Environmental Assessment for the Northeast Skate Complex Fishing Year 2010-11 Specifications

Prepared by the Northeast Regional Office
National Marine Fisheries Service

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List of Acronyms

ABC	Allowable biological catch
ACL	Annual Catch Limit
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
APA	Administrative Procedures Act
ASMFC	Atlantic States Marine Fisheries Commission
CAI	Closed Area I
CAII	Closed Area II
CPUE	Catch per unit of effort
DAM	Dynamic Area Management
DAS	Days-at-sea
DFO	Department of Fisheries and Oceans (Canada)
DMF	Division of Marine Fisheries (Massachusetts)
DMR	Department of Marine Resources (Maine)
DPWG	Data Poor Working Group
DSEIS	Draft Supplemental Environmental Impact Statement
EA	Environmental Assessment
EEZ	Exclusive economic zone
EFH	Essential fish habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
F	Fishing mortality rate
FEIS	Final Environmental Impact Statement
FMP	Fishery management plan
FW	Framework
FY	Fishing year
GARM	Groundfish Assessment Review Meeting
GB	Georges Bank
GIS	Geographic Information System
GOM	Gulf of Maine
GRT	Gross registered tons/tonnage
HAPC	Habitat area of particular concern
HPTRP	Harbor Porpoise Take Reduction Plan
IFQ	Individual fishing quota
ITQ	Individual transferable quota
IVR	Interactive voice response reporting system
IWC	International Whaling Commission
LOA	Letter of authorization
LPUE	Landings per unit of effort
MA	Mid-Atlantic
MAFAC	Marine Fisheries Advisory Committee
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MPA	Marine protected area

MRFSS	Marine Recreational Fishery Statistics Survey
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSMC	Multispecies Monitoring Committee
MSY	Maximum sustainable yield
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NERO	Northeast Regional Office
NLSA	Nantucket Lightship closed area
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NT	Net tonnage
OBDBS	Observer database system
OLE	Office for Law Enforcement (NMFS)
OY	Optimum yield
PBR	Potential Biological Removal
PDT	Plan Development Team
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RMA	Regulated Mesh Area
RPA	Reasonable and Prudent Alternatives
SA	Statistical Area
SAFE	Stock Assessment and Fishery Evaluation
SAP	Special Access Program
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SBNMS	Stellwagen Bank National Marine Sanctuary
SEIS	Supplemental Environmental Impact Statement
SFA	Sustainable Fisheries Act
SIA	Social Impact Assessment
SNE	Southern New England
SSB	Spawning stock biomass
SSC	Scientific and Statistical Committee
TAC	Total allowable catch
TAL	Total allowable landings
TED	Turtle excluder device
TEWG	Turtle Expert Working Group
TMS	Ten minute square
TRAC	Trans-boundary Resources Assessment Committee
TSB	Total stock biomass
USFWS	United States Fish and Wildlife Service
VMS	Vessel monitoring system
VPA	Virtual population analysis
VTR	Vessel trip report
WGOM	Western Gulf of Maine
YPR	Yield per recruit

1.0 Executive Summary

On March 23, 2010, NOAA's National Marine Fisheries Service (NMFS), on behalf of the U.S. Secretary of Commerce (Secretary), approved Amendment 3 to the Skate FMP. This amendment included an acceptable biological catch level (ABC) of 30,643 mt, an annual catch target (ACT) of 22,982 mt, and a total allowable landings (TAL) level of 9,427 mt that was based on the best available science at the time the amendment was submitted by the New England Fishery Management Council (Council). This current action would implement final specifications for the 2010-11 skate fishery that increases the ABC for the Northeast (NE) skate complex by 34 percent to 41,080 mt, consistent with the most recent scientific advice and the recommendation of the Council's Scientific and Statistical Committee (SSC). Since the annual catch limit (ACL) is set equivalent to the ABC and the ACT is 75 percent of the ACL (30,810 mt), both the ACL and the ACT for the NE skate complex would be adjusted by this action.

Updated discard estimates were calculated by the Skate Plan Development Team (PDT) in April 2010, and show a slightly lower discard rate of 54 percent compared to the previous discard rate of 59 percent. As a result, a revised TAL of 13,848 mt for the NE skate complex was calculated by the PDT using this updated discard estimate, and then deducting an additional 3-percent for skate landings from state waters. This TAL was then divided between the skate wing fishery (8,404 mt) and the bait skate fishery (4,234 mt) based upon the allocation percentages established by Amendment 3 to the Fishery Management Plan for the NE Skate Complex (Skate FMP). Thus, this action would also update the TALs for the skate fishery, as recommended by the PDT and requested by the Council at its April 28, 2010, meeting.

Finally, this action would adjust the trip limit for the skate wing fishery to be 5,000 lb per trip to reflect the increase in the skate wing TAL. This trip limit was one of several possible trip limits developed by the PDT and presented to the Council at its April 28, 2010, meeting. Following discussion by the Council, and after receiving public comments, the Council requested that NMFS update the fishing year (FY) 2010-11 specifications to include a revised of 5,000 lb based on public input. Only the skate wing trip limit is being modified by this action because Amendment 3 to the Skate FMP established seasonal quotas and a 20,000 lb trip limit for the skate bait fishery to help prevent derby style fishing, ensuring a consistent supply of bait skate for the lobster fishery. Thus, for the bait skate fishery, the trip limit is intended to control fishing behavior versus mortality, as it is in the skate wing fishery.

This action is being taken under the Regional Administrator's authority to adjust final specifications for the skate fishery found at 50 CFR 648.320(a)(7) as amended by Amendment 3 to the Skate FMP. It does not change any of the approved management measures in Amendment 3, but only modifies the FY 2010-11 skate fishery specifications recommended in that amendment. Further, this action does not affect the approval of Amendment 3.

The impacts of the proposed action are described in Section 5.0. In summary, the proposed action is expected to have a positive impact on the skate resource in comparison to taking no action because it would establish fishing levels that are based on the best scientific information available. In addition, this action is expected to have a positive impact on non-target species,

protected species and habitat in comparison to taking no action because it would likely reduce total fishing effort in the skate fishery. However, the proposed action is expected have a slightly negative impact on communities (economic and social) given that it will result in reduced overall fishing opportunities through a reduction in landing levels.

This environmental assessment was developed in accordance with provisions, requirements, and available guidance on implementing the National Environmental Policy Act (NEPA).

2.0 Purpose and Need for Action

2.1 Background

On March 23, 2010, NOAA's National Marine Fisheries Service (NMFS), on behalf of the U.S. Secretary of Commerce (Secretary), approved Amendment 3 to the Skate FMP. The objectives of Amendment 3 were to establish a rebuilding program for smooth skates, promote biomass increases in other skate stocks, and implement ACLs and accountability measures (AMs) for the NE skate complex, consistent with the reauthorized Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Specifically, Amendment 3 implemented an ACL for the skate complex that is set equal to the ABC recommended by the Council's SSC. To account for management uncertainty, the amendment included an annual catch target (ACT) that is set at 75 percent of the ACL. A projection of total annual dead discards is then subtracted from the ACT to generate a TAL for the skate fisheries. An estimate of landings from state waters (3 percent of the total TAL) is then deducted to generate the TAL for Federal waters. This TAL is then divided between the skate wing (66.5 percent) and bait skate (33.5 percent) fisheries. In September 2009, the SSC recommended the ABC for 2010 and 2011 be set no higher than 30,643 mt; based on this ABC, the Federal waters TAL for 2010 and 2011 established by Amendment 3 was 9,427 mt. The subsequent TALs for the skate wing and bait skate fisheries were 6,269 mt and 3,158 mt, respectively.

In addition to establishing an ACL and AMs, and setting specifications for the 2010 and 2011 fishing years, Amendment 3 established a trip limit of 1,900 mt for the skate wing fishery. This trip limit was based on an analysis by the PDT to achieve a 45.5-percent mortality reduction and an 11,544-mt skate TAL, of which 7,677 mt was allocated to the wing fishery. These TALs were contained in the Draft Environmental Impact Statement (DEIS) prepared for Amendment 3 that went out to public hearing. However, following these public hearings, the Northeast Fisheries Science Center (NEFSC) convened a Data Poor Assessment Workshop (DPWS 2009a and 2009b) to evaluate novel approaches to assessing data poor and model resistant stocks, including skates. Skates were included on the agenda to address and correct the uncertain species identification in landings and discards, and to develop analytical (i.e., model based) assessments. As a result, the DPWS provided updated estimates of skate catch and discards, and attempted analytical assessments. The discard estimates generated by the DPWS were higher than previously anticipated, having a substantial effect on the TALs for the wing and bait fisheries. Despite the reduced TAL of 4,873 mt for the wing fishery, the Council decided that the final Amendment 3 alternative would retain the 1,900 mt trip limit.

The Council submitted a final version of Amendment 3 to the Northeast Regional Office of NMFS in November 2010, with a set of fishery specifications for FY 2010-11 that were based on the best scientific information available at that time. Following the submission of Amendment 3, the Council requested the PDT review 2008 fall trawl survey data that indicated a substantial increase in winter skate biomass, as well as increases in biomass for clearnose and little skates. The purpose of the Council's request was to determine if the 2008 skate indices were an anomaly, or provided a reasonable estimate of current skate biomass. During its March 8, 2010, meeting, the PDT found, "... the fall 2008 skate indices do not appear to be anomalous, despite

the increase in the winter skate biomass index from 2.48 kg/tow in 2006 and 3.71 kg/tow in 2007 to 9.50 kg/tow in 2008 (the 5th highest in the 42-year time series), an increase that might occur due to a significant change in catchability, a large recruitment event, or a transient immigration of adult skates." The PDT also noted that, "...other surveys which are not used in the formal status determination and not used in the formal ABC calculation appear to corroborate the increase in the fall survey winter skate biomass index." As a result, the PDT found no scientific justification for excluding the 2008 fall trawl survey data from the ABC calculation.

On March 17, 2010, the SSC met to review the PDT's recommendation, and agreed to include the 2008 fall trawl survey data in the ABC calculation. The revised ABC calculation recommended by the SSC, based on this new information, is 41,080 mt. Additionally, the SSC noted that discard estimates should be updated and included in the TAL calculation.

On April 7, 2010, the PDT met to review the updated discard estimates provided by the NEFSC, calculate new TALs, and review options for skate wing trip limits developed by Council and Regional Office staff. Based upon 2008 observer information, the discard rate declined from 58.9 percent to 53.7 percent, enabling a greater portion of the ABC to be allocated to the TAL. Thus, the PDT calculated a total skate TAL after deducting discards of 14,277 mt, and a Federal skate TAL of 13,848 mt after deducting projected state landings (at a rate of 3 percent). The resulting skate wing TAL is 9,209 mt and bait skate TAL is 4,639 mt based upon the fishery percentages adopted in Amendment 3. The PDT developed a range of five possible possession limits for consideration by the Council at its April 28, 2010, meeting. At this meeting, after hearing the PDT's presentation and receiving public comment on the trip limit options, the Council requested that NMFS incorporate the new ABC numbers from the SSC and increase the skate wing trip limit to 5,000 lbs for FY 2010-2011.

2.2 Purpose and Need

This action is needed to reduce skate catch to a level that will enable biomass to rebuild, while incorporating the best scientific information available (the March 2010 ABC recommendation from the SSC) for the NE skate complex. The purpose of this action is to update the FY 2010-11 Specifications for the Skate FMP that were implemented through Amendment 3 based upon this new information.

3.0 Summary of Alternatives

3.1 No Action

Taking no action with respect to 2010-11 skate fishery specifications would mean retaining the species specific optimum yield (OY) provisions in the original FMP since a target catch and/or landing level was not specified for this fishery. This action would also retain the current wing trip limit of 10,000 lb and the current unlimited bait skate trip limit when fishing under a Skate Bait Letter of Authorization (Table 1).

3.2 Update 2010-11 Specifications - Preferred Alternative

This alternative would revise the FY 2010-11 Specifications for the NE skate complex as provided in Table 1, based upon the updated ABC of 41,080 mt recommended by the SSC. This updated ABC incorporates new scientific information, and therefore, reflects the best scientific information available on the skate resource. Additionally, this action would increase the skate wing trip limit to be 5,000 lb per trip to account for the higher skate wing TAL resulting from the increased ABC. This action was requested by the Council at its April 28, 2010, meeting after receiving public input on the revised ABC, associated TALs, and options for revised skate wing trip limits.

3.3 Amendment 3 Specifications

This alternative would retain the FY 2010-11 Specifications for the NE skate complex contained in Amendment 3, including the ABC of 30,643 mt, the associated ACL and TALs, and the skate wing trip limit of 1,900 lb (Table 1). A comparison between this alternative and the Preferred Alternative is provided in Figure 1.

Table 1. Revised 2010 Skate Fishery Specifications

	Alternative 1 – No Action	**Alternative 2 - Preferred**	**Alternative 3**
ABC=ACL	**N/A**	**41,080 mt**	**30,643 mt**
ACT (75% of ACL)	**N/A**	**30,810 mt**	**22,982 mt**
Discards (53.7% discard rate)	**N/A**	16,533 mt	13,264 mt
Total Skate TAL	**N/A**	**14,277 mt**	**9,718 mt**
State waters landings (3% of TAL)	**N/A**	428 mt	291 mt
Federal Skate TAL	**N/A**	**13,848 mt**	**9,427 mt**
Skate Wing TAL (66.5% of Federal TAL)	**N/A**	**9,209 mt**	**6,269 mt**
Bait Skate TAL (33.5% of Federal TAL)	**N/A**	**4,639 mt**	**3,158 mt**
Wing Trip Limit	**10,000 lb**	**5,000 lb**	**1,900 lb**

