray seal population relative to OSP in U.S. Atlantic EEZ waters is unknown, but the stock's abundance appears to be increasing

in Canadian and U.S. waters; and, harp seal stock, relative to OSP, in the U.S. Atlantic EEZ is unknown, but the stock's abundance appears to have stabilized.

Occurrence and Distribution

Harbor, gray, harp, and hooded seals are found in the nearshore, coastal waters of the Northwest Atlantic Ocean. Depending on the species, they may be present year-round or seasonally in some portion of the affected environment of the commercial summer flounder fishery. Table provides an overview of species occurrence and distribution in the affected environment of the commercial summer flounder fishery. For additional information on pinniped occurrence and distribution in the Northwest Atlantic, refer to NMFS Marine Mammal SARs for the Atlantic Region.

Table 43: Pinniped occurrence and distribution in the affected environment of the commercial summer flounder fishery.

Species	Occurrence and Distribution in the Affected Environment
Harbor Seal	● Year-round inhabitants of Maine; ● **September through late May**: occur seasonally along the coasts from southern New England to Virginia.
Gray Seal	● Ranges from New Jersey to Labrador, Canada.
Harp Seal	● Winter-Spring (approx. January-May): Can occur in the U.S. Atlantic Exclusive Economic Zone. ● Sightings and strandings have been increasing off the east coast of the United States from Maine to New Jersey.
Hooded Seal	● Highly migratory and can occur in waters from Maine to Florida. These appearances usually occur between January and May in New England waters, and in summer and autumn off the southeast U.S. coast and in the Caribbean.
***Sources*:** Marine Mammal SARs for the Atlantic Region	

10.3.2.5 Atlantic Sturgeon

Status and Trends

All five DPSs of Atlantic sturgeon could be impacted by the proposed action (Table). Population trends for Atlantic sturgeon are difficult to discern; however, the most recent stock assessment report concludes that Atlantic sturgeon, at both coastwide and DPS level, are depleted relative to historical levels (ASSRT 2007; ASMFC 2017; NMFS 2021a; ASMFC 2024).

Occurrence and Distribution

The marine range of U.S. Atlantic sturgeon extends from Labrador, Canada, to Cape Canaveral, Florida. All five DPSs of Atlantic sturgeon have the potential to be located anywhere in this marine range, although individuals are most likely to belong to the DPS in the same general region where they are found (Altenritter et al. 2017; ASMFC 2017; ASMFC 2024; ASSRT 2007; Breece et al. 2016, 2018; Dovel and Berggren 1983; Dadswell 2006; Dunton et al. 2010, 2015; Erickson et al. 2011; Hilton et al. 2016; Ingram et al. 2019; Kazyak et al. 2021; Kynard et al. 2000; Laney et al.

2007; Novak et al. 2017; O'Leary et al. 2014; Rothermel et al. 2020; Stein et al. 2004a; Waldman et al. 2013; Wippelhauser et al. 2017; Wirgin et al. 2012, 2015a,b).

Based on fishery-independent and dependent surveys, as well as data collected from genetic, tracking, and/or tagging studies in the marine environment, Atlantic sturgeon appear to primarily occur inshore of the 50 meter depth contour; however, Atlantic sturgeon are not restricted to these depths, as excursions into deeper continental shelf waters have been documented (Altenritter et al. 2017; Breece et al. 2016; 2018; Collins and Smith 1997; Dunton et al. 2010; Erickson et al. 2011; Ingram et al. 2019; Novak et al. 2017; Rothermel et al. 2020; Stein et al. 2004a,b; Wippelhauser et al. 2017). Data from fishery-independent and dependent surveys, as well as data collected from genetic, tracking, and/or tagging studies also indicate that Atlantic sturgeon make seasonal coastal movements from marine waters to river estuaries in the spring and from river estuaries to marine waters in the fall; however, there is no evidence to date that all Atlantic sturgeon make these seasonal movements and therefore, may be present throughout the marine environment throughout the year (Altenritter et al. 2017; Breece et al. 2018; Dunton et al. 2010; Erickson et al. 2011; Ingram et al. 2019; Novak et al. 2017; Rothermel et al. 2020; Wipplehauser 2012; Wippelhauser et al. 2017).

