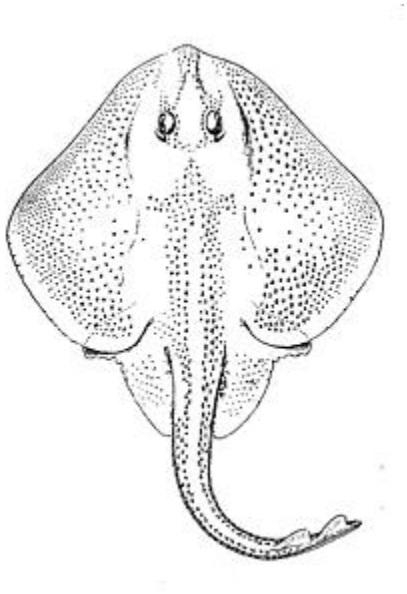
Northeast Multispecies Fishery Management Plan

Southern New England Skate Bait Trawl Exemption Area



DRAFT Environmental Assessment

Regulatory Impact Review

Initial Regulatory Flexibility Analysis

Prepared by the

National Marine Fisheries Service

Northeast Regional Office

55 Great Republic Drive

Gloucester, MA 01930-2298

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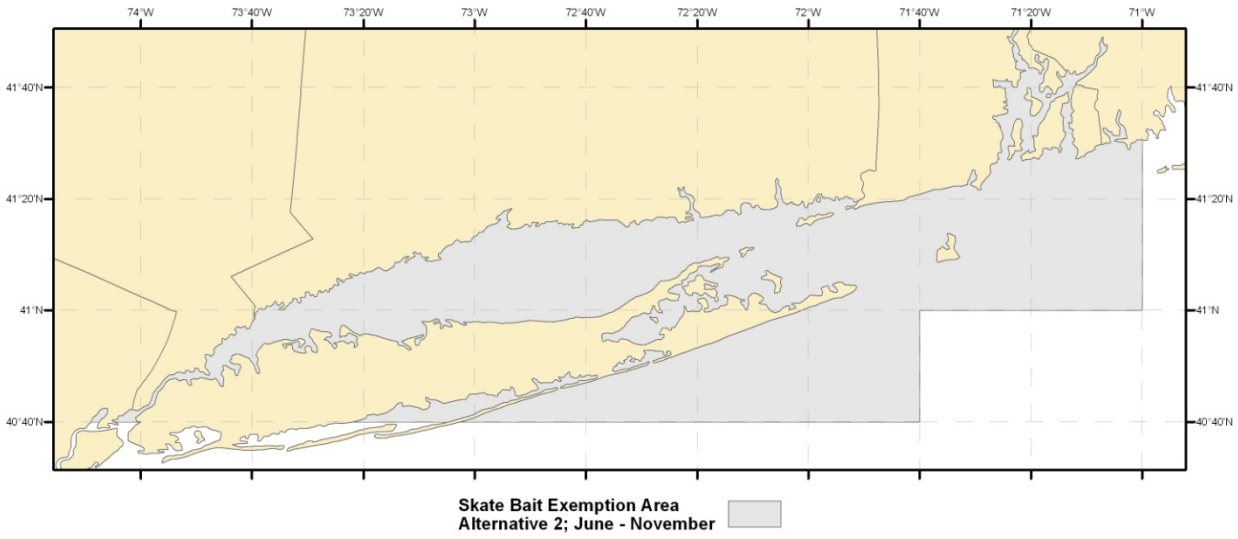
## 1.0 EXECUTIVE SUMMARY

The Regional Administrator has the authority to review exempted fishery requests, and grant them if the data show that they meet the requirements dictated by the Northeast (NE) multispecies fishery regulations (50 CFR 648.80). Representatives from the NE multispecies fleet submitted an exempted fishery request to the Regional Administrator in April 2011, requesting that the Regional Administrator consider an exempted fishery for skate bait in a portion of Southern New England (SNE) when fishing with trawl gear to be prosecuted from June through November of each year (Figure 1).

For an exempted fishery to be approved it must be shown, using the best available data, that the bycatch of regulated multispecies in the proposed fishery will be less than 5 percent of the total catch. Data from the Northeast Fisheries Observer Program (NEFOP) and at-sea monitors (ASM) were compiled and analyzed with reference to groundfish vessels targeting skate in the area and months requested. A second alternative was assessed that reduced the size of the exempted area (Figure 2) and only allowed fishing between July and October. The data were found to support the second alternative analyzed (referred to in the document as Alternative 1), revealing that bycatch of regulated species (primarily winter flounder and windowpane flounder) was substantially reduced from the original proposal by contracting the area and time period. Although a few observed tows were found to be above 5%, the number of trips greater than 5% amounted to only three (Table 10, Figure 9). However, these three trips were not on NE multispecies days-at-sea (DAS) using and/or were using small mesh. Therefore, they were operating in an existing exempted fishery, and they would not be exempted further under this action. When looking only at trips on DAS there were zero trips that exceeded the 5% threshold. The data indicates that the requested exemption, referred to as Alternative 2, includes a higher percentage of groundfish catch in the months of June and November. In addition, large portions of the original area requested by industry contained no observer data, and thus could not be evaluated (Figure 10).

**Figure 1. Requested Area for Skate Bait Exempted Fishery (Alt. 2).**



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## BACKGROUND

The primary statute governing the management of fishery resources in the U.S. EEZ is the Magnuson-Stevens Fishery Conservation and Management Act (MSA). In New England, the New England Fishery Management Council (Council) is responsible for developing fishery management plans (FMPs) that comply with the MSA and other applicable laws. The NE multispecies complex specifies the management measures for twelve regulated groundfish species, i.e., large mesh species (cod, haddock, yellowtail flounder, pollock, plaice, witch flounder, white hake, windowpane flounder, Atlantic halibut, winter flounder, redfish, and Atlantic wolffish) and ocean pout, off the New England and Mid-Atlantic coasts. Some of these species are sub-divided into individual stocks that are attributed to different geographic areas. Both commercial and recreational fishermen harvest these species. The FMP has been updated through a series of amendments and framework adjustments.

Regulations implementing Amendment 7 to the NE Multispecies FMP became effective on July 1, 1996 (61 FR 27710, May 31, 1996). These regulations implemented a comprehensive set of measures to control fishing mortality and rebuild stocks of regulated multispecies and included a bycatch control measure that applies to the Gulf of Maine (GOM)/Georges Bank (GB) Regulated Mesh Areas (RMAs) and the SNE RMA. A vessel may not fish in these areas unless it is fishing under a NE multispecies or a scallop day-at-sea (DAS) allocation, is fishing with exempted gear, is fishing under the NE multispecies open access Handgear or Party/Charter permit restrictions, or is fishing in an exempted fishery. The procedure for adding, modifying, or deleting fisheries from the list of exempted fisheries is found in 50 CFR 648.80. A fishery may be exempted by the Regional Administrator, after consultation with the Council, if the Regional Administrator determines, based on available data or information, that the bycatch of regulated species is, or can be reduced to, less than 5 percent by weight of the total catch and such exemption will not jeopardize the fishing mortality objectives of the FMP.

Representatives from the NE multispecies fleet submitted an exempted fishery request to the Regional Administrator on April 1, 2011, requesting that the Regional Administrator consider an exempted fishery for skate bait using 6.5-inch mesh trawl gear in a portion of SNE to be prosecuted from June through November of each year. Currently, NE multispecies sector and common pool vessels targeting skate bait are required to be on a declared multispecies trip under a multispecies DAS. For these trips, sector vessels are charged a discard rate that is based on NEFOP and ASM discard data. This discard data is used to create discard rates that are applied to unobserved fishing trips. A given discard rate is established for each discard strata, i.e., sector, area fished, and gear type. Because target species is not part of each discard strata, vessels that are targeting skate bait are being charged the same discard rate as all of the vessels in that strata that are targeting NE multispecies. This can lead to elevated discard rates of groundfish for vessels targeting skate bait which the sectors claim has created an economic burden for sector fishermen, particularly for the “choke stocks,” i.e., a stock of fish for which the sector has a small amount of Annual Catch Entitlement (ACE), either because of a low catch history for that stock or due to a small annual catch limit (ACL) for the stock.

Because of these concerns, representatives from the NE multispecies fishery requested that NMFS add an exempted fishery for skate bait in a portion of SNE near-shore when fishing with

trawl gear, specifying the months and area that the fishery would occur, based on low bycatch of groundfish that they observe for this fishery. Thus, the purpose of this action is to exempt vessels targeting skate bait in a certain area and during certain times of year from the requirement of the NE multispecies regulations and provide vessels unfettered access to the skate bait fishery, while ensuring little impact to regulated multispecies. In order to properly consider the exemption request, the Regional Office conducted an analysis of regulated species bycatch in the skate bait fishery for the area requested. The analysis included data from the NEFOP and ASM observers for limited access NE multispecies trips that list skate as a target species from 1994-2011. The results of the analysis are discussed in detail below.

## 3.0 PURPOSE AND NEED FOR ACTION

The purpose of this action is to provide NE multispecies vessels fishing with trawl gear with the option to prosecute the skate bait fishery outside of the DAS program in an area that has been determined to have less than five percent of catch that is regulated groundfish species. The need for this action is to reduce inflated estimated discards of groundfish that cause an economic hardship for the groundfish sectors that currently prosecute the skate-bait fishery under a DAS.

## 4.0 PROPOSED ACTION AND ALTERNATIVES

### 4.1 ALTERNATIVE 1 (PREFERRED ALTERNATIVE)

Alternative 1 proposes to implement an exempted fishery for vessels targeting skate bait with trawl gear using 6.5-inch mesh in a portion of SNE during the months of July through October. This area would be referred to as the SNE Skate Bait Trawl Exemption Area. Under this exemption, vessels are no longer subject to the requirements of the NE multispecies fishery, including DAS and reporting requirements.

**Table 1. Skate Bait Fishery Seasons.**

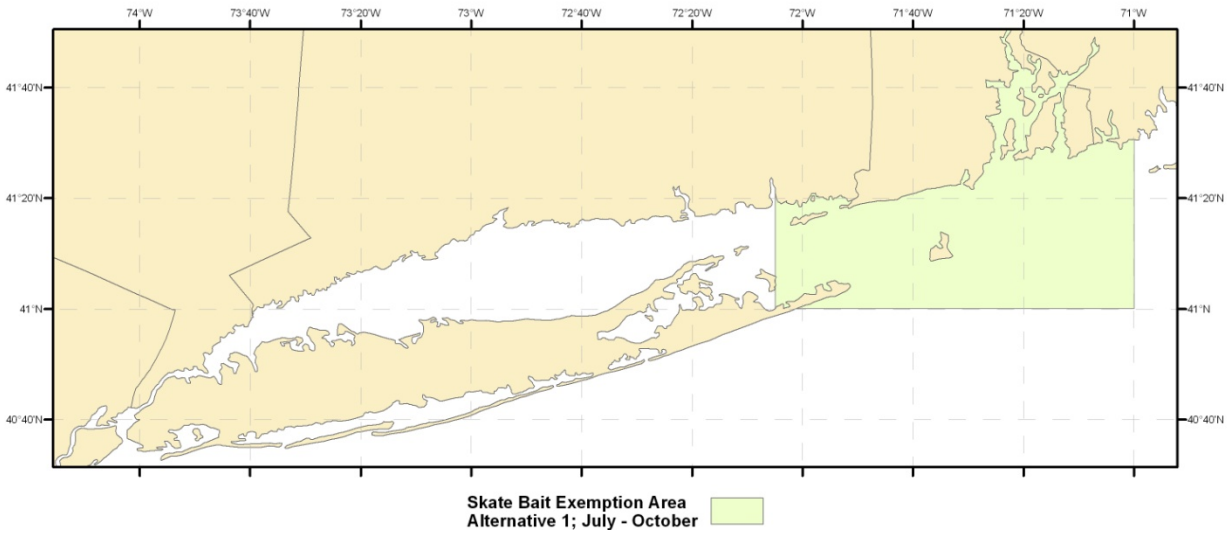
| Season | | Percentage of Skate Bait TAL |
|---|---|---|
| 1 | May 1–July 31 | 30.8 |
| 2 | August 1–October 31 | 37.1 |
| 3 | November 1–April 30 | Remainder of Skate Bait TAL |

SNE Skate Bait Trawl Exemption Area

The proposed Skate Bait Trawl Exemption Area for Alternative 1 is defined by the straight lines connecting the following coordinates in the order stated (Figure 2):

| Point | N. lat. | W. long. |
|---|---|---|
| SBT 1..... | Southeastern MA | 71º 00’ |
| SBT 2..... | 41º 00’ | 71º 00’ |
| SBT 3..... | 41º 00’ | 72º 05’ |
| SBT 4..... | Southern CT | 72º 05’ |

**Figure 2. Exemption area July through October for Alt. 1.**




Vessels participating in this exempted skate bait fishery would still need to hold a Federal skate permit and a valid Skate Bait Letter of Authorization (LOA) from the Regional Administrator containing an exemption from the skate wing possession limits which allows them to land whole skates for use as bait, as required by existing regulations. Currently, participating vessel may possess and land up to 20,000 lb of skates of less than 23 inches total length.

The Skate Bait Total Allowable Landings (TAL) is divided into three seasons to help maintain a supply of bait throughout the fishing year (Table 1). When 90 percent of the seasonal quota is landed in either Season 1 or 2, or when 90 percent of the annual Skate Bait TAL is landed, the Regional Administrator is required to close the directed fishery by reducing the skate bait possession limit to the whole weight equivalent of the skate wing possession limit in effect at that time (either 5,902 lb, 9,307 lb, or 1,135 lb).

### 4.2 ALTERNATIVE 2

Alternative 2 proposes to implement an exempted fishery for vessels targeting skate bait with trawl gear using 6.5-inch mesh in a larger portion of SNE compared to Alternative 1 during the months of June through November. This area would be referred to as the SNE Skate Bait Trawl

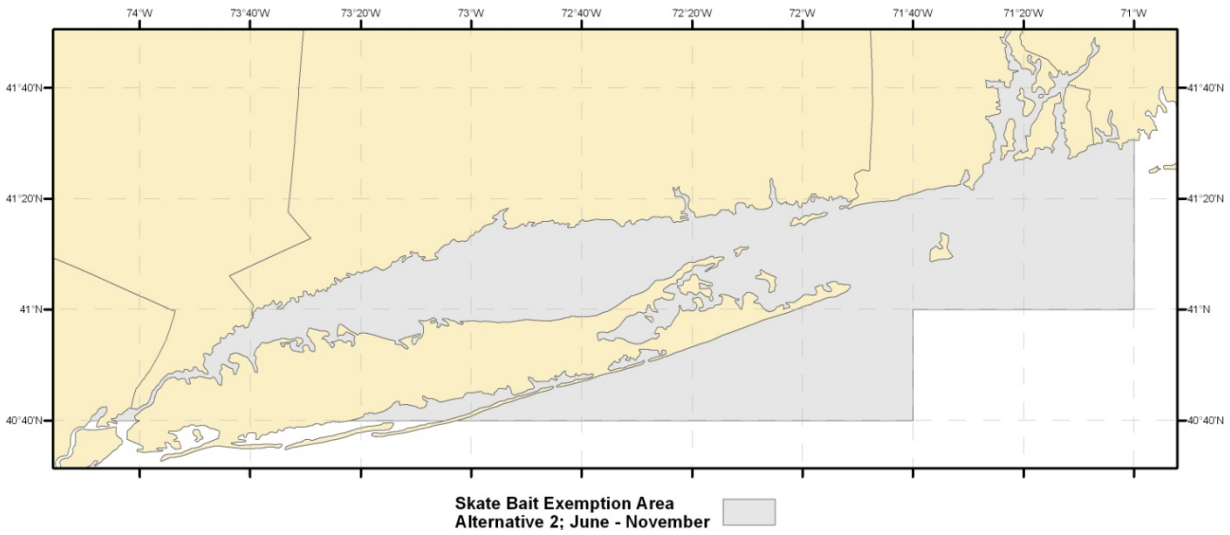
Exemption Area. Under this exemption, vessels are no longer subject to the requirements of the NE multispecies fishery, including DAS and reporting requirements.

SNE Skate Bait Trawl Exemption Area

The proposed Skate Bait Trawl Exemption Area for Alternative 2 is defined by the straight lines connecting the following coordinates in the order stated (Figure 3):

| Point | N. lat. | W. long. |
|---|---|---|
| SBT 1..... | Southeastern MA | 71º 00’ |
| SBT 2..... | 41º 00’ | 71º 00’ |
| SBT 3..... | 41º 00’ | 71º 40’ |
| SBT 4..... | 40º 40’ | 71º 40’ |
| SBT 5..... | 40º 40’ | Shoreline of Long Island, NY |

**Figure 3. Exemption area June through November for Alt. 2.**




### 4.3 NO ACTION ALTERNATIVE

Under the No Action alternative, skate bait vessels would continue to be required to declare into the groundfish DAS program in order to land skate bait in this area. Since these vessels would need to be on a declared groundfish trip, vessels would be attributed a groundfish discard rate consistent with all other similar groundfish trips. Vessels would still need to acquire a Skate Bait LOA from the Regional Administrator in order to land up to 20,000 lb of whole skate less than 23 inches total length.

## 5.0 AFFECTED ENVIRONMENT

The following section includes a description of the various resources and entities likely to be affected in the area of this proposed action. This description borrows heavily from the affected environment sections of the EA prepared for Framework Adjustment (FW) 45 to the NE Multispecies FMP, the original FMP for the NE skate complex, and the EA prepared for FW 1 to the FMP for the NE Skate Complex. There has been little change in the biological or physical components of the environment since the implementation of Amendment 16 to the NE Multispecies FMP, other than changes in stock status.

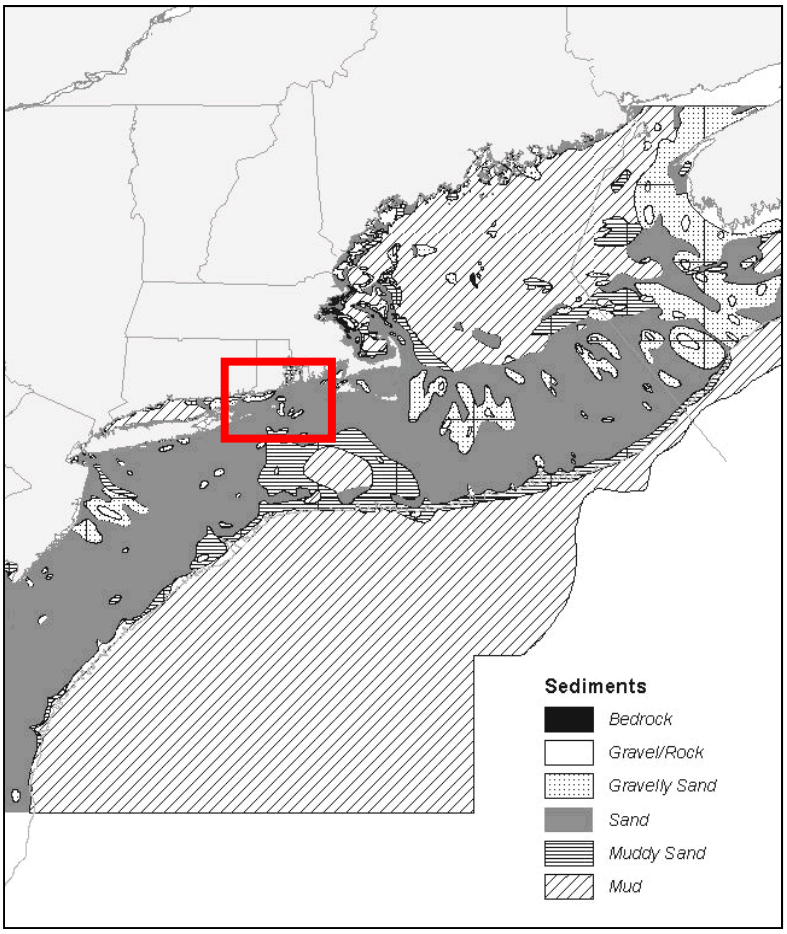
### 5.1 PHYSICAL ENVIRONMENT

#### 5.1.1 Southern New England/Mid-Atlantic Bight

The northern portion of the Mid-Atlantic Bight is sometimes referred to as SNE and generally includes the area of the continental shelf south of Cape Cod from the Great South Channel to Hudson Canyon. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from SNE to Cape Hatteras, North Carolina. The shelf slopes gently from shore out to between 100 and 200 km offshore where it transforms to the slope (100 to 200 m water depth (Figure 4) at the shelf break. In both the Mid-Atlantic Bight and on Georges Bank, numerous canyons incise the slope, and some cut up onto the shelf itself (Stevenson et al. 2004). Like the rest of the continental shelf, the topography of the Mid-Atlantic Bight was shaped largely by sea level fluctuations during past ice ages. Since that time, currents and waves have modified this basic structure.

The sediment type covering most of the shelf in the Mid-Atlantic Bight is sand, with some relatively small, localized areas of sand-shell and sand-gravel. On the slope, silty sand, silt, and clay predominate. Permanent sand ridges occur in groups with heights of about 10 m, lengths of 10 to 50 km and spacing of 2 km. The sand ridges are usually oriented at a slight angle towards shore, running in length from northeast to southwest. Sand ridges are often covered with smaller similar forms such as sand waves, megaripples, and ripples. Sand waves are usually found in patches of 5 to 10 with heights of about 2 m, lengths of 50 to 100 m, and 1 to 2 km between patches. The sand waves are usually found on the inner shelf and are temporary features that form and re-form in different locations, especially in areas like Nantucket Shoals where there are strong bottom currents. Because tidal currents southwest of Nantucket Shoals and southeast of Long Island and Rhode Island slow significantly, there is a large mud patch on the seafloor where silts and clays settle out.

**Figure 4. Approximate boundaries of the exempted fishery.**




### 5.1.2 Gear Effects

Three general types of bottom trawl are used in the Northeast Region, but bottom otter trawls account for nearly all commercial bottom trawling activity. There is a wide range of otter trawl types used in the Northeast as a result of the diversity of fisheries and bottom types encountered in the region (NREFHSC, 2002). The specific gear design used is often a result of the target species (whether found on or off the bottom) as well as the composition of the bottom (smooth versus rough and soft versus hard). A number of different types of bottom otter trawl used in the Northeast are specifically designed to catch certain species of fish, on specific bottom types, and at particular times of year. Bottom trawls are towed at a variety of speeds, but average about 5.6 km/hour (3 knots). Use of this gear in the Northeast is managed under several federal FMPs. Bottom trawling is also subject to a variety of state regulations throughout the region.

A flatfish trawl is a type of bottom otter trawl designed with a low net opening between the headrope and the footrope and more ground rigging on the sweep. This type of trawl is designed so that the sweep follows the contours of the bottom, and to get fish like flounders - that lie in contact with the seafloor - up off the bottom and into the net. It is used on smooth mud and sand

bottoms. A high-rise or fly net with larger mesh has a wide net opening and is used to catch demersal fish that rise higher off the bottom than flatfish (NREFHSC, 2002).

Bottom otter trawls that are used on "hard" bottom (i.e., gravel or rocky bottom), or mud or sand bottom with occasional boulders, are rigged with rockhopper gear. The purpose of the "ground gear" in this case is to get the sweep over irregularities in the bottom without damaging the net. The purpose of the sweep in trawls rigged for fishing on smooth bottoms is to herd fish into the path of the net (Mirarchi, 1998).

The raised-footrope trawl was designed to provide vessels with a means of continuing to fish for small-mesh species without catching groundfish. Raised-footrope trawls fish about 0.5 to 0.6 m above the bottom (Carr, 1998). Although the doors of the trawl still ride on the bottom, underwater video and observations in flume tanks have confirmed that the sweep in the raised-footrope trawl has much less contact with the seafloor than the traditional cookie sweep that it replaces (Carr, 1998).

The fishery also uses individual sink/anchor gillnets which are about 90 m long and are usually fished as a series of 5 to 15 nets attached end-to-end. A vast majority of “strings” consist of 10 gillnets. Gillnets typically have three components: the leadline, webbing and floatline. In New England, leadlines are approximately 30 kilogram (kg)/net. Webs are monofilament, with the mesh size depending on the species of interest. Nets are anchored at each end using materials such as pieces of railroad track, sash weights, or Danforth anchors, depending on currents. Anchors and leadlines have the most contact with the bottom. For New England groundfish, frequency of tending ranges from daily to semiweekly [Northeast Region Essential Fish Habitat Steering Committee (NREFHSC, 2002)].

A bottom gillnet is a large wall of netting equipped with floats at the top and lead weights along the bottom. Bottom gillnets are anchored or staked in position. Fish are caught while trying to pass through the net mesh. Gillnets are highly selective because the species and sizes of fish caught are dependent on the mesh size of the net. Bottom gillnets are used to catch a wide range of species. Bottom gillnets are fished in two different ways, as "standup" and "tiedown" nets (Williamson, 1998). Standup nets are typically used to catch Atlantic cod, haddock, pollock, and hake and are soaked (duration of time the gear is set) for 12 to 24-hours. Tiedown nets are used to catch flounders and monkfish and are left in the water for 3 to 4 days. Other species caught in bottom gillnets in are dogfish and skates.