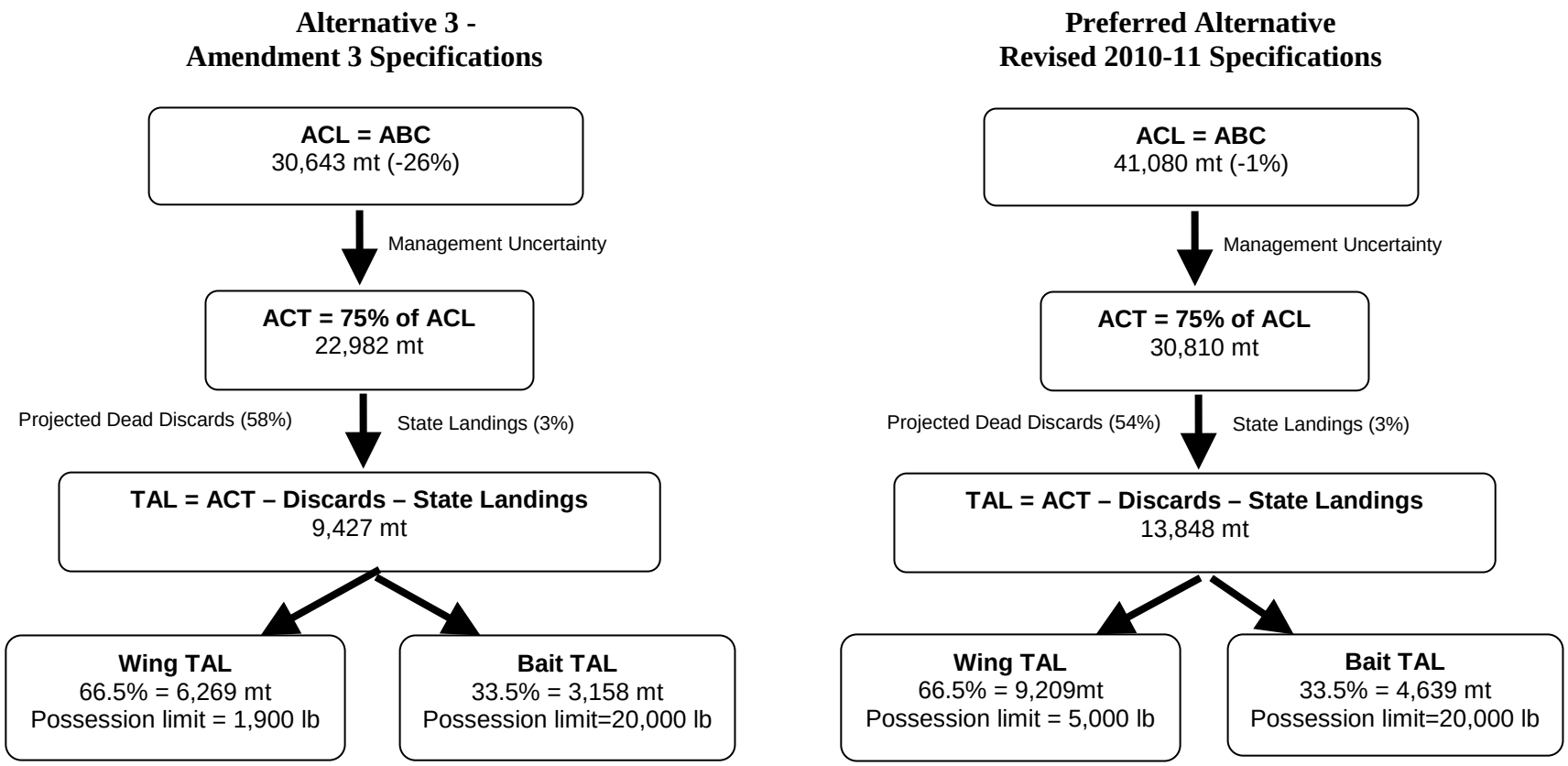

Figure 1. Comparison of Amendment 3 Specifications (Alternative 3) and the Preferred Alternative

4.0 Affected Environment

4.1 Biological Environment

4.1.1 Stock Status

In addition to re-estimating catch and attempting analytical assessments, the DPWS also re-evaluated the overfishing definition reference points for all species in the NE skate complex. Since the DPWS deemed the attempted analytical analyses as being unreliable for management advice, it recommended updating the MSY proxy reference points to include 1998-2007 data (through the 2008 spring survey for little skate). The Council's SSC approved this recommendation. As such, the Council adopted a change to the selected reference time series for the reference points for six of the seven skate stocks in Amendment 3. Barndoor skate was not updated because in the FMP only a portion of the early survey time series was considered appropriate as an approximation of MSY conditions. Based on these revised reference points, barndoor, clearnose, little, rosette, and winter skates are not overfished and overfishing is not occurring. However, smooth and thorny skate are overfished, but overfishing is not occurring. A complete discussion of the stock status for all species in the skate complex is provided in Sections 7.2.2 and 7.2.6 of the FEIS prepared for Amendment 3 to the Skate FMP. Additionally, a thorough discussion of species distribution and life history characteristics is provided in Sections 7.2.1, 7.2.3, 7.2.4 and 7.2.5 of the Amendment 3 FEIS.

4.1.2 Marine Mammals and Protected Species

The following protected species are found in the environment utilized by the skate fishery. A number of them are listed under the Endangered Species Act of 1973 (ESA) as "endangered" or "threatened", while others are identified as protected under the Marine Mammal Protection Act of 1972 (MMPA).

Cetaceans Status

Northern right whale (*Eubalaena glacialis*)	Endangered
Humpback whale (*Megaptera novaeangliae*)	Endangered
Fin whale (*Balaenoptera physalus*)	Endangered
Blue whale (*Balaenoptera musculus*)	Endangered
Sei whale (*Balaenoptera borealis*)	Endangered
Sperm whale (*Physeter macrocephalus*)	Endangered
Minke whale (*Balaenoptera acutorostrata*)	Protected
Pilot whale (*Globicephala* spp.)	Protected
Long-finned pilot whale (*Globicephala melas*)	Protected
Short-finned pilot whale (*Globicephala macrorhynchus*)	Protected
Spotted dolphin (*Stenella frontalis*)	Protected
Risso's dolphin (*Grampus griseus*)	Protected
White-sided dolphin (*Lagenorhynchus acutus*)	Protected
Common dolphin (*Delphinus delphis*)	Protected
Bottlenose dolphin: coastal stock (*Tursiops truncatus*)	Protected

Bottlenose dolphin: offshore stock (*Tursiops truncatus*)	Protected
Harbor porpoise (*Phocoena phocoena*)	Protected
Seals	
Harbor seal (*Phoca vitulina*)	Protected
Gray seal (*Halichoerus grypus*)	Protected
Harp seal (*Phoca groenlandica*)	Protected
Hooded seal (*Crystophora cristata*)	Protected
Sea Turtles	
Leatherback sea turtle (*Dermochelys coriacea*)	Endangered
Kemp's ridley sea turtle (*Lepidochelys kempii*)	Endangered
Green sea turtle (*Chelonia mydas*)	Endangered*
Loggerhead sea turtle (*Caretta caretta*)	Threatened
Fish	
Shortnose sturgeon (*Acipenser brevirostrum*)	Endangered
Atlantic salmon (*Salmo salar*)	Endangered

**Green turtles in U.S. waters are listed as threatened except for the Florida breeding population which is listed as endangered.*

Although salmon belonging to the Gulf of Maine distinct population segment (DPS) of Atlantic salmon occur within the general geographical area covered by the Northeast Multispecies FMP, they are unlikely to occur in the area where the fishery is prosecuted given their numbers and distribution. Therefore, the DPS is not likely to be affected by the skate fishery.

It is expected that all of the remaining species identified have the potential to be affected by the operation of the skate fishery. However, given differences in abundance, distribution and migratory patterns, it is likely that any effects that may occur, as well as the magnitude of effects when they do occur, will vary among the species. Summary information is provided here that describes the general distribution of cetaceans, pinnipeds, and sea turtles within the management area for the Skate FMP as well as the known interactions of gear used in the skate fishery with these protected species. Additional background information on the range-wide status of marine mammal and sea turtle species that occur in the area can be found in a number of published documents. These include sea turtle status reviews and biological reports (NMFS and USFWS 2007; Hirth 1997; USFWS 1997; Marine Turtle Expert Working Group (TEWG) 1998 & 2000), recovery plans for Endangered Species Act-listed sea turtles and marine mammals (NMFS 1991; NMFS and USFWS 1991a; NMFS and USFWS 1991b; NMFS and USFWS 1992; NMFS 1998; USFWS and NMFS 1992; NMFS 2005), the marine mammal stock assessment reports (*e.g.*, Waring *et al*. 2006,2007 and 2008), and other publications (*e.g.*, Clapham *et al.* 1999; Perry *et al.* 1999; Wynne and Schwartz 1999; Best *et al.* 2001; Perrin *et al*. 2002).

4.1.2.1 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. In general, turtles 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). The trend is reversed in the fall as water temperatures cool. By December, turtles have passed Cape Hatteras, returning 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 are typically observed as far north as Cape Cod whereas the more cold-tolerant leatherbacks are observed 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).

Sea turtles are known to be captured in gillnet and trawl gear; gear types that are used in the skate fishery. According to the monthly reports on the NEFSC website for March 2006 – February 2008, one loggerhead turtle was taken in observed groundfish trips by a bottom trawl, and none were observed in sink gillnets.

On November 16, 2007, NMFS and the US Fish and Wildlife Service (USFWS) received a petition from the Center for Biological Diversity and Oceana requesting that loggerhead turtles in the Northwest Atlantic Ocean be reclassified as a DPS with endangered status and that critical habitat be designated. NMFS and the USFWS found that both petitions presented substantial information that the petitioned actions may be warranted. As a result of these petitions, NMFS and USFWS convened a biological review team (BRT) in February 2008 to review the best available scientific information, determine whether DPSs exist, and assess the extinction risk for each potential DPS. The BRT organized their evaluation by ocean basin: Pacific Ocean, Atlantic Ocean (including the Mediterranean Sea), and Indian Ocean. This status review was completed in August 2009. Overall, the BRT concluded that the Northeast Atlantic and Mediterranean DPSs are at immediate risk of extinction; the North Pacific, South Pacific, North Indian, Southeast Indo-Pacific, Northwest Atlantic DPSs are currently at risk of extinction; and the Southwest Indian and South Atlantic DPSs are likely not currently at immediate risk of extinction (NMFS and USFWS 2009).

It should be noted that the status review document prepared by the BRT is not a listing decision. NMFS and the USFWS must next evaluate the report and determine what, if any, action is appropriate under the ESA. Possible decisions by the agencies include: No change in listing status; a change in listing status for the species as currently defined (single species range wide); identification of DPS; and proposing to list some or all of them as either threatened or endangered. The agencies will prepare proposed determinations and publish those in the *Federal Register* and solicit public comment. The agencies will then review the comments and prepare a final determination. Typically a listing action becomes effective 30 days after publication of the final rule in the *Federal Register*. Only after that final listing decision is announced in the *Federal Register* would DPSs be applied, if deemed necessary and warranted, and a new listing be in effect.

4.1.2.2 Large Cetaceans

The western North Atlantic baleen whale species (Northern right, humpback, fin, sei, and minke) follow a general annual pattern of migration from high latitude summer foraging grounds, including the Gulf of Maine and Georges Bank, and low latitude winter calving grounds (Perry *et al.* 1999; Kenney 2002). However, this is an oversimplification of species movements, and the complete winter distribution of most species is unclear (Perry et al. 1999; Waring et al. *2008*). 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).

In comparison to the baleen whales, sperm whale distribution occurs more on the continental shelf edge, over the continental slope, and into mid-ocean regions (Waring *et al*. 2005). However, sperm whale distribution in U.S. EEZ waters also occurs in a distinct seasonal cycle (Waring *et al*. *2008*). Typically, sperm whale distribution is concentrated east-northeast of Cape Hatteras in winter and shifts northward in spring when whales are found throughout the Mid-Atlantic Bight (Waring *et al*. 2005). Distribution extends further northward to areas north of Georges Bank and the Northeast Channel region in summer and then south of New England in fall, back to the Mid-Atlantic Bight (Waring *et al.* 1999).

Right whales and sei whales feed on copepods (Horwood 2002; Kenney 2002). The skate fishery will not affect the availability of copepods for foraging right and sei whales because copepods are very small organisms that will pass through skate fishing gear rather than being captured in it. Blue whales feed on euphausiids (krill) (Sears 2002) which, likewise, are too small to be captured in skate fishing gear. Humpback whales and fin whales also feed on krill as well as small schooling fish (e.g., sand lance, herring, mackerel) (Aguilar 2002; Clapham 2002). Fish species caught in skate gear are species that live in benthic habitat (on or very near the bottom) such as flounders versus schooling fish such as herring and mackerel that occur within the water column. Sperm whales feed on larger organisms that inhabit the deeper ocean regions (Whitehead 2002). The skate fishery does not operate in these deep water areas. Additionally, the skate fishery does not operate in low latitude waters where calving and nursing occurs for these large cetacean species (Aguilar 2002; Clapham 2002; Horwood 2002; Kenney 2002; Sears 2002; Whitehead 2002).

Gillnet gear is known to pose a risk of entanglement causing injury and death to large cetaceans. Right whale, humpback whale, and minke whale entanglements in gillnet gear have been documented (Johnson *et al*. 2005; Waring *et al*. *2008*). However, it is often not possible to attribute the gear to a specific fishery. For the period March 2006 – December 2008, five incidents of whale takes were observed on trips targeting groundfish, all of which were taken in bottom trawl trips. Of those five takes, four were of whales that were in various states of decomposition, while one pilot whale was deemed “fresh”. In July 2008, a humback whale was observed alive and entangled in gillnet gear used to target cod. Also, a fresh dead minke whale was observed in bottom trawl gear used to target winter flounder.

4.1.2.3 Small Cetaceans (Dolphins, Harbor Porpoise and Pilot Whale)

Numerous small cetacean species (dolphins, pilot whales, and harbor porpoise) occur within the area from Cape Hatteras through the Gulf of Maine. Seasonal abundance and distribution of each species in Mid- Atlantic, Georges Bank, and/or Gulf of Maine waters varies with respect to life history characteristics. Some species primarily occupy continental shelf waters (e.g., white sided dolphins, harbor porpoise), while others are found primarily in continental shelf edge and slope waters (e.g., Risso's dolphin), and still others occupy all three habitats (e.g., common dolphin, spotted dolphins). Information on the western North Atlantic stocks of each species is summarized in Waring *et al*. (*2008*). Small cetaceans are known be captured in gillnet and trawl gear, although the rate of bycatch of harbor porpoise in trawl gear may be low. In recent data, there were six observed (fresh dead) takes of harbor porpoise in NE bottom trawl gear from 2003-2006.

With respect to harbor porpoise specifically, the most recent Stock Assessment Reports show that the estimated number of harbor porpoise takes is increasing, moving closer to the Potential Biological Removal level calculated for this species rather than declining toward the long-term Zero Mortality Rate Goal (ZMRG), which is 10 percent of PBR (approximately 75 animals). The most recent stock assessment report states that the average annual estimated harbor porpoise mortality and serious injury in the Northeast sink gillnet fishery during 1994-1998, before the Harbor Porpoise Take Reduction Plan (HPTRP), was 1,163, and from 2000 to 2005 was 480 (Waring *et al.*, 2008). The assessment also states that the total annual estimated average human-caused mortality is 734 harbor porpoises per year, including 77 from Canadian fisheries and 5 from unknown fisheries using strandings data. This is an increase from 575 in the previous assessment. Action was recently taken by NMFS to reduce takes (see Section 4.1.2.5 below).

4.1.2.4 Pinnipeds

Of the four species of seals expected to occur in the area, harbor seals have the most extensive distribution with sightings occurring as far south as 30° N (Katona *et al*. 1993). Grey seals are the second most common seal species in U.S. EEZ waters, occurring primarily in New England (Katona *et al.* 1993; Waring *et al*. *2008*). Pupping colonies for both species are also present in New England, although the majority of pupping occurs in Canada. Harp and hooded seals are less commonly observed in U.S. EEZ waters. Both species form aggregations for pupping and breeding off of eastern Canada in the late winter/early spring, and then travel to more northern latitudes for molting and summer feeding (Waring *et al*. *2008*). However, individuals of both species are also known to travel south into U.S. EEZ waters and sightings as well as strandings of each species have been recorded for both New England and Mid- Atlantic waters (Waring *et al*. *2008*). All four species of seals are known to be captured in gillnet and/or trawl gear (Waring *et al*. *2008*).

4.1.2.5 Actions to mitigate impacts on protected species

Actions to mitigate the impacts of the skate fishery on protected species are currently being implemented in the Northeast Region under either the Harbor Porpoise Take Reduction Plan (HPTRP) or the Atlantic Large Whale Take Reduction Plan (ALWTRP). These TRPs and

current actions that may impact the skate fishery are described below. Furthermore, NMFS convened the Atlantic Trawl Gear Take Reduction Team (ATGTRT) as part of a settlement agreement between the Center for Biological Diversity and NMFS to address the incidental mortality and serious injury of long-finned pilot whales, short-finned pilot whales, common dolphins, and white-sided dolphins in several Atlantic trawl gear fisheries. The first ATGTRT was held in September 2006. Monthly reports of observed incidental takes are available on the NEFSC website at http://www.nefsc.noaa.gov/femad/fishsamp/fsb/.

