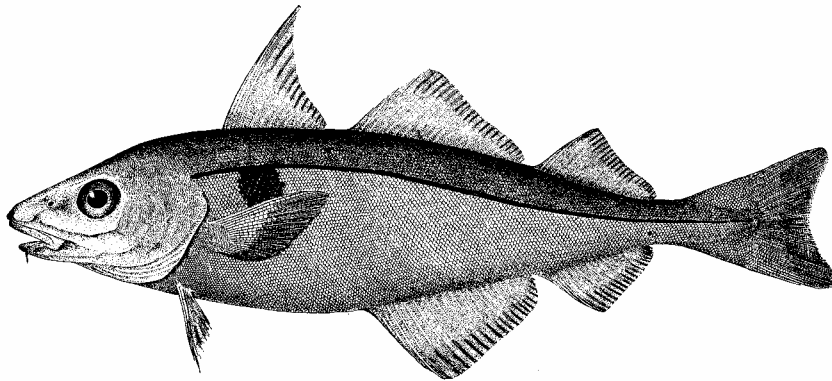


Northeast Multispecies Fishery Management Plan

Specification of FY 2008 Total Allowable Catches for
Eastern Georges Bank (GB) Cod, Eastern GB Haddock,
and GB Yellowtail Flounder in the U.S./Canada
Management Area

**--Final Environmental Assessment--
Regulatory Impact Review
Final Regulatory Flexibility Analysis**



Melanogrammus aeglefinus

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2.0 Executive Summary

This Environmental Assessment (EA) is designed to meet the requirements of both the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and the National Environmental Policy Act (NEPA). It is intended to describe the expected impacts of the proposed fishing year (FY) 2008 total allowable catches (TACs) for Georges Bank (GB) cod, haddock, and yellowtail flounder in the U.S./Canada Management Area.

The Northeast (NE) Multispecies Fishery Management Plan (FMP) specifies a procedure for setting annual hard TAC levels for the U.S./Canada Management Area for GB cod (*Gadus morhua*), GB haddock (*Melanogrammus aeglefinus*), and GB yellowtail flounder (*Limanda ferruginea*). This action is needed to ensure that the stocks of GB cod, haddock, and yellowtail flounder that are shared between the United States (U.S.) and Canada, are managed as required by the FMP and as outlined in the U.S./Canada Resource Sharing Understanding (Understanding). The Understanding specifies an allocation of TAC for these three stocks for each country, based on a formula that considers historical catch percentages and current resource distribution. The purpose of this action is to implement TACs for these three stocks that will be consistent with the Understanding and the FMP.

The proposed alternative would implement U.S. TACs for the shared GB stocks recommended by the Transboundary Management Guidance Committee (TMGC) and approved by the New England Fishery Management Council (Council). The proposed U.S. TACs are as follows: **667 mt cod, 8,050 mt haddock, and 1,950 mt yellowtail flounder**. The status quo alternative is the TACs that were implemented for the 2007 FY (494 mt cod; 6,270 mt haddock; and 900 mt yellowtail flounder). Under the no action alternative, no TACs would be specified for the three shared GB stocks.

The proposed TACs are consistent with the Understanding and the FMP and will contribute toward the growth of the GB cod, haddock, and yellowtail flounder stocks. The overall economic impact of the FY 2008 U.S./Canada TACs will likely be positive, compared to the economic impacts of the TACs specified for FY 2007. The FY 2008 cod, haddock and yellowtail flounder TACs represent an increase over the FY 2007 TAC levels. The increases in TAC reflect stock size and the U.S. percentage share. As in years past, the net amount of fish landed will likely be constrained by the cod TAC. The amount of fish landed and sold may be reduced further as a result of discards. In addition, reductions to the value of the fish may result from fishing derby behavior and the potential impact on markets. If the status quo TACs were adopted for FY 2008, the potential harvest of cod, haddock and yellowtail flounder would be less than the recommended TACs for these stocks, based on the shared harvest strategy, and result in a loss of potential economic benefits. The economic impacts of the status quo TACs would likely be negative compare to the impacts of the proposed TACs.

Under the no action alternative, if no hard TAC levels are implemented, the potential harvest of haddock and yellowtail flounder could exceed the level of harvest that has been recommended for these stocks, based on the shared harvest strategy, and could result in increased risk that the fishing mortality objectives are compromised. If fish are abundant in the U.S./Canada Management Area, there may be higher economic returns when compared with the proposed TACs because it would be possible to harvest GB haddock and yellowtail flounder in greater amounts. However, if such harvest levels are associated with an increased risk that the fishing mortality objectives are compromised, the long term economic gains could be reduced.

Although unlikely, a downward adjustment to the amount of TACs specified for FY 2008 could occur after the start of the fishing year if it is determined that the U.S. catch of one or more of the shared stocks during FY 2007 exceeded the relevant TACs specified for FY 2007.

3.0 Background

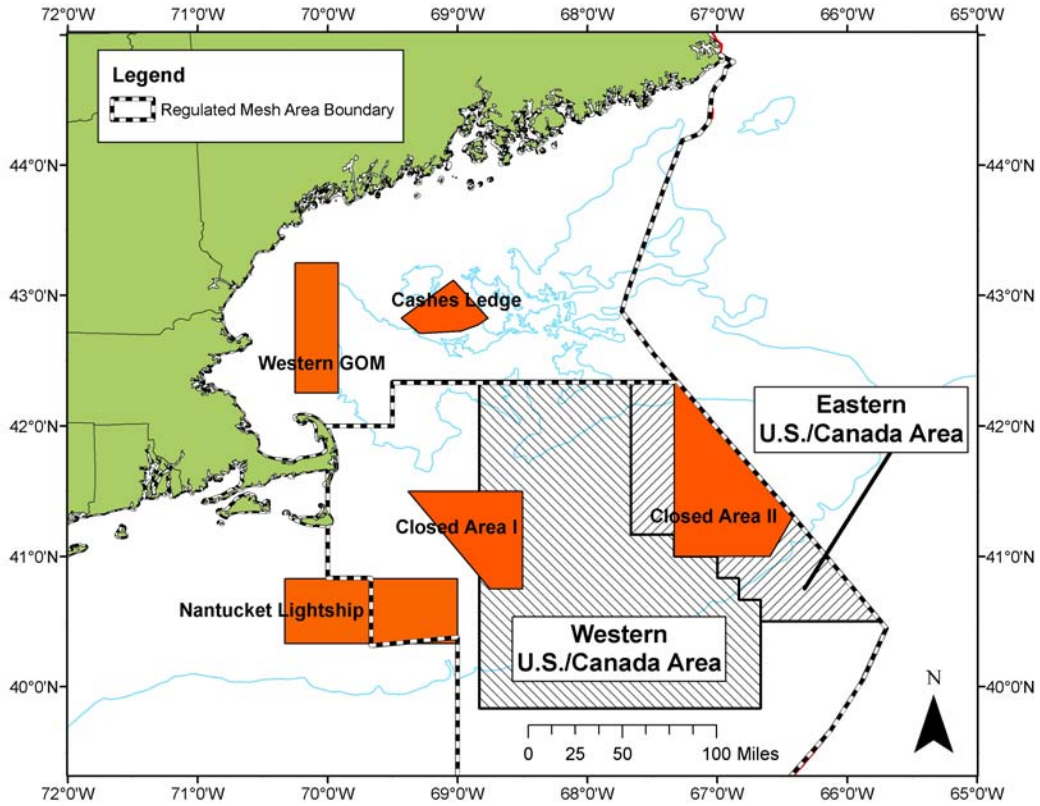
The primary statute governing the management of fishery resources in the Exclusive Economic Zone (EEZ) of the United States is the MSA. In New England, the Council is responsible for developing fishery management plans that comply with the MSA, as well as other applicable laws. The NE Multispecies FMP has evolved through a series of framework adjustments and amendments (implemented through Federal regulations). The FMP specifies the management measures for twelve groundfish species off the New England and Mid-Atlantic coasts (Atlantic cod, haddock, yellowtail flounder, pollock, American plaice, witch flounder, white hake, windowpane flounder, Atlantic halibut, winter flounder, redfish, and ocean pout). Of these 12 species (19 stocks), three stocks are transboundary (GB cod, GB haddock, and GB yellowtail flounder).

A transboundary stock is one whose distribution spans the boundary between Canada and the U.S., and for which there can be migration across the boundary. It was recognized that coordinated efforts to manage transboundary stocks would result in enhanced management and utilization of resources by both countries. In 1998, the Transboundary Resource Assessment Committee (TRAC) was formed with representatives from both the U.S. and Canada to conduct joint stock assessments between the two countries in order to ensure that management was based upon the best available, combined information. More information on the TRAC may be found on the internet at the following address: <http://www.mar.dfo-mpo.gc.ca/science/TRAC/trac.html>. Subsequently, a management advisory process was developed, and a second committee was formed, with members from the U.S. and Canada, to provide non-binding guidance to each country (Transboundary Management Guidance Committee); (TMGC). More information on the TMGC may be found on the internet at the following address: <http://www.mar.dfo-mpo.gc.ca/science/tmgc/TMGC-e.html>.

It was recognized by both Canadian and U.S. managers that the independent conservation actions taken by each country could be compromised by other management actions that were not coordinated, and could result in reduced benefits to both countries. Therefore, an informal agreement was developed to achieve consistency of management efforts (Development of a Sharing Allocation Proposal for Transboundary Resources of Cod, Haddock, and Yellowtail Flounder on Georges Bank. Transboundary Management Guidance Committee, January 2002). The Understanding outlines a process for the management of the shared GB groundfish resources and specifies an allocation of TACs for these three stocks for each country based on a formula that considers historical catch percentages and current resource distribution.