For additional information on the biology and range wide distribution of each DPS of Atlantic sturgeon refer to: 77 FR 5880 and 77 FR 5914, the Atlantic Sturgeon Status Review Team's (ASSRT) 2007 status review of Atlantic sturgeon (ASSRT 2007); the ASMFC's 2017 Atlantic Sturgeon Benchmark Stock Assessment and Peer Review Report (ASMFC 2017) and 2024 Atlantic Sturgeon Stock Assessment Update (ASMFC 2024), and NMFS (2021a).

10.3.2.6 Atlantic Salmon (Gulf of Maine DPS)

Status and Trends

Atlantic salmon (GOM DPS) could be impacted by the proposed action (Table 1). There is no population growth rate available for GOM DPS Atlantic salmon; however, the consensus is that the DPS exhibits a continuing declining trend (NOAA 2016; USFWS and NMFS 2018; NMFS 2021a).

Occurrence and Distribution

The wild populations of Atlantic salmon are listed as endangered under the ESA. Their freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River, while the marine range of the GOM DPS extends from the GOM (primarily the northern portion of the GOM), to the coast of Greenland (NMFS and USFWS 2018; Fay et al. 2006). In general, smolts, post-smolts, and adult Atlantic salmon may be present in the GOM and coastal waters of Maine in the spring (beginning in April), and adults may be present throughout the summer and fall months (Baum 1997; Fay et al. 2006; USASAC 2013; Hyvarinen et al. 2006; Lacroix and McCurdy 1996; Lacroix et al. 2004, 2005; Reddin 1985; Reddin and Short 1991; Reddin and Friedland 1993; Sheehan et al. 2012; NMFS and USFWS 2018; Fay et al. 2006). For additional information on the on the biology and range wide distribution of the GOM DPS of Atlantic salmon, refer to NMFS and USFWS (2018); Fay et al. (2006); and NMFS (2021a).

10.3.2.7 Giant Manta Ray

Status and Trends

Giant manta rays could be impacted by the proposed action (Table). While there is considerable uncertainty regarding the giant manta ray's current abundance throughout its range, the best available information indicates that in areas where the species is not subject to fishing, populations may be stable (NMFS 2021a). However, in regions where giant manta rays are (or were) actively targeted or caught as bycatch, populations appear to be decreasing (Miller and Klimovich 2017; Marshall et al. 2022).

Occurrence and Distribution

Based on the giant manta ray's distribution, the species may occur in coastal, nearshore, and pelagic waters off the U.S. east coast from the Gulf of Mexico north to Long Island, New York (Miller and Klimovich 2017; Farmer et al. 2022; NMFS 2024). They are most commonly detected along productive thermal front boundaries both nearshore and at the shelf edge (Farmer et al. 2022). Along the U.S. East Coast, giant manta ray occurrence appears primarily influenced by temperature; the species is usually found in water temperatures between 19 and 30°C, with a peak around 23°C (Miller and Klimovich 2017; Farmer et al. 2022). The North Atlantic giant manta rays appear to exhibit a degree of migratory behavior coinciding with prey abundance, with distribution expanding northward as water temperatures warm during the summer months (Farmer et al. 2022). Occurrences north of Cape Hatteras peak during the months of June-October (Farmer et al. 2022). Limited size estimates suggest that smaller, younger animals more commonly occur in the southeastern U.S., while larger individuals can be observed in the northern portion of the species' range (Farmer et al. 2022). Given that the species is rarely identified in the fisheries data in the Atlantic, it may be assumed that populations within the Atlantic are small and sparsely distributed (Miller and Klimovich 2017).

10.3.3 Interactions Between Gear and Protected Species

Protected species are at risk of interacting (e.g., bycaught or entangled) with various types of fishing gear, with interaction risks associated with gear type, quantity, soak or tow duration, and degree of overlap between gear and protected species. Information on observed or documented interactions between gear and protected species is available from as early as 1989 (NMFS Marine Mammal SARs for the Atlantic Region; NMFS NEFSC observer/sea sampling database, unpublished data). As the distribution and occurrence of protected species and the operation of fisheries (and, thus, risk to protected species) have changed over the last 30 years, we use the most recent 10 years of available information to best capture the current risk to protected species from fishing gear. For marine mammals protected under the MMPA and/or the ESA, the most recent 10 years of observer, stranding, and/or marine mammal serious injury and mortality reports are from 2013-2022[19]. For ESA listed species of sea turtles and fish, the most recent 10 years of data on observed or documented interactions is available from 2014-2023[20]. Available information on gear

[19] GAR Marine Animal Incident Database, unpublished data; NMFS Marine Mammal SARs for the Atlantic Region; NMFS NEFSC protected species serious injury and mortality reports.