#### 5.1.3 Little Skate EFH

In its Report to Congress: Status of the Fisheries of the United States (January 2001), NMFS determined that little skate is not in an overfished condition and that overfishing of this stock is not occurring, based on stock size assessment. For little skate, essential fish habitat is described as those areas of coastal and offshore waters (out to the offshore U.S. boundary of the exclusive economic zone) that are designated on Figure 5 and Figure 6 and meet the following conditions:

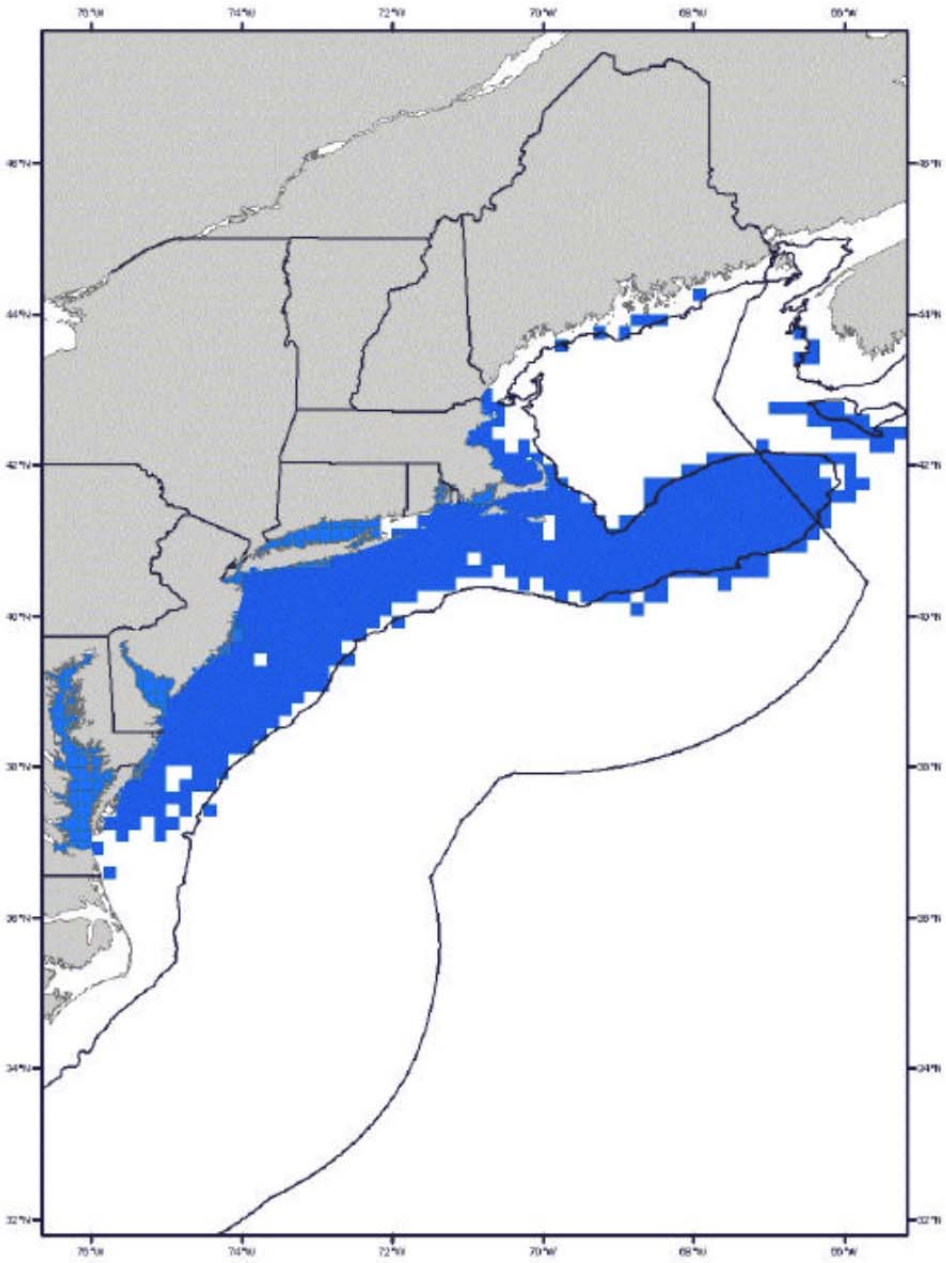
Eggs: Bottom habitats with a sandy substrate from Georges Bank through to Southern New England to the Middle Atlantic Bight. Generally, the following conditions exist where little skate eggs are found: Depths: Less than 27 meters. Temperature: Greater than 7 ºC.

Larvae: No larval life stage exists for this species. Upon hatching, they are fully developed juveniles (ELMR Report Number 12, March 1994).

Juveniles: Bottom habitats with a sandy or gravelly substrate or mud, ranging from Georges Bank through the Mid-Atlantic Bight to Cape Hatteras, North Carolina as depicted on Figure 5. Generally, the following conditions exist where little skate juveniles are found: Depth: Full range is from the shore to 137 meters, with the highest abundance from 73-91 meters. Temperature: Most found between 4-15°C.

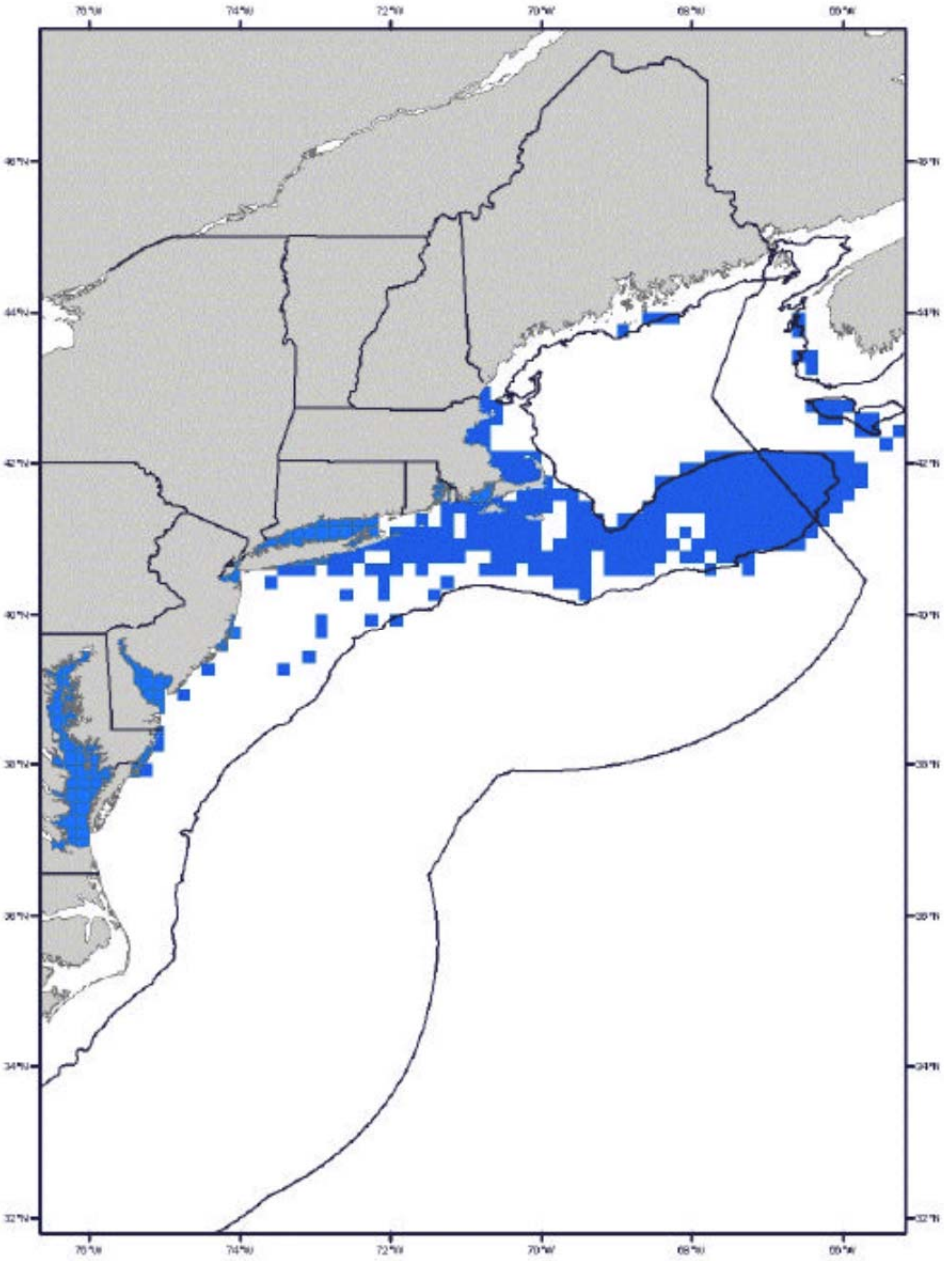
Adults: Bottom habitats with a sandy or gravelly substrate or mud, ranging from Georges Bank through the Mid-Atlantic Bight to Cape Hatteras, North Carolina as depicted on Figure 6. Generally, the following conditions exist where little skate adults are found: Depth: Full range is from the shore to 137 meters, with the highest abundance from 73-91 meters. Temperature: Most found between 2-15°C.

**Figure 5. Little Skate EFH Juvenile (90%).**



This map represents an option for the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and NOAA's Estuarine Living Marine Resources (ELMR). Only habitats with sandy, gravelly, or mud substrates that occur within the shaded areas would be designated as EFH. This option represents 58% of the observed range of this life stage.

**Figure 6. Little Skate EFH Adult (90%).**



This map represents an option for the designation of EFH for this life history stage based on the areas of highest relative abundance of this species, based on the NMFS trawl survey (1963 - 1999) and NOAA's ELMR data. Only habitats with sandy, gravelly, or mud substrates that occur within the shaded areas would be designated as EFH. This option represents 57% of the observed range of this life stage.

### 5.1.4 Non-target Species EFH

There are a number of fish and shellfish which are known to have EFH in the northern portion of SNE (Table 2). These include the benthic and pelagic forms of eggs, larvae, juveniles, and adults of a variety of species. A more complete description of NE multispecies EFH can be found in the Amendment 16 FEIS (NEFMC N. E., 2009).

**Table 2. Species and Life Stages with EFH within the exempted area. Source: NMFS/NERO Habitat Conservation Division Web Site (www.nero.noaa.gov/hcd/).**

| Species | Eggs | Larvae | Juveniles | Adults |
|---|---|---|---|---|
| Atlantic cod *(Gadus morhua)* | | X | | X |
| haddock *(Melanogrammus aeglefinus)* | | X | | |
| pollock *(Pollachius virens)* | | | | |
| whiting *(Merluccius bilinearis)* | X | X | X | |
| offshore hake *(Merluccius albidus)* | | | | |
| red hake *(Urophycis chuss)* | X | X | X | |
| white hake *(Urophycis tenuis)* | | | | |
| redfish *(Sebastes fasciatus)* | n/a | | | |
| witch flounder *(Glyptocephalus cynoglossus)* | | | | |
| winter flounder *(Pseudopleuronectes americanus)* | X | X | X | X |
| yellowtail flounder *(Limanda ferruginea)* | | | | |
| windowpane flounder *(Scophthalmus aquosus)* | X | X | X | X |
| American plaice *(Hippoglossoides platessoides)* | | | | |
| ocean pout *(Macrozoarces americanus)* | X | X | | X |
| Atlantic halibut *(Hippoglossus hippoglossus)* | | | | |
| Atlantic sea scallop *(Placopecten magellanicus)* | | | | |
| Atlantic sea herring *(Clupea harengus)* | | | X | X |
| monkfish *(Lophius americanus)* | X | X | | |

| | | | | |
|---|---|---|---|---|
| bluefish *(Pomatomus saltatrix)* | X | | X | X |
| long finned squid *(Loligo pealeii)* | n/a | n/a | X | |
| short finned squid *(Illex illecebrosus)* | n/a | n/a | | |
| Atlantic butterfish *(Peprilus triacanthus)* | | | | |
| Atlantic mackerel *(Scomber scombrus)* | | | | |
| summer flounder *(Paralichthys dentatus)* | | X | X | X |
| scup *(Stenotomus chrysops)* | n/a | n/a | X | X |
| black sea bass *(Centropristis striata)* | n/a | | X | |
| surf clam *(Spisula solidissima)* | n/a | n/a | | |
| ocean quahog *(Artica islandica)* | n/a | n/a | | |
| spiny dogfish *(Squalus acanthias)* | n/a | n/a | X | X |
| tilefish *(Lopholatilus chamaeleonticeps)* | | | | |
| king mackerel *(Scomberomorus cavalla)* | X | X | X | X |
| Spanish mackerel *(Scomberomorus maculatus)* | X | X | X | X |
| cobia *(Rachycentron canadum)* | X | X | X | X |
| sand tiger shark *(Carcharias taurus)* | | X | | |
| blue shark (*Prionace glauca)* | | X | X | X |
| white shark *(Carcharodon carcharias)* | | | X | |
| dusky shark *(Carcharhinus obscurus)* | | | X | |
| shortfin mako shark *(Isurus oxyrinchus)* | | X | X | |
| sandbar shark *(Carcharhinus plumbeus)* | | | X | X |
| bluefin tuna *(Thunnus thynnus)* | | | X | X |
| common thresher shark *(Alopias vulpinus)* | | X | X | X |

## 5.2 BIOLOGICAL ENVIRONMENT

### 5.2.1 Target Species

*Little Skate*

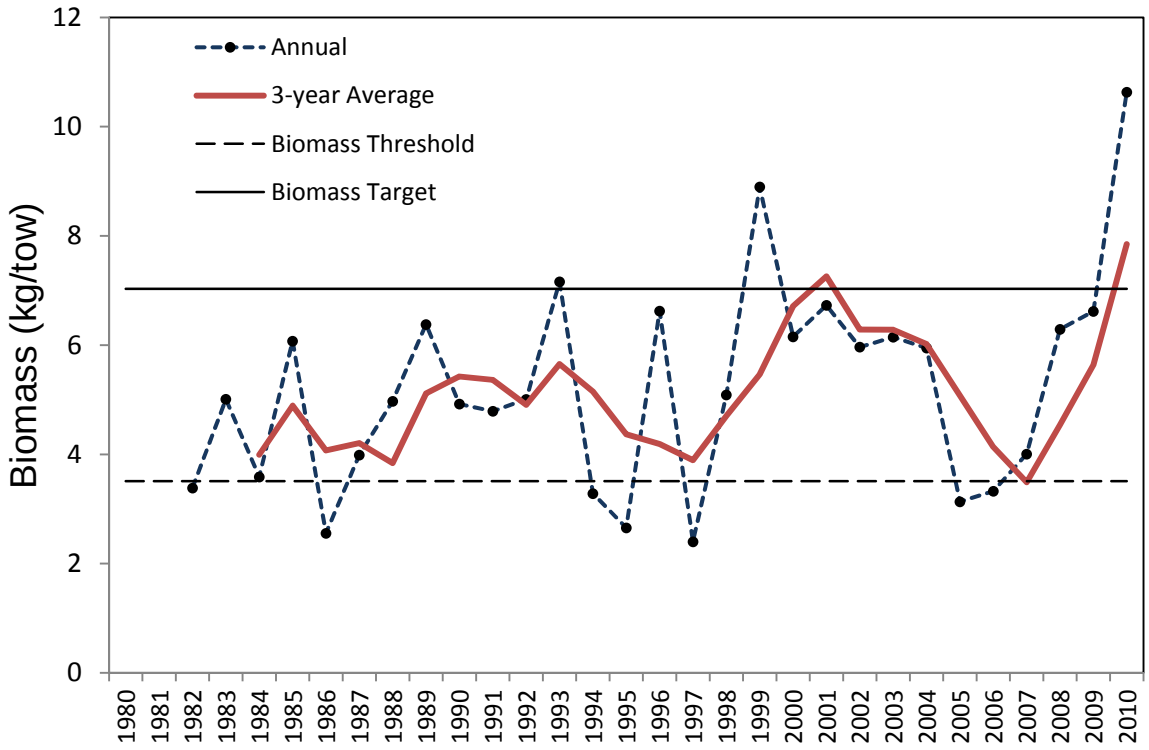
NEFSC bottom trawl surveys indicate that little skate are abundant in the inshore and offshore strata in all regions of the northeast US coast, but are most abundant on Georges Bank and in Southern New England (Figure 6). In the NEFSC autumn surveys (1975-2005), the annual total catch of little skate in offshore strata reached 6,523 fish in 2003. Calculated on a per tow basis, these spring survey catches equate to maximum stratified mean number per tow indices for the GOM-MA inshore and offshore strata autumn maximum catches equate to indices of 18 fish, or 7.7 kg, per tow in 2003. Recent spring catches have equated to 7.9 fish or 3.3 kg per tow in 2006; recent autumn catch equates to 7.6 fish or 3.8 kg per tow in 2005. NEFSC winter survey (2000-2006) annual catches of little skate reached a low of 8,870 fish in 2003, equating to a maximum stratified mean catch per tow of 151 fish or 64 kg per.

Indices of little skate abundance and biomass from the NEFSC spring survey were stable, reached a peak in 1999, and declined thereafter. Autumn survey indices slightly increased in recent years. Little skate biomass decreased in the spring survey since 1999. Little skate was approaching an overfished status as a result of this decline. However, an increase in biomass in 2007 produced an increase in the three year moving average, resulting in little skate not being listed as overfished in the latest assessment. Abundance of little skate closely reflects patterns in biomass (Figure 7). Autumn survey biomass and abundance are generally lower than those of spring or winter surveys.

The median length of little skates sampled in the survey reached 44 cm TL in the 2005 autumn survey. The median length of the survey catch was generally stable over the duration of the spring and autumn surveys and is currently about 42 cm TL in the spring and 43 cm TL in the autumn (NEFSC, 2007). Length frequency distributions from the NEFSC spring and autumn surveys are presented in the SAW 44 documents and are not reproduced in this SAFE Report. In general, the length frequency distributions for little skate show several modes, most often at 10, 20, 30, and 45 cm, which are believed to represent ages 0, 1, 2, and 3 and older little skate.

Indices of abundance for little skate are available from Massachusetts Division of Marine Fisheries (MADMF) spring and autumn research trawl surveys in the inshore waters of Massachusetts during 1978-2006. Since the mid-1990s, MADMF biomass indices have fluctuated without trend. Indices of abundance for little skate are available from Connecticut Department of Environmental Protection (CTDEP) spring and autumn finfish trawl surveys in Long Island Sound during 1984-2006 (1992 and later only for biomass). Little skate are the most abundant species in the skate complex in Long Island Sound, with annual CTDEP survey catches ranging from 142 to 837 skates. CTDEP survey indices suggest a decline in recent years.

**Figure 7. Little Skate Biomass.**




### 5.2.2 Protected Resources

There are numerous species that inhabit the environment within the Northeast Multispecies FMP and Skate Complex FMP management units, and that therefore potentially occur in the operations area of the groundfish fishery and the skate bait fishery, that are afforded protection under the Endangered Species Act of 1973 (ESA; i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act of 1972 (MMPA), and are under NMFS' jurisdiction. Seventeen species are classified as endangered or threatened under the ESA, three others are candidate species under the ESA, while the remainders are protected by the provisions of the MMPA.

#### 5.2.2.1 Species Present in the Area

Table 3 lists the species, protected either by the ESA, the MMPA, or both, that may be found in the environment that would be utilized by the fishery. Table 3 also includes three candidate fish species as identified under the ESA. Candidate species are those petitioned species that are actively being considered for listing as endangered or threatened under the ESA, as well as those species for which NMFS has initiated an ESA status review that it has announced in the Federal Register.

## Table 3. Species protected under the Endangered Species Act and Marine Mammal Protection Act that may occur in the operations area for the groundfish fishery.[a]

| Species | Status | |
|---|---|---|
| **Cetaceans** | | |
| North Atlantic right whale (*Eubalaena glacialis*) | Endangered | |
| Humpback whale (*Megaptera novaeangliae*) | Endangered | |
| Fin whale (*Balaenoptera physalus*) | Endangered | |
| Sei whale (*Balaenoptera borealis*) | Endangered | |
| Blue whale (*Balaenoptera musculus*) | Endangered | |
| Sperm whale (*Physeter macrocephalus* | Endangered | |
| Minke whale (*Balaenoptera acutorostrata*) | Protected | |
| Pilot whale (*Globicephala spp.*) | Protected | |
| Risso's dolphin (*Grampus griseus*) | Protected | |
| Atlantic white-sided dolphin (*Lagenorhynchus acutus*) | Protected | |
| Common dolphin (*Delphinus delphis*) | Protected | |
| Spotted dolphin (*Stenella frontalis*) | Protected | |
| Bottlenose dolphin (*Tursiops truncatus*)[b] | Protected | |
| Harbor porpoise (*Phocoena phocoena*) | Protected | |
| | | |
| **Sea Turtles** | | |
| Leatherback sea turtle (*Dermochelys coriacea*) | Endangered | |
| Kemp's ridley sea turtle (*Lepidochelys kempii*) | Endangered | |
| Green sea turtle (*Chelonia mydas*) | Endangered[c] | |
| Loggerhead sea turtle (*Caretta caretta*) Northwest Atlantic DPS | | Threatened |
| Hawksbill sea turtle (*Eretmochelys imbricate*) | Endangered | |
| | | |
| **Fish** | | |
| Shortnose sturgeon (*Acipenser brevirostrum*) | Endangered | |
| Atlantic salmon (*Salmo salar*) | Endangered | |
| | | |
| Atlantic sturgeon *(Acipenser oxyrinchus)* | | |
| Gulf of Maine DPS | Threatened | |
| New York Bight DPS | Endangered | |
| Chesapeake Bay DPS | Endangered | |
| Carolina DPS | Endangered | |
| South Atlantic DPS | Endangered | |
| | | |
| Cusk *(Brosme brosme)* | Candidate | |
| Alewife (*Alosa pseudo harengus*) | Candidate | |
| Blueback herring (*Alosa aestivalis*) | Candidate | |
| | | |
| **Pinnipeds** | | |
| Harbor seal (*Phoca vitulina*) | Protected | |
| Gray seal (*Halichoerus grypus*) | Protected | |
| Harp seal (*Phoca groenlandicus*) | Protected | |
| Hooded seal (*Cystophora cristata*) | Protected | |

Notes:

[a] MMPA-listed species occurring on this list are only those species that have a history of interaction with similar gear types within the action area of the Northeast Multispecies Fishery, as defined in the 2012 List of Fisheries.

[b] Bottlenose dolphin (*Tursiops truncatus*), Western North Atlantic coastal stock is listed as depleted.

[c] Green turtles in U.S. waters are listed as threatened except for the Florida breeding population which is listed as endangered. Due to the inability to distinguish between these populations away from the nesting beach, green turtles are considered endangered wherever they occur in U.S. waters.

Candidate species receive no substantive or procedural protection under the ESA; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed project. NMFS has initiated review of recent stock assessments, bycatch information, and other information for these candidate and proposed species. The results of those efforts are needed to accurately characterize recent interactions between fisheries and the candidate/proposed species in the context of stock sizes. Any conservation measures deemed appropriate for these species will follow the information reviews. Please note that once a candidate species (see Table 3) is proposed for listing the conference provisions of the ESA apply (see 50 CFR 402.10).

#### 5.2.2.2 Species Potentially Affected

The multispecies and skate fisheries have the potential to affect the sea turtle, cetacean, and pinniped species discussed below. A number of documents contain background information on the range-wide status of sea turtle and marine mammal species that occur in the area and are known or suspected of interacting with fishing gear (demersal gear including trawls, gillnets, and bottom longlines). These documents include sea turtle status reviews and biological reports (NMFS and USFWS 1995; Turtle Expert Working Group 1998, 2000, 2007, 2009; NMFS and USFWS 2007a, 2007b, recovery plans for ESA-listed cetaceans and sea turtles (NMFS 1991, 2005; NMFS and USFWS 1991a, 1991b; NMFS and USFWS 1992), the marine mammal stock assessment reports (e.g., Waring et al. 1995---2011), and other publications (e.g., Clapham et al. 1999, Perry et al. 1999, Best et al. 2001, Perrin et al. 2002).

##### 5.2.2.2.1 Sea Turtles

Loggerhead, leatherback, Kemp's ridley, and green sea turtles occur seasonally in southern New England and Mid-Atlantic continental shelf waters north of Cape Hatteras, North Carolina. Turtles generally move up the coast from southern wintering areas as water temperatures warm in the spring (James et al. 2005, Morreale and Standora 2005, Braun-McNeill and Epperly 2004, Morreale and Standora 1998, Musick and Limpus 1997, Shoop and Kenney 1992, Keinath et al. 1987). A reversal of this trend occurs in the fall when water temperatures cool. Turtles pass Cape Hatteras by December and return to more southern waters for the winter (James et al. 2005, Morreale and Standora 2005, Braun-McNeill and Epperly 2004, Morreale and Standora 1998, Musick and Limpus 1997, Shoop and Kenney 1992, Keinath et al. 1987). Hard-shelled species typically occur as far north as Cape Cod whereas the more cold-tolerant leatherbacks occur in more northern Gulf of Maine waters in the summer and fall (Shoop and Kenney 1992, STSSN database http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp).