In May 2004, Amendment 13 to the FMP implemented a large number of new management measures, including measures designed to implement the Understanding (50 CFR 648.85(a)). The specific intent of such management measures was to constrain catches of the three shared stocks by U.S. vessels to ensure that the catch does not exceed the U.S. allocations (i.e., the Amendment 13 regulations in support of the Understanding included the definition of the Western U.S./Canada Area and the Eastern U.S./Canada Area, hard TACs, monitoring requirements, reporting requirements, trip limits, and administrative measures). In U.S. waters, the shared stock of GB yellowtail flounder is located in both the Western U.S./Canada Area and the Eastern U.S./Canada Area, while the shared resources of cod and haddock are found in the Eastern U.S./Canada Area (Figure 1).

Figure 1. U.S./Canada Management Areas and Year-Round NE Multispecies FMP Closed Areas (Habitat Closure Areas not depicted)



Annual TACs are determined through a process involving the Council, the TMGC, and the U.S./Canada Transboundary Resources Steering Committee (50 CFR 648.85(a)(2)(I)). The agreed upon strategy is to maintain a low to neutral risk of exceeding the fishing mortality limit reference ($F_{ref} = 0.18, 0.26, 0.25$, for cod, haddock, and yellowtail flounder, respectively). When stock conditions are poor, fishing mortality rates should be further reduced to promote rebuilding.

The implementation of Amendment 13 and utilization of the process outlined in the Understanding resulted in the specification of hard TACs for GB cod, haddock, and yellowtail flounder for the 2004 through 2007 fishing years. Table 1 contains the 2004, 2005, 2006, and 2007 TACs for the shared resources of GB cod, haddock, and yellowtail flounder, including both the shares of the U.S. and Canada.

A proposed rule was published in the Federal Register on January 3, 2008, (73 FR 441) that solicited public comment on the proposed TACs through February 4, 2008. A final rule will implement the TACs

Table 1. Fishing Year 2004, 2005, 2006 and 2007 U.S./Canada TACs (mt) and Percentage Shares

		Cod	Haddock	Yellowtail Flounder
2004	Total Shared TAC	1,300	15,000	7,900
	U.S. TAC	300 (23 %)	5,100 (34 %)	6,000 (76 %)
	Canada TAC	1,000 (77 %)	9,900 (66 %)	1,900 (24 %)
2005	Total Shared TAC	1,000	23,000	6,000
	U.S. TAC	260 (26 %)	7,590 (33 %)	4,260 (71 %)
	Canada TAC	740 (74 %)	15,410 (67 %)	1,740 (29 %)
2006	Total Shared TAC	1,700	22,000	3,000
	U.S. TAC	374 (22 %)	7,480 (34 %)	2,070 (69 %)
	Canada TAC	1,326 (78 %)	14,520 (66 %)	930 (31 %)
2007	Total Shared TAC	1,900	19,000	1,250
	U.S. TAC	494 (26 %)	6,270 (33 %)	900 (72 %)
	Canada TAC	1,406 (74 %)	12,730 (67 %)	350 (28 %)

4.0 Purpose and Need for the Action

The FMP specifies a procedure for setting annual hard TACs for Eastern GB cod, Eastern GB haddock, and GB yellowtail flounder. As described in Section 3.0, the regulations governing the annual development of hard TACs (50 CFR 648.85(a)(2)) were implemented by Amendment 13 to the FMP (69 FR 22906, April 27, 2004) in order to be consistent with the Understanding.

This action is needed to ensure that the transboundary resources of GB cod, haddock, and yellowtail flounder that are shared between the United States and Canada, are managed in a consistent manner, as outlined in the Understanding. The Understanding specifies an allocation of TAC for these three shared resources for each country, based on a formula that considers historical catch percentages and current resource distribution. The primary purpose of this action is to implement TACs for these three resources that will be consistent with the Understanding and the FMP in order to enhance the management and utilization of the resources.

Proposed Action

The proposed action would implement the hard TACs for the U.S./Canada Management Area for FY 2008 (May 1, 2008 – April 30, 2009) as indicated in Table 2 below. These TACs would be in effect for the remainder of the fishing year, unless NMFS determines that the catch of GB cod, haddock, or yellowtail flounder from the U.S./Canada Management Area in FY 2007 exceeded the pertinent 2007 TAC. The Understanding and the regulations require that if a TAC is exceeded in a particular fishing year, then the TAC for the subsequent fishing year is reduced by the amount of the overage (TAC adjustment). Should the 2007 catch exceed a 2007 TAC, the corresponding 2008 TAC will be decreased during FY 2008. In order to minimize any disruption of the fishing industry, NMFS intends to make any necessary TAC adjustment in the first quarter of the fishing year.

Table 2. Proposed FY 2008 U.S./Canada TACs (mt) and Percentage Shares

	Eastern GB Cod	Eastern GB Haddock	GB Yellowtail Flounder
Total Shared TAC	2,300	23,000	2,500
U.S. TAC	667 (29 %)	8,050 (35 %)	1,950 (78 %)
Canada TAC	1,633 (71 %)	14,950 (65 %)	550 (22 %)

These proposed TACs are based on the TRAC's guidance to the TMGC (July 2007), and the TMGC's recommendations (TMGC Meeting of September 11-12, 2007). The Council voted on September 18, 2007, to adopt the recommendations of the TMGC, and in a letter to NMFS dated September 27, 2007, the Council requested that NMFS implement these TACs. The increases in TAC over the 2007 fishing year reflect the increases in stock size as well as increases in the percentage shares for the U.S. The weighting formula used to determine the percentage shares was 80/20 (resource distribution/historic utilization). More information on the calculation of the percentage shares may be accessed through the TMGC web site at the following address: <http://www.mar.dfo-mpo.gc.ca/science/tmgc/background/share.pdf>

6.0 Alternatives to the Proposed Action

6.1 No Action

Under this alternative, no action would be taken by NMFS to implement the recommendations of the TMGC and the Council and, therefore, no TAC for GB cod, haddock, or yellowtail flounder would be implemented for FY 2008. Vessels would still be constrained by the other regulations of the FMP, including days-at-sea (DAS) and closed areas.

6.2 Status Quo

Under this alternative, the same TACs that were specified for FY 2007 for GB cod, haddock, and yellowtail flounder would be implemented for FY 2008 (494 mt, 6,270 mt, and 900 mt for GB cod, haddock, and yellowtail flounder, respectively).

7.0 Affected Environment

7.1 Georges Bank Physical Environment

Georges Bank is a shallow (3-150 m depth), elongate (161 km wide by 322 km long) extension of the continental shelf which is characterized by a steep slope on its northern edge and a broad, flat, gently sloping southern flank. The Great South Channel lies to the west. Glacial retreat during the late Pleistocene deposited the bottom sediments currently observed on the eastern section of Georges Bank, and the sediments have been continuously reworked and redistributed by the action of rising sea level, and by tidal, storm, and other currents. Bottom topography on Eastern Georges Bank, the location of the U.S./Canada Management Area, is diverse, with linear ridges in the western shoal areas, and a relatively smooth sea floor on the deeper, easternmost part. The sediments vary widely, ranging from clay to gravel. The north includes an area with sand ridges up to 30 m high. The central region of the bank is shallow; shoals and troughs characterize the bottom, with sand dunes superimposed on them. The two most prominent elevations on the ridge and trough area are Cultivator Shoals and Georges Shoals.

This shoal and trough area is a region of strong currents. There are high energy areas where sand is transported on a daily basis by tidal currents, and low energy areas affected only by storm currents. Oceanographic frontal systems occur between water masses from the Gulf of Maine and Georges Bank. These water masses differ in temperature, salinity, and nutrient concentration, and planktonic communities, which influence productivity and may influence fish abundance and distribution. Currents on Georges Bank include a weak, persistent clockwise gyre around the bank, a strong semidiurnal tidal flow predominantly in a northwest and southeast direction, and very strong, intermittent storm-induced currents.

7.2 Biological Environment

The biological environment for the NE multispecies fishery is described in Section 9.2 of Amendment 13 (NEFMC 2003). Life history and habitat characteristics of the stocks managed by this FMP can be found in the EFH series published in a NOAA Technical Memoranda and available at <http://www.nefsc.noaa.gov/nefsc/habitat/efh/>. This section describes stock status for the regulated groundfish stocks, which are the species most likely to be affected by the proposed management measures. Updated stock status information has been incorporated into the biological environment description below based on the results of GARM II (NEFSC Ref. Doc. 05-03).

Tidal currents over the shallow top of Georges Bank can be very strong, and keep the waters over the bank well mixed vertically. This results in a tidal front that separates the cool waters of the well-mixed shallows of the central bank from the warmer, seasonally stratified shelf waters on the seaward and shoreward sides of the bank. The clockwise gyre is instrumental in distribution of the planktonic community, including larval fish. The strong currents also affect the character of the biological community.

The primary productivity (i.e., phytoplankton productivity) of Georges Bank is very high, as a result of the shallow depth and high nutrient availability. Benthic productivity is also relatively high in comparison to similar shelf areas such as the North Sea and Scotian Shelf. Most of the benthic productivity is from five taxonomic groups: bivalve mollusks, crustaceans, echinoderms, amphipods, and polychaete worms.

The fishes of Georges Bank are primarily cold-temperate species, and the strong thermal gradients along the margins of Georges Bank may be barriers for some species. Georges Bank and the Northeast Channel represent the northern distributional limit for a number of temperate species. The shallow waters of Georges Bank are characterized by high seasonal temperature fluctuations, and there is significant seasonal movement among some fish species. Historically, Georges Bank has had high squid and fish production compared with the Middle Atlantic Bight, the Gulf of Maine, the Scotian Shelf, and the North Sea. Even after fish stock declines in the early 1970's, the productivity of Georges Bank exceeded most areas by at least a factor of two (Backus and Bourne, 1987).