[20] ASMFC 2017; ASMFC 2024; Kocik et al. 2014; NMFS 2021a; GAR Marine Animal Incident Database, unpublished data; NMFS Marine Mammal SARs for the Atlantic Region; NMFS NEFSC protected species serious injury and mortality reports; NMFS NEFSC observer/sea sampling database, unpublished data; GAR Sea Turtle and Disentanglement Network, unpublished data; NMFS Sea Turtle Stranding and Salvage Network, unpublished data.

interactions with a given species (or species group) is provided in the sections below. The sections to follow are not a comprehensive review of all fishing gear types known to interact with a given species; emphasis is only placed on the primary gear type used to prosecute the commercial summer flounder fishery (i.e., bottom trawl gear; about 97% of summer flounder commercial landings were taken by bottom trawl gear in 2023; see Section 6.3.3) and their associated interaction risk to the species under consideration.

10.3.3.1 Sea Turtles

Bottom Trawl Gear: Bottom trawl gear poses an injury and mortality risk to sea turtles (Sasso and Epperly 2006; NMFS Observer Program, unpublished data). Since 1989, the date of our earliest observer records for federally managed fisheries, sea turtle interactions with trawl gear have been observed in the GOM, Georges Bank, and/or the Mid-Atlantic; however, most of the observed interactions have been observed south of the GOM (Murray 2008; Murray 2015; Murray 2020; NMFS NEFSC observer/sea sampling database, unpublished data; NMFS 2021a; Warden 2011a,b). As few sea turtle interactions have been observed in the GOM, there is insufficient data available to conduct a robust model-based analysis and bycatch estimate of sea turtle interactions with trawl gear in this region. As a result, the bycatch estimates and discussion below are for trawl gear in the Mid-Atlantic and Georges Bank.

Murray (2015) estimated that from 2009-2013, the total average annual loggerhead interactions in bottom trawl gear in the Mid-Atlantic was 231 (CV=0.13, 95% CI=182-298); this equates to approximately 33 adult equivalents (Murray 2015). Most recently, Murray (2020) provided information on sea turtle interaction rates from 2014-2018 (the most recent five-year period that has been statistically analyzed for trawls). Interaction rates were stratified by region, latitude zone, season, and depth. The highest loggerhead interaction rate (0.43 turtles/day fished) was in waters south of 37º N during November to June in waters greater than 50 meters deep. The greatest number of estimated interactions occurred in the Mid-Atlantic region north of 39º N, during July to October in waters less than 50 meters deep. Within each stratum, interaction rates for non-loggerhead species were lower than rates for loggerheads (Murray 2020).

From 2019-2023, Precoda and Murray (2024)[21] estimate that 273 loggerhead (CV=0.20, 95% CI=182-408), 37 Kemp's ridley (CV=0.54, 95% CI=13-108), and 33 leatherback (CV=0.58, 95% CI=8-112) turtle interactions occurred in bottom trawl gear in the U.S. Mid-Atlantic and Georges Bank regions. Mortalities were not reported in Precoda and Murray (2024) but will be forthcoming. The most recent mortality estimates, calculated for the years 2014-2018, estimated the death of 272 loggerhead, 23 Kemp's ridley, 13 leatherback, and 8 green sea turtles due to interactions with bottom trawl gear (Murray 2020).

10.3.3.2 Atlantic Sturgeon

Bottom Trawl Gear: The ASMFC (2017), Miller and Shepard (2011), NMFS (2021a), Boucher and Curti (2023) and the most recent ten years of NMFS observer data (i.e., 2013-2022; NMFS NEFSC observer/sea sampling database, unpublished data) describe the observed or documented interactions between Atlantic sturgeon and bottom trawl gear in the GAR. For otter trawl fisheries, the highest incidence of Atlantic sturgeon bycatch has been associated with depths under 30 m.