On March 16, 2010, NMFS and USFWS published a proposed rule (75 FR 12598) to divide the worldwide population of loggerhead sea turtles into nine DPSs, as described in the 2009 Status

Review. Two of the DPSs were proposed to be listed as threatened and seven of the DPSs, including the Northwest Atlantic Ocean DPS, were proposed to be listed as endangered. NMFS and the USFWS accepted comments on the proposed rule through September 13, 2010 (June 2, 2010, 75 FR 30769). On March 22, 2011 (76 FR 15932), NMFS and USFWS extended the date by which a final determination on the listing action will be made to no later than September 16, 2011. This action was taken to address the interpretation of the existing data on status and trends and its relevance to the assessment of risk of extinction for the Northwest Atlantic Ocean DPS, as well as the magnitude and immediacy of the fisheries bycatch threat and measures to reduce this threat. New information or analyses to help clarify these issues were requested by April 11, 2011.

On September 22, 2011, NMFS and USFWS issued a final rule (76 FR 58868), determining that the loggerhead sea turtle is composed of nine DPSs (as defined in Conant et al., 2009) that constitute species that may be listed as threatened or endangered under the ESA. Five DPSs were listed as endangered (North Pacific Ocean, South Pacific Ocean, North Indian Ocean, Northeast Atlantic Ocean, and Mediterranean Sea), and four DPSs were listed as threatened (Northwest Atlantic Ocean, South Atlantic Ocean, Southeast Indo-Pacific Ocean, and Southwest Indian Ocean). Note that the Northwest Atlantic Ocean (NWA) DPS and the Southeast Indo-Pacific Ocean DPS were original proposed as endangered. The NWA DPS was determined to be threatened based on review of nesting data available after the proposed rule was published, information provided in public comments on the proposed rule, and further discussions within the agencies. The two primary factors considered were population abundance and population trend. NMFS and USFWS found that an endangered status for the NWA DPS was not warranted given the large size of the nesting population, the overall nesting population remains widespread, the trend for the nesting population appears to be stabilizing, and substantial conservation efforts are underway to address threats.

The September 2011 final rule also noted that critical habitat for the two DPSs occurring within the U.S. (NWA DPS and North Pacific DPS) will be designated in a future rulemaking. Information from the public related to the identification of critical habitat, essential physical or biological features for this species, and other relevant impacts of a critical habitat designation was solicited.

This proposed action only occurs in the Atlantic Ocean. As noted in Conant et al. (2009), the range of the four DPSs occurring in the Atlantic Ocean are as follows: NWA DPS – north of the equator, south of 60° N latitude, and west of 40° W longitude; Northeast Atlantic Ocean (NEA) DPS – north of the equator, south of 60° N latitude, east of 40° W longitude, and west of 5° 36’ W longitude; South Atlantic DPS – south of the equator, north of 60° S latitude, west of 20° E longitude, and east of 60° W longitude; Mediterranean DPS – the Mediterranean Sea east of 5° 36’ W longitude. These boundaries were determined based on oceanographic features,

loggerhead sightings, thermal tolerance, fishery bycatch data, and information on loggerhead distribution from satellite telemetry and flipper tagging studies. Sea turtles from the NEA DPS are not expected to be present over the North American continental shelf in U.S. coastal waters, where the proposed action occurs (P. Dutton, NMFS, personal communication, 2011). Previous literature (Bowen et al. 2004) has suggested that there is the potential, albeit small, for some juveniles from the Mediterranean DPS to be present in U.S. Atlantic coastal foraging grounds. These data should be interpreted with caution however, as they may be representing a shared common haplotype and lack of representative sampling at Eastern Atlantic rookeries. Given that updated, more refined analyses are ongoing and the occurrence of Mediterranean DPS juveniles in U.S. coastal waters is rare and uncertain, if even occurring at all, for the purposes of this assessment we are making the determination that the Mediterranean DPS is not likely to be present in the action area. Sea turtles of the South Atlantic DPS do not inhabit the action area of this subject fishery (Conant et al. 2009). As such, the remainder of this assessment will only focus on the NWA DPS of loggerhead sea turtles, listed as threatened.

In general, sea turtles are a long-lived species and reach sexual maturity relatively late (NMFS SEFSC 2001; NMFS and USFWS 2007a, 2007b, 2007c, 2007d). Sea turtles are injured and killed by numerous human activities (NRC 1990; NMFS and USFWS 2007a, 2007b, 2007c, 2007d). Nest count data are a valuable source of information for each turtle species since the number of nests laid reflects the reproductive output of the nesting group each year. A decline in the annual nest counts has been measured or suggested for four of five western Atlantic loggerhead nesting groups through 2004 (NMFS and USFWS 2007a), however, data collected since 2004 suggests nest counts have stabilized or increased (TEWG 2009). Nest counts for Kemp's ridley sea turtles as well as leatherback and green sea turtles in the Atlantic demonstrate increased nesting by these species (NMFS and USFWS 2007b, 2007c, 2007d).

#### 5.2.2.2.2 Large Cetaceans

The most recent Marine Mammal Stock Assessment Report (SAR) (Waring et al. 2010) reviewed the current population trend for each of these cetacean species within U.S. Economic Exclusion Zone (EEZ) waters. The SAR also estimated annual human-caused mortality and serious injury. Finally, it described the commercial fisheries that interact with each stock in the U.S. Atlantic. The following paragraphs summarize information from the SAR.

The western North Atlantic baleen whale species (North Atlantic right, humpback, fin, sei, and minke whales) follow a general annual pattern of migration. They migrate from high latitude summer foraging grounds, including the Gulf of Maine and Georges Bank, to and latitude winter calving grounds (Perry et al. 1999, Kenney 2002). However, this is a simplification of species movements as the complete winter distribution of most species is unclear (Perry et al. 1999, Waring et al. 2011). Studies of some of the large baleen whales (right, humpback, and fin) have demonstrated the presence of each species in higher latitude waters even in the winter (Swingle

et al. 1993, Wiley et al. 1995, Perry et al. 1999, Brown et al. 2002). Blue whales are most often sighted along the east coast of Canada, particularly in the Gulf of St. Lawrence. They occur only infrequently within the U.S. EEZ (Waring et al. 2002).

Available information suggests that the North Atlantic right whale population increased at a rate of 1.8 percent per year between 1990 and 2005. The total number of North Atlantic right whales is estimated to be at least 361 animals in 2005 (Waring et al. 2011). The minimum rate of annual human-caused mortality and serious injury to right whales averaged 2.8 mortality or serious injury incidents per year during 2004 to 2008 (Waring et al. 2011). Of these, fishery interactions resulted in an average of 0.8 mortality or serious injury incidents per year.

The North Atlantic population of humpback whales is conservatively estimated to be 7,698 (Waring et al. 2011). The best estimate for the GOM stock of humpback whale population is 847 whales (Waring et al. 2011). Based on data available for selected areas and time periods, the minimum population estimates for other western North Atlantic whale stocks are 3,269 fin whales, 208 sei whales (Nova Scotia stock), 3,539 sperm whales, and 6,909 minke whales (Waring et al. 2009). Current data suggest that the GOM humpback whale stock is steadily increasing in size (Waring 2011). Insufficient information exist to determine trends for these other large whale species.

Recent revisions to the Atlantic Large Whale Take Reduction Plan (ALWTRP) (72 FR 57104, October 5, 2007) continue to address entanglement risk of large whales (right, humpback, and fin whales, and acknowledge benefits to minke whales) in commercial fishing gear. The revisions seek to reduce the risk of death and serious injury from entanglements that do occur.

#### 5.2.2.2.3 Small Cetaceans

There is anthropogenic mortality of numerous small cetacean species (dolphins, pilot whales, and harbor porpoise) in Northeast multispecies fishing gear. Seasonal abundance and distribution of each species off the coast of the Northeast U.S. varies with respect to life history characteristics. Some species such as white-sided dolphin and harbor porpoise primarily occupy continental shelf waters. Other species such as the Risso's dolphin occur primarily in continental shelf edge and slope waters. Still other species like the common dolphin and the spotted dolphin occupy all three habitats. Waring et al. (2009) summarizes information on the western North Atlantic stocks of each species.

#### 5.2.2.2.4 Pinnipeds

Harbor seals have the most extensive distribution of the four species of seal expected to occur in the area. Harbor seals sighting have occurred far south as 30° N (Katona et al. 1993, Waring et al. 2009). Gray seals are the second most common seal species in U.S. EEZ waters. They occur

primarily in waters off of New England (Katona et al. 1993; Waring et al. 2009). Pupping for both species occurs in both U.S. and Canadian waters of the western North Atlantic. Although there are at least three gray seal pupping colonies in U.S., the majority of harbor seal pupping likely occurs in U.S. waters and the majority of gray seal pupping likely occurs in Canadian waters. Observations of harp and hooded seals are less common in U.S. EEZ waters. Both species form aggregations for pupping and breeding off eastern Canada in the late winter/early spring. They then travel to more northern latitudes for molting and summer feeding (Waring et al. 2006). Both species have a seasonal presence in U.S. waters from Maine to New Jersey, based on sightings, stranding, and fishery bycatch information (Waring et al. 2009).

#### 5.2.2.2.5 Atlantic Sturgeon

A status review for Atlantic sturgeon was completed in 2007 which indicated that five distinct population segments (DPS) of Atlantic sturgeon exist in the United States (ASSTR 2007). On October 6, 2010, NMFS proposed listing these five DPSs of Atlantic sturgeon along the U.S. East Coast as either threatened or endangered species (75 FR 61872 and 75 FR 61904). A final listing was published on February 6$^{th}$, 2012 (77 FR 5880 and 75 FR 5914). The GOM DPS of Atlantic sturgeon has been listed as threatened, and the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs of Atlantic sturgeon have been listed as endangered. Atlantic sturgeon from any of the five DPSs could occur in areas where the multispecies fishery operates. Atlantic sturgeon have been captured in small mesh otter trawl gear, albeit less often than in large mesh otter trawl gear (Stein A. B. et al 2004a, ASMFC TC 2007).

Atlantic sturgeon is an anadromous species that spawns in relatively low salinity, river environments, but spends most of its life in the marine and estuarine environments from Labrador, Canada to the Saint Johns River, Florida (Holland and Yelverton 1973, Dovel and Berggen 1983, Waldman et al. 1996, Kynard and Horgan 2002, Dadswell 2006, ASSRT 2007). Tracking and tagging studies have shown that subadult and adult Atlantic sturgeon that originate from different rivers mix within the marine environment, utilizing ocean and estuarine waters for life functions such as foraging and overwintering (Stein et al. 2004a, Dadswell 2006, ASSRT 2007, Laney et al. 2007, Dunton et al. 2010). Fishery-dependent data as well as fishery-independent data demonstrate that Atlantic sturgeon use relatively shallow inshore areas of the continental shelf; primarily waters less than 50 m (Stein et al. 2004b, ASMFC TC 2007, Dunton et al. 2010). The data also suggest regional differences in Atlantic sturgeon depth distribution with sturgeon observed in waters primarily less than 20 m in the Mid-Atlantic Bight and in deeper waters in the Gulf of Maine (Stein et al. 2004b, ASMFC TC 2007, Dunton et al. 2010). Information on population sizes for each Atlantic sturgeon DPS is very limited. Based on the best available information, NMFS has concluded that bycatch, vessel strikes, water quality and water availability, dams, lack of regulatory mechanisms for protecting the fish, and dredging are the most significant threats to Atlantic sturgeon.

Comprehensive information on current abundance of Atlantic sturgeon is lacking for all of the spawning rivers (ASSRT 2007). Based on data through 1998, an estimate of 863 spawning adults per year was developed for the Hudson River (Kahnle et al. 2007), and an estimate of 343 spawning adults per year is available for the Altamaha River, GA, based on data collected in 2004-2005 (Schueller and Peterson 2006). Data collected from the Hudson River and Altamaha River studies cannot be used to estimate the total number of adults in either subpopulation, since mature Atlantic sturgeon may not spawn every year, and it is unclear to what extent mature fish in a non-spawning condition occur on the spawning grounds. Nevertheless, since the Hudson and Altamaha Rivers are presumed to have the healthiest Atlantic sturgeon subpopulations within the United States, other U.S. subpopulations are predicted to have fewer spawning adults than either the Hudson or the Altamaha (ASSRT 2007). It is also important to note that the estimates above represent only a fraction of the total population size as spawning adults comprise only a portion of the total population (e.g., this estimate does not include subadults and early life stages).

#### 5.2.2.3 Species Not Likely to be Affected

NMFS has determined that the action being considered in this EA is not likely to adversely affect shortnose sturgeon, the Gulf of Maine distinct population segment (DPS) of Atlantic salmon, hawksbill sea turtles, blue whales, or sperm whales, all of which are listed as endangered species under the ESA. Further, the action considered in this EA is not likely to adversely affect North Atlantic right whale (discussed in Section 5.2.2.2.2) critical habitat. The following discussion provides the rationale for these determinations.

Shortnose sturgeon are benthic fish that mainly occupy the deep channel sections of large rivers. They occupy rivers along the western Atlantic coast from St. Johns River in Florida, to the Saint John River in New Brunswick, Canada. Although, the species is possibly extirpated from the Saint Johns River system. The species is anadromous in the southern portion of its range (i.e., south of Chesapeake Bay), while some northern populations are amphidromous (NMFS 1998). Since sectors would not operate in or near the rivers where concentrations of shortnose sturgeon are most likely found, it is highly unlikely that sectors would affect shortnose sturgeon.
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. Juvenile salmon in New England rivers typically migrate to sea in spring after a one- to three-year period of development in freshwater streams. They remain at sea for two winters before returning to their U.S. natal rivers to spawn (Kocik and Sheehan 2006). Results from a 2001-2003 post-smolt trawl survey in the nearshore waters of the Gulf of Maine indicate that Atlantic salmon post-smolts are prevalent in the upper water column throughout this area in mid to late May (Lacroix, Knox, and Stokesbury 2005). Therefore, commercial fisheries deploying small-mesh active gear (pelagic trawls and purse seines within 10 m of the surface) in nearshore waters of the Gulf of Maine may have the potential to

incidentally take smolts. However, it is highly unlikely that the action being considered will affect the Gulf of Maine DPS of Atlantic salmon given that operation of the multispecies fishery does not occur in or near the rivers where concentrations of Atlantic salmon are likely to be found. Additionally, multispecies gear operates in the ocean at or near the bottom rather than near the surface where Atlantic salmon are likely to occur. Thus, this species will not be considered further in this EA.

North Atlantic right whales occur in coastal and shelf waters in the western North Atlantic (NMFS 2005). Section 4.4.2.2 discusses potential fishery entanglement and mortality interactions with North Atlantic right whale individuals. The western North Atlantic population in the U.S. primarily ranges from winter calving and nursery areas in coastal waters off the southeastern U.S. to summer feeding grounds in New England waters (NMFS 2005). North Atlantic Right Whales use five well-known habitats annually, including multiple in northern waters. These northern areas include the Great South Channel (east of Cape Cod); Cape Cod and Massachusetts Bays; the Bay of Fundy; and Browns and Baccaro Banks, south of Nova Scotia. NMFS designated the Great South Channel and Cape Cod and Massachusetts Bays as Northern Atlantic right whale critical habitat in June 1994 (59 FR 28793). NMFS has designated additional critical habitat in the southeastern U.S. Multispecies gear operates in the ocean at or near the bottom rather than near the surface. It is not known whether the bottom-trawl, or any other type of fishing gear, has an impact on the habitat of the Northern right whale (59 FR 28793). As discussed in the FY 2010 and FY 2011 sector EAs and further in Section 5.0, sectors would result in a negligible effect on physical habitat. Therefore, FY 2012 sector operations would not result in a significant impact on Northern right whale critical habitat. Further, mesh sizes used in the multispecies fishery do not significantly impact the Northern right whale's planktonic food supply (59 FR 28793). Therefore, Northern right whale food sources in areas designated as critical habitat would not be adversely affected by sectors. For these reasons, Northern right whale critical habitat will not be considered further in this EA.

The hawksbill turtle is uncommon in the waters of the continental U.S. Hawksbills prefer coral reefs, such as those found in the Caribbean and Central America. Hawksbills feed primarily on a wide variety of sponges, but also consume bryozoans, coelenterates, and mollusks. The Culebra Archipelago of Puerto Rico contains especially important foraging habitat for hawksbills. Nesting areas in the western North Atlantic include Puerto Rico and the Virgin Islands. There are accounts of hawksbills in south Florida and individuals have been sighted along the east coast as far north as Massachusetts; however, east coast sightings north of Florida are rare (NMFS 2009a). Operations in the NE multispecies fishery would not occur in waters that are typically used by hawksbill sea turtles. Therefore, it is highly unlikely that fishery operations would affect this turtle species.

Blue whales do not regularly occur in waters of the U.S. EEZ (Waring et al. 2002). In the North Atlantic region, blue whales are most frequently sighted from April to January (Sears 2002). No blue whales were observed during the Cetacean and Turtle Assessment Program surveys of the mid- and North Atlantic areas of the outer continental shelf (Cetacean and Turtle Assessment Program 1982). Calving for the species occurs in low latitude waters outside of the area where the sectors would operate. Blue whales feed on euphausiids (krill) that are too small to be captured in fishing gear. There were no observed fishery-related mortalities or serious injuries to blue whales between 1996 and 2000 (Waring et al. 2002). The species is unlikely to occur in areas where the sectors would operate, and sector operations would not affect the availability of blue whale prey or areas where calving and nursing of young occurs. Therefore, the Proposed Action would not be likely to adversely affect blue whales.

Unlike blue whales, sperm whales do regularly occur in waters of the U.S. EEZ. However, the distribution of the sperm whales in the U.S. EEZ occurs on the continental shelf edge, over the continental slope, and into mid-ocean regions (Waring et al. 2007). Sperm whale distribution is typically concentrated east-northeast of Cape Hatteras in winter and shifts northward in spring when whales are found throughout the MA Bight (Waring et al. 2006). Distribution extends further northward to areas north of GB and the Northeast Channel region in summer and then south of New England in fall, back to the MA Bight (Waring et al. 1999). In contrast, the sectors would operate in continental shelf waters. The average depth over which sperm whale sightings occurred during the Cetacean and Turtle Assessment Program surveys was 5,879 ft (1,792 m) (Cetacean and Turtle Assessment Program 1982). Female sperm whales and young males almost always inhabit open ocean, deep water habitat with bottom depths greater than 3,280 ft (1,000 m) and at latitudes less than 40° N (Whitehead 2002). Sperm whales feed on large squid and fish that inhabit the deeper ocean regions (Perrin et al. 2002). There were no observed fishery-related mortalities or serious injuries to sperm whales between 2001 and 2005 (Waring et al. 2007). Sperm whales are unlikely to occur in water depths where the sectors would operate, sector operations would not affect the availability of sperm whale prey or areas where calving and nursing of young occurs. Therefore, the Proposed Action would not be likely to adversely affect sperm whales.

Although marine turtles and large whales could be potentially affected through interactions with fishing gear, NMFS has determined that the continued authorization of the multispecies fishery, and therefore the FY 2011 sectors, would not have any adverse effects on the availability of prey for these species. Sea turtles feed on a variety of plants and animals, depending on the species. However, none of the turtle species are known to feed upon groundfish. Right whales and sei whales feed on copepods (Horwood 2002, Kenney 2002). The multispecies fishery will not affect the availability of copepods for foraging right and sei whales because copepods are very small organisms that will pass through multispecies fishing gear rather than being captured in it. Humpback whales and fin whales also feed on krill as well as small schooling fish such as sand

lance, herring and mackerel (Aguilar 2002, Clapham 2002). Multispecies fishing gear operates on or very near the bottom. Fish species caught in multispecies gear are species that live in benthic habitat (on or very near the bottom) such as flounders. As a result, this gear does not typically catch schooling fish such as herring and mackerel that occur within the water column. Therefore, the continued authorization of the multispecies fishery or the approval of a seasonal exempted fishery for the skate bait fishery in southern New England would not affect the availability of prey for foraging humpback or fin whales.

### 5.2.3 Interactions Between Gear and Protected Resources

NMFS categorizes commercial fisheries based on a two-tiered, stock-specific fishery classification system that addresses both the total impact of all fisheries on each marine mammal stock as well as the impact of individual fisheries on each marine mammal stock. NMFS bases the system on the numbers of animals per year that incur incidental mortality or serious injury due to commercial fishing operations relative to a marine mammal stock's Potential Biological Removal (PBR) level.[1] Tier 1 takes into account the cumulative mortality and serious injury to marine mammals caused by commercial fisheries. Tier 2 considers marine mammal mortality and serious injury caused by the individual fisheries. This EA uses Tier 2 classifications to indicate how each type of gear proposed for use in the Proposed Action may affect marine mammals (NMFS 2009b). Table 13 identifies the classifications used in the final List of Fisheries (for FY 2010 (75 FR 68468; November 8, 2010; NMFS 2010), which are broken down into Tier 2 Categories I, II, and III. A proposed List of Fisheries for FY 2012 was published on June 28, 2011 (76 FR 37716), but the List of Fisheries for FY 2012 has not yet been adopted and is not discussed further in this document.

[1] PBR is the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

### Table 4. Descriptions of the Tier 2 Fishery Classification Categories.

| Category | Category Description |
|---|---|
| Category I | A commercial fishery that has frequent incidental mortality and serious injury of marine mammals. This classification indicates that a commercial fishery is, by itself, responsible for the annual removal of 50 percent or more of any stock's PBR level. |
| Category II | A commercial fishery that has occasional incidental mortality and serious injury of marine mammals. This classification indicates that a commercial fishery is one that, collectively with other fisheries, is responsible for the annual removal of more than 10 percent of any marine mammal stock's PBR level and that is by itself responsible for the annual removal of between 1 percent and 50 percent, exclusive of any stock's PBR. |
| Category III | A commercial fishery that has a remote likelihood of, or no known incidental mortality and serious injury of marine mammals. This classification indicates that a commercial fishery is one that collectively with other fisheries is responsible for the annual removal of:<br><br>a. Less than 50 percent of any marine mammal stock's PBR level, or<br>b. More than 1 percent of any marine mammal stock's PBR level, yet that fishery by itself is responsible for the annual removal of 1 percent or less of that stock's PBR level. In the absence of reliable information indicating the frequency of incidental mortality and serious injury of marine mammals by a commercial fishery, the Assistant Administrator would determine whether the incidental serious injury or mortality is "remote" by evaluating other factors such as fishing techniques, gear used, methods used to deter marine mammals, target species, seasons and areas fished, qualitative data from logbooks or fisher reports, stranding data, and the species and distribution of marine mammals in the area or at the discretion of the Assistant Administrator. |

Interactions between gear and a given species occur when fishing gear overlaps both spatially and trophically with the species' niche. Spatial interactions are more "passive" and involve inadvertent interactions with fishing gear when the fishermen deploy gear in areas used by protected resources. Trophic interactions are more "active" and occur when protected species attempt to consume prey caught in fishing gear and become entangled in the process. Spatial and trophic interactions can occur with various types of fishing gear used by the multispecies fishery through the year. Many large and small cetaceans and sea turtles are more prevalent within the operations area during the spring and summer. However they are also relatively abundant during the fall and would have a higher potential for interaction with sector activities that occur during these seasons. Although harbor seals may be more likely to occur in the operations area between fall and spring, harbor and gray seals are year-round residents. Therefore, interactions could occur year-round. The uncommon occurrences of hooded and harp seals in the operations area are more likely to occur during the winter and spring, allowing for an increased potential for interactions during these seasons.

Although interactions between protected species and gear deployed by the Northeast multispecies fishery would vary, interactions generally include:

- Becoming caught on hooks (bottom longlines)
- Entanglement in mesh (gillnets and trawls)
- Entanglement in the float line (gillnets and trawls)
- Entanglement in the groundline (gillnets, trawls, and bottom longlines)
- Entanglement in anchor lines (gillnets and bottom longlines), or
- Entanglement in the vertical lines that connect gear to the surface and surface systems (gillnets, traps/pots, and bottom longlines).

NMFS assumes the potential for entanglements to occur is higher in areas where more gear is set and in areas with higher concentrations of protected species. Table 5 lists the marine mammals known to have had interactions with gear used by the Northeast multispecies fishery. This gear includes sink gillnets, traps/pots, bottom trawls, and bottom longlines within the Northeast multispecies region, as excerpted from the List of Fisheries for FY 2011 ([75 FR 68468; November 8, 2010], also see Waring et al. 2009). Sink gillnets have the greatest potential for interaction with protected resources, followed by bottom trawls. There are no observed reports of interactions between longline gear and marine mammals in FY 2009 and FY 2010. However, interactions between the pelagic longline fishery and both pilot whales and Risso's dolphins led to the development of the Pelagic Longline Take Reduction Plan.