Essential Fish Habitat is the waters and bottom that are necessary for a species spawning, breeding, feeding, or growth to maturity, and NMFS has identified Essential Fish Habitat for federally managed marine fishes. GB is classified as essential fish habitat for a large number of species. A detailed guide to Essential Fish Habitat designations may be found online at the following website: <http://www.nero.noaa.gov/hcd/webintro.html>. An area in the Eastern U.S./Canada Area is designated as Habitat Area of Particular Concern (HAPC) for cod. The cod HAPC is located in the northern portion of Closed Area II, adjacent to a small area that opens seasonally, as part of the Eastern U.S./Canada Haddock SAP Pilot Program implemented in November 2004 (50 CFR Section 648.85(b)(8)).

The primary non-groundfish species that are caught by gear capable of catching groundfish are skates, monkfish, and spiny dogfish. The status of these stocks are summarized below in Section 7.2.2.

7.2.1 Status of Georges Bank cod, haddock, and yellowtail flounder

The status of the shared stocks of GB cod, haddock, and yellowtail flounder were most recently assessed in 2007 by the Transboundary Resource Assessment Committee (TRAC). A summary of the results of these assessments can be found on the internet at the following address: <http://www.mar.dfo-mpo.gc.ca/science/TRAC/trac.html>. It is important to note that the shared stocks of GB cod and haddock in U.S. waters represent portions (subsets) of the stocks of GB cod and haddock managed in the U.S. Exclusive Economic Zone by the FMP. The shared stock of GB yellowtail flounder in U.S. waters represents the entire stock of GB yellowtail flounder managed by the FMP. A summary of status information most pertinent to the determination of TACs follows.

For Eastern GB cod the 2007 Guidance Document states the following:

“State of Resource: Adult population biomass (ages 3+) declined substantially from 43,800 mt in 1990 to 8,500 mt in 1995, the lowest since 1978. The biomass subsequently increased to 19,600 mt in 2001, declined to 13,400 mt in 2005 but increased again to 20,200 mt at the beginning of 2007. Much of the increase in the late 1990’s was the result of growth and survival of the 1992, 1995 and 1996 year classes. The increases in 2006 and 2007 were due largely to recruitment and growth of the above average 2003 year class. Generally poor recruitment since 1990, apart from the 2003 year class, and lower weights-at-age in recent years have constrained rebuilding.”

“Guidance: The TMGC concluded that the most appropriate combined Canada/USA TAC for Eastern Georges Bank cod for the 2008 fishing year is 2,300 mt. This corresponds to a low risk (less than 25%) of exceeding the Fref of 0.18 in 2008 and that stock biomass will not increase from 2008 to 2009, though that increase is estimated to be nominal. The annual allocation shares between countries for 2008 are based on a combination of historical catches (20% weighting) and resource distribution based on trawl surveys (80% weighting). Combining these factors entitles the USA to 29% and Canada to 71%, resulting in a national quota of 667 mt for the USA and 1,633 mt for Canada.”

For eastern GB haddock, the 2007 Guidance Document states the following:

“State of Resource: Adult population biomass (ages 3+) increased from near a historical low of 8,500 mt in 1993 to 69,500 mt in 2003, subsequently decreased to 46,900 mt in 2005, but increased to 145,300 mt at the beginning of 2007, the highest in the assessment time series (1931-1955 and 1969-2006), as a result of the exceptional 2003 year class.”

“Guidance: The TMGC concluded that the most appropriate combined Canada/USA TAC for Eastern Georges Bank haddock for the 2008 fishing year is 23,000 mt. This represents a low risk (less than 25%) of exceeding the Fref of 0.26. Adult biomass is projected to peak at 159,000 mt in 2008, reflecting the recruitment and growth of the exceptional 2003 year class, and then decline to 146,000 mt in 2009. The annual allocation shares between countries for 2008 are based on a combination of historical catches (20% weighting) and resource distribution based on trawl surveys (80% weighting). Combining these factors entitles the USA to 35% and Canada to 65%, resulting in a national quota of 8,050 mt for the USA and 14,950 mt for Canada.”

For GB yellowtail flounder, the 2007 Guidance Document states the following: *“State of Resource:* Two assessment approaches were considered by TRAC. The Base Case VPA continues to display a retrospective pattern, updating population biomass estimates to lower values than previously determined and compromising interpretation of results. The Major Change VPA did not exhibit a retrospective pattern; updates were both above and below previously estimated values. The Major Change VPA better reflects the recent trend observed in all three surveys and is adopted as the basis for management advice for 2008. Adult population biomass (ages 3+), based on the Major Change VPA results, increased from a low of 2,200 mt in 1995 to 11,400 mt in 2003 and then declined to 4,400 mt in 2005 and increased to 6,200 mt at the beginning of 2007. Spawning stock biomass in 2006 was estimated to be 5,000 mt.”

“*Guidance:* The TMGC concluded that the most appropriate combined Canada/USA TAC for the 2008 fishing year is 2,500 mt. This corresponds to an F of 0.17, lower than the Fref of 0.25. With a catch of 2,500 mt in 2008, the age 3+ biomass is expected to increase by 22%. The annual allocation shares between countries for 2008 are based on a combination of historical catches (20% weighting) and resource distribution based on trawl surveys (80% weighting). Combining these factors entitles the USA to 78% and Canada to 22%, resulting in a national quota of 1,950 mt for the USA and 550 mt for Canada.”

7.2.2 Status of All Groundfish Stocks

The status of all groundfish stocks is summarized in Table 7. Additional detail on the status of stocks may be found on the internet at the following address: <http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0513/>. The information is based upon the stock assessments conducted in 2005 (2005 GARM).

Table 3. Status of Stocks in the Northeast Multispecies Fishery Management Plan

Stock	Overfishing Occurring in 2004 (status of fishing mortality)	Stock Overfished in 2004 (status of biomass)
GOM cod	Y	Y
GB cod	Y	Y
CC/GOM yellowtail flounder	Y	Y
SNE/MA yellowtail flounder	Y	Y
American plaice	N	Y
Witch flounder	N	N
White hake	Y	Y
Atlantic halibut	unknown	Y
GOM haddock	N	Y
GB haddock	N	Y
SNE/MA winter flounder	Y	Y
Windowpane flounder (south)	N	Y
Ocean pout	N	Y
Windowpane flounder (north)	N	N
GB winter flounder	Y	N
GB yellowtail flounder	Y	Y
GOM winter flounder	N	N
Redfish	N	N
Pollock	N	N

Based upon the 2005 assessment (GARM II), and an estimate of calendar year 2005 fishing mortality by the Plan Development Team (PDT), the fishing mortality of 7 stocks exceeds that required under the Amendment 13 rebuilding plan (there is insufficient information to calculate the required rebuilding fishing mortality rate for Atlantic halibut; and the estimated 2005 calendar year fishing mortality of GB cod is not above the level required by the rebuilding plan; although overfishing is occurring, based on GARM II). Note, the GARM estimated Fs for calendar year 2004, while the PDT estimated fishing mortality for calendar year 2005 in order to more accurately reflect the impacts of Amendment 13. Additional information may be found in the FW 42 document.

Status of stocks supporting other fisheries occurring in the U.S./Canada Management Area

Fisheries may occur for the following species in the U.S./Canada Management Area, and may include groundfish bycatch. The current status of these stocks is summarized below. A brief description of the fisheries is contained in Section 7.4.2.

Scallop

Atlantic Sea Scallops are found in concentrations throughout Georges Bank, generally in waters less than 20°C and depths that range from 30-110m on Georges Bank. Overfishing of scallops is not occurring and the scallop resource is not overfished. Stock status has been fluctuating in recent years. Overall biomass increased almost without interruption since 1997, peaking at 8.2 kg/tow in 2004. Although it has declined to 7.3 kg/tow in 2006, it is not overfished because it is well above the target of 5.6 kg/tow and threshold of 2.8 kg/tow. Fishing mortality was above the threshold of 0.24 and target of 0.20 for both 2003 and 2004 with both years at or above 0.30. For 2005 and 2006, though, fishing mortality was reduced to 0.22 and 0.20, respectively, coming in below the threshold value. Thus, overfishing is no longer occurring.

Monkfish

Monkfish on GB tend to occur in the deeper waters (the canyon areas) during the winter months. The Monkfish FMP uses the NMFS fall bottom trawl survey to determine monkfish stock status (biomass) relative to management reference points. Based on the 2007 monkfish stock assessment (Northeast Data Poor Stocks Working Group 2007), which used a new method for determining stock status, and recommended revised biological reference points, the northern and southern stock components are both above the minimum biomass threshold, and are therefore not overfished. This is a change from 2005 – 2006, when both stocks were considered overfished. The Councils are currently in the process of updating the biological reference points in the Monkfish FMP, through Framework Adjustment 5, to be consistent with this assessment.

Herring

The herring stock complex is defined to include continental shelf waters from the Gulf of Maine through North Carolina, including Georges Bank. The stock is divided into two spawning components (the offshore portion being defined as the Georges Bank/Nantucket shoals component). Herring biomass increased in the 1990s and is currently relatively stable

Whiting

Whiting consists of two stocks, a northern stock and southern stock. The traditionally accepted boundary is a straight line drawn over southern Georges Bank, but it seems likely that whiting mix to a considerable degree across the biological boundary. Based on the best available information, neither the northern stock of silver hake nor the southern stock are in an overfished condition. While the northern stock is considered to be rebuilt the southern stock has not yet completely rebuilt to its target level after being in an overfished condition during 1998-2000. The current fishing mortality rates for both stocks are unknown but overfishing is not occurring in either.

Dogfish

The Northwest Atlantic spiny dogfish stock continues to be classified as overfished; however, overfishing is not occurring. Recent population projections suggest a time span of 15 to 20 years before the stock will have fully recovered.