NMFS published the rule implementing the HPTRP on December 1, 1998. The HPTRP includes measures for gear modifications and area closures, based on area, time of year, and gillnet mesh size. In general, the Gulf of Maine component of the HPTRP includes time and area closures, some of which are complete closures; others are closures to gillnet fishing unless pingers (acoustic deterrent devices) are used in the prescribed manner. The Mid-Atlantic component includes time and area closures in which gillnet fishing is prohibited regardless of the gear specifications. Based on an increase in harbor porpoise takes in the overall sink gillnet fishery in recent years, the Harbor Porpoise Take Reduction Team has developed options to reduce takes, and NMFS published a proposed rule on July 21, 2009 (74 FR 36058) with four alternatives, including no action. Public comments were accepted thorough August 20, 2009. On February 19, 2010 (75 FR 7383), NMFS published a final rule, effective March 22, 2010. This action addresses the increased incidental mortality and serious injury of the Gulf of Maine/Bay of Fundy stock of harbor porpoises in gillnet fisheries throughout the stock's U.S. range. In New England, new measures include the expansion of seasonal and temporal requirements within HPTRP management areas, incorporation of additional management areas, and establishment of a consequence closure area strategy to increase compliance and reduce bycatch levels within select management areas with historically high levels of harbor porpoise bycatch. However, new seasonal pinger requirements for the New England component were delayed until September 15, 2010, through a secondary final rule published on March 17, 2010 (75 FR 12699). In the Mid-Atlantic, new measures include the establishment of an additional management area, and modification to the current tie-down requirement for large mesh gillnet gear.

The ALWTRP contains a series of regulatory measures designed to reduce the likelihood of fishing gear entanglements of right, humpback, and fin whales, and acknowledges benefits to minke whales in the North Atlantic. The main tools of the plan include a combination of broad gear modifications and time/area closures (which are being supplemented by progressive gear research), expanded disentanglement efforts, extensive outreach efforts in key areas, and an expanded right whale surveillance program to supplement the Mandatory Ship Reporting System.

Key regulatory changes implemented in 2002 included: 1) new gear modifications; 2) implementation of a Dynamic Area Management system (DAM) of short-term closures to protect unexpected concentrations of right whales in the Gulf of Maine; and 3) establishment of a Seasonal Area Management system (SAM) of additional gear modifications to protect known seasonal concentrations of right whales in the southern Gulf of Maine and Georges Bank.

On June 21, 2005, NMFS published a proposed rule (70 FR 35894) for changes to the ALWTRP, and published a final rule on October 5, 2007 (72 FR 57104). The new ALWTRP measures

expand the gear mitigation measures by: (a) including additional trap/pot and net fisheries (*i.e.*, gillnet, driftnet) to those already regulated by the ALWTRP, (b) redefining the areas and seasons within which the measures would apply, (c) changing the buoy line requirements, (d) expanding and modifying the weak link requirements for trap/pot and net gear, and (e) requiring (within a specified timeframe) the use of sinking and/or neutrally buoyant groundline in place of floating line for all fisheries regulated by the ALWTRP on a year-round or seasonal basis.

4.1.2.6 Physical Environment

The Northeast U.S. Shelf Ecosystem has been described as including the area from the Gulf of Maine south to Cape Hatteras, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream (Sherman *et al.* 1996). The continental slope includes the area east of the shelf, out to a depth of 2000 m. Four distinct sub-regions comprise the NOAA Fisheries Northeast Region: the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. Occasionally another sub-region, Southern New England, is described; however, discussions of any distinctive features of this area have been incorporated into the sections of the Amendment 3 FEIS describing Georges Bank and the Mid-Atlantic Bight.

The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with a patchwork of various sediment types. Georges Bank is a relatively shallow coastal plateau that slopes gently from north to south and has steep submarine canyons on its eastern and southeastern edge. It is characterized by highly productive, well-mixed waters and strong currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC. The continental slope begins at the continental shelf break and continues eastward with increasing depth until it becomes the continental rise. It is fairly homogenous, with exceptions at the shelf break, some of the canyons, the Hudson Shelf Valley, and in areas of glacially rafted hard bottom.

Pertinent physical and biological characteristics of each of these sub-regions are described in Sections 7.3.1, 7.3.2, 7.3.3, and 7.3.4 of the Amendment 3 FEIS, along with a short description of the physical features of coastal environments. Information on the affected physical and biological environments included in Amendment 3 were extracted from Stevenson et al. (2004).

4.2 Essential Fish Habitat (EFH)

4.2.1 Description of EFH

The two gears used in the directed skate fishery are bottom trawls and sink gillnets. Dredge gear is not used in the directed skate fishery. Thus, this gear type does not need to be evaluated in the gear-specific impact discussion in Section 5.2, but is noted in the general discussion of fishing effects on EFH in Section 4.3.2.

Generally, otter trawls are towed at speeds of 2-3 knots over the bottom and the trawl doors and footrope contact the benthic environment. Conversely, while sink gill nets are deployed on the ocean bottom, they are stationary or static, anchored at each end and left in place for varying

periods of time. Gillnets have been determined to not have an adverse effect on EFH (NEFMC 2004) and are, therefore, omitted from further discussion in this section.

The environment that could potentially be affected by the proposed emergency action has been identified as EFH for benthic life stages of species that are managed under the NE Multispecies; Atlantic Sea Scallop; Monkfish; Deep-Sea Red Crab; Northeast Skate Complex; Atlantic Herring; Summer Flounder, Scup, and Black Sea Bass; Tilefish; Squid, Atlantic Mackerel, and Butterfish; Atlantic Surfclam and Ocean Quahog Fishery Management Plans. EFH for the species managed under these FMPs includes a wide variety of benthic habitats in state and federal waters throughout the Northeast U.S. Shelf Ecosystem. EFH descriptions of the geographic range, depth, and bottom types for all the benthic life stages of the species managed under these FMPs are summarized in Table 2 below. General information on distribution of all seven species included in the NE skate complex is provided in Sections 7.1 and 7.2 of the Amendment 3 FEIS. The Essential Fish Habitat Source Documents prepared by the NEFSC for each of the seven skate species provide most available biological and habitat information on skates. Updated information concerning skate life history characteristics is contained in Section 7.2.4 of Amendment 3. These source documents are available at http://www.nefsc.noaa.gov/nefsc/habitat/efh.

Table 2. EFH descriptions for all benthic life stages of federally-managed species in the U.S. Northeast Shelf Ecosystem. Species with EFH vulnerable to bottom tending gear are shaded (see Stevenson et al. 2004).

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
American plaice	juvenile	GOME and estuaries from Passamaquoddy Bay to Saco Bay, ME and from Mass. Bay to Cape Cod Bay, MA	45 - 150	Bottom habitats with fine grained sediments or a substrate of sand or gravel
American plaice	adult	GOME and estuaries from Passamaquoddy Bay to Saco Bay, ME and from Mass. Bay to Cape Cod Bay, MA	45 - 175	Bottom habitats with fine grained sediments or a substrate of sand or gravel
Atlantic cod	juvenile	GOME, GB, eastern portion of continental shelf off southern NE and following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	25 - 75	Bottom habitats with a substrate of cobble or gravel
Atlantic cod	adult	GOME, GB, eastern portion of continental shelf off southern NE and following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	10 - 150	Bottom habitats with a substrate of rocks, pebbles, or gravel
Atlantic halibut	juvenile	GOME, GB	20 - 60	Bottom habitats with a substrate of sand, gravel, or clay
Atlantic halibut	adult	GOME, GB	100 - 700	Bottom habitats with a substrate of sand, gravel, or clay

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Atlantic herring	eggs	GOME, GB and following estuaries: Englishman/Machias Bay, Casco Bay, and Cape Cod Bay	20 – 80	Bottom habitats attached to gravel, sand, cobble or shell fragments, also on macrophytes
Atlantic sea scallop	juvenile	GOME, GB, southern NE and middle Atlantic south to Virginia-North Carolina border and following estuaries: Passamaquoddy Bay to Sheepscot R.; Casco Bay, Great Bay, Mass Bay, and Cape Cod Bay	18 - 110	Bottom habitats with a substrate of cobble, shells, and silt
Atlantic sea scallop	adult	GOME, GB, southern NE and middle Atlantic south to Virginia-North Carolina border and following estuaries: Passamaquoddy Bay to Sheepscot R.; Casco Bay, Great Bay, Mass Bay, and Cape Cod Bay	18 - 110	Bottom habitats with a substrate of cobble, shells, coarse/gravelly sand, and sand
Haddock	juvenile	GB, GOME, middle Atlantic south to Delaware Bay	35 - 100	Bottom habitats with a substrate of pebble and gravel
Haddock	adult	GB and eastern side of Nantucket Shoals, throughout GOME, *additional area of Nantucket Shoals, and Great South Channel	40 - 150	Bottom habitats with a substrate of broken ground, pebbles, smooth hard sand, and smooth areas between rocky patches
Monkfish	juvenile	Outer continental shelf in the middle Atlantic, mid-shelf off southern NE, all areas of GOME	25 - 200	Bottom habitats with substrates of a sandshell mix, algae covered rocks, hard sand, pebbly gravel, or mud
Monkfish	adult	Outer continental shelf in the middle Atlantic, mid-shelf off southern NE, outer perimeter of GB, all areas of GOME	25 - 200	Bottom habitats with substrates of a sandshell mix, algae covered rocks, hard sand, pebbly gravel, or mud
Ocean pout	eggs	GOME, GB, southern NE, and middle Atlantic south to Delaware Bay, and the following estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts and Cape Cod Bay	<50	Bottom habitats, generally in hard bottom sheltered nests, holes, or crevices
Ocean pout	juvenile	GOME, GB, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, and Cape Cod Bay	< 50	Bottom habitats in close proximity to hard bottom nesting areas
Ocean pout	adult	GOME, GB, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, Boston Harbor, and Cape Cod Bay	< 80	Bottom habitats, often smooth bottom near rocks or algae
Offshore hake	juvenile	Outer continental shelf of GB and southern NE south to Cape Hatteras, NC	170 - 350	Bottom habitats

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Offshore hake	adult	Outer continental shelf of GB and southern NE south to Cape Hatteras, NC	150 - 380	Bottom habitats
Pollock	juvenile	GOME, GB, and the following estuaries: Passamaquoddy Bay to Saco Bay; Great Bay to Waquoit Bay; Long Island Sound, Great South Bay	0 – 250	Bottom habitats with aquatic vegetation or a substrate of sand, mud, or rocks
Pollock	adult	GOME, GB, southern NE, and middle Atlantic south to New Jersey and the following estuaries: Passamaquoddy Bay, Damariscotta R., Mass Bay, Cape Cod Bay, Long Island Sound	15 – 365	Hard bottom habitats including artificial reefs
Red hake	juvenile	GOME, GB, continental shelf off southern NE, and middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Saco Bay; Great Bay, Mass. Bay to Cape Cod Bay; Buzzards Bay to Conn. R.; Hudson R./ Raritan Bay, and Chesapeake Bay	< 100	Bottom habitats with substrate of shell fragments, including areas with an abundance of live scallops
Red hake	adult	GOME, GB, continental shelf off southern NE, and middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Saco Bay; Great Bay, Mass. Bay to Cape Cod Bay; Buzzards Bay to Conn. R.; Hudson R./ Raritan Bay, Delaware Bay, and Chesapeake Bay	10 - 130	Bottom habitats in depressions with a substrate of sand and mud
Redfish	juvenile	GOME, southern edge of GB	25 - 400	Bottom habitats with a substrate of silt, mud, or hard bottom
Redfish	adult	GOME, southern edge of GB	50 - 350	Bottom habitats with a substrate of silt, mud, or hard bottom
White hake	adult	GOME, southern edge of GB, southern NE to middle Atlantic and the following estuaries: Passamaquoddy Bay to Great Bay; Mass. Bay to Cape Cod Bay	5 - 325	Bottom habitats with substrate of mud or fine grained sand
Silver hake	juvenile	GOME, GB, continental shelf off southern NE, middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Casco Bay, Mass. Bay to Cape Cod Bay	20 – 270	Bottom habitats of all substrate types
Silver hake	adult	GOME, GB, continental shelf off southern NE, middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Casco Bay, Mass. Bay to Cape Cod Bay	30 – 325	Bottom habitats of all substrate types

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Windowpane flounder	juvenile	GOME, GB, southern NE, middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Great Bay; Mass. Bay to Chesapeake Bay	1 - 100	Bottom habitats with substrate of mud or fine grained sand
Windowpane flounder	adult	GOME, GB, southern NE, middle Atlantic south to Virginia - NC border and the following estuaries: Passamaquoddy Bay to Great Bay; Mass. Bay to Chesapeake Bay	1 - 75	Bottom habitats with substrate of mud or fine grained sand
Winter flounder	eggs	GB, inshore areas of GOME, southern NE, and middle Atlantic south to Delaware Bay	<5	Bottom habitats with a substrate of sand, muddy sand, mud, and gravel
Winter flounder	juvenile	GB, inshore areas of GOME, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Chincoteague Bay	0.1 – 10 (1 - 50, age 1+)	Bottom habitats with a substrate of mud or fine grained sand
Winter flounder	adult	GB, inshore areas of GOME, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Chincoteague Bay	1 - 100	Bottom habitats including estuaries with substrates of mud, sand, grave
Witch flounder	juvenile	GOME, outer continental shelf from GB south to Cape Hatteras	50 - 450 to 1500	Bottom habitats with fine grained substrate
Witch flounder	adult	GOME, outer continental shelf from GB south to Chesapeake Bay	25 - 300	Bottom habitats with fine grained substrate
Yellowtail flounder	juvenile	GB, GOME, southern NE continental shelf south to Delaware Bay and the following estuaries: Sheepscot R., Casco Bay, Mass. Bay to Cape Cod Bay	20 - 50	Bottom habitats with substrate of sand or sand and mud
Yellowtail flounder	adult	GB, GOME, southern NE continental shelf south to Delaware Bay and the following estuaries: Sheepscot R., Casco Bay, Mass. Bay to Cape Cod Bay	20 - 50	Bottom habitats with substrate of sand or sand and mud
Red crab	juvenile	Southern flank of GB and south the Cape Hatteras, NC	700 - 1800	Bottom habitats of continental slope with a substrate of silts, clays, and all silt-clay-sand composites
Red crab	adult	Southern flank of GB and south the Cape Hatteras, NC	200 - 1300	Bottom habitats of continental slope with a substrate of silts, clays, and all silt-clay-sand composites