## Table 5. Marine Mammals Impacts Based on Groundfishing Gear and Northeast Multispecies Fishing Areas (Based on 2010 List of Fisheries).

| Fishery | | Estimated Number of | |
|---|---|---|---|
| **Category** | **Type** | **Vessels/Persons** | **Marine Mammal Species and Stocks Incidentally Killed or Injured** |
| Category I | MA gillnet | 5,495 | Bottlenose dolphin, Northern Migratory coastal [a]<br>Bottlenose dolphin, Southern Migratory coastal [a]<br>Bottlenose dolphin, Northern NC estuarine system [a]<br>Bottlenose dolphin, Southern NC estuarine system [a]<br>Bottlenose dolphin, WNA offshore<br>Common dolphin, WNA<br>Gray seal, WNA<br>Harbor porpoise, GOM/Bay of Fundy<br>Harbor seal, WNA<br>Harp seal, WNA<br>Humpback whale, Gulf of Maine<br>Long-finned pilot whale, WNA<br>Minke whale, Canadian east coast<br>Risso's dolphin, WNA<br>Short-finned pilot whale, WNA<br>White-sided dolphin, WNA |
| | Northeast sink gillnet | 7,712 | Bottlenose dolphin, WNA, offshore<br>Common dolphin, WNA<br>Fin whale, WNA<br>Gray seal, WNA<br>Harbor porpoise, GOM/Bay of Fundy<br>Harbor seal, WNA<br>Harp seal, WNA<br>Hooded seal, WNA<br>Humpback whale, GOM<br>Minke whale, Canadian east coast<br>North Atlantic right whale, WNA<br>Risso's dolphin, WNA<br>White-sided dolphin, WNA |
| **Fishery** | | **Estimated Number of** | |
| **Category** | **Type** | **Vessels/Persons** | **Marine Mammal Species and Stocks Incidentally Killed or Injured** |
| Category II | MA bottom trawl | 1,182 | Bottlenose dolphin, WNA offshore<br>Common dolphin, WNA [a]<br>Long-finned pilot whale, WNA [a]<br>Short-finned pilot whale, WNA [a]<br>White-sided dolphin, WNA |
| | Northeast bottom trawl | 1,635 | Common dolphin, WNA<br>Harbor porpoise, GOM/ Bay of Fundy<br>Harbor seal, WNA<br>Harp seal, WNA<br>Long-finned pilot whale, WNA<br>Short-finned pilot whale, WNA<br>White-sided dolphin, WNA [a] |
| | Atlantic mixed species trap/pot [c] | 1,912 | Fin whale, WNA<br>Humpback whale, GOM |
| Category III | Northeast/MA bottom longline/hook-and-line | 1,183 | None documented in recent years |

Notes:

[a] Fishery classified based on serious injuries and mortalities of this stock, which are greater than 50 percent (Category I) or greater than 1 percent and less than 50 percent (Category II) of the stock's PBR.

[b] Although not included in the 2010 List of Fisheries, Waring et al. (2009) indicates that nine gray seal mortalities in 2007 were attributed to incidental capture in the northeast bottom trawl.

[c] This fishery is classified by analogy.

Marine mammals are taken in gillnets, trawls, and trap/pot gear used in the Northeast multispecies area. Documented protected species interactions in Northeast sink gillnet fisheries include harbor porpoise, white-sided dolphin, harbor seal, gray seal, harp seal, hooded seal, long-finned pilot whale, offshore bottlenose dolphin, Risso's dolphin, and common dolphin. Not mentioned here are possible interactions with sea turtles and sea birds. Multispecies fishing vessels would be required to adhere to measures in the Atlantic Large Whale Take Reduction Plan (ALWTRP) to minimize potential impacts to certain cetaceans. ALWTRP was developed to address entanglement risk to right, humpback, and fin whales, and to acknowledge benefits to minke whales in specific Category I or II commercial fishing efforts that utilize traps/pots and gillnets. The ALWTRP calls for the use of gear markings, area restrictions, weak links, and sinking groundline. Fishing vessels would be required to comply with the ALWTRP in all areas where gillnets were used. Fishing vessels would also need to comply with the Bottlenose Dolphin Take Reduction Plan and Harbor Porpoise Take Reduction Plan (HPTRP) within the Northeast multispecies area. The Bottlenose Dolphin Take Reduction Plan restricts night time use of gillnets in the MA gillnet region. The HPTRP aims to reduce interactions between the harbor porpoise and gillnets in the Gulf of Maine. The HPTRP implements seasonal area closures and the seasonal use of pingers (acoustic devices that emit a sound) to deter harbor porpoises from approaching the nets.

Data from sector trips in FY 2010 and FY 2009 indicate no overall significant increase in take of protected resources or sea turtles. There may be a decrease in annual take in sink gillnet gear, and the data suggest an overall decrease in the winter take, and in the fall for turtles. However, this decrease in take corresponds well to the decrease in ACL. Within individual stat areas there does appear to be some trends in take of protected resources (includes all species).
Sea turtles have been caught and injured or killed in multiple types of fishing gear, including gillnets, trawls, and hook and line gear. However, impact due to inadvertent interaction with trawl gear is almost twice as likely to occur when compared with other gear types (NMFS 2009c). Interaction with trawl gear is more detrimental to sea turtles as they can be caught within the trawl itself and will drown after extended periods underwater. A study conducted in the MA region showed that bottom trawling accounts for an average annual take of 616 loggerhead sea turtles, although Kemp's ridleys and leatherbacks were also caught during the study period (Murray 2006). Sea turtles generally occur in more temperate waters than those in the Northeast multispecies area. Gillnets are considered more detrimental to marine mammals such as pilot whales, dolphins, porpoises, and seals, as well as large marine whales; however, protection for marine mammals would be provided through various Take Reduction Plans outlined above.

Atlantic sturgeon are known to be captured in sink gillnet, drift gillnet, and otter trawl gear (Stein et al. 2004a, ASMFC TC 2007). Of these gear types, sink gillnet gear poses the greatest known risk of mortality for bycaught sturgeon (ASMFC TC 2007). Sturgeon deaths were rarely

reported in the otter trawl observer dataset (ASMFC TC 2007). However, the level of mortality after release from the gear is unknown (Stein et al. 2004a). In a review of the Northeast Fisheries Observer Program (NEFOP) database for the years 2001-2006, observed bycatch of Atlantic sturgeon was used to calculate bycatch rates that were then applied to commercial fishing effort to estimate overall bycatch of Atlantic sturgeon in commercial fisheries. This review indicated sturgeon bycatch occurred in statistical areas abutting the coast from Massachusetts (statistical area 514) to North Carolina (statistical area 635) (ASMFC TC 2007). Based on the available data, participants in an ASMFC bycatch workshop concluded that sturgeon encounters tended to occur in waters less than 50 m throughout the year, although seasonal patterns exist (ASMFC TC 2007). The ASMFC analysis determined that an average of 650 Atlantic sturgeon mortalities occurred per year (during the 2001 to 2006 timeframe) in sink gillnet fisheries. Stein et al. (2004a), based on a review of the NMFS Observer Database from 1989-2000, found clinal variation in the bycatch rate of sturgeon in sink gillnet gear with lowest rates occurring off of Maine and highest rates off of North Carolina for all months of the year.

In an updated, preliminary analysis, the Northeast Fisheries Science Center (NEFSC) was able to use data from the NEFOP database to provide updated estimates for the 2006 to 2010 timeframe. Data were limited by observer coverage to waters outside the coastal boundary (fzone>0) and north of Cape Hatteras, NC. Sturgeon included in the data set were those identified by federal observers as Atlantic sturgeon, as well as those categorized as unknown sturgeon. At this time, data were limited to information collected by the NEFOP; limited data collected in the At-Sea Monitoring Program were not included, although preliminary views suggest the incidence of sturgeon encounters was low.

The preliminary analysis apportioned the estimated weight of all sturgeon takes to specific fishery management plans. The analysis estimates that between 2006 and 2010, a total of 15,587 lbs of Atlantic sturgeon were captured and discarded in bottom otter trawl (7,740 lbs) and sink gillnet (7,848 lbs) gear. The analysis results indicate that 1.1% (85 lbs) of the weight of sturgeon discards in bottom otter trawl gear could be attributed to the large mesh bottom trawl fisheries if a correlation of FMP species landings (by weight) was used as a proxy for fishing effort.

These additional data support the conclusion from the earlier bycatch estimates that the multispecies and skate complex fisheries may interact with Atlantic sturgeon. Since the Atlantic sturgeon DPSs have been listed as endangered and threatened under the ESA, the ESA Section 7 consultations for the NE Multispecies FMP and Skate Complex FMP will be reinitiated, and additional evaluation will be included in the resulting Biological Opinions to describe any impacts of the fisheries on Atlantic sturgeon and define any measures needed to mitigate those impacts, if necessary. It is anticipated that any measures, terms and conditions included in an updated Biological Opinions will further reduce impacts to the species. The Biological Opinions

are expected to be completed prior to the 2012 multispecies and skate complex fishing years (May1).

### 5.2.4 Bycatch/Non-Target Species

NE Multispecies

NEFOP and ASM data were compiled from FY 2010 and 2011 to compare trawl trips that were targeting skate in Alternative 1 to all trawl trips in Alternative 1. Based on this data, there were no trips that caught more than 5% groundfish (using either trips targeting skate or large mesh DAS trips as a restraint). Because there was no difference in the results of the two analyses, it was determined that trips targeting skate bait would provide an accurate analysis of the skate bait fishery.

Analysis of NEFOP and ASM observer data of tows targeting skate in the proposed exempted fishery shows that the primary bycatch is groundfish, specifically SNE winter flounder and Southern windowpane flounder (Table 6). However, groundfish bycatch represents just over 1 percent of the total catch in the skate bait fishery. Following a recent assessment SNE winter flounder is no longer experiencing overfishing and is overfished. Recent information has changed the status of the Southern windowpane flounder stock which was experiencing overfishing but was not overfished. Southern windowpane flounder is not overfished, is no longer experiencing overfishing, and was rebuilt in 2009.

**Table 6. Groundfish (GF) composition of SNE winter flounder & S. windowpane flounder in skate bait fishery 1995-2011 in Alternative 1.**

| Month | Total GF (lb) | Avg. % GF/total | Avg. Window/GF | Avg. Winter/GF |
|---|---|---|---|---|
| July | 5247 | 0.95% | 64.57% | 32.97% |
| August | 9601.2 | 1.32% | 61.80% | 34.34% |
| September | 7361.5 | 1.00% | 61.53% | 36.18% |
| October | 6491.5 | 1.67% | 55.66% | 40.36% |
| **Grand Total** | **28701.2** | **1.14%** | **61.20%** | **35.67%** |

*Winter Skate*

On January 13, 2011, the Council was informed by the Northeast Fisheries Science Center (NEFSC) of updated skate status determinations, which utilize the 2009 and 2010 survey data collected with the new survey gear using the FSV Bigelow. These data were calibrated using coefficients estimated in (Miller, 2010), based on methods that were peer reviewed in a special Stock Assessment Workshop review in August 2009. At the time of the review, only calibration coefficient estimates for little and winter skate were calculated and the report recommended more detailed review of the calibrations in future assessments.

Winter skate biomass was 2.93 kg/tow in 2007, slightly above the 2.8 kg/tow minimum biomass threshold that was updated and re-specified in Amendment 3 to the skate FMP. Although it had been previously classified as overfished using old reference points, the updated reference points indicate that winter skate had not been overfished and Amendment 3 used this updated status determination that was the result of the DPWS assessment. Since then, winter skate biomass has skyrocketed to 9.64 kg/tow, well above the biomass target. Although the cause of this abrupt increase are unknown, it first appeared in the 2008 survey and appeared mainly in winter skates of intermediate size, suggesting to the Skate Plan Development Team that the increase was due to migration, which was previously observed (Frisk, 2006) in the early 1980s, rather than growth of existing skates in US waters or recruitment.

## 5.3 HUMAN COMMUNITIES/SOCIAL/ECONOMIC ENVIRONMENT

The Skate Bait Fishery

One of the primary markets for skate products in the Northeast U.S. is for bait. Small, whole skates are among the preferred baits for the regional American lobster (*Homarus americanus*) fishery. Most of the skate bait fishery occurs in SNE waters, and is largely comprised of little skate (>90%), with a smaller percentage of winter skate occurring seasonally. The following sections describe the major ports and other aspects of the skate bait fishery.

Rhode Island Bait Fishery

Skates have been targeted commercially in Rhode Island with trawl gear primarily for utilization as lobster bait for decades. The majority of bait skates landed in Rhode Island are little skates, with a small percentage of winter skates. There is also a seasonal gillnet incidental catch fishery as part of the directed monkfish gillnet fishery, in which skates (mostly winter skates) are sold both for lobster bait and as cut wings for processing. Fishermen have indicated that the market for skates as lobster bait has been relatively consistent.

The directed skate fishery by Rhode Island vessels occurs primarily in Federal waters less than 40 fathoms from the Rhode Island/Connecticut/New York state waters boundary, east to the waters south of Martha's Vineyard and Nantucket out to approximately 69° 00' W. longitude. The vast majority of the landings are caught south of Block Island in Federal waters. Effort on skates increases in state waters seasonally to accommodate the increased effort in the spring through fall lobster fishery. In terms of the directed lobster bait fishery, it is estimated that between 20 - 30 Rhode Island otter trawl vessels ranging from 50 - 70 feet dominate the bait market. Approximately eight of those vessels from Rhode Island have identified directed skate bait fishing as their sole source of income between June and October annually, with less than 5% of their trip revenues from other species during that time.

Dayboat vessels (<24 hours) directing on skates for bait land between 5,000 – 20,000 pounds of skates per trip, while trip boats (>24 hours) fishing generally 2 days, land approximately 40,000 – 50,000 pounds per trip. Incidental catches of skates from vessels targeting either groundfish or the SNE mixed trawl fishery (squids, scup, fluke, whiting, mackerel, monkfish, etc.) are estimated at 500 – 2,000 pounds per trip and are often sold directly to a lobster vessel (rather

than through a dealer). Otherwise, many vessels indicate they do not bother to keep skates caught incidentally due to low market value or deck/hold capacity.

As the number of vessels targeting lobsters has decreased so has the demand for skates. Trap reductions in both the inshore and offshore fisheries as well as the collapse of the Long Island Sound fishery have contributed to the decreased demand. Vessels that used to fish 3,500 traps now fish approximately 1,800. Skates are the preferred bait for the SNE inshore and offshore lobster pot fishermen, as the skate meat is tough and holds up longer in the pot than other soft bait choices. Herring, mackerel, and menhaden are also used for bait, usually on trips of shorter duration, in colder water temperatures, or when skates are in short supply. Although there is an overall decrease in demand, maintaining a supply is still very difficult for a variety of reasons. As DAS are adjusted via the NE Multispecies FMP, fewer days or hours can be allocated to fishing for low value species such as skates. These DAS are being reserved for groundfish or leased to other vessels. Many multispecies vessels run out of DAS by December also limiting supply and vessels are forced to take a 20 day block between March and May, prohibiting the use of a DAS which is a requirement of the directed skate fishery. More recently, high fuel prices are causing vessels to work on more profitable species. Rather than fishing an area where it is known to be largely skate, vessels now need to land a mixed trip (skate & groundfish) in order to justify the DAS usage.

Skates caught for lobster bait are landed whole by otter trawlers and either sold as: 1) Fresh; 2) fresh salted; or 3) salted and strung or bagged for bait by the barrel. Inshore lobster boats usually use 2 – 3 skates per string, while offshore boats may use 3 – 5 skates per string. Offshore boats may actually "double bait" the pots during the winter months when anticipated weather conditions prevent the gear from being regularly tended. The presence of sand fleas and parasites, water temperature, and anticipated soak time between trips are determining factors when factoring in the amount of bait per pot.

Size is a factor that drives the dockside price for bait skates. For the lobster bait market, a "dinner plate" is the preferable size to be strung and placed inside lobster pots. Little and winter skates are rarely sorted prior to landing, as fishermen acknowledge that species identification between little skates and small winter skates is very difficult. Ex-vessel skate prices for both little and winter skates remain relatively stable at an average of about $0.08 - $0.10 per pound. Quality and cleanliness of the skate are also factors in determining the price paid by the dealer, rather than just supply and demand. The quantity of skates landed on a particular day has little effect on price because there has been ready supply of skates available for bait from the major dealers, and the demand for lobster bait has been relatively consistent. Numerous draggers and lobster vessels have historically worked out seasonal cooperative business arrangements with a stable pricing agreement for skates.

In Rhode Island, there are two major dealers involved in the skate bait market. One reports supplying skates to 100 lobster businesses located in Point Judith, Wickford, Newport, Westerly, and Jamestown, RI, along with businesses scattered throughout Connecticut and Massachusetts. The company buys from 12- 15 vessels throughout the year, and ten employees are charged with offloading, salting, and stringing bait for inshore and offshore lobster vessels. The lobster businesses supplied by the company employ between 2 - 4 crewmembers per vessel. The other

major skate dealer in Rhode Island supplies local Newport, Sakonnet, and New Bedford vessels and numerous offshore lobster vessels fishing in the Gulf of Maine. Skates are supplied to this dealer from draggers working out of Newport and Tiverton, RI and New Bedford, MA.

Approximately eighty percent of the skates landed for bait are sold as strung bait, at about $1.04 for a string of three skates (10-13 lb), usually 120 strings (of three) per barrel for $121.00. Under current lobster pot limitations, the minimum bait costs for inshore areas limited to 800 pots is estimated at $832 per trip and $2,000 per trip for offshore lobster vessels limited to 1800 pots. Offshore vessels reported carrying between 15 – 30 barrels of bait per trip, which could reflect different baiting patterns. Skates are also sold by the barrel unsalted and unstrung ($50 - $60) or by the barrel unstrung and salted ($65). A tremendous volume of salt is used in the bait operations, up to 130,000 pounds weekly during the peak of lobster season. Barrels of skates may weigh between 400 – 500 pounds. As a comparison, menhaden bait (pogie) prices vary between $50 – $70 per barrel ($56 per 30 gallon barrel), depending upon the port and the weight.

Due to direct, independent contracts between draggers and lobster vessels landings of skates are estimated to be under-documented. While bait skates are always landed (rather than transferred at sea), they are not always reported because they can be sold directly to lobster vessels by non-federally permitted vessels, which are not required to report as dealers.

Other Bait Fishery Ports

Vessels from other ports (New Bedford and Martha's Vineyard, MA; Block Island; Long Island; Stonington, CT; and, to a lesser degree, Chatham and Provincetown, MA) have been identified as participating in the directed skate bait fishery to some extent. Suppliers indicate that some of these vessels have independent contracts with lobster vessels and supply them directly with skates on a seasonal basis.

Lobster bait usage varies regionally and from port to port, based upon preference and availability. Some lobstermen in the northern area (north of Cape Cod) prefer herring, mackerel, menhaden and hakes (whiting and red hake) for bait, which hold up in colder water temperatures; however, the larger offshore lobster vessels still indicate a preference for skates and Acadian redfish in their pots. Some offshore boats have indicated they will use soft bait (i.e., menhaden) during the summer months when their soak time is shorter. Skates used by the Gulf of Maine vessels are caught by vessels fishing in the SNE area.

## 6.0 ENVIRONMENTAL CONSEQUENCES – ANALYSIS OF IMPACTS

### 6.1 IMPACTS OF ALTERNATIVE 1

#### 6.1.1 Physical Environment/EFH

The proposed exemption is not expected to adversely affect the physical environment within the proposed exemption area. There would not likely be a large increase in effort for skate bait under any alternative, as the demand for skate bait is determined by the lobster fishery. Skates

have been targeted commercially around Block Island with trawl gear primarily for utilization as lobster bait for decades. Fishermen have indicated that the market for skates as lobster bait has been relatively consistent. Effort on skates increases in state waters seasonally to accommodate the increased effort in the spring through fall lobster fishery. Skate used as bait is often sold directly to a lobster vessel (rather than through a dealer). Otherwise, many vessels indicate they do not bother to keep skates caught incidentally due to low market value or deck/hold capacity. As the number of vessels targeting lobsters has decreased so has the demand for skates. Trap reductions in both the inshore and offshore fisheries as well as the collapse of the Long Island Sound fishery have contributed to the decreased demand. Skates are the preferred bait for the SNE inshore and offshore lobster pot fishermen, as the skate meat is tough and holds up longer in the pot than other soft bait choices. Therefore, this action in itself is not likely to increase the demand for skate bait. Further, the effort is not expected to increase because the fishery is still limited by the skate bait TAL. The reason for the requested exempted fishery, as stated by the requestor, is to "relieve sector vessels from the obligation to use a multispecies DAS and in turn, from having the sector discard rate [applicable to this area/gear] applied to a high volume fishery with very little groundfish bycatch." A summary of EFH vulnerability to otter trawls at different life stages is listed in Table 2. Effects on the physical environment would be similar for both Alternative 2 and the No Action Alternative.

### 6.1.2 Target Populations

The proposed action would likely have little to no effect on little skate species population within the proposed exemption area. While the proposed exemption may allow certain vessels access to the fishery that previously could not participate, it is not expected to increase the amount of little skate landed in this fishery because the demand for skate bait is driven by the lobster fishery and the demand for skate bait would not increase due to the proposed exemption. In addition, the skate bait TAL would limit the amount of skate bait that can be caught in each of the three seasons (Table 1). Effects on the target population of little skate would be similar for both Alternative 2 and the No Action Alternative.

### 6.1.3 Protected Resources

While FW 1 of the FMP for NE Skate Complex resulted in a decrease of fishing time for vessels that target skate, there was no change in the TAL for the skate bait fishery. For this action, no additional impacts on protected resources beyond those already analyzed in FW1 (refer to Section 6.1.4 of the FW 1 EA) are expected for each of the three alternatives. As described above, this action is not likely to substantially increase the fishing effort for skate bait because the demand for skate bait is driven by the lobster fishery and is limited by the existing TAL for skate bait. Fishermen have indicated that the market for skates as lobster bait has been relatively consistent. Effort on skates increases in state waters seasonally to accommodate the increased effort in the spring through fall lobster fishery. As the number of vessels targeting lobsters has decreased so has the demand for skates. Compared to the No Action alternative, Alternative 1 is not expected to increase levels of fishing for skate or overall fishing time. When compared to Alternative 2, the exempted area and time period are smaller in Alternative 1, and would have less of an impact on protected resources, if any.

#### 6.1.3.1 Impacts on Atlantic Sturgeon

Formal consultation on the skate fishery was reinitiated on February 9, 2012. NMFS has determined that there will not be any irreversible or irretrievable commitment of resources under section 7(d) of the ESA during the consultation period that would have the effect of foreclosing the formulation or implementation of any reasonable and prudent alternative measures. NMFS has also determined that the continued authorization of the skate fishery during the consultation period, including the authorization of the fishery to operate under the measures proposed in this action, is not likely to jeopardize the continued existence of ESA-listed species or result in the destructive or adverse modification of critical habitat.

On February 6, 2012, NMFS listed the Gulf of Maine distinct population segment of Atlantic sturgeon as threatened, and listed the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs of Atlantic sturgeon as endangered (77 FR 5880 and 75 FR 5914). This action considered whether the skate bait fishery, including implementation of the proposed action, is likely to jeopardize Atlantic sturgeon DPSs, as they were proposed to be listed, and concluded that is not. While it is possible there may be interactions between Atlantic sturgeon and gear used in the skate bait fishery, the number of interactions that will occur during the duration of this action is not likely to cause an appreciable reduction in survival and recovery. This is supported by updated bycatch estimates based upon NEFOP data (2006-2010).

Atlantic sturgeon are known to be captured in sink gillnet, drift gillnet, and otter trawl gear. Of these gear types, sink gillnet gear poses the greatest known risk of mortality for bycaught sturgeon. Sturgeon deaths were rarely reported in the otter trawl observer dataset. However, the level of mortality after release from the gear is unknown. In an updated, preliminary analysis, the Northeast Fisheries Science Center (NEFSC) was able to use data from the NEFOP database to provide updated estimates for the 2006 to 2010 timeframe. Data were limited by observer coverage to waters outside the coastal boundary (fzone>0) and north of Cape Hatteras, NC. Sturgeon included in the data set were those identified by federal observers as Atlantic sturgeon, as well as those categorized as unknown sturgeon. At this time, data were limited to information collected by the NEFOP; limited data collected by ASMs were not included, although preliminary views suggest the incidence of sturgeon encounters was low.