Skates

There are seven skate species managed under the Skate FMP, three of which commonly occur on GB: winter, little, and barndoor skates. Catches of these species are largely interrelated

with the NE multispecies, monkfish, and scallop fisheries. The NMFS bottom trawl survey is used to estimate stock status, and a stock assessment was completed for all seven species in the complex in 2006 (SAW 44). Winter skate was determined to be overfished, and an amendment to the Skate FMP is under development to rebuild this, and other overfished skate stocks. Little skate is not considered to be overfished, although it is close to the overfished biomass threshold. Possession of barndoor skate has been prohibited since 2003, as this species is rebuilding from an overfished condition, though is not currently classified as overfished according to the 2006 assessment.

7.2.3 Gear Effects on Benthic Habitat

The primary gear types utilized in the multispecies fishery are otter trawls, sink gillnets, bottom longlines, and hook gear. The predominant gear used in the fishery as a whole, and in the U.S./Canada Management Area are otter trawls. A bottom otter trawl is essentially a large mesh bag that is dragged along the bottom of the ocean, which is wide at one end, and tappers to the other end of the net which is closed. The fish enter the wide, open end, and are then trapped in the closed end. Particular mesh sizes and specialized designs of otter trawls are utilized in order to provide a degree of selectivity for a particular target size fish or fish species.

In accordance with the Sustainable Fisheries Act (SFA), Section 9.4.1.2 of Volume II of the Amendment 13 FSEIS contains an extensive discussion of the effects on fishing gear on essential fish habitat, and section 9.3.1.8.4.2 contains a discussion of the potential adverse impacts of bottom trawls and dredges. Framework Adjustment 40-A to the FMP contains the conclusions regarding the types of habitat modifications caused by trawls and dredges, as noted by a National Research Council Report (NRC 2002).

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

Research on the effect of ten different commercial fishing gears on marine ecosystems in U.S. waters concluded that bottom trawls have very high habitat impacts, bottom gillnets have low to medium impact, and bottom longlines have low impacts.

7.3 Georges Bank Endangered and Protected Species

Amendment 13 to the FMP contains a complete description of the endangered species and marine mammals found in the habitats in area where the groundfish fishery occurs (Section 9.2.2). The Amendment 13 analysis list protected species that are not likely to be affected by the FMP, as well as protected species potentially affected by the FMP.

The species that fishing operations under Amendment 13 may potentially affect are the right whale, humpback whale, fin whale, sei whale, blue whale, sperm whale, minke whale, harbor porpoise, Atlantic white-Sided Dolphin, pelagic Delphinids, the harbor seal, gray seal, harp seal, leatherback turtle, Kemp Ridley's sea turtle, green sea turtle, and loggerhead sea turtle. Amendment 13 contains a full description of possible causes of anthropogenic mortality and injury.

The Council made the assessment that multispecies fishing operations under Amendment 13 are not expected to affect the shortnose sturgeon (*Acipenser brevirostratum*), the Gulf of Maine distinct population segment (DPS) of Atlantic salmon (*Salmo salar*), the roseate tern (*Sterna dougallii dougallii*), the piping plover (*Charadrius melodus*), or the hawksbill sea turtle

(*Eretmochelys imbricate*), all of which are listed species under the Endangered Species Act of 1973. The new measures implemented under Amendment 13 did not change the existing determination that the multispecies fisheries activities have no effect on the sturgeon and salmon.

There are several cetaceans protected under the Marine Mammal Protection Act of 1972 (MMPA) that are found in the waters fished by the multispecies fishery, namely the Risso's dolphin (*Grampus griseus*), spotted and striped dolphins (*Stenella* spp.), and coastal forms of the Atlantic bottlenose dolphin (*Tursiops truncatus*). Although these species may occasionally become entangled or otherwise entrapped in certain fishing gear such as pelagic longline and mid-water trawls, these gear types are not used in the multispecies fishery. There is a right whale critical habitat area that has been designated in the Great South Channel and Cape Cod Bay, but the Council stated that they believe that multispecies fishing operations will not adversely affect such habitat.

Many of the factors that serve to mitigate the impacts of the multispecies fishery on protected species are currently implemented in the Northeast Region under either the Atlantic Large Whale Take Reduction Plan or the Harbor Porpoise Take Reduction Plan.

7.4 Human Communities

7.4.1 Description of the Groundfish Fishery

The commercial sector consists of a wide range of vessels of different sizes and using different gear types. These vessels are homeported in several coastal states, with most vessels claiming homeports in Massachusetts, Maine, New Hampshire, and Rhode Island. Gears that are typically used to prosecute the fishery include otter trawls, sink gillnets, bottom longlines, and hook gear. Detailed descriptions of these gears, and their impacts on EFH, are provided in Section 9.2.3 of Amendment 13.

Both limited access and open access permit are issued to vessels to harvest different species of groundfish. Since the implementation of Amendment 5 in 1994, all vessels that land regulated groundfish for commercial sale have been required to have a permit. Permits are issued in different categories, depending on the activity and history of the vessel. Amendments 5, 7, and 13 all changed the permit category definitions. Limited access permits are divided into DAS permits (Category A – Individual DAS permit; Category D – Hook Gear permit; Category E – Combination permit, or vessels issued both a NE multispecies DAS and a scallop DAS permit; and Category F – Large Mesh Individual DAS permit) and non-DAS permits (Category C – Small Vessel Exemption permit and Category HA – Handgear A permit). Vessels issued a DAS permit are generally larger vessels capable of fishing farther offshore, while non-DAS permits are smaller vessels fishing in the near-shore waters mainly within the GOM. There are also several open access permit categories (Category HB – Handgear B permit, Category I – Charter/party permit, Category J – Scallop Multispecies Possession permit, and Category K – Open Access Multispecies permit) that allow vessels, with the exception of Categories HB and J permits, to target small mesh NE multispecies such as whiting. Currently, there are approximately 3,500 NE multispecies permits issued to vessels targeting regulated groundfish species, including: 1,346 limited access DAS permits; 178 limited access non-DAS permits; 1,520 open access HB permits; and 264 open access J permits. Many groundfish vessels have been issued permits, and participate in, other fisheries as well. Of the limited access permits, between approximately 600 and 700 vessels are active.

Amendment 13 created four types of DAS (Category A, Regular B, Reserve B, and C) that could be used in specific circumstances. Days-at-sea usage by limited access groundfish vessels increased from 1996 through 2001, but has gradually declined since. From FY 2004 (Amendment 13) through FY 2006, the primary type of DAS used has been Category A, and has ranged from between 29,974 and 32,227 DAS used each fishing year. In general, vessels from

Massachusetts used the most DAS, followed by Maine, Rhode Island, and New Hampshire. In 2006, information contained in FW 42 indicated that vessels from 30-49 feet length overall (LOA) used the most DAS, followed by vessels from 50-74 feet LOA and those greater than 75 feet LOA (NEFMC 2006). Historical DAS use by limited access vessels was summarized in FW 40B in Table 32 (NEFMC 2005A).

Amendment 13 implemented a DAS Leasing Program in May 2004. During the 2004 FY, 6,280 Category A DAS were leased to other vessels. This accounts for 14 percent of the 2004 Category A DAS allocation and 21 percent of Category A DAS used in 2004. Most DAS were acquired by the vessels that have been the most active in the groundfish fishery between FY 1996 and 2001. Of the 160 vessels that leased and used DAS, forty-six (28.8 percent) also used either Category B (Regular) or Category B (Reserve) DAS. Participation in the DAS Leasing Program in FY 2006 was higher than in 2004 with 11,279 Category A DAS leased. This corresponds to over 35 percent of the Category A DAS used and 23 percent of Category A DAS allocated in 2006.

This document concentrates on Georges Bank, because it is likely that the impacts on the human communities (as well as the fishery) would be focused on the Georges Bank fishery.

The three primary gears used to harvest groundfish in New England are bottom trawls, bottom gillnets, and bottom longlines. As in the New England Groundfish fishery as a whole, on GB, the predominant gear used is bottom trawls. The homeports of vessels in the multispecies fleet are predominantly located in Massachusetts and Maine. During the 2003 fishing year (May 1, 2003 though April 30, 2004), prior to the implementation of Amendment 13, the landings of cod, haddock, and yellowtail flounder were all landed throughout the fishing year, each showing a distinct seasonality. The highest GB cod landings occurred from March through August, and the highest GB haddock during a more narrow peak than cod, occurring in April through June. The highest GB yellowtail flounder landings occurred from November through May.

Figure 2. Georges Bank Cod Landings in Fishing Year 2003 (Whole Stock Area)