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Black sea bass	juvenile	Demersal waters over continental shelf from GOME to Cape Hatteras, NC, also includes estuaries from Buzzards Bay to Long Island Sound; Gardiners Bay, Barnegat Bay to Chesapeake Bay; Tangier/ Pocomoke Sound, and James River	1 - 38	Rough bottom, shellfish and eelgrass beds, manmade structures in sandy-shelly areas, offshore clam beds, and shell patches may be used during wintering
Black sea bass	adult	Demersal waters over continental shelf from GOME to Cape Hatteras, NC, also includes estuaries: Buzzards Bay, Narragansett Bay, Gardiners Bay, Great South Bay, Barnegat Bay to Chesapeake Bay; Tangier/ Pocomoke Sound, and James River	20 - 50	Structured habitats (natural and manmade), sand and shell substrates preferred
Ocean quahog	juvenile	Eastern edge of GB and GOME throughout the Atlantic EEZ	8 - 245	Throughout substrate to a depth of 3 ft within federal waters, occurs progressively further offshore between Cape Cod and Cape Hatteras
Ocean quahog	adult	Eastern edge of GB and GOME throughout the Atlantic EEZ	8 - 245	Throughout substrate to a depth of 3 ft within federal waters, occurs progressively further offshore between Cape Cod and Cape Hatteras
Atlantic surfclam	juvenile	Eastern edge of GB and the GOME throughout Atlantic EEZ	0 - 60, low density beyond 38	Throughout substrate to a depth of 3 ft within federal waters, burrow in medium to coarse sand and gravel substrates, also found in silty to fine sand, but not in mud
Atlantic surfclam	adult	Eastern edge of GB and the GOME throughout Atlantic EEZ	0 - 60, low density beyond 38	Throughout substrate to a depth of 3 ft within federal waters
Scup	juvenile	Continental shelf from GOME to Cape Hatteras, NC includes the following estuaries: Mass. Bay, Cape Cod Bay to Long Island Sound; Gardiners Bay to Delaware Inland Bays; and Chesapeake Bay	(0 - 38)	Demersal waters north of Cape Hatteras and inshore on various sands, mud, mussel, and eelgrass bed type substrates
Scup	adult	Continental shelf from GOME to Cape Hatteras, NC includes the following estuaries: Cape Cod Bay to Long Island Sound; Gardiners Bay to Hudson R./ Raritan Bay; Delaware Bay and Inland Bays; and Chesapeake Bay	(2 -185)	Demersal waters north of Cape Hatteras and inshore estuaries (various substrate types)

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Summer flounder	juvenile	Over continental shelf from GOME to Cape Hatteras, NC; south of Cape Hatteras to Florida; also includes estuaries from Waquoit Bay to James R.; Albemarle Sound to Indian R.	0.5 – 5 in estuary	Demersal waters, on muddy substrate but prefer mostly sand; found in the lower estuaries in flats, channels, salt marsh creeks, and eelgrass beds
Summer flounder	adult	Over continental shelf from GOME to Cape Hatteras, NC; south of Cape Hatteras to Florida; also includes estuaries from Buzzards Bay, Narragansett Bay, Conn. R. to James R.; Albemarle Sound to Broad R.; St. Johns R., and Indian R.	0 - 25	Demersal waters and estuaries
Tilefish	juvenile	US/Canadian boundary to VA/NC boundary (shelf break, submarine canyon walls, and flanks: GB to Cape Hatteras)	76 - 365	Rough bottom, small burrows, and sheltered areas; substrate rocky, stiff clay, human debris
Tilefish	adult	US/Canadian boundary to VA/NC boundary (shelf break, submarine canyon walls, and flanks: GB to Cape Hatteras)	76 - 365	Rough bottom, small burrows, and sheltered areas; substrate rocky, stiff clay, human debris
Longfin squid	eggs	GB, southern NE and middle Atlantic to mouth of Chesapeake Bay	<50	Egg masses attached to rocks, boulders and vegetation on sand or mud bottom
Golden crab	juvenile	Chesapeake Bay to the south through the Florida Straight (and into the Gulf of Mexico)	290 - 570	Continental slope in flat areas of foraminifera ooze, on distinct mounds of dead coral, ripple habitat, dunes, black pebble habitat, low outcrop, and soft bioturbated habitat
Golden crab	adult	Chesapeake Bay to the south through the Florida Straight (and into the Gulf of Mexico)	290 - 570	Continental slope in flat areas of foraminifera ooze, on distinct mounds of dead coral, ripple habitat, dunes, black pebble habitat, low outcrop, and soft bioturbated habitat
Barndoor skate	juvenile	Eastern GOME, GB, Southern NE, Mid-Atlantic Bight to Hudson Canyon	l0 - 750, mostly < 150	Bottom habitats with mud, gravel, and sand substrates
Barndoor skate	adult	Eastern GOME, GB, Southern NE, Mid-Atlantic Bight to Hudson Canyon	l0 - 750, mostly < 150	Bottom habitats with mud, gravel, and sand substrates
Clearnose skate	juvenile	GOME, along shelf to Cape Hatteras, NC; includes the estuaries from Hudson River/Raritan Bay south to the Chesapeake Bay mainstem	0 – 500, mostly < 111	Bottom habitats with substrate of soft bottom along continental shelf and rocky or gravelly bottom

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Clearnose skate	adult	GOME, along shelf to Cape Hatteras, NC; includes the estuaries from Hudson River/Raritan Bay south to the Chesapeake Bay mainstem	0 – 500, mostly < 111	Bottom habitats with substrate of soft bottom along continental shelf and rocky or gravelly bottom
Little skate	juvenile	GB through Mid-Atlantic Bight to Cape Hatteras, NC; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 137, mostly 73 - 91	Bottom habitats with sandy or gravelly substrate or mud
Little skate	adult	GB through Mid-Atlantic Bight to Cape Hatteras, NC; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 137, mostly 73 - 91	Bottom habitats with sandy or gravelly substrate or mud
Rosette skate	juvenile	Nantucket shoals and southern edge of GB to Cape Hatteras, NC	33 - 530, mostly 74 - 274	Bottom habitats with soft substrate, including sand/mud bottoms, mud with echinoid and ophiuroid fragments, and shell and pteropod ooze
Rosette skate	adult	Nantucket shoals and southern edge of GB to Cape Hatteras, NC	33 - 530, mostly 74 - 274	Bottom habitats with soft substrate, including sand/mud bottoms, mud with echinoid and ophiuroid fragments, and shell and pteropod ooze
Smooth skate	juvenile	Offshore banks of GOME	31 – 874, mostly 110 - 457	Bottom habitats with a substrate of soft mud (silt and clay), sand, broken shells, gravel and pebbles
Smooth skate	adult	Offshore banks of GOME	31 – 874, mostly 110 - 457	Bottom habitats with a substrate of soft mud (silt and clay), sand, broken shells, gravel and pebbles
Thorny skate	juvenile	GOME and GB	18 - 2000, mostly 111 - 366	Bottom habitats with a substrate of sand, gravel, broken shell, pebbles, and soft mud
Thorny skate	adult	GOME and GB	18 - 2000, mostly 111 - 366	Bottom habitats with a substrate of sand, gravel, broken shell, pebbles, and soft mud
Winter skate	juvenile	Cape Cod Bay, GB, southern NE shelf through Mid-Atlantic Bight to North Carolina; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 371, mostly < 111	Bottom habitats with substrate of sand and gravel or mud
Winter skate	adult	Cape Cod Bay, GB southern NE shelf through Mid-Atlantic Bight to North Carolina; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 371, mostly < 111	Bottom habitats with substrate of sand and gravel or mud

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
White hake	juvenile	GOME, southern edge of GB, southern NE to middle Atlantic and the following estuaries: Passamaquoddy Bay to Great Bay; Mass. Bay to Cape Cod Bay	5 - 225	Pelagic stage - pelagic waters; demersal stage - bottom habitat with seagrass beds or substrate of mud or fine grained sand

4.2.2 Effects of Fishing on EFH

As noted in Section 7.4.1 of the Amendment 3 FEIS, Amendment 13 to the Northeast Multispecies FMP describes the general effects of bottom trawls and dredges on benthic marine habitats. The primary source document used for this analysis was an advisory report prepared for the International Council for the Exploration of the Seas (ICES 2000) that identified a number of possible effects of beam trawls and bottom otter trawls on benthic habitats. This report is based on scientific findings summarized in Lindeboom and de Groot (1998), which were peer-reviewed by an ICES working group. The focus of the report is the Irish Sea and North Sea, but it also includes assessments of effects in other areas. Two general conclusions were: 1) low-energy environments are more affected by bottom trawling; and 2) bottom trawling can affect the potential for habitat recovery (*i.e.*, after trawling ceases, benthic communities and habitats may not always return to their original pre-impacted state). Regarding direct habitat effects, the report also concluded that:

- Loss or dispersal of physical features such as peat banks or boulder reefs (<u>changes are always permanent</u> and lead to an overall change in habitat diversity, which can in turn lead to the local loss of species and species assemblages dependant on such features);

- Loss of structure-forming organisms such as bryozoans, tube-dwelling polychaetes, hydroids, seapens, sponges, mussel beds, and oyster beds (<u>changes may be permanent</u> and can lead to an overall change in habitat diversity which can in turn lead to the local loss of species and species assemblages dependant on such biogenic features);

- Reduction in complexity caused by redistributing and mixing of surface sediments and the degradation of habitat and biogenic features, leading to a decrease in the physical patchiness of the sea floor (<u>changes are not likely to be permanent</u>);

- Alteration of the detailed physical features of the sea floor by reshaping seabed features such as sand ripples and damaging burrows and associated structures which provide important habitats for smaller animals and can be used by fish to reduce their energy requirements (<u>changes are not likely to be permanent</u>).

A more recent evaluation of the habitat effects of trawling (and dredging) was prepared by the Committee on Ecosystem Effects of Fishing for the National Research Council's Ocean Studies Board (NRC 2002). Trawl gear evaluated by the Committee included bottom otter trawls and beam trawls. Dredge gear included hydraulic clam dredges, non-hydraulic oyster, conch, and

crab dredges, and scallop dredges with and without teeth. This report identified four general conclusions regarding the types of habitat modifications caused by trawls and dredges.

- Trawling and dredging reduce habitat complexity
- Repeated trawling and dredging result in discernable changes in benthic communities
- Bottom trawling reduces the productivity of benthic habitats
- Fauna that live in low natural disturbance regimes are generally more vulnerable to fishing gear disturbance

An additional source of information that relates specifically to the Northeast region is the report of a "Workshop on the Effects of Fishing Gear on Marine Habitats off the Northeastern U.S." sponsored by the New England and Mid-Atlantic Fishery Management Councils in October 2001 (NEFSC 2002). A panel of invited fishing industry members and experts in the fields of benthic ecology, fishery ecology, geology, and fishing gear technology was convened for the purpose of assisting the New England Fishery Management Council (NEFMC), the Mid-Atlantic Fishery Management Council (MAFMC) and NMFS with: 1) evaluating the existing scientific research on the effects of fishing gear on benthic habitats; 2) determining the degree of impact from various gear types on benthic habitats in the Northeast; 3) specifying the type of evidence that is available to support the conclusions made about the degree of impact.; 4) ranking the relative importance of gear impacts on various habitat types; and 5) providing recommendations on measures to minimize those adverse impacts. The panel was provided with a summary of available research studies that summarized information relating to the effects of bottom otter trawls, New Bedford style scallop dredges, and hydraulic clam dredges. Relying on this information plus professional judgment, the panel identified the effects, and the degree of impact, of these three gears plus bottom gillnets, pots, and longlines on mud, sand, and gravel/rock bottom habitats.

Additional information is provided in this report on the recovery times for each type of impact for all three gears in mud, sand, and gravel habitats ("gravel" includes other hard-bottom habitats). This information made it possible to rank these three substrates in terms of their vulnerability to the effects of bottom trawling and dredging, although other factors such as frequency of disturbance from fishing and from natural events are also important. In general, impacts were determined to be greater in gravel/rock habitats with attached epifauna. Impacts on biological structure were ranked higher than impacts on physical structure and otter trawls and scallop dredges were ranked much higher than hydraulic dredges or stationary gears. Effects of trawls on major physical features in mud (deep-water clay-bottom habitats) and gravel bottom were described as permanent, and impacts to biological and physical structure were given recovery times of months to years in mud and gravel. Impacts of trawling on physical structure in sand were of shorter duration (days to months) given the exposure of most continental shelf sand habitats to strong bottom currents and/or frequent storms. For scallop dredges in gravel, recovery from impacts to biological structure was estimated to take several years and, for impacts to physical structure, months to years. In sand, biological structure was estimated to recover within months to years and physical structure within days to months.

Results of a review of 44 gear effect studies published through the summer of 2002 that were relevant (same gears and habitats) to the NE region of the U.S. (see Stevenson et al. 2004) are

also summarized in Amendment 13 to the NE Multspecies FMP. Based on these studies, positive and negative effects of bottom otter trawls, New Bedford-style scallop dredges, and hydraulic clam dredges are summarized by substrate type in Amendment 13, along with recovery times (when known). Whenever possible, only statistically significant results were reported. In general, these studies confirm the previous determinations of potential adverse impacts of trawls and dredges found in the ICES (2000), NRC (2002), NEFSC (2002), and Morgan and Chuenpagdee (2003) reports. The results of these 44 studies are summarized in Section 7.4 of the Amendment 3 FEIS, and not repeated here. For more detailed information, including the identification of each study, see Stevenson et al. (2004). An updated summary of gear effects research studies that are relevant to the NE region will be included in the revised gear effects section of the NEFMC Omnibus EFH Amendment 2 (Phase 2), which is currently being developed.

4.3 Economic Environment

A complete description and characterization of the NE skate fishery is provided in Section 7.5 of the FEIS prepared for Amendment 3 to the FMP. A summary of this information is provided below.

The bait market is one of the primary markets for skate products in the Northeastern U.S. In fact, skate is the preferred bait for the American lobster fishery. These skates are typically small in size, landed whole, and consist of primarily little skate (> 90 percent). Additionally, most of the fishery occurs in Southern New England, primarily in Rhode Island.

In Rhode Island, skates have been targeted commercially for decades for utilization primarily as lobster bait. 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. The Rhode Island bait skate fishery 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 degrees. 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 amplified effort in the spring through fall lobster fishery. Most of these vessels use trawls and often fish in an exempted fishery as defined under the NE Multispecies FMP.

Skates caught for lobster bait are landed whole by otter trawlers and either sold 1) fresh, 2) fresh salted, or 3) salted and strung or bagged for bait by the barrel. Inshore lobster boats usually use 2 to 3 skates per string, while offshore boats may use 3 to 5 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. There has also been a tremendous increase in crabbing during these winter months (avg. $0.65/lb). 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 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 to 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 and 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. Other ports that participate in the bait skate fishery are New Bedford and Martha's Vinyard, MA; Block Island, RI; Long Island, NY; Stonington, CT; and to a lesser extent, Chatham and Provincetown, MA.

The southern New England sink gillnet fishery targets winter skates seasonally along with monkfish. The highest catch rates are in the early spring and late fall when boats are targeting monkfish, at about a 5:1 average ratio of skates to monkfish. Little skates are also caught incidentally year-round in the gillnet fishery and sold for bait. Several gillnet fishermen indicated that they keep the bodies of the winter skates cut for wings and also salt them for bait. Gillnet vessels have become more dependent upon incidental skate catch due to cutbacks in their fishery mandated by both the Monkfish and Multispecies FMPs.

The other primary market for skates in the region is the wing market. Larger skates, mostly captured by trawl gear, have their pectoral flaps, or wings, cut off and sold into this market. Attempts to develop domestic markets were short-lived, and the bulk of the skate wing market remains overseas. Winter, thorny, and barndoor skates are considered sufficient in size for processing of wings, but due to their overfished status, possession and landing of thorny and barndoor skates has been prohibited since 2003. Winter skate is therefore the dominant component of the wing fishery, but illegal thorny and barndoor wings still occasionally occur in landings.

Vessels landing skates for the wing market either target skates on Georges Bank, in the Great South Channel near Cape Cod, MA, or west of the Nantucket Lightship Area in Southern New England waters. Maps of effort distributions are presented in Section 8.3.1 of the FEIS prepared for Amendment 3, which analyzes the effect of skate management areas on skate fishing.

Vessels using gillnets often target skates to supply the wing market by fishing east of Cape Cod, MA. Other vessels land skates for the wing market while fishing for other species. Vessels fishing for groundfish and in particularly flounders often land an incidental catch of skates. These vessels often fish in Massachusetts Bay and on Georges Bank. Some vessels fishing for scallops using dredges also land skates, but in particular scallop vessels with general category permits that fished in the Great South Channel often land skates. There is also a mixed monkfish/skate fishery that occurs west of the Nantucket Lightship Area and off Northern NJ, near Point Pleasant.