The preliminary analysis apportioned the sturgeon takes to specific fishery management plans. The analysis estimates that between 2006 and 2010, there were 2,250 to 3,862 encounters per year in gillnet and trawl fisheries (mean per year = 3,118). As noted previously, the vast majority of fishing effort for skates is tied to NE Multispecies and/or Monkfish DAS. Of the trips that landed any amount of skates, most fishing effort and sturgeon takes were attributed to these other fisheries. Therefore, only those sturgeon takes on skate fishing trips that could not be attributed to effort in another fishery would count as takes in the skate fishery. The results estimated that the average annual encounter rate in the skate fishery was 228, with an estimated 14 mortalities. A total of 20 encounters and 4 mortalities were attributed to the skate gillnet fishery, and 208 encounters and 10 mortalities were attributed to the skate trawl fishery. The estimated annual mortalities of Atlantic sturgeon in the skate fishery represent approximately 4% of the total commercial fishery-related mortalities.

The encounter rates and mortalities for Atlantic sturgeon that have been calculated as part of the preliminary analysis of NEFOP data include encounters and mortalities by all fisheries utilizing large-mesh sink gillnet and otter trawl gear, including the groundfish, monkfish, bluefish, spiny dogfish, and other fisheries. Based upon the above estimates, the rates of encounters and mortalities by the skate fishery are lower than the estimates in most of those fisheries. Despite the proposed increase in skate catch limits and quotas under this action, skate fishing effort is not expected to increase significantly relative to no action. The proposed action will effectively allow the retention of skates that would have to be discarded under the no action alternative, without a measurable change in effort. Finally, this EA proposes to exempt an existing skate bait fishery from the NE multispecies regulations. Therefore, impacts resulting from the approval of the SNE Skate Bait Trawl Exemption Area would not likely to be significant.

NMFS will implement any appropriate measures outlined in the formal consultation's Biological Opinion to mitigate harm to Atlantic sturgeon. Given the limited scope of this action and the overall low contribution of the skate fishery to Atlantic sturgeon mortality, the magnitude of interactions in the proposed exemption would not likely result in jeopardy to the species based on current assessments of each DPS. Since Atlantic sturgeon DPSs have been listed, formal consultations were reinitiated as required for the skate fishery, as well as the related NE Multispecies and Monkfish fisheries, and additional evaluation will be included to describe any impacts of the fisheries on Atlantic sturgeon and define any measures needed to mitigate those impacts, if necessary. It is anticipated that any measures, terms and conditions included in an updated Biological Opinion will further reduce impacts to the species. It is expected that the completion of the Biological Opinion will occur near the beginning of the 2012 skate fishing year on May 1, 2012.

#### 6.1.4 Bycatch/Non-Target Species

NEFOP and ASM data were compiled from 2010 to 2011 to compare trips targeting skate to all large mesh DAS trips in the area and months requested. Based on this data, there were no trips that caught more than 5% groundfish (using either trips targeting skate or large mesh DAS trips as a restraint). Because there was no difference in the results of the two analyses, it was determined that tows and trips that were targeting skate bait would provide an accurate analysis of the skate bait fishery. Therefore, an analysis of regulated groundfish species bycatch rates for vessels targeting skate in the proposed area and months was completed and consisted of NEFOP and ASM observer data from 1994-2011. Bycatch rates were calculated on a tow-by-tow basis in the proposed area for trips targeting skate using trawl gear. All tows that caught greater than 5 percent groundfish were analyzed at the trip level. A total of 553 tows were analyzed.

**%Multispecies = [Multispecies/(Multispecies + Skate + Other Catch)] x 100**

The average percentage of groundfish caught on these tows was 1.4%. Of the 553 tows (Table 7, Figure 8), 15 tows caught between 5% and 11% groundfish (Table 8, Figure 8).

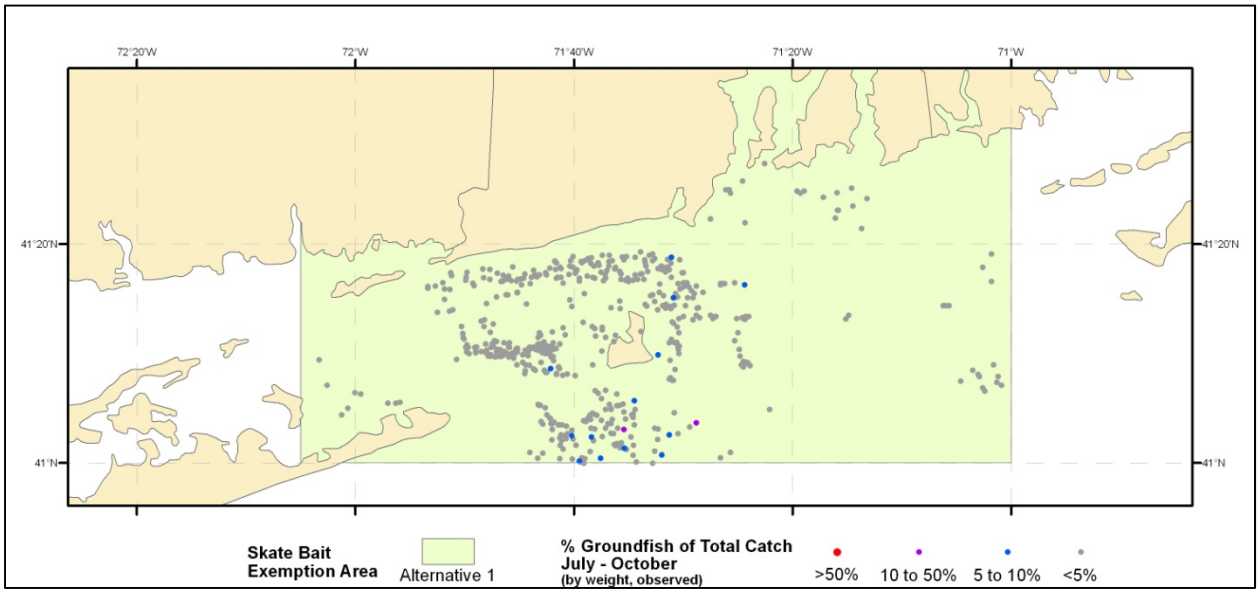
**Table 7. Observed skate tows by month in Alt. 1 area and avg. % reg. species caught.**

| Month | # of Tows | Average % Reg. Species |
|---|---|---|
| July | 123 | 0.95% |
| August | 165 | 1.32% |
| September | 164 | 1.00% |
| October | 101 | 1.67% |
| **Grand Total** | **553** | **1.14%** |

**Table 8. Total observed skate tows in Alt. 1 that caught >5% regulated groundfish species.**

| Month | # of Tows | Average % Reg. Species |
|---|---|---|
| July | 2 | 5.96% |
| August | 5 | 10.73% |
| September | 2 | 5.90% |
| October | 6 | 8.18% |
| **Grand Total** | **15** | **8.26%** |

**Figure 8. Percentage of reg. species catch on observed tows targeting skate - Alt. 1.**




In addition, the data was analyzed on a trip-by-trip basis. From 2006 through 2011 in the months of July through October there were a total of 166 observed trips using trawl gear and targeting skate that were analyzed (Table 9, Figure 9). The average percentage of groundfish caught on these trips was 1.25% (Table 9). Of the 166 observed trips, only three of them resulted in catches of greater than 5% groundfish, averaging 7.04% groundfish (Table 10, Figure 9). However, these three trips were not on NE multispecies days-at-sea (DAS) using and/or were using small mesh. Therefore, they were operating in an existing exempted fishery, and they would not be exempted further under this action. When looking only at trips on DAS there were zero trips that exceeded the 5% threshold.

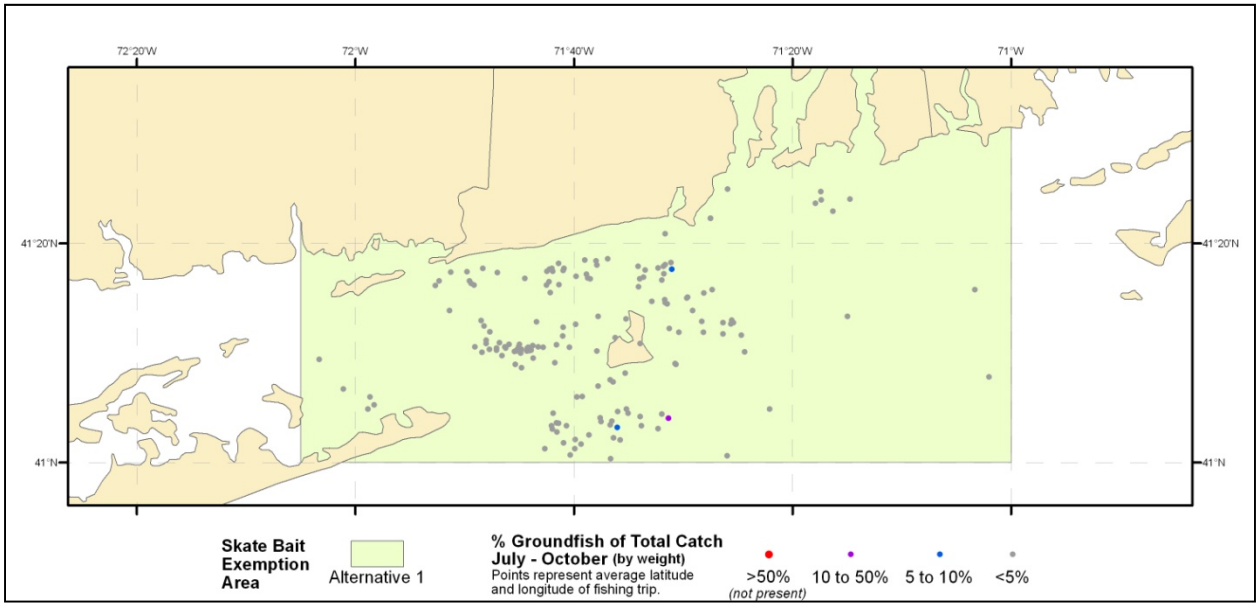
**Table 9. Observed skate bait trips by month in Alt. 1 area and avg. % reg. species caught.**

| Month | # of Trips | Average % Reg. Species |
|---|---|---|
| July | 48 | 1.03% |
| August | 52 | 1.15% |
| September | 38 | 1.10% |
| October | 28 | 1.69% |
| **Grand Total** | **166** | **1.20%** |

**Table 10. Observed skate bait trips that caught >5% groundfish by month in alt. 1 area and avg. % reg. species caught.**

| Month | # of Trips | Average % Reg. Species |
|---|---|---|
| August | 1 | 7.27% |
| October | 2 | 7.73% |
| **Grand Total** | **3** | **7.04%** |

**Figure 9. Percentage of reg. species catch on observed trips targeting skate bait - Alt. 1.**




The tow-by-tow analysis showed that windowpane flounder and winter flounder account for 96.9% of the groundfish bycatch in these tows, 61.2% and 35.7%, respectively (Table 6). Based on the most recent information available, SNE/Mid-Atlantic winter flounder has been determined to be overfished but is no longer experiencing overfishing. Spawning biomass has been very low since the late-1980s. Fishing mortality (F) has been declining since 1993 and dropped below Fmsy in 2008. Southern windowpane flounder is not overfished, is no longer experiencing overfishing, and was rebuilt in 2009. The observer data indicate that the groundfish bycatch would be far below the maximum of 5% required to qualify for an exempted fishery (Table 9). Compared to Alternative 2, data show that Alternative 1 (the preferred alternative) would likely result in less groundfish catch compared to skate. The months of June and November (as proposed in Alternative 2) show an increase in the number of tows and trips that exceeded the 5% multispecies limit (Table 16, Table 17). In addition, Alternative 2 includes a large area where there were no observed tows (Figure 10). Due to the uncertainty of the catch composition in this area and the increased number of tows exceeding 5% groundfish, Alternative 1 is preferred.

An analysis was conducted that projected the catch of windowpane flounder and winter flounder in the SNE skate bait fishery in FY 2010. Catch rates of multispecies from observed skate bait trips in the months and area described in Alternative 1 in FY 2010 were applied to unobserved trips that fell under Alternative 1 that landed more than 50% skate. This analysis concluded that the skate bait fishery was responsible for catching 3.98% of the 225 mt ACL for windowpane flounder and 1.30% of the 605 mt ACL for winter flounder in FY 2010 (Table 11). Although this action would exempt vessels targeting skate bait from the NE multispecies regulations, this action is not likely to increase effort in the skate bait fishery. The demand for skate bait is dependent on the lobster fishery's demand for bait, and this exemption would not increase the demand for skate as bait. Based on this and the small percentage of catch of windowpane flounder and winter flounder, this action itself would not jeopardize mortality objectives of these two stocks. Instead, this action would ease some of the burdens on vessels participating in the NE multispecies fishery.

**Table 11. Windowpane and winter flounder catch from the skate bait fishery in FY 2010 Alt. 1.**

| Alternative 1 | windowpane | winter |
|---|---|---|
| **Observed lb** | 8,337 | 5,162 |
| **Unobserved lb (est.)** | 11,386 | 12,212 |
| **Total lb** | 19,723 | 17,374 |
| **Total mt** | 8.95 | 7.88 |
| **FY 2010 ACL mt** | 225 | 605 |
| **% of ACL** | 3.98% | 1.30% |

As stated above, Alternative 1 is not expected to increase effort for skate bait compared to the No Action alternative because of the relationship that skate bait has with the lobster fishery and the existing TAL for skate bait. Because of this, the impacts of Alternative 1 to non-target species (NE multispecies) should be minimal. One impact of the action would simply change the portion of the ACL where the NE multispecies are deducted to account for discards. For sector vessels, under the No Action alternative, the calculated groundfish discards is deducted from each vessel's sector's ACE. For common pool vessels, the calculated groundfish discards would come out of the sub-ACL for common pool. Because the calculated bycatch rate is based off of all vessels in that individuals sector (or common pool) that are on a declared groundfish trip, the discard rates are artificially high for these trips that are targeting skate bait. This is burdensome to sectors and the common pool, because it removes these pounds of fish from the sector's ACE and the common pool sub-ACL, respectively, that could otherwise be landed for sale. Under both Alternative 1 and 2, the groundfish discards would be deducted from the "Other ACL sub-components" portion of the ACL, and it would be done so at a more accurate rate compared to those currently being attributed to the declared groundfish trips targeting bait skate.

### 6.1.5 Impact of Action on Human Communities

Compared to the No Action alternative, the preferred alternative is expected to benefit the local fishing communities which have historically depended on the skate bait fishery in SNE. This exemption was requested by members of the NE multispecies fishing industry, specifically members of a sector in the SNE area. The cost of fishing for skate bait has become increasingly high primarily due to the calculated discards that are attributed to each vessel's sector ACE when fishing under a groundfish DAS. Thus, the skate bait exempted fishery would allow vessels to target skate bait outside of the DAS program without discards being deducted from their sector's ACE. It is important to point out however that, with the elimination of these low discard trips from the sector's discard strata, the overall discard rate for the sector would likely increase because skate bait trips that were observed were keeping the discard rate for trips targeting groundfish artificially low.

The market value of discards attributed to trips that would qualify for the exemption proposed in Alternative 1 in FY 2010 was $19,877.93 (Table 12), $2,855.88 less than the trips that would qualify for the exemption proposed in Alternative 2 (Table 15). If the ACE had been traded, the value could have been as high as $11,325.36 (Table 13). This is $3,080.02 less than Alternative 2 (Table 15). In addition, they would have saved $4,611.85 in DAS costs (Table 14). This is $883.49 less than Alternative 2 (Table 15). In total, in FY 2010, had vessels been exempt from the multispecies regulations under Alternative 1, they would have saved up to $24,289.79. This is $3,963.52 less than if they had been under Alternative 2 (Table 15).

## Table 12. Allocated discards in the skate bait fishery in FY 2010 and their value – Alt. 1.

| Allocated Discards | Discards (lb) | | Avg Price/lb | Total Value of Discards | | Value Minus Zero Retention Stocks | |
|---|---|---|---|---|---|---|---|
| Sector | Common Pool | Sectors | | Common Pool | Secotrs | Common Pool | Sectors |
| GB Cod East | 0.00 | 0.00 | $ 1.80 | $ - | $ - | $ - | $ - |
| GB Cod West | 639.21 | 1890.59 | $ 1.80 | $ 1,150.58 | $ 3,403.06 | $ 1,150.58 | $ 3,403.06 |
| GOM Cod | 0.00 | 0.00 | $ 1.80 | $ - | $ - | $ - | $ - |
| GB Winter | 0.00 | 0.00 | $ 1.71 | $ - | $ - | $ - | $ - |
| SNE/MA Winter | 1463.45 | 2656.16 | $ 1.71 | $ 2,502.50 | $ 4,542.03 | | |
| GOM Winter | 0.00 | 0.00 | $ 1.71 | $ - | $ - | $ - | $ - |
| GB Haddock East | 0.00 | 0.00 | $ 1.20 | $ - | $ - | $ - | $ - |
| GB Haddock West | 190.61 | 205.69 | $ 1.20 | $ 228.74 | $ 246.82 | $ 228.74 | $ 246.82 |
| GOM Haddock | 0.00 | 0.00 | $ 1.20 | $ - | $ - | $ - | $ - |
| White Hake | 118.77 | 36.76 | $ 0.88 | $ 104.52 | $ 32.35 | $ 104.52 | $ 32.35 |
| American Plaice | 3736.80 | 119.42 | $ 1.34 | $ 5,007.31 | $ 160.03 | $ 5,007.31 | $ 160.03 |
| Pollock | 0.00 | 1.49 | $ 0.95 | $ - | $ 1.42 | $ - | $ 1.42 |
| Redfish | 258.54 | 6.14 | $ 0.65 | $ 168.05 | $ 3.99 | $ 168.05 | $ 3.99 |
| Witch Flounder | 1440.98 | 132.90 | $ 2.61 | $ 3,760.96 | $ 346.87 | $ 3,760.96 | $ 346.87 |
| Cape Cod/GOM Yellowtail | 0.00 | 0.00 | $ 1.51 | $ - | $ - | $ - | $ - |
| GB Yellowtail | 0.00 | 0.00 | $ 1.51 | $ - | $ - | $ - | $ - |
| SNE Yellowtail | 3026.89 | 309.80 | $ 1.51 | $ 4,570.60 | $ 467.80 | $ 4,570.60 | $ 467.80 |
| Southern Windowpane | 7939.24 | 5722.02 | $ 0.58 | $ 4,604.76 | $ 3,318.77 | | |
| GOM Flounder | 0.00 | 0.00 | $ 0.58 | $ - | $ - | $ - | $ - |
| Halibut | 39.32 | 3.51 | $ 5.25 | $ 206.42 | $ 18.42 | $ 206.42 | $ 18.42 |
| Ocean Pout* | 3109.82 | 1032.75 | $ 0.63 | $ 1,959.18 | $ 650.63 | | |
| Wolffish | 1155.02 | 0.00 | $ 0.63 | $ 727.67 | $ - | | |
| **total** | **23118.65** | **12117.23** | **Costs** | **$ 24,991.28** | **$13,192.20** | **$ 15,197.17** | **$ 4,680.77** |
| | | | | **Overall Cost** | **$38,183.48** | | **$ 19,877.93** |

* No estimate for ocean pout price in RI, the average for all states was used

## Table 13. Value of discards in skate bait fishery based on ACE trading for FY 2010 – Alt. 1.

| ACE Trading | Discards (lb) | | Price/lb | | Common Pool Value | | Sector Value | |
|---|---|---|---|---|---|---|---|---|
| Stock | Common Pool | Sector | Low | High | Low | High | Low | High |
| GB Cod East | 0.00 | 0.00 | $ 0.64 | $ 1.02 | $ - | $ - | $ - | $ - |
| GB Cod West | 639.21 | 1890.59 | $ 0.73 | $ 0.78 | $ 467.63 | $ 500.85 | $ 1,383.12 | $ 1,481.35 |
| GOM Cod | 0.00 | 0.00 | $ 1.24 | $ 1.30 | $ - | $ - | $ - | $ - |
| GB Winter | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| SNE/MA Winter | 1463.45 | 2656.16 | $ 0.65 | $ 1.18 | $ 947.67 | $ 1,730.91 | $ 1,720.02 | $ 3,141.60 |
| GOM Winter | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| GB Haddock East | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| GB Haddock West | 190.61 | 205.69 | $ - | $ - | $ - | $ - | $ - | $ - |
| GOM Haddock | 0.00 | 0.00 | $ 0.28 | $ 1.12 | $ - | $ - | $ - | $ - |
| White Hake | 118.77 | 36.76 | $ 0.39 | $ 0.45 | $ 45.88 | $ 53.26 | $ 14.20 | $ 16.49 |
| American Plaice | 3736.80 | 119.42 | $ - | $ - | $ - | $ - | $ - | $ - |
| Pollock | 0.00 | 1.49 | $ 0.04 | $ 0.08 | $ - | $ - | $ 0.06 | $ 0.11 |
| Redfish | 258.54 | 6.14 | $ - | $ - | $ - | $ - | $ - | $ - |
| Witch Flounder | 1440.98 | 132.90 | $ - | $ - | $ - | $ - | $ - | $ - |
| Cape Cod/GOM Yellowtail | 0.00 | 0.00 | $ 0.22 | $ 0.68 | $ - | $ - | $ - | $ - |
| GB Yellowtail | 0.00 | 0.00 | $ 0.08 | $ 0.30 | $ - | $ - | $ - | $ - |
| SNE Yellowtail | 3026.89 | 309.80 | $ 0.62 | $ 1.32 | $ 1,876.52 | $ 3,992.19 | $ 192.06 | $ 408.60 |
| Southern Windowpane | 7939.24 | 5722.02 | $ - | $ - | $ - | $ - | $ - | $ - |
| GOM Flounder | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| Halibut | 39.32 | 3.51 | $ - | $ - | $ - | $ - | $ - | $ - |
| Ocean Pout | 3109.82 | 1032.75 | $ - | $ - | $ - | $ - | $ - | $ - |
| Wolffish | 1155.02 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| | | | | **Total** | **$ 3,337.70** | **$ 6,277.21** | **$ 3,309.46** | **$ 5,048.15** |
| | | | | **Low Total** | **$ 6,647.17** | | **High Total** | **$ 11,325.36** |

**Table 14. DAS used in the skate bait fishery in FY 2010 and their value – Alt. 1.**

| DAS Used | | Avg Price per DAS | | Total Value of DAS | |
|---|---|---|---|---|---|
| Common Pool | Sectors | Common | Sectors | Common | Sectors |
| 19.00 | 10.80 | $ 155.31 | $ 153.86 | $2,950.89 | $1,660.96 |
| | | | | total | $4,611.85 |

**Table 15. Value of discards and DAS Alt.1 & Alt. 2.**

| Vaule Item | Alt. 1 | Alt. 2 | Difference |
|---|---|---|---|
| Discards Landed | $19,877.93 | $22,733.81 | $ 2,855.87 |
| Discards Traded (high) | $11,325.36 | $14,405.38 | $ 3,080.02 |
| DAS (leased) | $ 4,611.85 | $ 5,495.35 | $ 883.49 |
| **Total Landed** | $24,489.79 | $28,229.16 | $ 3,739.37 |
| **Total Traded** | $15,937.21 | $19,900.73 | $ 3,963.52 |

## 6.2 IMPACTS OF ALTERNATIVE 2

### 6.2.1 Impacts of Action on Physical Environment/EFH

This alternative is not expected to adversely affect the physical environment or EFH within the proposed exemption area for the same reasons as described above in Section 6.1.1. This is primarily because neither alternative is expected to substantially increase effort in the skate bait fishery due to the relationship with the lobster fishery and the existing skate bait TAL. Therefore, an increase in effort and fishing time is not expected. However, compared to the preferred alternative, groundfish EFH could be more greatly affected by this alternative, because it exempts a larger area for a larger amount of time.

### 6.2.2 Impact of Action on Target Populations

The proposed action would likely have little to no effect on the little skate species population, the primary target species, for the same reasons as discussed in Section 6.1.2. Specifically, the skate bait TAL limits the total catch of skate bait and the demand for skate bait by the lobster fishery control the current effort in the skate bait fishery. However, since there is very little information in the expanded proposed exempted area for Alternative 2 (Figure 10), the potential effects of fishing in the larger area are unknown.

### 6.2.3 Impact of Action on Protected Resources

This alternative is expected to have the same potential effects on protected resources as those described in the Alternative 1 (Section 6.1.3), because it is not expected that there would be any additional effort or fishing time under any of the alternatives, including No Action. The same protected species range throughout the area proposed in this alternative, as do in Alternative 1. Overall, the impacts are expected to be minimal.

### 6.2.4 Impact of Action on Bycatch/Non-Target Species

This alternative is expected to have similar impacts on bycatch and non-target species as the preferred alternative (Sec. 6.1.4). However, when compared to Alternative 1, the additional two months (June and November), as well as the larger, area may have added effects. The analysis of observer data indicated that there is an increase in percentage of tows and trips that catch >5% groundfish in the months of June and November (Table 16, Figure 10, Table 17, Figure 11). Further, the lack of observed tows and trips targeting skate in the larger area (Figure 10, Figure 11) introduces more uncertainty about the potential effects on non-target species.