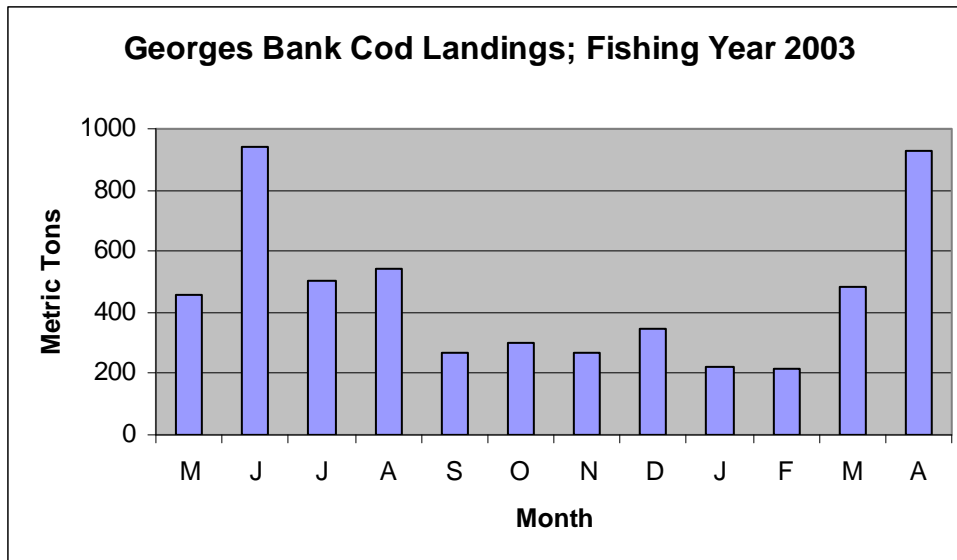


Figure 3. Georges Bank Yellowtail Flounder Landings in Fishing Year 2003

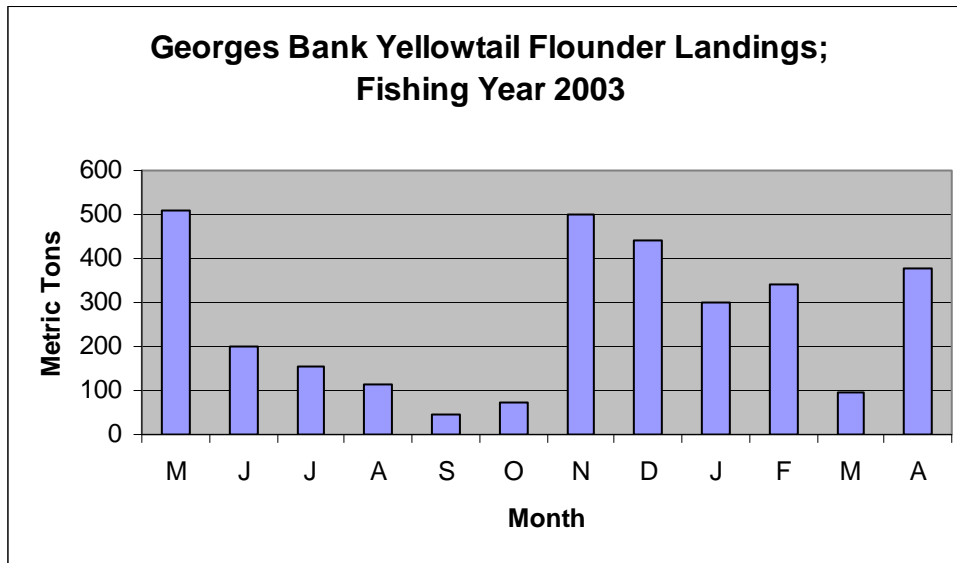
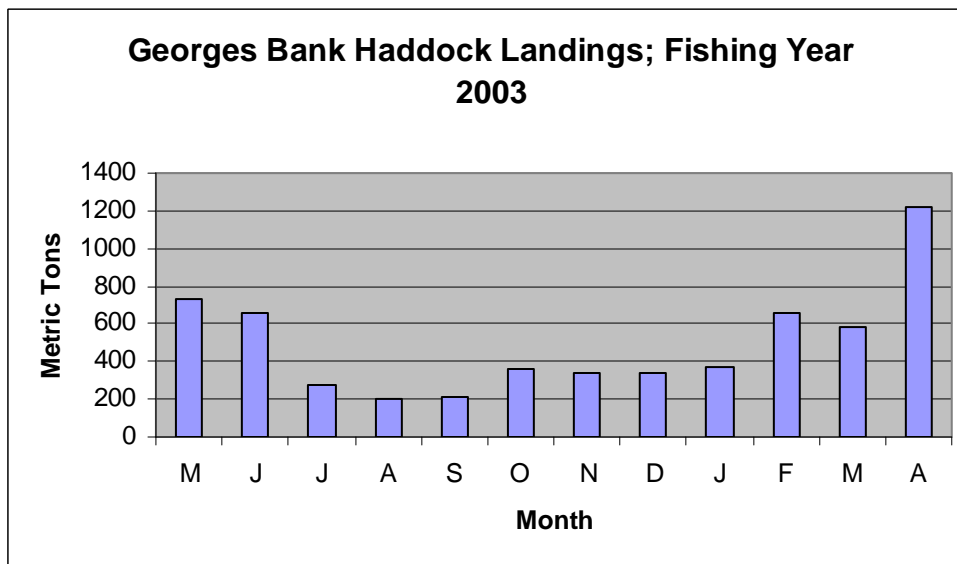


Figure 4. Georges Bank Haddock Landings in Fishing Year 2003 (Whole Stock Area)



Fishery in U.S. Canada Management Area in FY 2004, 2005, 2006, and * 2007 (*incomplete)

Tables 4 and 5 contain summary information on the catch from, numbers of trips into, and days-at-sea used in the U.S. Canada Area, based on data compiled by the NMFS' Fishery Statistics Office (FSO), Northeast Region. The methodology of estimating catch and discards is described in detail in an unpublished paper (Caless and Wang, 2004). Table 6 contains information on the number of distinct NE Multispecies vessels that fished in the U.S./Canada Area from FY 2004 through October 2007. Table 4 represents final catch information consisting of catches from both limited access multispecies trips and non multispecies trips in the Area. The discard percentages in Table 4 are based upon the data in Table 7 (explained below). The catch of cod, haddock and yellowtail flounder from the Eastern U.S./Canada Area (Eastern Area) was limited by the amount of time the Eastern Area was open, as well as associated gear restrictions and trip limits. In 2004, access to the Eastern Area was closed due to the projected harvest of the

yellowtail flounder TAC. In 2005, 2006, and 2007, access to the Eastern Area was limited or closed due to the projected harvest of the cod TAC. The overall catch numbers reflect principally the size of the TAC, and the amount of access to the Eastern Area. The relatively large catch of yellowtail flounder in 2004 reflects the impact of the Closed Area II Yellowtail Flounder Special Access Program (SAP). During FYs 2004-2007 there were several Special Access Programs (SAPs), which provided vessels opportunities to fish in the U.S. Canada Management Area under rules which differed from the generic regulations that apply to the U.S. Canada Management Area. The catch under each of the SAPs (kept and discarded) counted toward the pertinent U.S. TAC specified for each FY (cod, haddock, and yellowtail flounder), and were consistent with the Understanding. Brief descriptions of these programs are described in the FY 2006 EA.

Table 4. U.S. Catch from Shared Georges Bank Stocks (through 1/24/08)

Cod				
	TAC (mt)	Catch (% of TAC)	Catch (mt)	Discards (% of catch)
2004	300	59 %	177	23 %
2005	260	94 %	244	64 %
2006	374	90 %	335	50 %
* 2007	494	83 %	410	67 %

Haddock				
	TAC (mt)	Catch (% of TAC)	Catch (mt)	Discards (% of catch)
2004	5,100	21 %	1,060	18 %
2005	7,590	8 %	589	12 %
2006	7,480	9 %	671	37 %
* 2007	6,270	12 %	724	46 %

Yellowtail Flounder				
	TAC (mt)	Catch (% of TAC)	Catch (mt)	Discards (% of catch)
2004	6,000	98 %	5,852	8 %
2005	4,260	88 %	3,760	9 %
2006	2,070	89 %	1,851	29 %
* 2007	900	99 %	889	25 %

Note, for cod and haddock, for trips that fished both inside and outside of the Eastern U.S./Canada Area, in-season monitoring attributed all fish caught on such trips towards the TAC. Because such trips include fish caught both inside and outside of the Eastern U.S./Canada Area, for 2006, the final catch numbers were adjusted downward to reflect only fish caught inside the Eastern Area. All final catch numbers include adjustments made to reflect live weight, as well as adjustments made to account for the discrepancy between vessel monitoring system data and dealer data.

Table 5. Summary of Numbers of Trips and * Days-at-Sea in U.S./CA Area

	Trips			Days-at-Sea		
	Total	West	East	Total	West	East
2004	1,910	1,424	468	9,805	7,808	1,997
2005	2,176	1,963	213	14,368	13,287	1,081
2006	1,579	1,295	284	9,282	7,907	1,375

* A, B regular, and B reserve groundfish DAS,

Table 6. Number of Distinct Vessels that Fished in the U.S./Canada Area

Fishing Year	Western Area	Eastern Area	East and West
2004	159	110	162
2005	184	78	184
2006	155	92	161
* 2007	146	58	149

* Through November 5, 2007

7.4.2 Description of Non-Groundfish Fisheries on GB

Fisheries may occur for the following species in the U.S./Canada Management Area, and may include groundfish bycatch. A brief description of the fisheries follows:

Monkfish

Monkfish are harvested with both gillnet and trawl gear, although otter trawl is the gear of preference (about 75% to 80% of total landings). On Georges Bank, monkfish are usually harvested in conjunction with groundfish, in the deeper waters associated with the canyons. In terms of seasonality, the trawl fishery is pretty steady throughout the year with slight increases in landings in the fall (Sept – Nov) and winter/early spring (Jan – Mar), often peaking in March. However, the gillnet fishery in this region is typically a summer fishery that peaks in July or August, with few landings occurring during the winter months.

Herring

Herring are harvested with midwater trawls from Georges Bank during the spring, summer and fall, with the seasonality being determined by the seasonal migrations of the adults. Historically, Georges Bank supported a large herring fishery, but by 1976 the Georges Bank spawning component had collapsed due to a series of poor recruitment years and overfishing. Catches from Georges Bank have increased in recent years, and recent effort has been concentrated on the northern edge of Georges Bank.

Whiting

Whiting are harvested in the Cultivator Shoal Whiting Fishery with trawl gear and a minimum mesh size of 3 inches square. The season for the fishery is established as June 15 through October 31 and vessels must have a limited access of open access multispecies permit and a letter of authorization issued by the Regional Administrator. Because whiting is an open access fishery, many participants fear that either the stock condition or their future ability to prosecute the fishery (or both) will be compromised by an influx of vessels as a response to additional groundfish restrictions. The New England Fishery Management Council is planning on developing regulations to address this concern.

Scallops

The scallop fishery on Georges Bank is concentrated in the groundfish closed areas and near the Great South Channel. Amendment 10 to the Scallop FMP included an analysis of the contribution of Georges Bank and Mid-Atlantic statistical areas to a vessel's annual catch from 1995 through 2000 (five year average). Statistical areas 525 and 522 (the Western U.S./Canada Area) contributed 27.6 % and 31.1 % to a scallop vessel's annual catch.