[21] Precoda and Murray (2024) estimate species-specific interaction rates using the same stratification scheme as in Murray (2020).

More recently, over all gears and observer programs that have encountered Atlantic sturgeon, the distribution of haul depths on observed hauls that caught Atlantic sturgeon was significantly different from those that did not encounter Atlantic surgeon, with Atlantic sturgeon encountered primarily at depths under 20 m (ASMFC 2017).

Boucher and Curti (2023) updated the estimate of Atlantic sturgeon bycatch that was presented in the ASMFC (2017) Atlantic sturgeon benchmark stock assessment for the annual Atlantic sturgeon interactions in fishing gear (e.g., otter trawl, gillnet). The assessment analyzed fishery observer and VTR data to estimate Atlantic sturgeon interactions in fishing gear in the Mid-Atlantic and New England regions from 2000-2021 (excluding 2020 due to COVID-related impacts on data collection). The total bycatch of Atlantic sturgeon from bottom otter trawls was between 638-836 fish over 2016-2021 (excluding 2020 due to COVID-related impacts on data collection). The estimated average annual bycatch during 2016-2021 of Atlantic sturgeon in bottom otter trawl gear is 718.4 individuals. However, the estimate of Atlantic sturgeon bycatch in Boucher and Curti (2023) for 2016-2021 includes take of all Atlantic sturgeon, including non-listed fish that originate in Canadian waters but occur within the affected environment of this action. Partitioning out the fish that were likely of Canadian origin, NOAA fisheries concluded that the total bycatch of ESA-listed Atlantic sturgeon, only, during 2016-2021 in bottom otter trawl gear is 712 individuals.

10.3.3.3 Atlantic Salmon

Bottom Trawl Gear: Atlantic salmon are at risk of interacting with bottom trawl gear (NEFSC observer/sea sampling database, unpublished data; Kocik et al. 2014; NMFS 2021a). Northeast Fisheries Observer Program (NEFOP) data from 1989-2023 show four records of incidental bycatch of Atlantic salmon in bottom trawl gear. Given the very low number of observed Atlantic salmon interactions in bottom trawl gear, interactions with this gear type are believed to be rare in the Greater Atlantic Region (GAR) (see also McAfee 2024).

10.3.3.4 Giant Manta Ray

Bottom Trawl Gear: Giant manta rays are potentially susceptible to capture by bottom trawl gear based on records of their capture in fisheries using these gear types (NMFS NEFSC observer/sea sampling database, unpublished data; NMFS 2021a). Review of the most recent 10 years of NEFOP data showed that between 2014-2023, nine (unidentified) giant manta rays were observed in bottom trawl gear (NMFS NEFSC observer/sea sampling database, unpublished data). Additionally, reviewing NEFOP data collected since 1989, although most observed interactions with giant manta rays did not record the condition of the animal, several cases had documentation that the animal was released alive. While there is currently no information on post-release survival, NMFS Southeast Gillnet Observer Program observed a range of 0 to 16 giant manta rays captured per year between 1998 and 2015 and estimated that approximately 89% survived the interaction and release (see NMFS reports available on the Southeast Gillnet Observer Program webpage). Other sources, however, suggest that giant manta rays experience high at-vessel and post-release mortality because they are obligate ram ventilators (Marshall et al. 2022; NMFS 2024). In the giant manta ray draft Recovery Plan, NMFS states that commercial trawl fisheries pose a low-moderate extinction risk for the species (NMFS 2024).

10.3.3.5 Marine Mammals

Depending on species, marine mammals have been observed seriously injured or killed in bottom trawl gear. Pursuant to the MMPA, NMFS publishes a List of Fisheries (LOF) annually, classifying

U.S. commercial fisheries into one of three categories based on the relative frequency of incidental serious injuries and/or mortalities of marine mammals in each fishery (i.e., Category I=frequent; Category II=occasional; Category III=remote likelihood or no known interactions). In the Northwest Atlantic, the 2024 LOF (89 FR 12257, February 16, 2024) categorizes commercial bottom trawl fisheries (Northeast or Mid-Atlantic) as a Category II fishery.