**Table 16. Observed tows >5% reg. groundfish species.**

| Month | Alt. 1 | Alt. 2 |
|---|---|---|
| June | NA | 19 |
| July | 2 | 2 |
| August | 5 | 7 |
| September | 2 | 2 |
| October | 6 | 6 |
| November | NA | 23 |
| **Grand Total** | **15** | **59** |

**Figure 10. Percentage of reg. species groundfish catch of observed tows targeting skate for Alt. 2.**

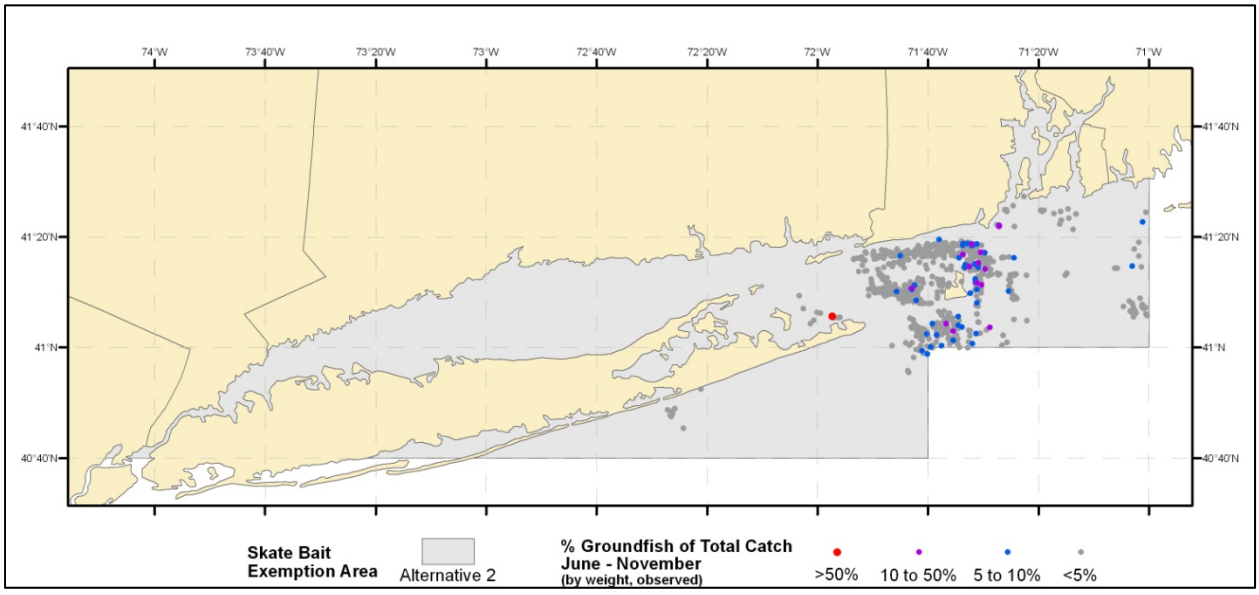


**Table 17. Observed trips >5% reg. groundfish species.**

| Month | Alt. 2 | Pref. Alt |
|---|---|---|
| June | 5 | NA |
| July | 0 | 0 |
| August | 1 | 1 |
| September | 0 | 0 |
| October | 2 | 2 |
| November | 6 | NA |
| **Grand Total** | **14** | **3** |

**Figure 11. Percentage of reg. species groundfish catch of observed trips targeting skate for Alt. 2.**

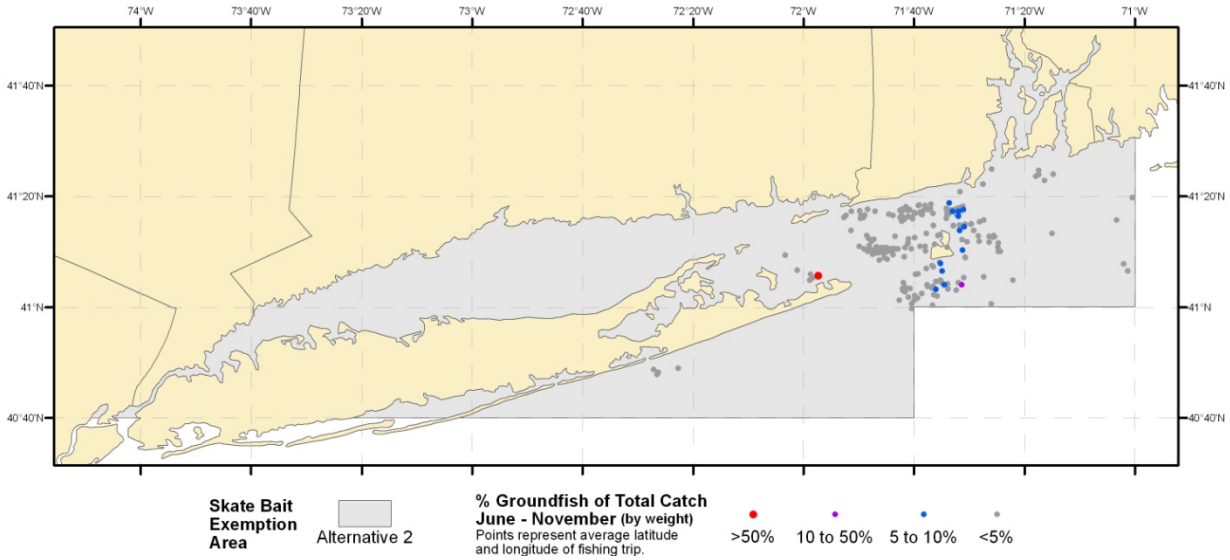



**Table 18. Windowpane and winter flounder catch from the skate bait fishery in FY 2010 Alt. 2.**

| Alternative 2 | windowpane | winter |
|---|---|---|
| **Observed** | 11,374 | 8,907 |
| **Unobserved (est.)** | 15,521 | 12,154 |
| **Total pounds** | 26,895 | 21,061 |
| **Total metric tons** | 12.20 | 9.55 |
| **FY 2010 ACL** | 225 | 605 |
| **% of ACL** | 5.42% | 1.58% |

### 6.2.5 Impact of Action on Human Communities

The impacts of Alternative 2 would be expected to be similar to the impacts of the preferred alternative, as described in 6.1.5. However, the expanded area and time would allow more vessels a greater opportunity to participate in the exempted fishery. The market value of discards attributed to trips that would have qualified for the exemption proposed in Alternative 2 in FY 2010 was $22,773.81 (Table 19), this is $2,855.88 more than Alternative 1 (Table 15). If the ACE had been traded, the value could have been as high as $14,405.38 (Table 13). This is $3,080.02 more that alternative 2 (Table 15). In addition, they would have saved $5,495.35 in DAS costs (Table 21), $883.49 more than Alternative 1 (Table 15). In total, in FY 2010, had vessels been exempt from the multispecies regulations under Alternative 2, they would have saved up to $28,229.16. This is $3,963.52 more than if they had been under Alternative 1 (Table 15).

**Table 19. Allocated discards in the skate bait fishery in FY 2010 and their value – Alt. 2.**

| Allocated Discards | Discards (lb) | | Avg Price/lb | Total Value of Discards | | Value Minus Zero Retention Stocks | |
|---|---|---|---|---|---|---|---|
| Stock | Common Pool | NEFS V | | Common | NEFS V | Common | NEFS V |
| GB Cod East | 0.00 | 0.00 | $ 1.80 | $ - | $ - | $ - | $ - |
| GB Cod West | 639.21 | 3044.09 | $ 1.80 | $ 1,150.58 | $ 5,479.37 | $ 1,150.58 | $ 5,479.37 |
| GOM Cod | 0.00 | 0.00 | $ 1.80 | $ - | $ - | $ - | $ - |
| GB Winter | 0.00 | 0.00 | $ 1.71 | $ - | $ - | $ - | $ - |
| SNE/MA Winter | 1463.45 | 4276.76 | $ 1.71 | $ 2,502.50 | $ 7,313.25 | | |
| GOM Winter | 0.00 | 0.00 | $ 1.71 | $ - | $ - | $ - | $ - |
| GB Haddock East | 0.00 | 0.00 | $ 1.20 | $ - | $ - | $ - | $ - |
| GB Haddock West | 190.61 | 331.18 | $ 1.20 | $ 228.74 | $ 397.42 | $ 228.74 | $ 397.42 |
| GOM Haddock | 0.00 | 0.00 | $ 1.20 | $ - | $ - | $ - | $ - |
| White Hake | 118.77 | 59.19 | $ 0.88 | $ 104.52 | $ 52.09 | $ 104.52 | $ 52.09 |
| American Plaice | 3736.80 | 192.29 | $ 1.34 | $ 5,007.31 | $ 257.67 | $ 5,007.31 | $ 257.67 |
| Pollock | 0.00 | 2.40 | $ 0.95 | $ - | $ 2.28 | $ - | $ 2.28 |
| Redfish | 258.54 | 9.88 | $ 0.65 | $ 168.05 | $ 6.42 | $ 168.05 | $ 6.42 |
| Witch Flounder | 1440.98 | 213.99 | $ 2.61 | $ 3,760.96 | $ 558.51 | $ 3,760.96 | $ 558.51 |
| Cape Cod/GOM Yellowtail | 0.00 | 0.00 | $ 1.51 | $ - | $ - | $ - | $ - |
| GB Yellowtail | 0.00 | 0.00 | $ 1.51 | $ - | $ - | $ - | $ - |
| SNE Yellowtail | 3026.89 | 498.82 | $ 1.51 | $ 4,570.60 | $ 753.22 | $ 4,570.60 | $ 753.22 |
| Southern Windowpane | 7939.24 | 9213.19 | $ 0.58 | $ 4,604.76 | $ 5,343.65 | | |
| GOM Flounder | 0.00 | 0.00 | $ 0.58 | $ - | $ - | $ - | $ - |
| Halibut | 39.32 | 5.65 | $ 5.25 | $ 206.42 | $ 29.66 | $ 206.42 | $ 29.66 |
| Ocean Pout* | 3109.82 | 1662.87 | $ 0.63 | $ 1,959.18 | $ 1,047.61 | | |
| Wolffish | 1155.02 | 0.00 | $ 0.63 | $ 727.67 | $ - | | |
| **total** | **23118.65** | **19510.32** | **Costs** | **$ 24,991.28** | **$ 21,241.15** | **$ 15,197.17** | **$ 7,536.64** |
| | | | | **Overall Cost** | **$ 46,232.43** | | **$ 22,733.81** |

* No estimate for ocean pout price in RI, the average for all states was used

## Table 20. Value of discards in skate bait fishery based on ACE trading for FY 2010 – Alt. 2.

| ACE Trading | Discards (lb) | | Price/lb | | Common Pool Value | | Sector Value | |
|---|---|---|---|---|---|---|---|---|
| Stock | Common Pool | NEFS V | Low | High | Low | High | Low | High |
| GB Cod East | 0.00 | 0.00 | $ 0.64 | $ 1.02 | $ - | $ - | $ - | $ - |
| GB Cod West | 639.21 | 3044.09 | $ 0.73 | $ 0.78 | $ 467.63 | $ 500.85 | $ 2,227.00 | $ 2,385.17 |
| GOM Cod | 0.00 | 0.00 | $ 1.24 | $ 1.30 | $ - | $ - | $ - | $ - |
| GB Winter | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| SNE/MA Winter | 1463.45 | 4276.76 | $ 0.65 | $ 1.18 | $ 947.67 | $ 1,730.91 | $ 2,769.46 | $ 5,058.38 |
| GOM Winter | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| GB Haddock East | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| GB Haddock West | 190.61 | 331.18 | $ - | $ - | $ - | $ - | $ - | $ - |
| GOM Haddock | 0.00 | 0.00 | $ 0.28 | $ 1.12 | $ - | $ - | $ - | $ - |
| White Hake | 118.77 | 59.19 | $ 0.39 | $ 0.45 | $ 45.88 | $ 53.26 | $ 22.86 | $ 26.54 |
| American Plaice | 3736.80 | 192.29 | $ - | $ - | $ - | $ - | $ - | $ - |
| Pollock | 0.00 | 2.40 | $ 0.04 | $ 0.08 | $ - | $ - | $ 0.10 | $ 0.18 |
| Redfish | 258.54 | 9.88 | $ - | $ - | $ - | $ - | $ - | $ - |
| Witch Flounder | 1440.98 | 213.99 | $ - | $ - | $ - | $ - | $ - | $ - |
| Cape Cod/GOM Yellowtail | 0.00 | 0.00 | $ 0.22 | $ 0.68 | $ - | $ - | $ - | $ - |
| GB Yellowtail | 0.00 | 0.00 | $ 0.08 | $ 0.30 | $ - | $ - | $ - | $ - |
| SNE Yellowtail | 3026.89 | 498.82 | $ 0.62 | $ 1.32 | $ 1,876.52 | $ 3,992.19 | $ 309.24 | $ 657.90 |
| Southern Windowpane | 7939.24 | 9213.19 | $ - | $ - | $ - | $ - | $ - | $ - |
| GOM Flounder | 0.00 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| Halibut | 39.32 | 5.65 | $ - | $ - | $ - | $ - | $ - | $ - |
| Ocean Pout | 3109.82 | 1662.87 | $ - | $ - | $ - | $ - | $ - | $ - |
| Wolffish | 1155.02 | 0.00 | $ - | $ - | $ - | $ - | $ - | $ - |
| | | | | Total | $ 3,337.70 | $ 6,277.21 | $ 5,328.67 | $ 8,128.17 |
| | | | | Low Total | $8,666.37 | | High Total | $14,405.38 |

## Table 21. DAS used in the skate bait fishery in FY 2010 and their value – Alt. 2.

| DAS Used | | Avg Price per DAS | | Total Value of DAS | |
|---|---|---|---|---|---|
| Common Pool | NEFS V | Common Pool | Sector | Common Pool | Sector |
| 19 | 16.54 | $ 155.31 | $ 153.86 | $ 2,950.89 | $ 2,544.46 |
| | | | | total | $ 5,495.35 |

### 6.3 IMPACT OF NO ACTION

#### 6.3.1 Impact of No Action on Physical Environment/EFH

Similar to the other two alternatives, there would be no new impacts on habitat under this alternative. Existing disturbances from the current skate bait fishery would continue in SNE. There would not likely be an increase in effort for skate bait under any of the alternatives, including the no action alternative, as the demand for skate bait is constrained by the lobster fishery. Further, the effort is not expected to increase because the fishery is still limited by the skate bait TAL.

#### 6.3.2 Impact of No Action on Target Populations

Under the No Action alternative, the status quo would continue for the skate bait fishery. The targeting of little skate as skate bait would continue at a similar rate. The impacts of the skate bait fishery, as it operates at this time, are discussed in Amendment 3 and to the NE Skate FMP. Amendment 3 reduced the impact on little skate populations by implementing a 20,000 lb/trip limit on skate bait and splitting the TAL into three seasons to provide a constant supply of bait to the lobster fishery. When 90 percent of the skate bait quota is harvested in each season (Table 1), the possession limit is reduced to the whole weight equivalent of the skate wing fishery possession limit until the next season. If the annual TAL (landings target) allocated to the fishery is exceeded by more than 5 percent in a given year, the possession limit trigger (90 percent in the bait fishery) will be reduced 1 percent for each 1-percent overage for that fishery. This provision is intended to help prevent repeated excessive TAL overages.

If it is determined that the ACL for the skate complex was exceeded in a given year, including landings and estimates of discards, then the buffer between the ACL and the Annual Catch Target (25 percent, initially) would be increased by 1 percent for each 1-percent overage. For example, if the ACL is exceeded by 5 percent, the ACL-ACT buffer would be increased to 30 percent in the subsequent fishing year, which could effectively reduce allowable landings. Because these provisions would still exist under each of the alternatives, effects on the target population of little skate would be similar for both Alternative 1 and Alternative 2.

### 6.3.3 Impact of No Action on Protected Resources

Under the No Action alternative, the status quo would continue for the skate bait fishery. Impacts from the skate bait fishery on protected resources in SNE are expected to be similar under all alternatives, as there would be no increase in effort in the skate bait fishery. Therefore, protected species interactions with gear are likely to remain at the status quo. As stated, impacts among all alternatives would be similar, and are described in detail in sections, 6.1.3 and 6.2.3.

### 6.3.4 Impact of No Action on Bycatch/Non-Target Species

The No Action alternative would result in no new impacts from the skate bait fishery on non-target species, primarily groundfish, in the SNE area. Existing impacts on these non-target species from other fisheries that occur in SNE would continue as they have been under current regulations. The No Action alternative would not cause a major change in the amount of interactions with non-target species. Unlike the other alternatives, taking no action would result in groundfish discard rates to continue to be attributed to skate bait trips at an elevated level. Sector discard rates of groundfish are elevated for trips targeting skate bait because discard rates for sectors are based on the sector, statistical area, and gear type fished. Since skate bait trips use the same gear type (6.5-inch mesh bottom trawl) and occur in the same sector and statistical area as sector trips targeting groundfish, skate bait trips receive the same discard rate as trips that are targeting groundfish, even though they catch far less NE multispecies. This creates a bias in the calculated discards for trips that are fishing on a declared groundfish trip but are actually targeting skate bait. This would continue to occur if the No Action alternative is selected. In addition, when a sector vessel is observed on a skate bait trip, the rate calculated from that trip will provide an artificially low discard rate for the members of that sector targeting groundfish in the same area using the same gear.

### 6.3.5 Impact of No Action on Human Communities

The impact on uman communities could be negative if this proposed exemption area is not created. The skate bait fishery is a valuable resource to those in SNE. The discards that are attributed to these trips come directly out of the vessel's sector ACE. This takes away the opportunity to catch these fish in the future. The NE multispecies sector members requesting this exemption believe that No Action would be detrimental to their communities because of the economic value of the high number of discards that are being attributed to their skate bait fishing trips and the value of the DAS that must be used to target skate bait. Using FY 2010 observer, ASM, and dealer data, this was estimated at $24,489.79 per FY for Alternative 1 and $28,229.11 per FY for Alternative 2. See Sections 6.1.5 and 6.2.5 for more details.

## 7.0 CUMULATIVE EFFECTS

### 7.1 INTRODUCTION TO CUMULATIVE IMPACTS

A cumulative effects assessment (CEA) is a required part of an EIS or EA according to the Council on Environmental Quality (CEQ) (40 CFR part 1508.7) and NOAA's agency policy and procedures for NEPA, found in NOAA Administrative Order 216-6. The purpose of the CEA is to integrate into the impact analyses, the combined effects of many actions over time that would be missed if each action were evaluated separately. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective but rather, the intent is to focus on those effects that are truly meaningful. This section serves to examine the potential direct and indirect effects of the alternatives in this EA together with past, present, and reasonably foreseeable future actions that affect the groundfish environment. It should also be noted that the predictions of potential synergistic effects from multiple actions, past, present and/or future would generally be qualitative in nature. Because this is a skate fishery that would be exempted from the requirements of NE multispecies fishery, this section relies heavily on the EAs from FW 45 to the NE multispecies FMP and FW 1 to the NE skate complex FMP.

Valued Ecosystem Components (VEC)
The CEA focuses on VECs specifically including:
1. Regulated groundfish stocks (target and non-target);
2. Non-groundfish species (target catch and bycatch);
3. Endangered and other protected species;
4. Habitat, including non-fishing effects; and
5. Human Communities (includes economic and social effects on the fishery and fishing communities).

Temporal Scope of the VECs
While the effects of historical fisheries are considered, the temporal scope of past and present actions for regulated groundfish stocks, non-groundfish species, habitat and the human environment is primarily focused on actions that have taken place since implementation of the initial NE Multispecies FMP in 1977. 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, rather than foreign fleets. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, this analysis examines the period between implementation of this EA and 2016.

### 7.1.1 Temporal and Geographic Scope

The temporal range that would be considered for regulated groundfish stocks, non-groundfish species, endangered and other protected species, habitat, including non-fishing effects, and human communities extends from 2010, the year that Amendment 3 to the NE skate complex FMP and Amendment 16 to the NE multispecies FMP were implemented, through May 1, 2012 the beginning of the next fishing year. While the effects of actions prior to these actions are considered (see Amendment 3 and Amendment 16 for a full cumulative effects analysis), the cumulative effects analysis for this action is focused primarily on Amendment 3 and Amendment 16 and subsequent actions because both actions included major changes to management.

The temporal range considered for endangered and other protected species begins in the 1990's when NMFS began generating stock assessments for marine mammals and developed recovery plans for sea turtles that inhibit waters of the U.S. EEZ. In terms of future actions, the analysis examines this action through May 1, 2012, which is the beginning of the subsequent fishing year when new management measures would be implemented.

The broad geographic scope considered for cumulative effects to habitat, regulated groundfish stocks, and non-groundfish species consists of the range of species, primary ports, and geographic areas (habitat) discussed in Section 5.0 (Affected Environment) of the EA for FW1 of the skate FMP. Similarly, the range of each endangered and protected species as presented in Section 6.4 would be the broad geographic scope for that VEC, however, the most likely geographic scope for all cumulative effects would be the Gulf of Maine, Georges Bank, and SNE waters where most of the skate fishery occurs. The geographic scope for the human communities would consist of those primary port communities from which vessels fishing for skates originate.

## 7.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIONS

Table 22 summarizes the combined effects of other past, present and reasonably foreseeable future actions that affect the VECs, i.e., actions other than those alternatives under development in this document.

Note that most of the actions affecting this exemption and considered in Table 22 come from fishery-related activities (e.g., Federal fishery management actions). As expected, these activities have fairly straightforward effects on environmental conditions, and were, are, or would be taken, in large part, to improve those conditions. The reason for this is the statutory basis for Federal fisheries management - the reauthorized Magnuson-Stevens Act. That legislation was enacted to promote long-term positive impacts on the environment in the context of fisheries actions. More specifically, the act stipulates that management comply with a set of

National Standards that collectively serve to optimize the conditions of the human environment. Under this regulatory regime, the cumulative impacts of past, present, and future Federal fishery management actions on the VECs should be expected to result in positive long-term outcomes. Nevertheless, these actions are often associated with offsetting impacts. For example, constraining fishing effort frequently results in negative short-term socio-economic impacts for fishery participants. However, these impacts are usually necessary to bring about long-term sustainability of a given resource and as such should, in the long-term, promote positive effects on human communities, especially those that are economically dependent upon the managed resource.

Non-fishing activities were also considered when determining the combined effects from past, present and reasonably foreseeable future actions. Activities that have meaningful effects on the VECs include the introduction of chemical pollutants, sewage, changes in water temperature, salinity, dissolved oxygen, and suspended sediment into the marine environment. These activities pose a risk to the all of the identified VECs in the long term. Human induced non-fishing activities that affect the VECs under consideration in this document are those that tend to be concentrated in near shore areas. Examples of these activities include, but are not limited to agriculture, port maintenance, beach nourishment, coastal development, marine transportation, marine mining, dredging and the disposal of dredged material. Wherever these activities occur, they are likely to work additively or synergistically to decrease habitat quality and, as such, may indirectly constrain the sustainability of the managed resources, non-target species, and protected resources. Decreased habitat suitability would tend to reduce the tolerance of these VECs to the impacts of fishing effort. Mitigation of this outcome through regulations that would reduce fishing effort could then negatively impact human communities.

### 7.2.1 Past and Present Actions

**Table 22. Summary effects of past, present and reasonably foreseeable future actions on the VECs identified for the SNE Skate Bait Trawl Exempted Fishery.**

| VEC | Past Actions | Present Actions | Reasonably Foreseeable Future Actions | Combined Effects of Past, Present, Future Actions |
|---|---|---|---|---|
| Regulated groundfish stocks (non-target) | **Mixed** Combined effects of past actions have decreased effort, improved habitat protection, and implemented rebuilding plans when necessary. However, some stocks remain overfished | **Positive** Current regulations continue to manage for sustainable stocks | **Positive** Future actions are anticipated to continue rebuilding and strive to maintain sustainable stocks | **Short-term Negative** Several stocks are currently overfished, have overfishing occurring, or both **Long-Term Positive** Stocks are being managed to attain rebuilt status |
| Non-groundfish species (target catch and bycatch) | **Positive** Combined effects of past actions have decreased effort and improved habitat protection | **Positive** Current regulations continue to manage for sustainable stocks, thus controlling effort on direct and discard/bycatch species | **Positive** Future actions are anticipated to continue rebuilding and target healthy stocks, thus limiting the take of discards/bycatch | **Positive** Continued management of directed stocks will also control incidental catch/bycatch |
| Endangered and other protected species | **Positive** Combined effects of past fishery actions have reduced effort and thus interactions with protected resources | **Positive** Current regulations continue to control effort, thus reducing opportunities for interactions | **Mixed** Future regulations will likely control effort and thus protected species interactions, but as stocks improve, effort will likely increase, possibly increasing interactions | **Positive** Continued effort controls along with past regulations will likely help stabilize protected species interactions |
| Habitat, including non-fishing effects | **Mixed** Combined effects of effort reductions and better control of nonfishing activities have been positive but fishing activities and non-fishing activities continue to reduce habitat quality | **Mixed** Effort reductions and better control of nonfishing activities have been positive but fishing activities and non-fishing activities continue to reduce habitat quality | **Mixed** Future regulations will likely control effort and thus habitat impacts but as stocks improve, effort will likely increase along with additional non-fishing activities | **Mixed** Continued fisheries management will likely control effort and thus fishery related habitat impacts but fishery and non-fishery related activities will continue to reduce habitat quality |
| Human Communities (includes economic and social effects on the fishery and fishing communities) | **Mixed** Fishery resources have supported profitable industries and communities but increasing effort and catch limit controls have curtailed fishing opportunities | **Mixed** Fishery resources continue to support communities but increasing effort and catch limit controls combined with nonfishing impacts such as rising fuel costs have had a negative economic impact | **Short-term Negative** As effort controls are maintained or strengthened, economic impacts will be negative **Long-term Positive** As stocks improve, effort will likely increase which would have a positive impact | **Short-term Negative** Lower revenues would likely continue until stocks are fully rebuilt **Long-term Positive** Sustainable resources should support viable communities and economies |

Impact Definitions:
-Regulated Groundfish Stocks, Non-groundfish species, Endangered and Other Protected Species: positive=actions that increase stock size and negative=actions that decrease stock size
-Habitat: positive=actions that improve or reduce disturbance of habitat and negative=actions that degrade or increase disturbance of habitat
-Human Communities: positive=actions that increase revenue and well being of fishermen and/or associated businesses and negative=actions that decrease revenue and well being of fishermen and/or associated businesses

## 7.3 CUMULATIVE IMPACTS OF THE PROPOSED ACTION

The following analysis summarizes the cumulative effects of past, present, and reasonably foreseeable future actions in combination with the proposed action on the VECs identified in Section 7.1.