8.0 Environmental Consequences – Analysis of Impacts

8.1 Proposed Action

8.1.1 Biological Impacts of the GB Cod, Haddock, and Yellowtail Flounder TACs

The proposed TACs were set at levels that correspond to the fishing mortality rates consistent with the management strategy agreed to under the Understanding. The strategy is to maintain a low to neutral risk of exceeding the fishing mortality limit reference ($F_{ref} = 0.18, 0.26, 0.25$, for cod, haddock, and yellowtail flounder, respectively). When stock conditions are poor, fishing mortality rates should be further reduced to promote rebuilding. The recommended 2008 TACs for cod, haddock, and yellowtail flounder were based upon the most recent stock assessments (TRAC Status Reports for 2007) and the fishing mortality strategy shared by both the United States and Canada. The guidance for FY 2008 for each stock is described in Sec. 7.2.1 of this document. The TMGC recommendations were based on the rationale as follows. For eastern GB cod, there was a shared desire to rebuild the biomass, and exercise caution regarding TAC increases. It was noted that the fishery is dependant upon the 2004 year class, and that this year class should be protected to get future recruitment. A slight increase in the TAC is justified in light of the fact that the cod TAC may limit access to haddock. For haddock, the recommended TAC was lower than that associated with F_{ref} because the reduced productivity of the 2003 year class (YC) resulted in a fishing mortality above F_{ref} in 2006. For yellowtail flounder, the U.S. expressed concern that the realized fishing mortality is higher than the predicted, and the fact that the U.S. is behind in its rebuilding strategy. It was noted that at this level the 3+ biomass is expected to increase by 22% and is expected to rebuild. There was discussion about the strength of the 2003 YC which is near the highest value in the time series and this YC has now been reported in the last 3 surveys suggesting a more optimistic outlook in the coming years.

Based upon fishing years 2004 through 2006, information on catch (landings and discards) from the U.S. Canada Management Area, the management measures implemented by Amendment 13 and subsequent framework adjustments have restrained the catches of GB cod, haddock, and yellowtail flounder. Based upon preliminary information, NMFS does not anticipate that there will be an overage (i.e., the catch will not exceed the TAC) for FY 2007 for Eastern GB cod or Eastern GB haddock. As of January 24, 2008, the preliminary estimate of total catch of GB yellowtail flounder was 99% of the TAC. Although retention of GB yellowtail flounder was prohibited on January 24, 2008, there may be a small overharvest of GB yellowtail flounder due to discards. Because any overharvest from FY 2007 would be relatively small and would be deducted from the FY 2008 TAC, and the 2008 TAC is large than the FY 2007 TAC, the biological impact a potential overharvest is expected to be neutral. In 2004, 2005, and 2006, the catch of GB cod, haddock, and yellowtail flounder was less than their respective TACs (Table 4). A comparison of the pattern of catch of GB cod, haddock, and yellowtail flounder between 2004 and 2006 also provides evidence that the U.S. Canada Management Area TACs, and in-season management actions have modified fishing patterns. The catch over time can be found on

the internet at: <http://www.nero.noaa.gov/ro/fso/usc.htm>. The inseason management actions can be found in the Appendix.

Although it is not possible to separate out the precise impact of the hard TACs on the overall pattern of fishing behavior and landings, the TACs and associated regulations have played an important role in determining fishing patterns on GB, as further explained in Section 8.1.5, the Economic Impacts of the proposed TACs. Because the proposed TACs are based upon fishing mortality rates that are in accordance with the Understanding, and the management measures that are associated with the U.S. Canada Management Area have been demonstrated to effectively control fishing effort, the proposed TACs are appropriate and will contribute toward the growth of the GB cod, haddock, and yellowtail flounder stocks. Because the TACs will contribute toward the growth of the stocks, the biological impacts will be positive.

In contrast, as described in Sections 8.2.1 and 8.3.1, the biological impacts of the Status Quo and No Action Alternatives, respectively, would be primarily negative. Neither the Status Quo, nor the No Action Alternative represent the appropriate level of TACs from a biological perspective, and would either allow fishing mortality to be too high (No Action), or be unnecessarily restrictive (Status Quo). Allowing an excessive amount of fish to be caught would represent a level of fishing mortality that exceeded the desired level of fishing mortality. If the appropriate levels of fishing mortality were exceeded, it is likely that stock rebuilding would be slowed. Specifying a TAC lower than the amount possible may facilitate timely rebuilding, but would provide less yield, and have negative economic impacts associated. Under the Status Quo Alternative, the yellowtail flounder, haddock, and cod TACs would be more conservative than biologically necessary. Under the No Action Alternative (with no TACs specified), it is possible that excessive harvest could occur for all three shared stocks. Since 2004, the U.S./Canada TACs have proved effective at controlling fishing effort on the shared stocks, in a precise manner, which would not be possible under the current DAS system in place in the NE multispecies fishery at-large.

8.1.2 Impacts of Bycatch

The proposed TACs will influence the fishing behavior of groundfish vessels fishing on GB. The TACs could affect the amount of groundfish bycatch as well as non-groundfish bycatch by multispecies vessels. The specification of TACs does not impact the fishing behavior of other non-groundfish fisheries, with the exception that the specification of the GB yellowtail hard TAC is necessary in order for the execution of the scallop access fisheries on GB.

Although groundfish DAS vessels are expected to harvest the majority of the groundfish catch, non-groundfish vessels harvest small amounts of groundfish as well, primarily as bycatch. For many of these vessels, bycatch of groundfish may not be retained and, therefore, must be discarded.

Bycatch of Groundfish

GB cod, haddock, and yellowtail flounder are the principal stocks of groundfish caught as bycatch that are affected by the specification of the hard TACs. The cod, haddock, and yellowtail flounder discard to catch percentage by non-groundfish and groundfish vessels fishing in the U.S./Canada Area for fishing years 2004, 2005, and 2006 are shown in Table 7. Catch values are equivalent to those in Table 4. Groundfish discard percentages were estimated using landings data from all trips into the U.S./Canada Area (reported through Vessel Monitoring System, VMS) and discard data from observed trips (a subset of total trips). For discards from the groundfish fishery, the average ratio of observed discarded catch to observed kept catch is calculated for all trips during a rolling 5 week period. That ratio is multiplied by the kept catch reported through

the VMS to estimate discarded catch, for each species (Caless and Wang, 2004). This data does not include information on the target species.

Table 7. Total Discards as a Percentage of Catch U.S./Canada Area in Pounds.

	Discard Percentage	Catch	Discards from other fisheries	Discards from groundfish fishery
2004				
Cod	23 %	389,000	1,394	151,361
Haddock	18 %	2,337,000	259	559,818
Yellowtail flounder	8 %	12,902,000	* 1,074,330	
2005				
Cod	64 %	538,000	1,000	341,000
Haddock	12 %	1,299,000	27,000	130,000
Yellowtail flounder	9 %	8,288,000	470,000	270,000
2006				
Cod	50 %	739,000	0	373,000
Haddock	37 %	1,479,000	0	552,000
Yellowtail flounder	29 %	4,081,000	949,000	252,000

Pounds expressed in landed weight.

* Not broken into categories.

In the Eastern U.S./Canada Area a requirement for trawl vessels to use a haddock separator trawl was implemented in both the 2004, 2005, and 2006 fishing years. Only vessels fishing with a haddock separator trawl were allowed to fish in the Eastern U.S./Canada Haddock SAP Pilot Program, which was open during the 2004, 2005, and 2006 fishing years. In 2006, scallop vessels fishing on Georges Bank discarded approximately 431 mt of yellowtail flounder, which represents approximately 21 % of the 2006 yellowtail flounder TAC.

It is difficult to predict future discard patterns. The size of the cod, haddock, and yellowtail flounder TACs for 2008 will increase by 35 %, 28 %, and 97 %, respectively. It is unknown how the increase in TACs may affect discards. The relatively large amount of haddock discards estimated during FY 2006 may be a short-term phenomenon, due to the regulatory discarding of undersized fish from the large 2003 year class. The New England Fishery Management Council, at its November 7, 2007 meeting, recommended for FY 2008, that the Eastern U.S./Canada Area not open until August, in order to avoid the season in which cod are most likely to be encountered in high numbers, in order to reduce the catch and discarding of cod. As evidenced by the past information, the amount of groundfish discards is variable, and is difficult to predict. Comparison of total discards among years should be done with caution, because of the many differences between fishing years, principally, the times during which the Eastern U.S./Canada Area is open. The rate of discarding cannot be inferred from the total amount of discarding.

Vessels fishing in the U.S./Canada Area may also catch winter flounder, American Plaice, witch flounder, or white hake. The amount of bycatch of these species will likely increase because the amount of access to the Eastern U.S./Canada Area is likely to increase, and access to the Western Area will be prolonged due to the increase in the size of the TACs.

Bycatch of Non-Groundfish

The principal non-groundfish species caught by the multispecies fishery on GB are monkfish, skates, lobster, and dogfish. The same conclusions regarding bycatch of groundfish in the discussion above apply to the bycatch of non-groundfish. Although the amount of bycatch will likely be correlated with the amount of overall fishing effort on GB, the trend in effort is difficult to predict. It is possible however that the proposed TACs may result in minor changes to the amount of non-groundfish species caught by the groundfish fishery from the U.S./Canada Management Area.

With respect to the other fisheries that occur on GB that may have a bycatch of groundfish (described in Section 7.4.2), the proposed TACs will not have much of an influence on the amount of groundfish landed by those fisheries because the TACs do not limit the activity of these other fisheries. The exception is that the maximum amount of yellowtail flounder bycatch that could be harvested from the scallop access program could be directly impacted by the increase in the GB yellowtail flounder TAC. The yellowtail flounder bycatch cap is set as a percentage of the GB yellowtail flounder TAC. Although the maximum amount of yellowtail that could be caught by the scallop access program would increase, the actual amount of yellowtail caught may not increase.