Only in recent years have skate wing landings been identified separately from general skate landings. Landed skate wings are seldom identified to species by dealers. Skate processors buy whole, hand-cut, and/or onboard machine-cut skates from vessels primarily out of Massachusetts and Rhode Island. Because of the need to cut the wings, it is relatively labor-intensive to fish for skates. Participation in the skate wing fishery, however, has recently grown due to increasing restrictions on other, more profitable groundfish species. It is assumed that more vessels land skate wings as an incidental catch in mixed fisheries than as a targeted species. New Bedford emerged early-on as the leader in production, both in landed and processed skate wings, although skate wings are landed in ports throughout the Gulf of Maine and extending down into the Mid-Atlantic. New Bedford still lands and processes the greatest share of skate wings. Vessels landing skate wings in ports like Portland, ME, Portsmouth, NH, and Gloucester, MA are likely to be landing them incidentally while fishing for species like groundfish and monkfish.

The current market for skate wings remains primarily an export market. France, Korea, and Greece are the leading importers. There is a limited domestic demand for processed skate wings from the white tablecloth restaurant business. Winter skates landed by gillnet vessels are reported to go almost exclusively to the wing market. Fishermen indicate that dealers prefer large-sized winter skates for the wing market (over three pounds live weight).

Section 7.5.1.3 of the Amendment 3 FEIS provides a detailed description of skate commercial landings from 1962 through 2007. In summary, the commercial skate fishery began to expand in the early 1980s, partially in response to the increase in demand for lobster bait and increased export market for wings. These landings expanded from 800 mt in 1981 to over 19,000 mt in 2007, the highest skate landings on record. In terms of landings by port, the top ports landing whole skate for use as lobster bait are: Point Judith, RI; Tiverton, RI; New Bedford, MA; Newport, RI; and Stonington, CT. The top ports landing skate wings are: New Bedford, MA; Chatham, MA; Point Judith, RI; Boston, MA; and Barnegat Light, NJ. The two ports of New Bedford, MA and Point Judith, RI averaged 60 percent of total skate landings occurring from 2000 to 2007, thus predominating total skate landings in recent years. The port of New Bedford is responsible for the majority of skate wing landings, while the port of Point Judith is responsible for the majority of bait skate landings.

In terms of value, the skate wing fishery is worth more on a pound-per-pound basis than the bait fishery, presumably since product quality is better for the food market. As noted in Section 7.5.4.2 of the Amendment 3 EIS, average skate wing prices rose from less than $ 0.05 per pound in the 1980s to nearly $0.25 in 2007. Conversely, bait skate landings have generally been less than $0.10 per lb.

4.4 Social Environment

In 2007, there were 2,685 vessels with a Federal skate permit. Nearly 10 percent of these permits were homeported in New Bedford, MA. Additionally, Gloucester, MA and Cape May, NJ each served has homeports for more than 5 percent of Federally permitted skate vessels. Furthermore, the majority of these vessels held permits in a variety of other fisheries. For example, 2,438 of these vessels held a NE multispecies permit, and 2,413 of these vessels held a monkfish permit in 2007. The most common other permits held by Federally permitted skate vessels were bluefish, dogfish, multispecies, and monkfish.

The relative importance of the commercial skate fishery to a port can be assessed two different ways: Importance based on total skate landings and revenue, and importance based on percent of skate revenue and landings relative to all commercial revenue and landings. The ports of New Bedford, MA; Chatham, MA; Point Judith, RI; Boston, MA; Tiverton, RI; Newport, RI; Barnegat Light, NJ; Gloucester, MA; and Provincetown, RI landed more than $100,000 worth of skate during 2007. However, in terms of dependency based upon value, Tiverton, RI (33%); Chatham, MA (11%); and Center Moriches, NY (10%) were the most dependant. In terms of dependency based upon pounds landed, Tiverton, RI (89%); Chatham, MA (37%); Sea Isle City, NY (36%); and Center Moriches, NY (26%) were the most dependent.

A complete description of the social environment for the skate fishery is presented in Section 7.6 of the Amendment 3 FEIS.

5.0 Environmental Consequences of the Alternatives

5.1 Biological Impacts on Skates, Non-Target Species and Protected Species

5.1.1 Impacts to Skates

This action would implement final specifications for 2010-11 based on the most recent scientific information available with respect to skate stock status and discard information. The intent of the ABC/ACL and TAL setting process contained in Amendment 3 is to reduce skate catch to a level that will enable biomass to rebuild, having a positive biological impact. The calculation of ABC being proposed in this action incorporates the most recent scientific information available concerning skate stock status; 2008 fall trawl survey information. Furthermore, the TAL calculation that is part of these final specifications includes updated information on skate discards. In comparison to the No Action alternative, this action would reduce skate catch by 1 percent (see Figure 1) while Alternative 3 would reduce skate catch by 26 percent. As such, both the Preferred Alternative and Alternative 3 would have a positive impact on the skate resource. Specifically, both the Preferred Alternative and Alternative 3 would positively impact the rebuilding of smooth, thorny, and winter skates, and have either a positive or neutral effect on the overfishing or overfished status of the other species in the NE skate complex. Although Alternative 3 may have a more positive impact than the Preferred Alternative, the Preferred Alternative is based on the best scientific information available, and therefore, complies with National Standard 2 of the Magnuson-Stevens Act, while Alternative 3 does not.

On a fishery specific level, the proposed skate wing TAL is 34 percent lower than current (2009) estimated skate wing landings which will have a positive impact on rebuilding overfished (smooth and thorny skate) stocks and increase the biomass of other species caught in the wing fishery (primarily winter skate), in comparison to taking no action. Conversely, the proposed bait skate TAL could result in a 19-percent increase in landings compared to the No Action alternative. However, landings in the bait skate fishery are largely dependant on the demand for lobster bait, and have been relatively stable in recent years. Thus, the proposed bait skate TAL is expected to have a neutral effect on the skate resource since the TAL is based on the best available science, and because landings are unlikely to achieve this TAL.

Table 2. Comparison of TAL Alternatives to the No Action (in pounds)

	Est. 2009 Landings	**Alternative 1 – No Action**	**Proposed Alt. 2 TAL**	**% Change**	**Alternative 3 TAL**	**% Change**
Wing TAL	30,636,544	N/A	20,303,208	-34 %	13,820,780	-55 %
Bait TAL	8,569,012	N/A	10,227,932	19%	6,962,198	-19%
Total TAL	39,205,556	N/A	30,531,140	-22%	20,782,978	-47%

The skate wing trip limit of 5,000 lb that is included as part of the Preferred Alternative is intended to allow vessels that participate in the skate wing fishery the opportunity to land the proposed 9,209 mt wing TAL. Similarly, the 1,900 lb trip limit under Alternative 3 is intended to constrain landings to a wing TAL that is 47 percent lower than the Preferred Alternative. Conversely, the 10,000 lb wing trip limit included under the No Action Alternative was not designed to achieve specific TAL. Thus, the trip limits included in the Preferred Alternative and Alternative 3 would result in similar positive biological impacts in comparison to the No Action alternative since they are designed to achieve a specific TAL.

Based on the proposed skate wing TAL of 9,209 mt, vessels would likely land only a portion of the wing TAL (~ 70 percent) under the Alternative 3 trip limit of 1,900 lb. If the current trip limit of 10,000 lb per day were retained (No Action), vessels would reach the 80 percent TAL trigger adopted in Amendment 3 in approximately 28 weeks, and reach the TAL by week 34. Under the Preferred Alternative, it is estimated that vessels would reach the 80 percent TAL trigger in 40 weeks, and likely exceed the TAL by the end of the year. However, if the TAL is exceeded by more than 5 percent, according to the TAL overage measure adopted in Amendment 3, the TAL trigger would be lowered on a one-percent to one-percent basis depending on the overage in the year following the year in which the overage occurred. Thus, if the skate wing TAL is exceeded by 10 percent in FY 2010, the TAL trigger would be reduced to 70 percent in FY 2012. The purpose of this accountability measure is to reduce the likelihood that future landings would exceed the TAL.

In addition to providing vessels with the opportunity to achieve a higher TAL, the preferred wing trip limit of 5,000 lb, in comparison to 1,900 lb (Alternative 3), is expected to reduce regulatory discards of skates by enabling fishermen to retain and land skate that would have otherwise been discarded. As discussed in detail in the Amendment 3 FEIS, the skate wing fishery is not a directed fishery. Vessels target skates for the wing market in conjunction with other fisheries;

primarily the NE multispecies and monkfish fisheries. Thus, it is likely that vessels will not end their trip once they have reached their skate wing trip limit, but when they have reached the applicable trip limit for the other, more highly valued, fishery they are targeting. As a result, any skates caught beyond the trip limit would be discarded. The No Action trip limit of 10,000 lb would seemingly have no effect on regulatory discards. However as noted above, retaining this trip limit would likely cause the TAL trigger to be reached approximately 28 weeks into the fishing year, resulting in the imposition of a 500 lb wing trip limit for the remainder of the fishing year. Thus, it is possible that the No Action alternative could result in higher regulatory discards due to the TAL trigger being achieved sooner than under the Preferred Alternative or Alternative 3. In conclusion, the proposed trip limit is expected to have a positive biological impact in comparison to the No Action Alternative and since it would reduce regulatory discards associated with reaching the TAL trigger early in the fishing year. The proposed trip limit is also expected to have a positive biological impact in comparison to the Alternative 3 trip limit since it would result in fewer regulatory discards being that Alternative 3 is 81 percent lower than under the No Action alternative, while the Preferred Alternative is only 50 percent lower.

5.1.2 Impacts to Non-target Species

As noted in Section 5.1.1, the skate wing fishery is not a true directed fishery, but an ancillary fishery that is targeted in conjunction with another, more highly valued, fishery. Furthermore, the Skate FMP requires that all vessels landing skate wings be fishing under a monkfish, multispecies, or scallop DAS. As such, fishing effort in the wing fishery is constrained by the effort controls in place in those other fisheries. Although the proposed action is expected reduce fishing effort in comparison to taking no action, the magnitude of this reduction is difficult to predict. In comparison to Alternative 3, the proposed wing TAL and wing trip limit are expected to result in slightly higher fishing effort. As a result, the impact of the proposed action on non-target species caught in the wing fishery is expected to be positive with respect to the No Action alternative, and slightly negative with respect to Alternative 3. However overall, both the Preferred Alternative and Alternative 3 are expected to have a positive impact on non-target species in comparison to the No Action alternative.

The impact of the proposed wing trip limit of 5,000 lb is expected to be slightly negative in comparison to the No Action alternative since the lower limit could lead to more frequent (albeit shorter) trips. However, as noted above, fishing effort in the wing fishery is largely controlled by effort controls in other fisheries. Additionally, the lower limit could lead to the targeting of other species during a trip to compensate for the lost revenues. Thus, the impact of the proposed wing limit on non-target species, in comparison to taking no action, is slightly negative. For the same reasons, the impact on non-target species of the Alternative 3 trip limit of 1,900 lb is also expected to be slightly negative. The magnitude of the negative impacts of the Preferred Alternative in comparison to Alternative 3 are difficult to predict since the much lower trip limit under Alternative 3 could result in some vessels forgoing skate wing trips due to lack of profitability, while forcing other vessels to take more frequent trips.

The proposed action could increase landings in the bait fishery by up to 19 percent in comparison to the No Action alternative through the establishment of a bait skate TAL of 4,639 mt (Table 2). Conversely, the skate bait TAL under Alternative 3 is approximately 19 percent lower than

estimated 2009 landings. However, fishing effort in the bait skate fishery is largely dependent on the demand for lobster bait. In fact, bait skate landings in 2007 and 2008 were 3,857 mt and 4,201 mt, respectively. Therefore, the increase in TAL under the Preferred Alternative may result in a slight increase in fishing effort, but this increase is unlikely to be as much as 19-percent. The reduced bait skate TAL under Alternative 3, in comparison to taking no action, could result in a slight decrease in fishing effort since it is lower than recent landings. Thus, the Preferred Alternative could result in slightly negative impacts to non-target species (i.e., yellowtail flounder, summer flounder, dogfish, monkfish, and other groundfish species) in comparison to the No Action Alternative, while Alternative 3 could result in slightly positive impacts in comparison to taking no action.

5.1.3 Impacts to Protected Species

As noted in Section 5.1.2, fishing effort in the skate wing fishery is largely controlled by effort controls in the monkfish, multispecies and scallop fisheries. Therefore, the impact of the proposed action in the skate wing fishery on protected resources is expected to be positive. In comparison to Alternative 3, the impact of the proposed action in the skate wing fishery on protected resources is expected to be slightly negative. Overall, both the Preferred Alternative and Alternative 3 are expected to have a positive impact on protected species compared to the No Action Alternative since both alternatives could result in a decline in fishing effort.

The impact of the proposed wing trip limit on protected resources is difficult to estimate. As noted in Section 5.1.2, the proposed trip limit could encourage vessels to take more frequent trips, but any increase in trip frequency would be constrained by effort controls in other fisheries. Further, these trips would likely be shorter in duration. Additionally, it is unlikely that the proposed wing trip limit would cause large shifts in effort into areas where protected resources are more abundant. Therefore, it is unlikely that the proposed trip limit will have any additional impact on protected species in comparison to taking no action. The same can be said for the potential impact of the Alternative 3 possession limit in comparison to the No Action alternative.

As discussed in Section 5.1.2, the proposed action may result in a slight increase in fishing effort in the bait skate fishery in comparison to the No Action alternative, resulting in slightly negative impacts to protected resources. However, the extent of this impact is difficult to predict since fishing effort in the bait skate fishery is largely dependant on the demand for lobster bait. The bait skate fishery is primarily targeted using trawl vessels. Section 8.5.1 of the Amendment 3 FEIS states that both landings and effort by trawl vessels are four times those of gillnet vessels in the bait fishery. Thus, any negative impacts to protected species as a result of the proposed action, in comparison to the No Action alternative, would be the result of increased trawl activity in the bait skate fishery. Conversely, the bait skate TAL included in Alternative 3 would likely result in a slight decrease in fishing effort, having a slightly positive impact to protected species.

Endangered or threatened turtle species such as loggerhead turtles would be the species most likely impacted by the proposed action. NMFS has re-initiated the consultation on the skate fishery in response to new information on the anticipated takes of loggerhead turtles in bottom trawl gear. However, this consultation will not be completed prior to implementation of the proposed action. As a result, a Section 7(d) memorandum has been prepared which states that

the continued operation of the NE skate fishery, as authorized by NMFS, will neither jeopardize the continued existence of ESA-listed species nor destroy or adversely modify designated critical habitat. Further, this memo states that allowing the NE skate fishery to continue during the consultation period will not result in any irreversible or irretrievable commitment of resources that would have the effect of foreclosing the formulation or implementation of reasonable and prudent alternatives in the completion of the consultation and biological opinion. In addition, this memorandum makes the determination that NMFS' proposed action to implement the measures contained in Amendment 3 and the Final 2010-11 Skate Fishery Specifications does not, in itself, meet the triggers for re-initiation of consultation and does not change the determinations made in the memo about the continued operation of the fishery per 7(a)(2) and 7(d) of the ESA.