### 7.3.1 Cumulative Effects on Regulated Groundfish Stocks (Non-Target)

Actions that reduce fishing effort have had positive effects on non-target species and bycatch because in general, less fishing effort results in less impact to non-allocated target species and bycatch. Conversely, actions that increase fishing effort are considered to have low negative effects on non-target species and bycatch because more fishing generally results in more bycatch. Catch of primary non-target species in the skate fishery is monitored and controlled through other FMPs. TEDs requirements would likely have a positive effect on non-target species and bycatch and discards as they would likely exclude some of these species from capture in the cod-end. Overall, the cumulative effect of past, present, and reasonably foreseeable future fishing actions have resulted in positive effects on non-target species and bycatch.

The primary non-target and bycatch species analyzed for the purposes of this EA are groundfish. Management efforts in the past have led to these species being managed under their own FMP. While some groundfish stocks remain in an overfished condition, or subject to overfishing, actions in the NE Multispecies FMP (e.g., Amendment 16) are attempting to control mortality on these stocks. Mortality and effort controls such as NE Multispecies DAS collectively help reduce bycatch of non-target species. Overall, the cumulative effect of past, present, and reasonably foreseeable future fishing actions have resulted in positive effects on non-target species and bycatch.

### 7.3.2 Cumulative Effects on Non-Groundfish Species (Target Species)

The management measures described in Table 22 are expected to have overall neutral impacts on target species (little skate). Effort reductions in the NE Multispecies, Monkfish, and Scallop FMPs are likely to reduce skate catches, while the changes to the Skate FMP are likely to convert more skate discards into landings (relatively neutral fishing mortality). Future measures that will likely restrict fishing effort (EFH Omnibus) will also have positive effects on target species. Future measures such as the TED requirements would likely result in positive effects to the target species because they may help reduce bycatch. Overall, the cumulative effect of past, present, and reasonably foreseeable future fishing actions have resulted in positive effects on the target species. The decline in allowable herring landings could open up new markets for alternative lobster baits, some of it filled by either whole skate landings or by the carcasses of skates landed for the wing market.

As found in the cumulative effects analysis for FW1 to the skate FMP, the long-term trend has been positive for cumulative impacts to target species. Effort reductions in the NE Multispecies, Monkfish, and Scallop FMPs have allowed skate stocks to rebuild and the rebuilding process for others is underway. Further, indirect impacts from the effort reductions in other FMPs are also thought to contribute to skate mortality reductions. These factors, when considered in conjunction with the proposed action which would have negligible impacts to the target species

due to the implementation of the recommended ABC, would not have any significant cumulative impacts. Overall, the cumulative effect of past, present, and reasonably foreseeable future fishing actions have resulted in positive effects on the target species.

### 7.3.3 Cumulative Effects on Endangered and Other Protected Species

As noted in Table 22, the combined impacts of past federal fishery management actions have reduced fishing effort, and therefore reduced interactions with protected resources. Current management measures, including those implemented through Amendment 16 to the FMP, are expected to continue to control effort and catch, and therefore continue to lessen interactions with protected resources. Proposed changes to fishery measures should have minimal impacts on protected species. The fishing effort for skate bait is not expected to increase substantially. The modifications in program administration rules and effort control measures are not expected to have major impacts, since they would not change fishing in areas or with gears that affect protected species. Overall, the combination of past, present, and future actions is expected to stabilize protected species interactions and lead to positive impacts to protected species.

### 7.3.4 Cumulative Effects on Habitat

As noted in Table 22, the combined impacts of past federal fishery management actions have reduced fishing effort, and therefore have been positive for habitat protection. In addition, better control of non-fishing activities has also been positive for habitat protection. However, both fishing and non-fishing activities continue to decrease habitat quality. None of the fishery measures are expected to have substantial impacts to habitat or EFH. Generally, the modifications to program administration measures are expected to have neutral or no impacts, since these actions are administrative in nature and should not greatly alter fishing practices. Overall, the combination of past, present, and future actions is expected to reduce fishing effort and hence reduce damage to habitat; however, it is likely that fishing and non-fishing activities will continue to degrade habitat quality.

### 7.3.5 Cumulative Effects on the Human Communities

As noted in Table 22, the combined impacts of past federal fishery management actions have reduced effort, and therefore have curtailed fishing opportunities. Past and current management measures, including those implemented through Amendment 16 to the FMP, will maintain effort and catch limit controls, which together with non-fishing impacts such as rising fuel costs have had significant negative short term economic impacts on human communities. The action is expected to have immediate positive effects on human communities. The elimination of groundfish discard rates associated with a groundfish trip attributed to vessels targeting skate bait would allow fishermen to target skate without having groundfish taken out of their sector's ACE. Further, these fishermen would no longer be assigned an at-sea monitor who cost ~$650 per day. There may be some deleterious effects for groundfish fishermen who are not targeting skate bait

because the low discards in the skate bait fishery would no longer be contributing to keeping the discard rates low. Also, in combination with the potential effects of accumulation limits proposed in Amendment 18 to the NE multispecies FMP, this action could help smaller fishing communities function long into the foreseeable future. Overall, the combination of past, present, and future actions is expected to enable a sustainable harvest of groundfish stocks, which should lead to a long term positive impact on fishing communities and economies.

## **8.0** APPLICABLE LAW

### 8.1 MAGNUSON-STEVENS FISHERY CONSERVATION AND MANAGEMENT ACT

Section 301 of the MSA requires that the regulations implementing any fishery management plan be consistent with the ten national standards. Below is a list of the national standards and descriptions of how the proposed action complies with each standard.

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

The proposed action would not cause overfishing to occur in either the skate fishery or the NE multispecies fishery. Analysis demonstrates that bycatch of regulated multispecies in the skate bait fishery in the proposed exempted area is very low, and consistent with the bycatch reduction measures of the NE Multispecies FMP.

- **Conservation and management measures shall be based on the best scientific information available.**

The data utilized in the determination of this proposed exemption were taken from the best sources available, including the NEFSC observer program, NEFSC scientific surveys, vessel trip reports, and the most recent stock assessment for all of the potentially affected species.

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

The proposed action impacts one stock, little skate, and to a lesser extent, multiple stocks of various NE multispecies that occur in the same area. The impacts of the proposed exemption on these stocks, which represents a relatively small portion of the EEZ, and their respective habitats, are discussed in Section 6.1 above.

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

The proposed action allows any vessel with a valid Federal skate permit to fish within the proposed exemption area. Though vessels hailing from the ports most proximate to the exemption area (e.g. Rhode Island, New Bedford) may have easier access to the area, vessels from any state with the appropriate permits may participate in the exemption program.

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

The proposed action would promote efficiency in utilization of fishery resources by not attributing excessive groundfish discards to vessels fishing for skate bait. This would allow sectors vessels to more efficiently harvest their ACE.

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

The proposed exemption area is consistent with the bycatch requirements of the NE Multispecies FMP at this time, assuming that groundfish bycatch in the proposed exemption area is minimal. The impacts of this fishery on the target little skate resource have also been assessed, and found to be acceptable. If the status of target or non-target species were to change over time, these measures could be adjusted to meet the requirements of the respective FMPs.

- **Conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication.**

The proposed measures do not duplicate any existing fishery regulations, or impose any new costs on the affected parties. Further, these measures would reduce costs for those vessels operating in the proposed exempted fishery.

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

The proposed action was initiated by industry representatives that wished to alleviate adverse impacts being experienced by NE multispecies sector fishermen in SNE. The proposed exemption area is consistent with the conservation requirements of the MSA, the NE Skate, and the NE Multispecies FMP, and therefore provides for the sustained participation of this community in the skate bait fishery.

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

This proposed action is consistent with the bycatch requirements of the NE Multispecies FMP, and the data supports the fact that bycatch of finfish, protected species, and other non-target species in this proposed exempted fishery area is minimal.

- **Conservation and management measures shall, to the extent practicable, promote safety of human life at sea.**

The proposed action promotes safety at sea by allowing vessels that fish both skate bait and NE multispecies to fish more efficiently in both fisheries.

### 8.2 NATIONAL ENVIRONMENTAL POLICY ACT (NEPA)

NEPA provides a mechanism for identifying and evaluating environmental issues associated with Federal actions, and for considering a reasonable range of alternatives to avoid or minimize adverse environmental impacts. This document is designed to meet the requirements of both the MSA and NEPA.

#### 8.2.1 Environmental Assessment (EA)

The required elements of an EA are specified in 40 CRS 1508.9(b), and are included in this document as indicated below:

- Need for this action: Section 3.0
- Alternatives considered: Section 4.0
- Environmental impacts of proposed action: Section 6.0
- The agencies and persons consulted on this action are listed in Section 9.0 & 10.0

In addition, Section 5.0 of this document includes a discussion of the affected environment for this action as a basis to evaluate the impacts of the alternatives specified for this action.

#### 8.2.2 Finding of No Significant Impact

NOAA Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

**1. Can the proposed action reasonably be expected to jeopardize the sustainability of any target species that may be affected by the action?**

The proposed action is not reasonably expected to jeopardize the sustainability of any target species that may be affected. Little skate biomass has been on the rise since 2006. It has been above the biomass threshold since 2007, and it moved to well above the target biomass in 2010 (

Figure 7). Since the increase in effort in the skate bait fishery is predicted to be minimal and there would be no change in the possession limit for skate bait, it is likely that additional mortality of little skate would be minimized as well. Further details can be found in Section 6.1.2 of this document.

**2. Can the proposed action reasonably be expected to jeopardize the sustainability of any non-target species?**

The proposed action is not reasonably expected to jeopardize the sustainability of any non-target species. From a total of 553 observed tows targeting skate in the proposed exemption area and months the mean percent bycatch was 1.14% of the total catch (Table 7). This small bycatch rate, on average, is well below the allowable thresholds within the proposed exemption area. Further details can be found in Section 6.1.4 of this document.

**3. Can the proposed action reasonably be expected to allow substantial damage to the ocean and coastal habitats and/or EFH as defined under the Magnuson-Stevens Act and identified in FMPs?**

The proposed exemption is not expected to adversely affect the physical environment within the proposed exemption area. There would not likely be a large increase in effort for skate bait as the demand for skate bait is determined by the lobster fishery. Additionally, this area is currently subject to fishing for NE multispecies and skate bait by otter trawl. For further details, see Section 6.1.1 of this document.

**4. Can the proposed action reasonably be expected to have a substantial adverse impact on public health or safety?**

No, the action is not expected to have a substantial impact on public health or safety. This exemption is intended to help fishermen increase fishing revenues, by allowing them access to the skate bait fishery without using valuable NE multispecies ACE. Increases in revenue may provide additional funds to maintain fishing vessels, increasing safe operations.

**5. Can the proposed action be reasonably expected to adversely affect endangered or threatened species, marine mammals, or critical habitat of these species?**

The proposed management measures are not reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat. A number of endangered or threatened species and marine mammals are found within the geographic range of the proposed exemption area. Based on previous ESA consultations associated with the skate and NE multispecies fisheries, marine mammals are not considered to be adversely affected by otter trawl gear in this area. Based on the available data, skate bait gear (trawl gear) appears to have

minimal impacts on sea turtles and any other protected species within the proposed exemption area. Further details can be found in Section 6.1.3 of this document.

For the reasons described in Section 6.1.3, NMFS has determined that the continued operation of the skate bait during the reinitiation period is not likely to jeopardize the continued existence of any Atlantic sturgeon DPS. This is based on the short time period encompassed by the reinitiation period and consequently, the scale of any interactions with Atlantic sturgeon that may occur during this period. NMFS will implement any appropriate measures outlined in the BO to mitigate harm to Atlantic sturgeon. Further, the encounter rates and mortalities for Atlantic sturgeon that have been calculated as part of the preliminary analysis of NEFOP data include encounters and mortalities by all fisheries utilizing large-mesh sink gillnet and otter trawl gear, including the groundfish, monkfish, bluefish, spiny dogfish, and other fisheries. Based upon the above estimates, the rates of encounters and mortalities by the skate fishery are lower than the estimates in most of those fisheries. Finally, this EA proposes to exempt an existing skate bait fishery from the NE multispecies regulations. Therefore, impacts resulting from the approval of the SNE Skate Bait Trawl Exemption Area would not likely to be significant.

**6. Can the proposed action reasonably be expected to have a substantial impact on biodiversity and/or ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.)?**

This action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. The affected area has been impacted by bottom trawl gears for many decades, yet continues to be a productive environment for target and non-target species.

**7. Are significant social or economic impacts interrelated with natural or physical environmental effects?**

The proposed action would likely have some beneficial social and economic impacts, due to increased revenues from more efficient use of NE multispecies ACE, but as discussed above (Section 6.0), there are not expected to be significant impacts on the natural or physical environment.

**8. Are the effects on the quality of human communities likely to be highly controversial?**

The effects of the proposed action on the quality of human communities are not expected to be highly controversial. The action being created was initially proposed by industry representatives, and the proposed exemption meets most of the conditions of their request. The proposed decision was based on reliable scientific data from the NEFSC, NERO, the Council, and the scientific literature. The proposed action, the decision process, and the supporting data are described in a transparent fashion in this document to help avoid any controversy among the affected human communities.

**9. Can the proposed action reasonably be expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas?**

No, the proposed action cannot be reasonably expected to result in substantial impacts to unique areas or ecological critical areas. No such areas exist within the proposed exemption area.

**10. Are the effects on human communities likely to be highly uncertain or involve unique or unknown risks?**

The proposed action is not expected to result in highly uncertain effects on human communities or involve unique or unknown risks. Although it is unclear exactly how individual participants in the fishery would react to the proposed action, the action would result in the impacts to human communities as described in Section 6.1.5, with a relative amount of certainty. The proposed exemption area is expected to benefit fishing communities, particularly those which are in close proximity to the area, and have high participation in the skate bait fishery.

**11. Is the proposed action related to other actions with individually insignificant, but cumulatively significant impacts?**

The proposed action is related to other recent management actions beginning with Amendment 16 and subsequent framework actions to the NE Multispecies FMP, primarily because these actions implemented the majority of the management measures currently in effect. While Amendment 16 resulted in significant impacts to the human environment, the proposed action is insignificant (see Section 7.0) and would not result in additional significant cumulative impacts.

**12. Is the proposed action likely to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural or historical resources?**

The proposed action is not likely to affect objects listed in the National Register of Historic Places or cause significant impact to scientific, cultural, or historical resources. There are no such objects within the proposed exemption area.

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

This action would not result in the introduction or spread of any nonindigenous species, as it would not result in any vessel activity outside of the Northeast region.

**14. Is the proposed action likely to establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration?**

No, the proposed action is not likely to establish precedent for future actions with significant effects. The process for requesting exempted fisheries was established in Amendment 7 to the

NE Multispecies FMP in 1996. The proposed action creates the third exempted fishery area for vessels targeting skates in the NE Region.

**15. Can the proposed action reasonably be expected to threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment?**

The proposed action would not threaten a violation of Federal, state, or local law or requirements to protect the environment. The action complies with all applicable laws.

**16. Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?**

As specified in the responses to the first two criteria of this section, the proposed action is not expected to result in cumulative adverse effects that would have a substantial effect on target or non-target species. For further details see Section 7.0 of this document.

**DETERMINATION:** In view of the information presented in this document and the analysis contained in the supporting EA prepared for this action, it is hereby determined that the proposed exempted fishery would not significantly impact the quality of the human environment as described above and in the supporting EA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

**_____ _____**

**Acting Regional Administrator, Northeast Region Date**

#### 8.2.3 Opportunity for Public Comment

The proposed action would follow the procedures specified in the MSA and the Administrative Procedures Act. Proposed measures were published in the Federal Register on [insert date of publication] (xx FR xxxxx), and 15 days were provided for public comment.

### 8.3 MARINE MAMMAL PROTECTION ACT (MMPA)

NOAA Fisheries Service has reviewed the impacts of the SNE Skate Bait Trawl Exempted Fishery on marine mammals and concluded that the management actions proposed are consistent with the provisions of the MMPA and would not alter existing measures to protect the species likely to inhabit the management units of the subject fisheries. For further information on the potential impacts of the fishery and the proposed management action, see Section 6.1.3.

### 8.4 ENDANGERED SPECIES ACT (ESA)

On February 3, 2012, NMFS published final rules listing the Gulf of Maine distinct population segment (DPS) of Atlantic sturgeon as threatened, and listing the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs of Atlantic sturgeon as endangered, effective April 6, 2012. Preliminary analysis indicates that multiple Atlantic sturgeon DPSs may be affected by the continued operation of the NE multispecies fishery and formal consultation under Section 7 of the ESA has been reinitiated and is ongoing for the NE multispecies fishery. The previous Biological Opinion for the NE multispecies fishery completed in October 2010 concluded that the actions considered would not jeopardize the continued existence of any listed species. This Biological Opinion will be updated and additional evaluation will be included to describe any impacts of the NE multispecies fishery on Atlantic sturgeon DPSs and define any measures needed to mitigate those impacts, if necessary. It is anticipated that any measures, terms and conditions included in an updated Biological Opinion will further reduce impacts to the species. It is expected that the completion of the Biological Opinion will occur before the beginning of the 2012 NE multispecies fishing year on May 1, 2012. NMFS has determined that continued

operation of the fishery during the consultation period is not likely to jeopardize the continued existence of listed species. As discussed in Section 4.1 in this EA, the proposed exemption is from the months of July through October of each year. Therefore, there would be no fishing under this exemption from now until the time when the Biological Opinion will be completed.

### 8.5 ADMINISTRATIVE PROCEDURE ACT (APA)

Section 553 of the Administrative Procedure Act establishes procedural requirements applicable to informal rulemaking by Federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process, and to give the public adequate notice and opportunity for comment. Because this rule relieves a restriction by eliminating the requirement that vessels use NE Multispecies DAS while targeting skate bait in SNE, it is not subject to the 30-day delayed effectiveness provision of the APA pursuant to 5 U.S.C. 553(d)(1).

### 8.6 PAPERWORK REDUCTION ACT (PRA)

The purpose of the PRA is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. This action does not propose to modify any existing collections, or to add any new collections; therefore, no review under the PRA is necessary.

### 8.7 COASTAL ZONE MANAGEMENT ACT (CZMA)

NMFS made a general consistency determination that the NE Multispecies FMP, is consistent to the maximum extent practicable with the enforceable policies of the approved coastal management programs of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, and North Carolina. This general consistency determination applies to the current FMP, and all subsequent routine Federal actions carried out in accordance with the FMP such as framework adjustments and specifications. This determination was submitted to the above states on October 21, 2009. To date, North Carolina, Rhode Island, Virginia, Connecticut, New Hampshire, and New Jersey, Delaware, and Pennsylvania have concurred with the general consistency determination. Consistency was inferred for those states that did not respond.

### 8.8 INFORMATION QUALITY ACT (SECTION 515)

In accordance with the Information Quality Act (Public Law 106-554), the Office of Management and Budget directed each Federal agency to issue guidelines that ensure the quality, objectivity, utility, and integrity of information disseminated by federal agencies. The NOAA Section 515 Information Quality Guidelines require a series of actions for each new information product subject to the Information Quality Act. Information must meet standards of utility, integrity, and objectivity. This section provides information that demonstrates compliance with these standards.

### 8.8.1 Utility of Information Product

**A. Is the information helpful, beneficial or serviceable to the intended user?**

This action proposes measures to create a new skate bait exempted fishery area. The EA and the Federal Register document prepared for this action include a description of the proposed measures, the reasons why such measures are necessary, and the environmental impacts of the proposed measures. The Federal Register notice provides a summary of the information contained in the EA to inform interested public in the scope and purpose of the proposed action. This proposed action is consistent with the NE Multispecies and NE Skate FMPs and the conservation and management goals of the MSA.

**B. Is the data or information product an improvement over previously available information? Is it more current or detailed? Is it more useful or accessible to the public? Has it been improved based on comments from or interactions with customers?**

The proposed action would implement new management measures. The EA contains the most recent information available on the status of groundfish and skate stocks along with the impacts of the proposed measures, based upon the best available scientific information. The EA will be made available to the public for comment. The Federal Register notice will also be made available to the public to review and comment on the proposed measures.

**C. What media are used in the dissemination of the information? Printed publications? CD-ROM? Internet? Is the product made available in a standard data format? Does it use consistent attribute naming and unit conventions to ensure that the information is accessible to a broad range of users with a variety of operating systems and data needs?**

The Federal Register document that announces the proposed measures, as well as the EA that analyzes the potential impact of such measures, will be made available in printed publication and on the Internet website for the Northeast Regional Office.

### 8.8.2 Integrity of Information Product

The information product meets the following standards for integrity:

- If information is confidential, it is safeguarded pursuant to the Privacy Act and Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business and financial information).

- (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100 - Protection of Confidential

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

### 8.8.3 Objectivity of Information

**(1) Indicate which of the following categories of information products apply for this product:**

- □ **Original Data**
- □ **Synthesized Products**
- □ **Interpreted Products**
- □ **Hydrometeorological, Hazardous Chemical Spill, and Space Weather Warnings, Forecasts, and Advisories**
- □ **Experimental Products**
- ☒ **Natural Resource Plans**
- □ **Corporate and General Information**

**(2) Describe how this information product meets the applicable objectivity standards. (See the DQA Documentation and Pre-Dissemination Review Guidelines for assistance and attach the appropriate completed documentation to this form.)**

**What published standard(s) governs the creation of the Natural Resource Plan? Does the Plan adhere to the published standards? (See the NOAA Sec. 515 Information Quality Guidelines, Section II(F) for links to the published standards for the Plans disseminated by NOAA.)**

Any management action under this FMP must comply with the requirements of the MSA, the National Environmental Policy Act, the Regulatory Flexibility Act, the Administrative Procedures Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, and Executive Orders 12612 (Federalism), 12630 (Property Rights), 12866 (Regulatory Planning), and 13158 (Marine Protected Areas). NMFS has determined that the proposed rule to implement the measures under this action is consistent with the National Standards of the MSA and all other applicable laws.

**Was the Plan developed using the best information available? Please explain.**

Analyses for the proposed measures incorporate the most comprehensive and accurate data available from the NEFSC. These data represent the best information available. National Standard 2 requires that the FMP's conservation and management measures shall be based upon the best scientific information available. These measures have been determined to be in compliance with National Standard 2.

**Have clear distinctions been drawn between policy choices and the supporting science upon which they are based? Have all supporting materials, information, data and analyses used within the Plan been properly referenced to ensure transparency?**

The policy choices (i.e., management measures) that are proposed are supported by the available scientific information. The supporting materials and analyses used to develop these measures are contained in readily available documents that are properly referenced in the EA.

**Describe the review process of the Plan by technically qualified individuals to ensure that the Plan is valid, complete, unbiased, objective and relevant. For example, internal review by staff who were not involved in the development of the Plan to formal, independent, external peer review. The level of review should be commensurate with the importance of the Plan and the constraints imposed by legally enforceable deadlines.**

The addition of an exempted fishery to the NE Multispecies FMP involves the Northeast Regional Office and scientific data from the NEFSC. The NEFSC technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, population biology, and the social sciences. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law.

## 8.9 REGULATORY IMPACT REVIEW (RIR)

This section contains a RIR, in compliance with Executive Order (E.O.) 12866 and the Regulatory Flexibility Act. The information contained in this section complements the information in other sections of this EA. The principal elements of the Regulatory Impact Review include a description of the management objectives, a description of the fishery, a statement of the problem**,** a description of each selected alternative, including the "no action" alternative; and an economic analysis of the expected effects of each selected alternative relative to the baseline. The management objectives underlying the proposed action are described in Section 3.0, descriptions of the fisheries involved are found is Section 0, descriptions of the alternatives are in Section 4.0, and an economic analysis is in Section 6.1.5. The baseline against which the proposed alternatives are compared is the No Action alternative.