8.1.3 Habitat Impacts

Amendment 13 contains a discussion of the habitat impacts of commonly used management tools, including TACs. Hard TACs impact EFH by controlling effort on specific fish stocks and potential habitat benefits of TACs are derived from reductions in fishing effort. The proposed GB cod, haddock and yellowtail flounder hard TACs are higher than the TACs implemented for FY 2007. The higher TACs could increase the amount of fishing effort directed on cod, haddock, or yellowtail flounder in both the Eastern and Western U.S./Canada Areas. Information from past fishing years however, suggests that the number of trips have been relatively stable over time (Table 5), despite fluctuations in the size of the TACs. A similar number of trips could result in a similar amount of effort, unless trip time increases. Although the proposed TACs represent an increase, and could result in a minor increase in fishing effort, Framework Adjustment 42 to the FMP, implemented in 2006, included day-at-sea reductions and trip limits for some GB stocks that will constrain overall fishing effort, including effort on GB.

It is difficult to predict what effect the proposed action would have on the amount or distribution of fishing effort on eastern GB. A lot depends on which TAC is reached first. The triggering of management measures to prevent the TAC for cod or haddock in the Eastern U.S./Canada Management Area from being exceeded could result in fishing effort being re-directed to yellowtail flounder in the Western U.S./Canada Area. If the yellowtail flounder TAC is reached first, the Eastern U.S./Canada Area would close, and possession of yellowtail flounder would be prohibited, but multispecies vessels could still continue to fish for various groundfish in the Western U.S./Canada Area. Furthermore, if the Eastern U.S./Canada Area does not open until August, as proposed by the Council, the number of trips into the Eastern U.S./Canada Area could decrease, despite the increasing TACs.

It is important to note that in addition to the habitat impacts that are related to changes in fishing effort associated with this action, other factors such as the type of habitat, its vulnerability to disturbance, the degree of natural disturbance, and the degree to which the habitat is already being impacted by bottom-tending mobile gear used in other fisheries, are also relevant. Benthic habitats in the U.S./Canada Management Area are impacted by fishing activities that are not affected by this management action, primarily scallop dredging. They are also exposed to natural disturbances caused by bottom currents and storms. Scallop dredging on eastern GB would continue even if the TAC for cod, yellowtail flounder, or haddock is reached (as long as the

bycatch of yellowtail flounder remains below 5% for any given trip). Trawlers utilizing monkfish DAS could also continue fishing in the area once it was closed to vessels using multispecies DAS. Adverse EFH impacts of all fishing activities managed by the New England Fishery Management Council were minimized to the extent practicable in management actions implemented in recent years.

The area that is potentially affected by the proposed TACs has been identified to include EFH for species managed under the following Fishery Management Plans: NE Multispecies; Atlantic Sea Scallop; Monkfish; Atlantic Herring; Summer Flounder, Scup and Black Sea Bass; Squid, Atlantic Mackerel, and Butterfish; Spiny Dogfish; Tilefish; Deep-Sea Red Crab; Atlantic Surfclam and Ocean Quahog; Atlantic Bluefish; Northeast Skates; and Atlantic Highly Migratory Species. This proposed action makes relatively minor adjustments in the context of the fishery as a whole, and, for the reasons stated above, is not expected to have any adverse impact on EFH. Furthermore, the proposed action does not allow for access to the existing habitat closed areas on GB that were implemented in Amendment 13 to the Multispecies FMP and Amendment 10 to the Scallop FMP and therefore it continues to minimize the adverse impacts of bottom trawling and dredging on EFH.

8.1.4 Impacts on Endangered and other Protected Species

It is not likely that the implementation of hard TACs for the 2008 fishing year in the U.S./Canada Area, will have any additional impacts on Endangered and Protected Species that were not previously analyzed in Amendment 13 to the FMP. The proposed TACs will not have any additional impacts because the TACs are not likely to result in an overall increase in fishing effort, nor substantially alter fishing patterns and practices. Trawl gear used in this area is not expected to affect ESA-listed cetaceans since these species are unlikely to be caught in trawl gear given their large size and mobility. Although the proposed TACs represent an increase, and could result in a minor increase in fishing effort, Framework Adjustment 42 to the FMP, implemented in 2006, included day-at-sea reductions and trip limits for some GB stocks that will constrain overall fishing effort, including effort on GB, to a level less than analyzed by Amendment 13.

In the Amendment 13 FSEIS, the mortality and serious injury of protected species were assessed relative to the Potential Biological Removal (PBR) allowed under the Marine Mammal Protection Act (MMPA) for each species and were found to be below those levels. Amendment 13, which included implementation of the U.S./Canada Management Area restrictions, concluded that the measures would not compromise the ability of the species protected by the MMPA to achieve their optimum sustainable population levels.

The bulk of measures implemented under Amendment 13 were designed to achieve specific fishing mortality reductions, and included effort reductions in all components of the groundfish fleet. Amendment 13 reduced by some degree the adverse impacts of multispecies fishing activity that existed at the time of implementation, to all large whales, including the right whale. Interactions between sink gillnet gear used in the multispecies fishery and other marine mammal species (such as seals, dolphins, and small whales) were not expected to increase under Amendment 13 management measures. Amendment 13 concluded that the potential impacts to sea turtles would likely decrease with implementation. The current fishing activities of the groundfish fishery were determined to have no effect on the endangered shortnose sturgeon and Atlantic Salmon.

Although sea turtles such as leatherbacks and loggerheads may occur in these waters and are known to be captured by trawl gear, surveys have shown that turtles occur only sporadically over Georges Bank in the summer through the early fall (typically June through October). No turtle takes were observed in 1999 or in 2000 when portions of the multispecies closed areas over Georges Bank were temporarily reopened for scallop dredge fishers. Although possible, there is

not a reasonable likelihood that sea turtle distribution will overlap with multispecies gear used in the U.S./Canada Area.

8.1.5 Economic Impacts

The economic impacts that result from the use of hard TACs for the shared stocks of GB stocks can best be described in terms of 5 different effects: 1) Hard TACs for cod, haddock, and yellowtail flounder will limit the total amount of catch of these stocks (landings and discards) allowed by law; 2) Associated rules such as gear restrictions, trip limits, and closures that may be implemented in order to prevent catch from exceeding the TACs will impact when and how such access to these stocks occurs; 3) Access restrictions implemented to control catch of one particular stock may indirectly impact access to other stocks; 4) Discarded fish count against the TAC; and 5) The timing and rate of landing of these stocks may impact the market for these species. These effects are described in more detail in the following sections. This discussion builds upon the information contained in Section 7.4.1, the description of the GB groundfish fishery.

8.1.5.1 Hard TAC Levels

The economic impacts of the proposed hard TACs are difficult to predict because of the 5 effects noted above (and possible other effects), and the fact that these effects interact in a complex manner. The amount of fish landed and sold will not be equal to the sum of the TACs, but will be reduced as a result of discards, and may be further reduced by limitations on access to stocks that may result from the associated rules. Reductions to the value of the fish may result from fishing derby behavior and potential impact on markets.

All three TACs proposed for the 2008 fishing year are larger than those implemented for the 2007 fishing year, and therefore may result in a revenue increase for limited access DAS vessels that are able to access the U.S./Canada Management Area. Because access to the Eastern U.S./Canada Area is likely to be limited by the catch of cod, it is likely that only a portion of the allocated TACs will be harvested. Furthermore, even if the Eastern U.S./Canada Area is open, the number of trips to the Area is also influenced by the availability of fish closer to port, and other economic and practical factors.

The cod TAC proposed for the 2008 fishing year is 35% larger than the TAC that was established for the 2007 fishing year, and therefore, more cod could be legally harvested and result in increased revenue for limited access DAS vessels that are able to access the Eastern U.S./Canada Area. Because the cod TAC is likely to cause the closure of the Eastern U.S./Canada Area prior to the attainment of the haddock or yellowtail flounder TACs, the change in cod TAC will impact the amount of time vessels have available to fish in the Eastern U.S./Canada Area. If the larger GB cod TAC in 2008 and the delayed opening for trawl vessels until August 1 results in a longer period of time during which the Eastern U.S./Canada Area is open, it is possible that more haddock or yellowtail flounder would be caught from the Eastern U.S./Canada Area in 2008 than was caught in 2007. Due to the large increase in the size of the GB yellowtail flounder TAC, a potential small downward adjustment to the TAC (due to a potential 2007 overharvest) would have a relatively small impact.

In order to evaluate the economic impact of the increased TACs, FY 2006 catches and average 2006 prices (Tables 7 and 8) were used to derive estimates of changes in revenue. Catch and landings data are based upon VMS and dealer report data, and adjusted according to the methods described by Caless and Wang (2004). Average price estimates are based on dealer reports submitted to the NMFS Fisheries Statistics Office. At \$ 2.06 per lb, the increased amount of cod available in 2008 (381,388 lb more) would be worth approximately \$ 785,659. The additional amount of haddock that could be caught, given the potential for the Eastern

U.S./Canada Area to be open for a longer time period, can be estimated using the ratio of haddock catch to cod catch. During 2006, the haddock to cod catch ratio was approximately 1.6. Based on the increase in cod TAC of 173 mt, and assuming a haddock to cod ratio of 1.6, the additional amount of haddock available would be approximately 277 mt (610,663 lb). The amount of additional haddock revenue (assuming \$1.75 per pound) would therefore be \$ 1,068,660. Additional yellowtail flounder revenue is also likely, provided the Eastern Area stays open for a longer period of time. Furthermore, if the time period during which vessels have access to the eastern area is prolonged, there would also be increased landings of other groundfish and non-groundfish species, resulting in additional revenue. Based on an analysis of 248 trips to the Eastern U.S. Area, the mean revenue per A DAS was \$ 5,686. Table 8. provides data on estimated total revenue from selected other species on trips to the Eastern U.S./Canada Area in FY 2006.