Large Whales

Bottom Trawl Gear: Documented interactions between large whales and bottom trawl gear are infrequent. Review of the most recent 10 years of information on large whale entanglement in fishing gear indicates that between 2013-2022, there has been one confirmed entanglement case between a humpback whale and a full trawl net.[22] In 2020, a live, humpback whale was anchored/entangled in fishing gear, later identified by NMFS as trawl net. The animal was disentangled by trained responders from the Atlantic Large Whale Disentanglement Network. Given the disentanglement efforts, gear was removed and recovered from the animal, resulting in the whale being released alive, with non-serious injuries. Additional information on this incident can be found in the 2020 Atlantic Large Whale Entanglement Report and Henry et al. 2023.

Small Cetaceans and Pinnipeds

Bottom Trawl Gear: Small cetaceans and pinnipeds are vulnerable to interactions with bottom trawl gear.[23] Reviewing marine mammal stock assessment and serious injury reports that cover the most recent 10 years data (i.e., 2013-2022), as well as the MMPA LOF's covering this time frame (i.e., issued between 2017 and 2024), Table provides a list of species that have been observed (incidentally) seriously injured and/or killed by MMPA LOF Category II (occasional interactions) bottom trawl fisheries that operate in the affected environment of the commercial summer flounder fishery. The most recent (2022) estimate of small cetacean and pinniped bycatch in bottom trawl indicates that short beaked common dolphins, followed by gray seals, Risso's dolphins, bottlenose dolphins, white-sided dolphins, and long finned pilot whales are the most frequently bycaught small cetacean and pinnipeds in bottom trawl gear in the GAR; bycatch of harbor seals and harbor porpoises are observed to a lesser extent (Precoda and Lyssikatos 2024).

Table 44: Small cetacean and pinniped species observed seriously injured and/or killed by Category II bottom trawl fisheries in the affected environment of the commercial summer flounder fishery.

Fishery	Category	Species Observed or Reported Injured/Killed
Northeast Bottom Trawl	II	Harp seal (WNA)
		Harbor seal (WNA)
		Gray seal (WNA)
		Long-finned pilot whale (WNA)
		Short-beaked common dolphin (WNA)
		Atlantic white-sided dolphin (WNA)

[22] GAR Marine Animal Incident Database (unpublished data); NMFS Marine Mammal Stock Assessment Reports for the Atlantic Region; NMFS Atlantic Large Whale Entanglement Reports; MMPA List of Fisheries (LOF)

[23] For additional information on small cetacean and pinniped interactions, see: NMFS NEFSC marine mammal serious injury and mortality reports ; NMFS Marine Mammal SARs for the Atlantic Region; MMPA LOF.

Fishery	Category	Species Observed or Reported Injured/Killed
		Harbor porpoise (GME/BF)
		Bottlenose dolphin (WNA offshore)
		Risso's dolphin (WNA)
Mid-Atlantic Bottom Trawl	II	White-sided dolphin (WNA)
		Short-beaked common dolphin (WNA)
		Risso's dolphin (WNA)
		Bottlenose dolphin (WNA offshore)
		Gray seal (WNA)
		Harbor seal (WNA)
***Sources*:** NMFS Marine Mammal SARs for the Atlantic Region; MMPA 2017-2024 LOFs.		

In 2006, the Atlantic Trawl Gear Take Reduction Team was convened to address the incidental mortality and serious injury of long-finned pilot whales, short-finned pilot whales, common dolphins, and white-sided dolphins incidental to bottom and mid-water trawl fisheries operating in both the Northeast and Mid-Atlantic regions. Because none of the marine mammal stocks of concern to the Team are classified as a "strategic stock," nor do they currently interact with a Category I fishery, a take reduction plan was not necessary.28F29F

In lieu of a take reduction plan, the Team agreed to develop an Atlantic Trawl Gear Take Reduction Strategy. The Strategy identifies informational and research tasks, as well as education and outreach needs the Team believes are necessary, to decrease mortalities and serious injuries of marine mammals to insignificant levels approaching zero. The Strategy also identifies several voluntary measures that can be adopted by certain trawl fishing sectors to potentially reduce the incidental capture of marine mammals. For additional information on the Strategy, refer to NMFS Atlantic Trawl Gear Take Reduction Strategy.