5.2 Habitat Impacts

5.2.1 Impacts of Proposed Alternatives

The two gear types used in the skate fishery are bottom trawls and gillnets. Landings in the skate wing fishery are roughly evenly distributed between these two gear types, but effort (measured in days absent) is more than three times greater for trawl vessels than for gillnet vessels. In the bait fishery, both landings and effort are four times greater for trawl vessels than for gillnet vessels. As noted in Sections 5.1.2 and 5.1.3, the proposed action and Alternative 3 are expected to reduce fishing effort in the wing fishery in comparison to the No Action alternative. Thus, it is the potential increase in trawl fishing effort in the bait skate fishery under the proposed action that could result in slightly negative impacts to habitat. However, as noted in Section 8.6.3.2 of the Amendment 3 FEIS, the skate bait fishery accounts for only a small fraction of total trawl fishing effort in the New England region. Thus, the anticipated overall impact of the proposed action on habitat is expected to be neutral to slightly negative in comparison to the No Action alternative. Conversely, the impacts to habitat associated with Alternative 3 are expected to be neutral to slightly positive in comparison to the No Action Alternative.

Similar to the impacts on protected species, the impacts of the wing fishery possession limits under the Preferred Alternative and Alternative 3 are difficult to estimate since these reduced trip limits could lead to more frequent trips of shorter duration. Additionally, vessels could move their fishing activities closer to shore to adjust for the shorter, more frequent trips, and these areas could contain more sensitive habitat. However, large shifts in fishing areas are unlikely to occur as a result of the reduced trip limits under the proposed action or Alternative 3. Thus, both the Preferred Alternative and Alternative 3 are unlikely to result in additional impacts to habitat in comparison to the No Action alternative.

5.2.2 EFH Assessment

5.2.2.1 Description of the Action

The proposed action would establish an ABC of 41,080 mt, which is approximately 1 percent less than current estimated catch. However, on a landings level, the proposed action and would implement a skate wing TAL of 9,209 mt that is approximately 34 percent less than current wing

landings, and implement a bait skate TAL of 4,639 mt that is approximately 19 percent higher that current bait skate landings. Additionally, the proposed action would establish a trip limit for the wing fishery of 5,000 lb.

5.2.2.2 Potential Adverse Effects of the Action on EFH

Trawl gear is the only gear used in the skate fishery having impacts that are more than minimal and not temporary in nature with respect to essential fish habitat (EFH). Thus, the potential increase in trawl fishing effort resulting from the proposed skate bait TAL is the only activity that could potentially result in an adverse impact on EFH. However, any additional trawl fishing activity resulting from this action is expected to occur in areas already subject to trawl fishing. Furthermore, the skate bait fishery accounts for only a small fraction of total trawl fishing effort in the New England region. Therefore, the proposed action would have no more than a minimal or temporary adverse impact on EFH.

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

No such measures are required because the adverse impacts of this action are no more than minimal and temporary in nature.

5.2.2.4 Conclusions

The proposed action is not expected to result in any additional adverse impacts to EFH beyond those already occurring in the fishery given that any increase in trawl fishing effort would take place in areas already subject to trawl fishing activity. Thus, any impacts resulting from the proposed action on EFH are expected to be minimal and temporary in nature.

5.3 Economic Impacts

This action would decrease skate landings by 22 percent in relation to estimated 2009 landings. However, the economic impact on the bait skate fishery is expected to be positive, while the economic impact on the skate wing fishery is expected to be negative due to the relationship between the TALs proposed for these respective fisheries and current landings. A detailed discussion of the economic impacts relative to the skate wing and bait fisheries is provided below.

Compared to the No Action alternative, the proposed action would result in an estimated 34 percent decline in current wing landings, potentially having a similar impact on revenues. However, the skate wing TAL under Alternative 3 is 55 percent lower than current wing landings. Thus, the proposed skate wing TAL would likely result in an negative economic impact that is approximately 20 percent less than expected under the Alternative 3 skate wing TAL when compared to the No Action Alternative.

In comparison to Alternative 3, the proposed action would implement a 47 percent higher skate wing TAL. To account for the higher skate wing TAL, this action would also establish a trip

limit for the wing fishery of 5,000 lb, in comparison to the 1,900 lb limit under Alternative 3. Table 2 provides an analysis of the potential impact of various trip limit options designed to achieve the proposed skate wing TAL of 9,209 mt based upon 2009 landings patterns. The information contained in Table 2 indicates that the 1,900 lb wing trip limit under Alternative 3 would affect 178 vessels and 1,360 trips landing skates, while the 5,000 limit is expected to affect 95 vessels and 606 trips in comparison to taking no action. Thus, the proposed trip limit of 5,000 lb would have an economic impact on 47 percent fewer vessels and 55 percent fewer trips than the Alternative 3 trip limit in comparison to taking no action In terms of impacts to revenues, the proposed trip limit is estimated to reduce expected revenues (under the proposed TAL) by 25 percent, while Alternative 3 trip limit is estimated to reduce expected revenues by 52 percent, in comparison to taking no action. It should be noted that the 10,000 trip limit presented in Table 2 is similar to the trip limit under the No Action Alternative. However, under the No Action, vessels having trips of more than 24 hours in duration can land up to 20,000 lb of skate wings per trip.

For the bait skate fishery, the proposed action would potentially increase bait skate revenues by 19 percent in comparison to the No Action alternative, while Alternative 3 would result in a 19 percent reduction. Thus, the proposed action is expected to have a positive economic impact on the bait skate fishery.

Table 3. Affected number of vessels and trips landing skates with total revenue at various skate wing trip limit options, based on 2009 landing characteristics reported by dealers.

Skate wing trip limit option	Number of vessels	Trips	Gross annual revenue (millions)	Net revenue (millions)	Gross annual revenue from skate wings (millions)
500	288	2,831	$23.5	$16.5	$0.9
1,900	178	1,360	$32.6	$22.6	$2.1
2,600	149	1,083	$34.6	$24.0	$2.4
3,200	130	930	$35.8	$24.8	$2.7
3,600	124	837	$36.5	$25.3	$2.8
4,100	116	756	$37.3	$25.8	$3.0
5,000	95	606	$38.3	$26.5	$3.3
10,000	42	179	$40.9	$28.3	$4.0
All skate trips	465	7,933	$41.9	$29.0	$4.4

5.4 Social Impacts

Section 8.8 of the FEIS prepared for Amendment 3 provides a vulnerability assessment of ports involved in the skate fishery. The ports considered to be the most at risk for potential negative impacts based upon this analysis are Chatham and New Bedford, MA, and Point Judith, RI. These 3 ports were also among the 9 ports that landed more than $100,000 worth of skate landings in 2007 (see Section 4.5 of this document). However, only Chatham, MA is listed

among the top 3 most dependent ports in terms of value (11 percent) and pounds landed (37 percent).

Overall, this action would have a negative social impact in comparison to the No Action alternative since it provides vessels with decreased opportunities to land skate. Similar to the economic impacts described in Section 5.3, this action would have differential social impacts on the skate wing and bait fisheries.

The proposed action would have a negative social impact on the skate wing fishery in comparison to taking no action due to reduced fishing opportunities resulting from the proposed TAL. However, the proposed action may also have a slightly positive social impact if it serves to minimize the regulatory discards associated with a much lower trip limit (Alternative 3) or a much higher trip limit (No Action) as discussed under Section 5.1, thus reducing waste. Due to the lower wing TAL and trip limit, Alternative 3 is expected to have a greater negative social impact than the proposed action in comparison to the No Action Alternative.

With respect to the bait fishery, the proposed action is expected to have a positive social impact compared to the No Action alternative due to increased fishing opportunities resulting from a TAL that is 19 percent higher than current landings.

Although all primary skate ports would be affected, the most vulnerable ports would likely be most affected by the social impacts (positive and negative) of this action. The extent of the positive social benefits for the bait fishery resulting from a TAL that is 19 percent higher than current landings is largely dependent on the demand for lobster bait. The extent of the negative social impacts for the wing fishery is contingent on the impact of effort controls in other fisheries, such as the monkfish and NE multispecies, on a vessels' ability to fish for skates. The extent of the positive social impacts of the proposed wing trip limit associated with reducing regulatory discards is dependent on the fishing patterns of individual vessels. Those that typically land more than the 1,900 lb trip limit under Alternative 3 would benefit from the higher 5,000 lb limit being proposed in this action. Further, all vessels active in the skate wing fishery would benefit from a wing trip limit that minimizes the possibility of the TAL trigger being reached early in the fishing year, but that is also sufficiently high enough to enable vessels to achieve the allotted wing TAL.

5.5 Cumulative Impacts

A cumulative effects analysis (CEA) is required by the Council on Environmental Quality (CEQ) (40 CFR part 1508.7). The purpose of CEA is to consider the combined effects of many actions on the human environment over time that would be missed if each action were evaluated separately. CEQ Guidelines state that cumulative effects include the effects of all actions taken, no matter who (federal, non-federal or private) has taken the actions, but that the analysis should focus on those effects that are truly meaningful in terms of the specific resource, ecosystem and human community being affected. Thus, this section will contain a summary of relevant past, present and reasonably foreseeable future actions to which the proposed alternative may have a cumulative effect. This analysis has taken into account, to the extent possible, the relationship between historical (both pre- and post-FMP) and present condition of the skate population and

fishery, although significantly less is known about the population and the fishery prior to the implementation of the FMP and other management actions affecting the fishery (particularly Multispecies Amendments 5 and 7 and Sea Scallop Amendment 4). The time frame for this analysis, therefore, is primarily the 1980's and 1990's for historical information, although trawl survey data extending to the 1960's is considered, and approximately 5-10 years for reasonably foreseeable future actions affecting the fishery. The geographic scope of the analysis is the range of the skate fishery in the EEZ and adjacent fishing communities, from the U.S.-Canada border to, and including North Carolina.

The cumulative effects analysis focuses on the following five Valued Environmental Components (VECs) that exist within the NE skate fishery:

1. target species (skate)
2. non-target species (incidental catch and bycatch)
3. protected species
4. habitat, and
5. communities (includes social and economic impacts).

The cumulative effects determination on these VECs is based on the following analyses: (1) the discussion in this section of non-fishing actions occurring outside the scope of this FMP; (2) the analysis of direct and indirect impacts contained in the Environmental Consequences section; and (3) the summary of past, present and future actions affecting the monkfish fishery.

NMFS staff determined that the 5 VECs (target species, non-target species, protected species, habitat and communities) are appropriate for the purpose of evaluating cumulative effects of the proposed action based on the environmental components that have historically been impacted by fishing, and statutory requirements to complete assessments of these factors under the Magnuson-Stevens Act, Endangered Species Act, Marine Mammal Protection Act, Regulatory Flexibility Act, and several Executive Orders. The VECs are intentionally broad (for example, there is one devoted to protected species, rather than just marine mammals, and one on habitat, rather than Essential Fish Habitat) to allow for flexibility in assessing all potential environmental factors that are likely to be impacted by the action. While subsistence fishing would ordinarily fall under the "communities" VEC, no subsistence fishing or Indian treaty fishing take place in the area managed under this FMP.

The vessels participating in the NE skate fishery must comply with all federal air quality (engine emissions) and marine pollution regulations, and, therefore, do not significantly affect air or marine water quality. Consequently, the proposed action would not likely result in any additional impact to air or marine water quality and thus this issue is not discussed further in the analyses below.

5.5.1 Summary of Past, Present and Future Actions Affecting the Skate Fishery

5.5.1.1 Past and Present Actions

The current condition of the skate fishery (in the context of the five VECs) is the result of the cumulative effect of the Skate FMP, implemented in 2003, and regulations under other FMPs in the region that impact vessels catching skate as well as measures adopted under other laws, particularly the Endangered Species Act and the Marine Mammal Protection Act. The status of the fishery, its stocks, human component and the biological and physical environment, is discussed in the Affected Environment section of this document, Section 4.0. This section contains a discussion of past and present actions that have cumulatively, and in most cases positively affected the VECs of the skate fishery, including regulatory and judicial actions.

In summary, the directed skate fishery is relatively young, having emerged over the past two decades and coming under regulation only in 2003 with the adoption of the FMP. The Councils developed the FMP in response to concerns that skate fishing was causing biomass to decline, threatening the existence of species that are targeted to supply the wing market, particularly barndoor skate which was petitioned for listing under the Endangered Species Act. Amendment 3 was recently approved by NMFS on behalf of the Secretary of Commerce on March 23, 2010. The objectives of Amendment 3 were to establish a rebuilding program for smooth skates, promote biomass increases in other skate stocks, and implement ACLs and AMs for the NE skate complex, consistent with the reauthorized Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). Specifically, Amendment 3 implemented an ACL for the skate complex that is set equal to the ABC recommended by the Council's SSC. To account for management uncertainty, the amendment included an ACT that is set at 75 percent of the ACL. The amendment also established a process for deriving TALs for the wing and bait fisheries based upon the ACT. Finally, Amendment 3 included fishery specifications for FY 2010-11, including the establishment of trip limits for the wing and bait fisheries. The proposed action would modify the 2010-11 skate fishery specifications based on new scientific information concerning skate stock status utilizing the RA's authority to adjust final specifications for the skate fishery found at § 648.320(a)(7) as amended by Amendment 3 to the Skate FMP.

The three FMP's that have had the greatest impact on skate fishery VECs, other than the Skate FMP, are the Sea Scallop, Monkfish, and Northeast Multispecies FMP's because of the spatial overlap of the fisheries, the relatively high level of incidental catch of skate in those fisheries, and the fact that more than 90 percent of the skate permit holders are also permitted in one or the other of those three fisheries (mostly in the multispecies fishery). Both multispecies and sea scallop fisheries have undergone a series of major actions since 1994 to reduce fishing effort and rebuild overfished stocks. These include Multispecies Amendments 5-16 and 44 framework adjustments, Monkfish Amendments 1-4 (with one pending) and 6 framework adjustments, and Sea Scallop Amendments 4-13 (with two pending to address EFH and ACL/AMs) and 20 framework adjustments (with one pending). These actions have reduced overall fishing effort significantly since 1994, and have imposed other restrictions such as year-round and seasonal closed areas, and gear restrictions that have affected both the directed and incidental catch skate

fishery. Cumulatively, these actions have likely had a positive effect on skate, contributing to the increasing stock abundance observed over the past five years.

Additional action in all three FMP's is pending, and will be discussed below. Other FMPs that likely have had an impact on the fishery VECs include those managing other demersal species in the region, such as the Spiny Dogfish FMP (implemented 2000), and the Summer Flounder, Scup, Black Sea Bass FMP (1996 and amendments). To varying degrees, these management plans, as well as others in the region, have directly or indirectly affected the skate fishery by causing effort to shift among fisheries and by changes to the levels of incidental catch of skate. It is not possible within this document to analyze all of the inter-relationships of these management plans with the skate fishery because in most cases these relationships are not well understood and vary widely for individual vessels and areas.

The Council is undertaking a mandated five-year update of its EFH designations, which will include an Omnibus Amendment to all Council FMP's. The amendment will consider new methods for designating EFH for four life stages of all Council-managed species. It will also consider new Habitat Areas of Particular Concern (HAPC) designations, and whether or not to change existing regulations designed to practicably minimize the adverse effects of fishing on designated EFH.

Potential changes in the designation of EFH for skates and other species encountered by vessels fishing for skates are not expected to have a direct impact on the administration of the skate fishery. HAPC designations, in and of themselves, contain no changes to fishery regulations that would impact the skate fishery. Considering changes or additions to existing fishery regulations designed to practicably minimize the adverse effects of fishing on designated EFH, however, may involve changes and/or additions to existing regulations governing fishing effort, gear utilization and area closures. These changes and/or additions could affect where and how the skate fishery is prosecuted. Final alternatives have not been crafted by the Council, making more definitive analysis impossible at this time.