### 8.9.1 Regulatory Flexibility Act (RFA)

Description of the Reasons Why Action by Agency is Being Considered
A description of the purpose and need for the proposed action is contained in Section 3.0. The Regional Administrator has the authority to review exempted fishery requests, and grant them if the data shows that they meet the requirements dictated by the regulations. The exemption request submitted by representatives from the NE multispecies and skate bait fleets is consistent with these requirements.

The Objectives and Legal Basis for the Proposed Action
The NE Multispecies FMP and promulgating regulations at 50 CFR § 648.80(a)(8) allow the Regional Administrator to review and grant exemptions to fisheries that meet the requirements stated in those regulations. The proposed action creates a new exemption area for skate bait vessels in the SNE regulated mesh area.

Estimate of the Number of Small Entities

Under the Small Business Administration (SBA) size standards for small fishing entities ($4 million), all permitted and participating vessels in the skate bait fishery are considered to be small. In terms of the directed skate bait fishery, it is estimated that between 20 - 30 Rhode Island otter trawl vessels ranging from 50 – 70 feet dominate the bait market. There are some additional vessels that participate in other ports to some extent. A more complete description of the skate bait fishery can be found in FW 1 to the NE Skate Complex FMP, available from the New England Fishery Management Council (www.nefmc.org).

Alternatives which Minimize Significant Economic Impact of Proposed Action on Small Entities

The only alternative that may have a negative economic impact on the affected small entities is the No Action alternative described in Section 4.3. The impacts of the No Action alternative are described in Section 6.3.5. The other alternatives, which create a new exemption area, all have positive economic impacts. Although Alternative 2 appears to provide greater positive economic impacts, the analysis of observer data indicated that there is an increase in percentage of tows and trips that catch >5% groundfish in the months of June and November (Table 16, Figure 10, Table 17, Figure 11). Further, the lack of observed tows and trips targeting skate in the larger area (Figure 10, Figure 11) introduces more uncertainty about the potential effects on non-target species. For these reasons, Alternative 1 is the preferred alternative.

Description of the proposed reporting, record keeping and other compliance requirements

There are no additional requirements imposed by this action. This action would exempt participating vessels from the requirement to contact the Pre-Trip Notification System 48 hours before a trip, as well as the requirement to submit a catch report and a trip end-hail through the vessels monitoring system (VMS). Further, vessels participating in this fishery would no longer be required to have a functional VMS onboard the vessel.

Federal rules which may duplicate, overlap, or conflict

There are no rules that duplicate, overlap, or conflict with the proposed exemption.

## 8.10 E.O. 12866 (REGULATORY PLANNING AND REVIEW)

The purpose of E.O 12866 is to enhance planning and coordination with respect to new and existing regulations. This E.O. requires the Office of Management and Budget (OMB) to review regulatory programs that are considered to be "significant." Section 9.9 of this document represents the RIR, which includes an assessment of the costs and benefits of the proposed action, in accordance with the guidelines established by E.O. 12866. The analysis included in the RIR shows that this action is not a "significant regulatory action" because it would not affect in a material way the economy or a sector of the economy. See Table 23.

**Table 23. Economic costs and benefits of each alternative and their expected magnitude based off of FY 2010.**

| Potential Cost/Benefit Under Proposed Alternative | Alternative 1 | Alternative 2 | No Action |
|---|---|---|---|
| **Allocated discards coming from ACE** | Benefit for FY 2010 *$19,877.93* | Benefit for FY 2010 *$22,733.81* | Cost for FY 2010 *$22,733.81* |
| **Cost of DAS** | Benefit for FY 2010 *$4,611.85* | Benefit for FY 2010 *$5,495.35* | Cost for FY 2010 *$5,495.35* |
| **Increased Discard Rate for Sectors** | Cost *Low* | Cost *Low* | Benefit *Low* |
| **Disposition of groundfish caught as bycatch** | Cost (discarded) *Low* | Cost (discarded) *Low* | Benefit (landed) *Low* |

### 8.11 E.O. 13132 (FEDERALISM)

This E.O. established nine fundamental federalism principles for Federal agencies to follow when developing and implementing actions with federalism implications. The E.O. also lists a series of policy making criteria to which Federal agencies must adhere when formulating and implementing policies that have federalism implications. However, no federalism issues or implications have been identified relative to the measures proposed in the SNE Skate Bait Exempted Fishery. This action does not contain policies with federalism implications sufficient to warrant preparation of an assessment under E.O. 13132.

## 9.0 LIST OF PREPARERS; POINT OF CONTACT

Questions concerning this document may be addressed to:

Daniel S. Morris,
Acting Regional Administrator
National Marine Fisheries Service
55 Great Republic Drive
Gloucester, MA 01930

This document was prepared by:

Travis Ford, Northeast Regional Office, NMFS

Consultations on this document were provided by:

Susan A. Murphy, Northeast Regional Office, NMFS
George Darcy, Northeast Regional Office, NMFS
Tim Cardiasmenos, Northeast Regional Office, NMFS
Jennifer Anderson, Northeast Regional Office, NMFS

Mark Brady, Northeast Regional Office, NMFS
Robert Vincent, Northeast Regional Office, NMFS
Dean Szumylo, Northeast Regional Office, NMFS

## 10.0 AGENCIES CONSULTED

The following agencies were consulted in the preparation of this document:

National Marine Fisheries Service, NOAA, Department of Commerce

## 11.0 WORKS CITED


Aguilar, A. 2002. Fin whale, Balaenoptera physalus. Pages 435-438 in W.F. Perrin, B. Würsig, and J.G.M. Thewissen (eds.). Encyclopedia of Marine Mammals. San Diego: Academic Press.

ASFMC TC, Atlantic States Marine Fisheries Commission Technical Committee. (2007). *Special Report to the Atlantic Sturgeon Management Board: Estimation of Atlantic sturgeon bycatch in coastal Atlantic commercial fisheries of New England and the Mid-Atlantic.* ASFMC.

ASSTR, Atlantic Sturgeon Status Review Team. (2007). *Status review of Atlantic sturgeon (Acipenser oxyrinchus oxyrinchus).* National Marine Fisheries Service.

Best, P.B., J. L., Brownell, R.L. Jr., and Donovan, G.P., (eds.) 2001. Report of the workshop on status and trends of western North Atlantic right whales. J. Cetacean Res. Manage. (Special Issue) 2: 61-87.

Braun, J., and S.P. Epperly. 1996. Aerial surveys for sea turtles in southern Georgia waters, June 1991. Gulf of Mexico Science. 1996(1): 39-44.

Braun-McNeill, J., and S.P. Epperly. 2004. 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). Mar. Fish. Rev. 64(4):50-56.

Brown, M.B., O.C. Nichols, M.K. Marx, and J.N. Ciano, Surveillance of North Atlantic right whales in Cape Cod Bay and adjacent waters. Final report to the Division of Marine Fisheries, Commonwealth of Massachusetts. 29 pp., September 2002.

Brown, S.G. 1986. Twentieth-century records of right whales (Eubalaena glacialis) in the northeast Atlantic Ocean. In: R.L. Brownell Jr., P.B. Best, and J.H. Prescott (eds.) Right whales: Past and Present Status. IWC Special Issue No. 10. p. 121-128.

Carr, H. a. (1998). Conservation engineering: options to minimize fishing's impacts to the sea floor. In e. E.M. Dorsey and J. Pederson, *Effects of Fishing Gear on the Sea Floor of New England* (pp. 100-103). Boston, Massachusetts: Conservation Law Foundation.

Cetacean and Turtle Assessment Program (CeTAP). 1982. Final report or the cetacean and turtle assessment program, University of Rhode Island, to Bureau of Land Management, U.S. Department of the Interior. Ref. No. AA551-CT8-48. 568 pp.

Clapham, P.J. S. Brault, H. Caswell, M. Fujiwara, S. Kraus, R. Pace, and P. Wade. Report of the working group on survival estimation of North Atlantic right whales. September 27, 2002.

Conant, T.A., P.H. Dutton, T. Eguchi, S.P. Epperly, C.C. Fahy, M.H. Godfrey, S.L. MacPherson, E.E. Possardt, B.A. Schroeder, J.A. Seminoff, M.L. Snover, C.M. Upite, and B.E. Witherington. 2009. Loggerhead sea turtle (Caretta caretta) 2009 status review under the U.S. Endangered Species Act. Report of the Loggerhead Biological Review Team to the National Marine Fisheries Service, August 2009. 222 pages.

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.

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.

Dutton, Peter. 2011. NMFS, Marine Turtle Genetics Program, Program Leader, personal communication, September 10, 2011.

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

Frisk, M. G. (2006). Age, growth and latitudinal patterns of two rajidae species in the northwestern Atlantic: Little skate (Leucoraja erinacea) and winter skate (Leucoraja ocellata). *Canadian Journal of Fisheries and Aquatic Sciences*, 63: 1078 – 1091.

Holland, B.F., Jr., and G.F. Yelverton. 1973. Distribution and biological studies of anadromous fishes offshore North Carolina. Division of Commercial and Sports Fisheries, North Carolina Dept. of Natural and Economic Resources, Special Scientific Report No. 24. 130pp.

Horwood, J. 2002. Sei whale, Balaenoptera borealis. Pages 1069-1071 *in* W.F. Perrin, B. Würsig, and J.G.M. Thewissen, eds. Encyclopedia of Marine Mammals. San Diego: Academic Press.

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

Kahnle, A. W., K. A. Hattala, K. McKown. 2007. Status of Atlantic sturgeon of the Hudson River estuary, New York, USA. In J. Munro, D. Hatin, K. McKown, J. Hightower, K. Sulak, A. Kahnle, and F. Caron (editors). Proceedings of the symposium on anadromous sturgeon: Status and trend, anthropogenic impact, and essential habitat. American Fisheries Society, Bethesda, Maryland.

Katona, S.K., and J.A. Beard. 1990. Population size, migrations, and feeding aggregations of the humpback whale (Megaptera novaeangliae) in the Western North Atlantic Ocean. Rep. Int. Whal. Comm., Special Issue 12: 295-306.

Katona, S.K., V. Rough and D.T. Richardson 1993. A field guide to whales, porpoises, and seals from Cape Cod to Newfoundland. Smithsonian Institution Press, Washington, DC. 316 pp.

Keinath, J.A., J.A. Musick, and R.A. Byles. 1987. Aspects of the biology of Virginia's sea turtles: 1979-1986. Virginia J. Sci. 38(4):329-336.

Kenney, R.D. 2000. Are right whales starving? Electronic newsletter of the Center for Coastal Studies, posted at www.coastalstudies.org/entanglementupdate/kenney1.html on November 29, 2000. 5pp.

Kenney, R.D. 2002. North Atlantic, North Pacific, and Southern Hemisphere right whales, pp.806-813 in: W.F. Perrin, B. Wursig, and J.G.M. Thewissen (eds.) Encyclopedia of Marine Mammals. Academic Press, CA 2002.

Kenney, R.D., M.A.M. Hyman, R.E. Owen, G.P. Scott, and H.E. Winn. 1986. Estimation of prey densities required by Western North Atlantic right whales. Mar. Mamm. Sci. 2(1): 1-13.

Kocik, J.F., and T.F. Sheehan. 2006. Atlantic Salmon. Available at: http://www.nefsc.noaa.gov/sos/spsyn/af/salmon/.

Kynard, B. and M. Horgan. 2002. Ontogenetic behavior and migration of Atlantic sturgeon, Acipenser oxyrinchus oxyrinchus, and shortnose sturgeon, A. brevirostrum, with notes on social behavior. Environmental Behavior of Fishes 63: 137-150.

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. In Anadromous sturgeons: habitats, threats, and management (J. Munro, D. Hatin, J.E. Hightower, K. McKown, K.J. Sulak, A.W. Kahnle, and F. Caron (eds.)), p. 167-182. Am. Fish. Soc. Symp. 56, Bethesda, MD.

Lacroix G. L., D. Knox, and M. J. W. Stokesbury. 2005. Survival and behaviour of postsmolt Atlantic salmon in coastal habitat with extreme tides. Journal of Fish Biology 66(2): 485-498.

Miller, T. C. (2010). Estimation of Albatross IV to Henry B. Bigelow Calibration Factors. *Northeast Fisheries Science Center Reference Document 10-05*.

Mirarchi, F. (1998). Bottom trawling on soft substrates. In E. Dorsey, & e. J. Pederson, *Effects of fishing gear on the sea floor of New England.* Boston, Massachusetts: Conservation Law Foundation.

Morreale, S.J. and E.A. Standora. 1998. Early life stage ecology of sea turtles in northeastern U.S. waters. U.S. Dep. Commer. NOAA Tech. Mem. NOAA Fisheries-SEFSC-413, 49 pp.

Morreale, S.J. and E.A. Standora. 1998. Vying for the same resources: potential conflict along migratory corridors. Proceedings of the Seventeenth Annual Sea Turtle Symposium. U.S. Dep. Commer. NOAA Tech Memo. NMFS-SEFSC-415. 294pp.

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

Murray, K.T. 2006. Estimated average annual by-catch of Loggerhead Sea Turtles (*Caretta caretta*) in U.S. Mid-Atlantic bottom otter trawl gear, 1996-2004. U.S. Dep. Commer., Northeast Fish. Sci. Cent. Ref. Doc. 06-19; 26 p.

Musick, J.A. and C.J. Limpus. 1997. Habitat utilization and migration in juvenile sea turtles.

Pp 137-164 In: Lutz, P.L. and J.A. Musick, eds., The Biology of Sea Turtles. CRC Press, New York. 432 pp.

National Marine Fisheries Service (NMFS). 1991. Final recovery plan for the North Atlantic right whale (Eubalaena glacialis). Prepared by the Right Whale Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. 86 pp.

National Marine Fisheries Service (NMFS). 1994. State and federal fishery interactions with sea turtles in the MA area. NOAA/NMFS, Silver Spring, MD, 13pp.

National Marine Fisheries Service (NMFS). 1998. Recovery Plan for the Shortnose Sturgeon (Acipenser brevirostrum). Prepared by the Shortnose Sturgeon Recovery Team for the National Marine Fisheries Service, Silver Spring, Maryland. 104 pages.

National Marine Fisheries Service (NMFS). 2002. Endangered Species Act Section 7 Consultation on Shrimp Trawling in the Southeastern United States, under the Sea Turtle Conservation Regulations and as Managed by the Fishery Management Plans for Shrimp in the South Atlantic and Gulf of Mexico. December 2.

National Marine Fisheries Service (NMFS). 2003. Techniques for Making Weak Links and Marking Buoy Lines. How to Comply with the Atlantic Large Whale Take Reduction Plan. Brochure October, 2003.

National Marine Fisheries Service (NMFS). 2004. Endangered Species Act Section 7 Reinitiated Consultation on the Continued Authorization of the Atlantic Pelagic Longline Fishery under the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (HMS FMP). Biological Opinion, June 1.

National Marine Fisheries Service (NMFS). 2005. Recovery Plan for the North Atlantic right whale (Eubalaena glacialis). National Marine Fisheries Service, Silver Spring, MD. 137pp.

National Marine Fisheries Service (NMFS). 2009a. Hawksbill Turtle *(Eretmochelys imbricata)*. Available at: http://www.nmfs.noaa.gov/pr/species/turtles/hawksbill.htm.

National Marine Fisheries Service (NMFS). 2009c. Correspondence between ENTRIX, Inc and the Northeast Fisheries Science Center regarding impacts to sea turtles from fishing gear.

National Marine Fisheries Service (NMFS). 2009d. Harbor Porpoise Take Reduction Plan Final Environmental Assessment. Prepared by NMFS Northeast Region, Gloucester, Massachusetts. 170pp.

National Marine Fisheries Service (NMFS). 2010. 2011 List of Fisheries. Available at: http://www.nmfs.noaa.gov/pr/interactions/lof/final2011.htm.

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 1998. Recovery Plan for U.S. Pacific Populations of the Green Turtle (Chelonia mydas). National Marine Fisheries Service, Silver Spring, Maryland.

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 1991a. Recovery plan for U.S. population of loggerhead turtle. National Marine Fisheries Service, Washington, D.C. 64 pp.

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 1991b. Recovery plan for U.S. population of Atlantic green turtle. National Marine Fisheries Service, Washington, D.C. 58 pp.

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

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 1995. Status reviews for sea turtles listed under the Endangered Species Act of 1973. National Marine Fisheries Service, Silver Spring, Maryland. 139 pp.

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

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 2007a. Loggerhead sea turtle (/Caretta caretta/) 5 year review: summary and evaluation. National Marine Fisheries Service, Silver Spring, Maryland. 65 pp. Available at: http://www.nmfs.noaa.gov/pr/listing/reviews.htm.

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 2007b. Leatherback sea turtle (/Dermochelys coriacea/) 5 year review: summary and evaluation. National Marine Fisheries Service, Silver Spring, Maryland. 79 pp. Available at: http://www.nmfs.noaa.gov/pr/listing/reviews.htm

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 2007c. Kemp's ridley sea turtle/ (Lepidochelys/ /kempii/) 5 year review: summary and evaluation. National Marine Fisheries Service, Silver Spring, Maryland. 50 pp. Available at: http://www.nmfs.noaa.gov/pr/listing/reviews.htm.

National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS). 2007d. Green sea turtle (/Chelonia mydas/) 5 year review: summary and evaluation. National Marine Fisheries Service, Silver Spring, Maryland. 102 pp. Available at: http://www.nmfs.noaa.gov/pr/listing/reviews.htm.

National Research Council (NRC). 1990. Decline of the Sea Turtles: Causes and Prevention. Committee on Sea Turtle Conservation. Natl. Academy Press, Washington, D.C. 259 pp. National Research Council (NRC). 2002. Effects of Trawling and Dredging on Seafloor Habitat. National Academy Press. 126 p.

National Marine Fisheries Service (NMFS) Southeast Fisheries Science Center. 2001. Stock assessments of loggerheads and leatherback sea turtles and an assessment of the impact of the pelagic longline fishery on the loggerhead and leatherback sea turtles of the Western North Atlantic. U.S. Department of Commerce, National Marine Fisheries Service, Miami, FL, SEFSC Contribution PRD-00/01-08; Parts I-III and Appendices I-IV. NOAA Tech. Memo NMFS-SEFSC-455, 343 pp.

NEFMC, N. E. (2009). *Amendment 16 to the Northeast Multispecies Fishery Management Plan.* Newburyport, Massachusetts: New England Fishery Management Council.

NEFMC, N. E. (2009). *Amendment 3 to the Fishery Management Plan for the Northeast Skate Complex.* Newburyport, Massachusetts: New England Fishery Management Council.

NEFMC, N. E. (2010). *Framework Adjustment 45 to the Northeast Multispecies Fishery Management Plan.* Newburyport, Massachusetts: New England Fishery Management Council.

NEFMC, N. E. (2011). *Framework Adjustment 1 to the Fishery Mangement Plan for the Northeast Skate Complex.* Newburyport, Massachusetts: New England Fishery Management Council.

NEFSC, N. F. (2007). *Stock Assessment Workshop (44th SAW).* Northeast Fisheries Science Center.

NOAA Administrative Order Series 216-6. (1999). *Environmental Review Procedures for Implementing the Nation Environmental Policy Act.*

NREFHSC, N. R. (2002). Workshop on the Effects of Fishing Gear on Marine Habitats Off the Northeastern United States. *Northeast Fish Sci Cent Ref Doc 02-01*, (p. 86). Boston, Massachusetts.

Perrin, W.F., B. Wursig, and J.G.M. Thewissen, (eds). 2002. Encyclopedia of Marine Mammals. Academic Press, CA. 1414 pp.

Perry, S.L., D.P. DeMaster, and G.K. Silber. 1999. The great whales: History and status of six species listed as endangered under the U.S. Endangered Species Act of 1973. Mar. Fish. Rev. Special Edition. 61(1): 59-74.

Perry, S.L., D.P. DeMaster, and G.K. Silber. 1999. The Sperm Whale In: The great whales: History and status of six species listed as endangered under the U.S. Endangered Species Act of 1973. Mar. Fish. Rev. Special Edition. 61(1): 59-74.

Schueller, P. and D. L. Peterson. 2006. Population status and spawning movements of Atlantic sturgeon in the Altamaha River, Georgia. Presentation to the 14th American Fisheries Society Southern Division Meeting, San Antonio, February 8-12th, 2006. Scott, W. B. and E. J. Crossman. 1973. Freshwater fishes of Canada. Fisheries Research Board of Canada Bulletin 184: 966 pp

Sears, R. 2002. Blue whale, Balaenoptera musculus. Pages 112-116 *in* W.F. Perrin, B. Würsig, and J.G.M. Thewissen, eds. Encyclopedia of Marine Mammals. San Diego: Academic Press.

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. Herpetol. Monogr. 6: 43-67.

Southeast Fisheries Science Center (SEFSC). 2010. Sea Turtle Stranding and Salvage Network (STSSN) database. Available at: http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp.

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

Stein, A.B., K. D. Friedland, and M. Sutherland. 2004b. Atlantic sturgeon marine distribution and habitat use along the northeastern coast of the United States. Transaction of the American Fisheries Society 133:527-537.

Swingle, W.M., S.G. Barco, T.D. Pitchford, W.A. McLellan, and D.A. Pabst. 1993. Appearance

of juvenile humpback whales feeding in the nearshore waters of Virginia. Mar. Mamm. Sci. 9: 309-315.

Turtle Expert Working Group (TEWG). 1998. An assessment of the Kemp=s ridley (Lepicochelys kempii) and loggerhead (Caretta caretta) sea turtle populations in the Western North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-409. 96 pp.

Turtle Expert Working Group (TEWG). 2000. Assessment update for the Kemp's ridley and loggerhead sea turtle populations in the western North Atlantic. U.S. Dep. Commer. NOAA Tech. Mem. NMFS-SEFSC-444, 115 pp.

Turtle Expert Working Group (TEWG). 2009. An assessment of the loggerhead turtle population in the Western North Atlantic Ocean. NOAA Technical Memorandum NMFS-SEFSC-575:1-131.

Waldman, J. R., J. T. Hart, and I. I. Wirgin. 1996. Stock composition of the New York Bight Atlantic sturgeon fishery based on analysis of mitochondrial DNA. Transactions of the American Fisheries Society 125: 364-371.

Waring, G.T. Elizabeth Josephson, Carol P. Fairfield, and Katherine Maze-Foley, Editors, with contributions from (listed alphabetically): Dana Beldon, Timothy V.N. Cole, Lance P. Garrison, Keith D. Mullin, Christopher Orphanides, Richard M. Pace, Debra L. Palka, Marjorie C. Rossman, and Fredrick W. Wenzel U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2005. NOAA Technical Memorandum NMFS-NE-194

Waring, G.T., D.L. Palka, P.J. Clapham, S. Swartz, M. Rossman, T. Cole, L.J. Hansen, K.D. Bisack, K. Mullin, R.S. Wells, D.K. Odell, and N.B. Barros. 1999. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 1999. NOAA Technical Memorandum NMFS-NE-153.

Waring, G.T., J.M. Quintal, C. P. Fairfield (eds). 2002. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2002. NOAA Technical Memorandum NMFS-NE-169. 318 p.

Waring, G.T., R.M. Pace, J.M. Quintal, C. P. Fairfield, K. Maze-Foley (eds). 2004. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 2003 . NOAA Technical Memorandum NMFS-NE-182. 287 p.

Waring, G.T., E. Josephson, C.P. Fairfield-Walsh, and K. Maze-Foley, (eds). 2006. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments - 2005. NOAA Technical Memorandum NMFS-NE-194. Available at: http://www.nmfs.noaa.gov/pr/sars/region.htm.

Waring, G.T., E. Josephson, C.P. Fairfield-Walsh, and K. Maze-Foley, (eds). 2009. Draft U.S.

Atlantic and Gulf of Mexico Marine Mammal Stock Assessments – 2009. Available at: HYPERLINK "http://www.nmfs.noaa.gov/pr/sars/draft.htm" http://www.nmfs.noaa.gov/pr/sars/draft.htm .

Waring GT, Josephson E, Maze-Foley K, Rosel, PE, editors. 2011. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments -- 2010. NOAA Tech Memo NMFS NE 219; 598 p.

Wiley, D.N., R.A. Asmutis, T.D. Pitchford, and D.P. Gannon. 1995. Stranding and mortality of humpback whales, Megaptera novaengliae, in the mid-Atlantic and southeast United States, 1985-1992. Fish. Bull. (U.S.) 93:196-205.

Williamson, J. (1998). Gillnet fishing. In J. P. E.M. Dorsey, *Effects of fishing gear on the sea floor of New England* (pp. 87-89). MIT Sea Grant Pub.

Whitehead, H. 2002. Estimates of the Current Global Population Size and Historical Trajectory for Sperm Whales. Mar. Ecol. Prog. Ser. 242: 295-304.