With respect to protected species, and harbor porpoise specifically, the most recent Stock Assessment Reports show that the number of harbor porpoise takes is increasing, moving closer to the Potential Biological Removal (PBR) level calculated for this species (610 animals/year from 2001-2005) rather than declining toward the long-term Zero Mortality Rate Goal (ZMRG), which is 10 percent of PBR (approximately 75 animals). Observer information collected from January 2005 to June 2006 has indicated an increase in porpoise bycatch throughout the geographic area covered by the Harbor Porpoise Take Reduction Plan (HPTRP) in both the Gulf of Maine and Mid-Atlantic regions and in monkfish gear specifically (NMFS, Discussion Paper on Planned Amendments to the Harbor Porpoise TRP 2007). The Harbor Porpoise Take Reduction Team is currently developing options to reduce takes (see Section 5.5.1.2 below).

The SBRM Amendment was an omnibus amendment to all 13 FMPs developed by the New England and Mid-Atlantic Fishery Management Councils. The actions considered in the SBRM Amendment focused solely on the administrative processes through which data and information on bycatch occurring in Northeast Region fisheries are collected, analyzed, and reported to

fishery scientists and managers. This amendment did not address bycatch reduction or other issues related to the management measures utilized in Northeast Region fisheries.

The SBRM Amendment formalized and expanded the administrative mechanisms used previously in the Northeast Region to collect information and data on fisheries bycatch and to analyze bycatch data in order to effectively determine appropriate observer coverage levels and allocate observer effort across the many Northeast Region fisheries. The action did not result in any changes to fishing operations in areas covered by the subject FMPs. There were no incremental impacts to any fishing areas or living marine resources associated with the SBRM Amendment. The new SBRM elements--implementation of an importance filter to establish and allocated target observer coverage levels, establishment of an SBRM performance standard, the requirement to conduct periodic evaluations and prepare a periodic SBRM report, the prioritization process, and the framework adjustment provisions--are purely administrative features intended to improve the effectiveness and the transparency of the Northeast Region SBRM. None of these additional components are associated with impacts to any fishing areas or living marine resources within the Northeast Region.

There are several ongoing, non-fishing actions that could potentially impact the skate fishery. These activities include: Chemical (e.g., pesticides and oil pollution), biological (e.g., invasive species and pathogens), and physical (e.g., dredging and disposal, coastal development) disturbances to riverine, inshore and offshore habitats; power plant operations (thermal pollution and entrainment of larvae); global warming; and energy projects such as liquid natural gas (LNG) facilities and windfarms (only three windfarms have been formally proposed, though others may be proposed in the future). LNG facilities are currently planned or under construction for the following locations: Passamaquoddy, ME (onshore); two projects offshore of Boston, MA (one proposed and one constructed); Fall River, MA (onshore); Long Island Sound, NY (onshore); South Shore of Long Island (onshore); Logan Township, NJ (onshore); and an expansion of an existing facility in Cove Point, MD. The majority of these activities tend to affect inshore areas, and the impacts are often localized. The skates as a fishery complex are widely distributed throughout the Northwest Atlantic, although distribution is more localized depending on the species. Thus, as a result of their ubiquitous distribution, the impacts to this species of non-fishing activities such as oil pollution, dredging activities, and coastal development are likely localized, and minimal as a whole.

5.5.1.2 Reasonably Foreseeable Future Actions

Future actions considered in this section include actions taken under this FMP, actions taken under other FMPs that affect vessels catching skate, and actions taken to protect marine mammals or threatened and endangered species. Given that skate fishing occurs in relative isolation from other (than fishing) spatially co-occurring activities (for example, shipping and recreational boating), it is unlikely that any regulatory action or other changes in those activities will have an impact on the fishery, or vice versa. Other activities that could potentially have an impact on skate fishing, such as development of offshore energy facilities or offshore aquaculture projects, would require a thorough analysis of the potential environmental impacts including those on skates. Although a few offshore aquaculture proposals have been developed in the past, and feasibility studies are currently underway, these projects face a number of

technical and environmental obstacles that reduce the likelihood these projects will actually become commercially viable within the next five to seven years.

Scallops

In terms of the scallop fishery, several actions have been implemented recently or are currently under consideration for the Scallop FMP that could impact skates since skate discards and incidental catch are a significant component of the total skate catch. Skates are caught in both the scallop dredge and trawl fisheries. Framework 19 and Amendment 11 are two actions that have recently been approved and implemented under the Scallop FMP. In addition, Amendment 15 is currently being considered and is expected to be implemented in 2011. Overall, these actions are expected to have neutral to positive impacts on skate mortality.

The Council worked on Amendment 11 for several years and it became effective on June 1, 2008. Amendment 11 established a new management program for the general category scallop fishery, including a limited access program with individual fishing quotas (IFQs) for qualified general category vessels, a specific allocation for general category fisheries, and other measures to improve management of the general category scallop fishery. The number of general category vessels in this fishery is expected to decline as a result of this action, and the total fishing effort of this fleet will be limited by an overall TAC, 5% of the annual scallop catch. In general, this action is expected to reduce general category scallop fishing compared to overall fishing levels in recent years. Thus this action may have positive impacts on skate mortality since general category effort levels are expected to decrease as a result of this action and will have an overall limit based on the sum of IFQ available. In addition, this action implemented a limited entry program for general category fishing in the northern Gulf of Maine (NGOM). Only qualifying vessels can participate in this fishery and it is limited to an overall TAC as well; once that amount is harvested, no general category vessels can fish in the NGOM. This measure may have positive impacts on skate mortality for species within the GOM.

Framework 19 to the Scallop FMP also became effective on June 1, 2008. It sets fishery specifications for FY 2008 and FY 2009 as well as other measures. Overall, this action allocated fewer DAS than previous years. Full-time limited access scallop vessels received 35 open area DAS in 2008 and 42 DAS in 2009, compared to 51 DAS in 2007 and 52 DAS in 2006. In addition, more effort was allocated in “scallop access areas” in 2008 and 2009 compared to earlier years. This is important when considering potential impacts on non-target species like skates. Scallop catch per unit of effort is much higher in access areas compared to open areas. If scallop gear is on the ocean bottom for less time to harvest the same amount of scallop catch, then impacts on non-target species are expected to decline. Under Framework 19, estimates of projected area swept by scallop gear are lower compared to previous years.

Lastly, the Council is currently developing Amendment 15 to the Scallop FMP. This action is expected to be implemented in 2011. The primary need for this action is to bring the Scallop FMP in compliance with the re-authorized Magnuson-Stevens Act. The Act was reauthorized in 2007 and included several new legal requirements. Foremost, the Act requires that each fishery use ACLs to prevent overfishing, including measures to ensure accountability (AMs). This action is also considering measures that reduce capacity in the limited access scallop fishery as

well as several other adjustments to the overall program. This action is in the early stages of development, but it will likely have neutral impacts on skate mortality since it is not expected to directly affect fishing effort levels.

The cumulative effect of scallop fishing regulations on skates depends largely on the resulting distribution of scallop fishing effort. More scallop fishing effort in the Closed Area I access area and along the northern edge of Georges Bank is more likely to increase catch and discards, particularly of little, winter, thorny and smooth skates.

Monkfish

The next management action to regulate the monkfish fishery under the Monkfish FMP will be an amendment to comply with new Magnuson-Steven Act mandates, primarily the establishment of ACLs and AMs. This action could have an important effect on the skate resource and fishery, because at least some monkfish trips also target skate or land incidental amounts. In particular, a mixed skate/monkfish fishery appears to exist in the offshore waters south of RI and off the northern NJ coastline. Changes in Monkfish DAS or other related regulations could increase or decrease fishing activity on trips landing or discarding skates.

Monkfish are presently considered rebuilt and current fishing mortality estimates are below the MSY threshold. So the catch limits and targets associated with ACLs and AMs could be set at levels above current amounts. In this case, the monkfish regulations may become more liberal and monkfish DAS allocations could increase, allowing more fishing on trips landing and/or discarding skates. However, the results of a new assessment that will take place in June 2010, could change this outlook and potentially impact the final fishery specifications that are included in this amendment. At this point, it is not known whether future monkfish fishing effort will increase or decrease. However, based on the ACTs contained in Draft Amendment 5, it is likely to increase, at least by a marginal amount, in both management areas.

Multispecies

The Northeast Multispecies FMP manages nineteen stocks of groundfish. Thirteen of these stocks are overfished and are subject to formal rebuilding plans. On January 21, 2010, the Secretary of Commerce partially approved Amendment 16 to the NE Multispecies FMP, and a final rule implementing the approved measures became effective on May 1, 2010 (75 FR 18262; April 9, 2010). Amendment 16 was developed by the New England Fishery Management Council as part of the biennial adjustment process in the FMP to update status determination criteria for all regulated NE multispecies or ocean pout stocks; to adopt rebuilding programs for NE multispecies stocks newly classified as being overfished and subject to overfishing; and to revise management measures, including significant revisions to the sector management measures, necessary to end overfishing, rebuild overfished regulated NE multispecies and ocean pout stocks, and mitigate the adverse economic impacts of increased effort controls. This action implemented new requirements for establishing ABC, ACLs, and AMs for each stock managed under the FMP, pursuant to the Magnuson-Stevens Act. Finally, this action added Atlantic wolffish to the list of species managed by the FMP. Amendment 16 was necessary to address the results of the most recent stock assessment, which indicate that several additional regulated

species are overfished and subject to overfishing, and that stocks currently classified as overfished require additional reductions in fishing mortality to rebuild by the end of their rebuilding periods.

The following approved Amendment 16 measures are not expected to directly affect the skate fishery:

- Revisions to status determination criteria and formal rebuilding programs
- ABC and ACL specification process
- Addition of Atlantic Wolffish to the Management Init
- Sector administration provisions: These options will not have direct impacts on the skate fishery, but the formation of additional sectors may and will be discussed below.
- Reporting requirements
- Allocation of groundfish to the commercial and recreational groundfish fisheries
- Changes to the DAS transfer and leasing programs
- Special management programs
- Periodic Adjustment Process
- Possession of a limited access multispecies permit and a limited access scallop permit by the same vessel
- Recreational Management measures
- Atlantic halibut minimum size
- Prohibition on retention of Atlantic wolffish
- Accountability measures

Amendment 16 implemented a Category A DAS reduction of 32 percent (in comparison to 2009 allocations) or vessels fishing not participating in the sector program (i.e., common pool). In addition, Amendment 16 established two types of AMs for the common pool: A differential DAS counting AM during FYs 2010 and 2011, and a hard-TAC AM overlaid upon the DAS effort controls in FYs 2012 and beyond. Since at present much skate fishing is required to use either a scallop, monkfish, or scallop DAS, these actions under Amendment 16 will reduce the number of multispecies DAS available to use while fishing for skates, which is expected to reduce skate landings. A side effect of reduced opportunities to fish for skates while using multispecies DAS might be that vessels choose to participate more frequently in the skate exempted fisheries programs.

In addition to additional effort control restrictions that became effective on May 1, 2010, the amendment authorized the operation of seventeen additional groundfish sectors beginning in FY 2010. These sectors are not subject to effort controls, but have their catch limited by hard quotas with a concomitant increase in monitoring of landings and discards. The impact of sector formation is likely to result in reduced fishing effort of at least the same order of magnitude as the effort control reductions. Since sector vessels are not subject to DAS limits, trip limits, and some other effort controls, fishing operations will likely be more efficient, requiring less time on the water to harvest the resources. Further, vessels participating in the skate wing fishery will still be required to be under a NE multispecies, monkfish or scallop DAS regardless of whether or not that vessel is in a NE multispecies sector.

Under both scenarios-additional effort control restrictions and an increase in sectors-the bycatch of skate species on directed groundfish trips would be expected to decrease as a result of lower levels of fishing activity. It is possible that these changes might shift some effort onto skates that can take place outside of the groundfish DAS program-for example, in state waters or in an exempted fishery. Since sector vessels will not need to use groundfish DAS to target groundfish, they may use those DAS to target skates.

Several multispecies rebuilding plans are supposed to end in 2014. Should they be successful, fishing effort may be allowed to increase above rebuilding levels, but not to current levels.

Other related actions

Even vessels not directly impacted by virtue of having a scallop, monkfish, or multispecies permit could be affected by the displacement of effort resulting from restrictions imposed on those fisheries, and by any measures, such as area closures to protect EFH, that restrict the operation of all fishing with specific gear types. EFH closures were in effect during much of the period when the data used to analyze impacts of Amendment 3 to the Skate FMP were collected. Other than in areas where there is an overlap in the EFH closed areas and the groundfish closed areas (which have been closed to skate fishing since 1994), very little fishing for skates has occurred. Therefore the cumulative effect of EFH closed areas on skates is likely to be small.

Other potential future actions whose effects would be cumulative to the proposed action include actions taken to protect marine mammals, endangered and threatened species. Current measures in effect are discussed in Section 4.1.2. These could be modified in the future under either a fishery management plan, marine mammal take-reduction plan, or regulation promulgated under authority of the Endangered Species Act. Specifically, known or anticipated future actions include: Short-term closures to sink gillnets under the Atlantic Large Whale Take Reduction Plan Dynamic Area Management (DAM) system; changes to the Harbor Porpoise Take Reduction Plan; and measures adopted under the NMFS final rule implementing large-mesh gillnet closures off the North Carolina/Virginia coast to protect sea turtles. Since the specific nature of those potential changes is not known at this time, their effect on the skate VECs cannot be determined at this time.

In the more distant future, two other actions outside the fisheries arena could potentially affect the skate fishery VECs due to their geographic overlap: Offshore windfarms and offshore oil and gas exploration/drilling. With respect to windfarm projects, a recently approved facility in Nantucket Sound is expected to have an effect on little and winter skate because these skates occur in shallow, inshore waters surrounding Massachusetts. It is not known, but probably unlikely, that a windfarm project in Nantucket Sound will have a significant environmental effect on skates. Little and winter skates occur over a broad area of the coastline and a localized project individually would have a minor effect on the total population of these skates. However, siting of many windfarms over a broad area of the coastline could have a significant cumulative effect, as could other wide-spread human activities in shallow coastal waters.

The Nantucket Sound windfarm project is controversial, however, and the Army Corps of Engineers has prepared an Environmental Impact Statement that includes other site alternatives

that may also impact skates. In that case, there is a potential, but unknown impact on the skate fishery, depending on the exact location and other parameters of the project. In the case of offshore oil and gas exploration, a current federal moratorium is preventing any such activities. However, in March 2010, President Obama revealed a offshore drilling plan. Under the plan, Obama proposed moving toward drilling off the Atlantic and Alaskan coastlines, as well as in the eastern Gulf of Mexico, in areas that have been off-limits to oil and gas exploration for up to three decades. As such, the potential exists for such activities to have an effect on the skate fishery VECs. As with the windfarm proposal, insufficient detail is available to determine the potential effects of such activities with any reasonable certainty or specificity.

With advances in fishing technology and ongoing restrictions in traditional fisheries, some vessels may begin to develop deepwater fisheries, much like what occurred in Europe over the past two decades. Not much is known at this time about the potential for such fisheries in the northwest Atlantic, nor about how such fisheries would interact, directly or indirectly, with deepwater components of the skate fishery or its essential fish habitat. Furthermore, such fisheries would likely have an impact on deepwater coral habitat whose role in the life stages of skate and other deepwater species currently being harvested, such as red crab, is not well known. The deepwater fisheries do not have management plans in place at this time, although such plans would likely be implemented if such fisheries were to begin. The cumulative effect of the development of deepwater fisheries and the associated FMP's is not ascertainable at this time.

5.5.2 Cumulative Effects on the Skate Fishery

The intent of this action is to rebuild overfished skate stocks and promote biomass increases in other skate stocks. More specifically, this action would reduce total skate catch by approximately 1 percent, and is projected to reduce skate landings by 22 percent through the establishment of ABC/ACL and associated TALs that are consistent with the most recent scientific advice on the status of the skate resource. Thus, this action is not expected to have a detrimental cumulative effect on the skate resource. The cumulative effect of the management measures proposed in this action in conjunction with actions taken or proposed in the Multispecies FMP to reduce fishing effort on species of concern, in the Sea Scallop FMP to limit capacity and adjust fishing effort based on resource availability, and in the Monkfish FMP to establish effort controls and landing limits based on the best available science, is positive for the skate resource. Any cumulative effect on the skate resource resulting from the non-fishing activities cited above is not likely to be substantial, given the life history and spatial distribution of skates relative to those activities.

5.5.3 Cumulative Effects on Non-Target Species

The proposed action is expected to reduce total fishing effort in the skate fishery in conjunction with other actions taken to limit fishing effort in other related fisheries, particularly the NE multispecies fishery. Thus, the cumulative effect of the management measures contained in this action on non-target species, in combination with other past, present, and reasonably foreseeable future actions, is expected to be positive.

Any negative cumulative effect of non-fishing activities on non-target species (e.g., yellowtail flounder, summer flounder, dogfish, monkfish, and other groundfish species) affected by the proposed action would not be significant primarily because the range of these species is widely distributed, and the effect of most non-fishing activities are concentrated along the coast or in the marine project areas where they occur. Thus, the magnitude of those impacts on non-target species is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on productivity of non-target resources and the oceanic ecosystem is unquantifiable. NMFS has several means, including NEPA, under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources prior to permitting or implementation of those projects. At this time, NMFS can consider impacts to non-target species (federally-managed or otherwise) and comment on potential impacts. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on resources within NMFS' jurisdiction.

5.5.4 Cumulative Effects on Protected Species

Since the proposed action is expected to reduce total skate fishing effort in conjunction with other actions taken to limit fishing effort in other related fisheries, it will serve to reduce interactions with protected species, especially those species that interact with trawl gear. Therefore, the cumulative effect of the management measures contained in this action on protected species, in combination with other past, present, and reasonably foreseeable future actions, is expected to be positive.

Any negative cumulative effect of non-fishing activities on protected species affected by the proposed action would not be significant primarily since these activities mainly occur near shore, or in confined areas. Thus, the magnitude of the impacts the non-fishing activities described above on protected resources, relative to the range of many of the protected resources, is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on protected resources either directly or indirectly is unquantifiable. NMFS has several means, including ESA, under which it can review non-fishing actions of other federal or state agencies that may impact protected resources prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on protected resources under NMFS' jurisdiction.

5.5.5 Cumulative Effects on Habitat

The slight reduction in fishing effort, especially fishing effort related to trawl gear, that is anticipated under the proposed action is likely to have a slightly positive impact on habitat. In combination with other past, present, and reasonably foreseeable actions that will reduce fishing effort in the affected area, the proposed action is expected to have a positive cumulative impact on habitat.

The non-fishing activities described above are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of any negative cumulative impacts on habitat is expected to be limited due to a lack of exposure to habitat at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on habitat and EFH is unquantifiable. NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources and the habitat on which they rely prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of direct and indirect negative impacts those actions could have on habitat utilized by resources under NMFS' jurisdiction.

5.5.6 Cumulative Effects on Communities

The proposed action is expected to have a negative impact on individuals and communities that are involved in the skate wing fishery when taken in combination with current and pending actions in other related fisheries that limit fishing effort. This is particularly true in light of the substantial effort reductions that are anticipated under Amendment 16 to the NE Multispecies FMP. However, the positive future impact of increased fishing opportunities in the wing fishery as stocks rebuild coupled with the slightly positive impact of the proposed wing trip limit on reducing regulatory discards, serves to mitigate some of these negative effects. Further, the skate bait TAL being proposed in this action is expected to have a positive effect on individuals and communities involved in this smaller-scale skate fishery. Therefore, the cumulative effect of the proposed action on communities, when taken in combination with other past, present, and reasonably foreseeable future actions, is expected to be slightly negative.

The non-fishing activities described above are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of any negative impacts on human communities is expected to be limited in scope. It may, however, displace fishermen from project areas (i.e., areas surrounding LNG terminals or wind farms). Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude. This may result in indirect negative impacts on human communities by reducing resource availability; however, this effect is unquantifiable. As described above, NMFS has several means under which it can review non-fishing actions of other federal or state agencies prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on human communities.

5.5.7 Summary of Cumulative Effects of the Proposed Action

The proposed measures would not have a significant cumulative effect on any of the identified VECs. As noted in Table 2, this action would reduce overall landings in the skate fishery by 22 percent. However, the directional impacts of the proposed measures vary depending on the fishery being discussed; wing or bait. For the wing fishery, this action would result in a 34 percent reduction in wing landings, with commensurate reductions in fishing effort depending on the effect of effort control measures in other fisheries that affect the ability of vessels to target skates. For the bait fishery, this action would authorize a 19 percent increase in landings, having

the potential to increase fishing effort depending on the demand for skates as lobster bait. The cumulative effects of the proposed action on each of the five VECs identified for the skate fishery are summarized in Table 4.

The objectives of the Skate FMP would continue to be met by the final ABC, ACL, TALs, and wing trip limit being proposed by this action. When this action is considered in conjunction with all the other pressures placed on fisheries by past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative. Based on the information and analyses presented in past Skate FMP documents, the Amendment 3 FEIS and this EA, there are no significant cumulative effects associated with the final 2010-11 skate fishery specifications contained in this document.

Table 4. Cumulative Effects on VECs compared to No Action

Measure	**Valued Ecosystem Components**					
	Target Species	**Non-Target Species**	**Protected Species**	**Habitat**	**Communities**	**Significant Cumulative Effects**
ABC/ACL	*Positive* - Designed to reduce total catch and rebuild overfished stocks, and based on best available science.	*Positive* - Reduces total fishing effort and thus impacts on non-target species.	*Positive* - Reduces total fishing effort and thus impacts on protected species.	*Positive* - Reduces total fishing effort and thus impacts to habitat.	*Neutral* - Slightly negative impacts due to reduced landings, but would result in positive impacts over long-term from rebuilt stocks	*None*
Wing TAL	*Positive* - Reduces landings in the wing fishery to rebuild overfished smooth and thorny skate.	*Positive* - Likely to reduce total fishing effort and catch of non-target species.	*Positive* - Likely to reduce total fishing effort, reducing potential for interactions with protected species.	*Positive* - Reduction in fishing effort would reduce impacts to habitat.	*Slightly Negative* - Reduces fishing opportunities, but these opportunities may increase in future due to rebuilt stocks	*None*
Bait TAL	*No Impact* - Increase in Bait TAL based on best available science and landings are dependent on demand for lobster bait.	*Slightly Negative* - May result in a slight increase in fishing effort depending on demand for lobster bait.	*Slightly Negative* - May cause slight increase in fishing effort, increasing potential for interactions with protected species.	*Slightly Negative* - May result in slight increase in fishing effort in trawl fishery, having impacts to habitat	*Positive* - Provides additional fishing opportunities through a higher TAL and longer fishing seasons	*None*

Wing Trip Limit	*Positive* - Intended to constrain landings within TAL and minimize regulatory discards.	*Slightly Negative* - Lower trip limit could cause vessels to take more frequent (but shorter) trips (minimized by DAS restrictions) or target other species during trip .	*No or Unknown Impact* - Vessels may make more frequent trips, but likely to be shorter in duration. Area fished unlikely to shift as a result.	*No or Unknown Impact* - Vessels may make more frequent trips, but likely to be shorter in duration. Area fished unlikely to shift as a result.	*Slightly Positive* - Proposed limit will ensure TAL is achieved, but minimize regulatory discards	*None*

6.0 Finding of No Significant Impact (FONSI)

National Oceanic and Atmospheric Administration Administrative Order 216-6 (NAO 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 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 be reasonably expected to jeopardize the sustainability of any target species that may be affected by the action?*

The proposed FY 2010-11 specifications presented in this document are not expected to jeopardize the sustainability of any species contained in the NE skate complex. These specifications are consistent with the FMP objectives of ending overfishing and rebuilding skate stocks. Further, the proposed action will ensure the long-term sustainable harvest of the NE skate resource.

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

As noted in Section 5.1.2, the proposed action is not expected to jeopardize the sustainability of any non-target species. The level of fishing effort resulting from these final FY 2010-11 skate fishery specifications is expected to be below current effort levels. Further, the proposed specifications are not expected to alter fishing methods or activities.

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

The proposed action is not expected to cause substantial damage to the ocean, coastal habitats, and/or EFH as defined under the Magnuson-Stevens Act and identified in the Skate FMP. In general, bottom-tending mobile gear, primarily otter trawls, has the potential to adversely affect

EFH for the species detailed in Section 4.2 of the EA. The bait skate TAL included as part of this action could increase to a small degree the amount of time that bottom trawling vessels spend fishing for bait skate, but the adverse impacts of this increased level of fishing on benthic habitats would not be significant. None of the other measures included in the proposed action will have any adverse habitat impact.

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

None of the proposed measures alters the manner in which the industry conducts skate fishing activities. Therefore, no changes in fishing behavior that would affect safety are anticipated. The overall effect of the proposed action on the skate fishery, including the communities in which it operates, will not impact adversely public health or safety. NMFS will consider comments received concerning safety and public health issues.

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 measures contained in this action are not expected to alter fishing methods or activities. More specifically, these proposed measures are not expected to increase total fishing effort or the spatial and/or temporal distribution of current fishing effort (see Section 5.0). Therefore, this action is not expected to affect endangered or threatened species or critical habitat in any manner not considered in previous consultations on the skate fishery.

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

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. This action merely revises FY 2010-11 skate fishery specifications based on the best available science. None of the proposed specifications is expected to alter fishing methods or activities. Additionally, none of the proposed specifications is expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort.

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

The proposed action is not expected to have a substantial impact on the natural or physical environment. The commercial capture of skate occurs predominately in gillnet and trawl fisheries targeting other species (e.g., monkfish and multispecies), and in a directed bait skate trawl fishery. As discussed in Section 4.3, bottom trawls have a potential to impact bottom habitat. In addition, a number of non-target species are taken incidentally in the prosecution of this fishery. However, none of the proposed specifications are expected to alter fishing methods or activities or are expected to substantially increase fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, there are no social or economic impacts interrelated with significant natural or physical environmental effects.

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

The effects of the proposed action on the human environment are not expected to be highly controversial, as they are based on the best and most recent scientific information available.

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?*

Other than the Stellwagen Bank National Marine Sanctuary (SBNMS), the proposed action does not affect areas of historic or cultural resources, park land, farmland, wetlands wild and scenic rivers or ecologically critical areas that are not already under protection (essential fish habitat areas and marine mammal protection zones). The effect on SBNMS is not likely to be substantial since the area is not a major skate fishing ground, and because the proposed action would not increase fishing effort in the skate fishery. Fishing vessels intentionally avoid shipwrecks, such as the SS "Portland" which is located within the SBNMS and is listed on the National Register of Historic Places (see question 12).

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

The impacts of the proposed measures on the human environment are described in section 5.0 of the EA. These analyses have some inherent uncertainty because they involve predicting future impacts that depend on a wide range of variables, such as the response of the target species to the management measures and the short-term range of alternative fisheries for affected vessels. Thus, although the risks inherent in analyses of the effects of the proposed action on the human environment are due to uncertainty, those risks are not unique or unknown.

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

As discussed in Section 5.5, the proposed action is related to several other fishery and non-fishery actions. Some of these actions, especially Amendment 16 to the NE Multispecies FMP, are expected to have individually significant impacts. However, the proposed action is not related to any other action with individually insignificant, but cumulatively significant impacts. Thus, as discussed and analyzed in the cumulative effects assessment (CEA) in Section 5.5, this action when combined with past, present, and future actions, is not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment.

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 historic resources?*

The proposed action is not likely to directly or indirectly affect objects listed in the National Register of Historic Places or cause significant impact to scientific, cultural or historical resources due to the spatial remoteness of the regulated activity relative to listed sites. The only object in the management area listed on the National Register of Historic Places is the wreck of

the steamship "Portland", within the Stellwagen Bank National Marine Sanctuary. The current regulations allow fishing within the Sanctuary, however, vessels typically avoid fishing near shipwrecks or bottom obstructions to avoid tangling and losing expensive fishing gear. Therefore, this action would not result in any adverse affects to the wreck of the "Portland".

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

The proposed action does not result in any increased fishing effort that could result in the introduction or spread of a non-indigenous species. In 2002, an invasive colonial sea squirt (*Didemnum sp.)* was observed on Georges Bank. The tunicate occurs on pebble gravel habitat, and does not occur on moving sand. NMFS has surveyed the area and is monitoring the growth. At this time, there is no evidence that fishing spreads this species more than it would spread naturally; however, the role of fishing gear in the spread of invasive tunicates should be regularly evaluated and monitored.

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?*

The proposed action is not likely to establish a precedent for future action with significant effects, and it does not represent a decision in principle about future consideration. This action is taken under an existing fishery management program. The future management regime for the skate fishery, should changes become necessary, has not been defined, and would depend on the advancements made in the scientific understanding of the species and its population dynamics, or shifts in management philosophy. The impact of any future changes would be analyzed as to their significance in the process of developing and implementing them.

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 is not reasonably expected to threaten a violation of Federal, state or local laws or requirements imposed for the protection of the environment. This action does not propose any changes that would provide incentives for environmental laws to be broken.

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

Cumulative effects on target and non-target species related to the proposed action are discussed in Section 5.5 of this document. Based on that discussion, cumulative effects are not expected to be significant, and there is no change from the original analysis of cumulative impacts as assessed in the FMP and in the FEIS for Amendment 3.

FONSI Statement

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment for the Final 2010-11 Skate Fishery Specifications, as well as in the FEIS for the Skate FMP (including the FEIS for Amendment 3), it is hereby determined that the proposed action will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary..

Louis Mantegani for Patricia Kurkul 5/21/10

NMFS, Northeast Regional Administrator **Date**

7.0 List of Agencies and Persons Consulted

The information contained in this document was prepared through the cooperative efforts of the Skate Plan Development Team members, and other members of the staffs of NMFS and the New England Fishery Management Council. Contributors include:

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8.0 References

This affected environment section of this document (Section 4.0) incorporates information from the SAFE Report contained in the FEIS prepared for Amendment 3 to the Skate FMP (Section 7.0). A complete listing of the references utilized in that SAFE Report are provided in Section 7.8 of that FEIS. In addition, the following references are cited in this document.

Northeast Data Poor Stocks Working Group (DPWS). 2009a. Report by the Peer Review Panel for the Northeast Data Poor Stocks Working Group. 38 pp. Report available at:

http://www.nefsc.noaa.gov/nefsc/saw/datapoor/Data Poor - Review Panel Report Final-1-20-09.pdf.

Northeast Data Poor Stocks Working Group (DPWS). 2009b. The Northeast Data Poor Stocks Working Group Report, December 8-12, 2008 Meeting. Part A. Skate species complex, Deep sea red crab, Atlantic wolfish, Scup, and Black sea bass. US Dept Commer, Northeast Fish Sci Cent Ref Doc. 09-02; 496 p. Report available at: http://www.nefsc.noaa.gov/publications/crd/crd0902/.