Table 8. Average price received (US dollars per pound) by limited access NE multispecies vessels for U.S. Canada Management Area cod, haddock, and yellowtail flounder during FYs 2005 and 2006.

	Eastern Area Cod	Eastern Area Haddock	GB Yellowtail
FY05	\$1.46	\$1.18	\$1.13
FY06	\$ 2.06	\$ 1.75	\$ 1.78

Table 9. Total landings and estimated revenue from Eastern GB cod, Eastern GB haddock, and GB yellowtail flounder FY 2006.

	Landings	Estimated Revenue
Cod	353,054 lb	\$ 727,972
Haddock	897,461 lb	\$ 1,574,482
Yellowtail flounder	2,513,232 lb	\$ 4,526,529

Table 10. Estimated Revenue from Other Top Value Species on Trips to Eastern Area, FY 2006

Species	Estimated Revenue
Yellowtail flounder	\$ 1,738,223
Winter flounder	\$ 1,024,158
Witch flounder	\$ 316,914
Monkfish	\$ 360,458
Lobster	\$ 310,359
Skates (thorny, winter, and unidentified)	\$ 241,451

When considering the revenue associated with the landings of cod, haddock, and yellowtail flounder from the U.S./Canada Area, and the impact of interannual fluctuations in the size of the TACs, it is important to note that many other species are landed from trips to the U.S./Canada Area. Based on estimates of total revenue of trips to the U.S./Canada Area during FY 2006, the total revenue from the U.S./Canada Area was approximately \$ 43,483,495 (East: \$ 6,783,495; West: \$ 36,700,000). The revenue associate with the cod, haddock, and yellowtail flounder represented about 2 %, 4 %, and 10%, respectively of the total revenue from trips to the U.S./Canada Area. It should be noted that some of the landings from such trips were caught outside the U.S./Canada Area (i.e, trips were not exclusively to the U.S/Canada area). In FY 2006 there were 161 different NE Multispecies vessels that fished in the U.S./Canada Area (Table 6).

In contrast with the No Action Alternative, the proposed alternative would have short term negative economic impacts, due to the fact that the harvest of the shared stocks would be constrained by the TACs. The long term impacts of the No Action Alternative are more likely to be negative than the proposed Alternative, due to the increase biological risk associated with the No Action Alternative. Stock rebuilding and the associated revenue that is likely to result from an increasing stock size could be jeopardized by the No Action Alternative.

8.1.5.2 Social Impacts

The social impacts of the hard TACs will result principally from the amount of revenue anticipated, the level of uncertainty in the fishery, and the potential disruption of desired fishing practices due to inseason management measures implemented (such as trip limits and closures). With the increase in TACs the social impacts may be less than in past years due to the potential for greater revenue, as well as less uncertainty and disruption. Some of these social gains could be undermined if the number of vessels, or number of trips into the U.S./Canada Area increases substantially, and the TAC area caught quickly.

Since the implementation of the U.S./Canada Area regulations there has been increased awareness about the pertinent regulations, and NMFS and the Council have gained experience in monitoring and implementing inseason management measures to achieve the goals of the FMP. The Closed Area II Yellowtail Flounder SAP has not opened since 2004, Framework Adjustment 42 implemented recommended trip limits for GB yellowtail flounder, and the Council has recommended that the Eastern Area not open until August 1 in order to minimize catch cod. It is hoped that the industry awareness and inseason management measures will help to optimize opportunities to harvest the TACs, especially haddock, and minimize the social disruption that can be associated with hard TACs.

8.2 Status Quo

8.2.1 Biological Impacts

The status quo U.S./Canada TACs are those in place for FY 2007, which were based upon assessments conducted in 2006. An assessment of the transboundary stocks of GB cod, haddock, and yellowtail flounder occurred in 2007, which updated and revised the information. Because the status quo TACs are not those that correspond to the most recent scientific information, the status quo TACs would not correspond to the desired fishing mortality rate. As such, the TACs would be inconsistent with the Understanding and the FMP. Although the status quo TACs would maintain fishing mortality well below the level required, and be biologically conservative, the status quo TACs would result in a loss of potential yield for the fishery, and harvest below optimum yield. The Status Quo Alternative would likely be more consistent with the biological objectives of the FMP than would the No Action Alternative, under which there would be no hard TACs for the shared stocks, and fishing effort would be less constrained. Since 2004, the U.S./Canada TACs have proved effective at controlling fishing effort on the shared stocks, in a precise manner, which would not be possible under the current DAS system in place in the NE multispecies fishery at-large.

8.2.2 Bycatch Impacts

The status quo U.S./Canada TACs may result in less fishing effort in the U.S. Canada Management Area (as a whole, east and west), and therefore be associated with lower bycatch than would the proposed action, due to the lower TACs associated with the status quo. However, prediction of the bycatch rate, or net amount of bycatch is difficult due to the number of factors involved. The size of the TAC may not be closely related to the amount of bycatch. The total

mix of species caught and the profitability of the trips may be more important determinant of fishing effort than availability of TAC. The bycatch rates for the groundfish species encountered (cod, haddock, yellowtail flounder, winter flounder, witch flounder, American plaice, and white hake) may not be affected by the size of the TAC, unless the seasonality of the fishing effort is altered, or the gear used in the Eastern Area results in a different rate of bycatch. The amount of fishing effort in the Eastern U.S./Canada Area (in contrast to the whole U.S./CA Area) may be less under the status quo alternative because the cod TAC is smaller and may result in swift closure of the Eastern U.S./Canada Area (as happened during the 2006 fishing year). The status quo Alternative would likely constrain fishing effort more than would the No Action Alternative, and therefore, would be more beneficial than the No Action Alternative with respect to bycatch impacts.

8.2.3 Habitat Impacts

The status quo U.S./Canada TACs could result in less fishing effort in the U.S. Canada Management Area, and therefore be associated with slightly less impact on habitat than would the proposed action, but fishing effort is difficult to predict. The total amount of fishing effort is likely determined by numerous factors, with the relative size of the TAC being only one factor. The status quo Alternative would likely constrain fishing effort more than would the No Action Alternative, and therefore, would be more beneficial than the No Action Alternative with respect to habitat impacts.

8.2.4 Impacts on Endangered and other Protected Species

It is not likely that the implementation of the status quo hard TACs will have any additional impacts on Endangered and Protected Species that were not previously analyzed in Amendment 13 to the FMP. The status quo TACs may result in only a modest increase in fishing effort, and not substantially alter fishing patterns, other than increase the likelihood that the Eastern U.S./Canada Area will be open during a shorter time period, with a resultant decrease in fishing effort there. Trawl gear used in this area is not expected to affect ESA-listed cetaceans since these species are unlikely to be caught in trawl gear given their large size and mobility.

The bulk of measures implemented under Amendment 13 were designed to achieve specific fishing mortality reductions, and included effort reductions in all components of the groundfish fleet. Amendment 13 reduced by some degree the adverse impacts of NE multispecies fishing activity that existed at the time of implementation, to all large whales, including the right whale. Interactions between sink gillnet gear used in the multispecies fishery and other marine mammal species (such as seals, dolphins, and small whales) were not expected to increase under Amendment 13 management measures. Amendment 13 concluded that the potential impacts to sea turtles would likely decrease with implementation. The current fishing activities of the groundfish fishery were determined to have no affect on the endangered shortnose sturgeon and Atlantic salmon.

Although sea turtles such as leatherbacks and loggerheads may occur in these waters and are known to be captured by trawl gear, surveys have shown that turtles occur only sporadically over GB in the summer through the early fall (typically June through October). No turtle takes were observed in 1999 or in 2000 when portions of the multispecies closed areas over GB were temporarily reopened for scallop dredge fishers. Although possible, there is not a reasonable likelihood that sea turtle distribution will overlap with multispecies gear used in the U.S. Canada Management Area.

8.2.5 Economic Impacts

Based upon the difference in size of the 2007 and proposed 2008 TACs, the estimated revenue for the status quo hard TACs may result in less revenue than the proposed TACs. Because the status quo cod TAC is 35 percent less than the proposed TAC, the amount of revenue from cod landings would likely be 35 percent less. Yellowtail flounder and haddock landings would also likely be less under the status quo alternative, but to a lesser degree than for cod (i.e., not 35 percent less, based on historical landings patterns). There are factors which will likely mitigate the difference between the status quo and proposed alternatives with respect to overall revenue under the proposed TACs such as price (a potential increase in price), as well the availability of other species from the Eastern U.S./Canada Area. The status quo hard TACs would likely generate less revenue than would the No Action TACs, which would effectively result in the removal of the hard TACs.

8.2.6 Social Impacts

Because the status quo hard TAC alternative may result in less landings and revenue, these alternatives may have negative social impacts in the short term. In the long term, the lower Status Quo TACs may contribute toward stock rebuilding, and therefore have a positive social impact in the long term. The social impacts of the status quo TACs would not be as harmful as those of the No Action Alternative, assuming that stock status would be somewhat better under the status quo Alternative.

8.3 No Action

8.3.1 Biological Impacts

If no hard TACs are specified for the U.S./Canada Management Area, the potential harvest of cod, haddock, and yellowtail flounder could exceed the level of harvest that has been recommended for these resources, based on the shared harvest strategy, and could result in increased risk that the fishing mortality objectives are compromised. Whether or not the fishing mortality rate strategy was exceeded would also depend on the level of Canadian harvest. Without the specification of any hard TACs for the U.S./Canada Management Area, the principal management tool in effect that would limit fishing effort on Georges Bank is DAS. Based on the fishing patterns from 2004 through the present, when effort has been constrained by the hard TACs, it is not likely that the DAS allocations are sufficient to limit fishing effort to the level that would result in harvest of the appropriate amount of GB cod and yellowtail flounder. The fact that vessels may fish using a Category B DAS, or lease additional A DAS provides increased opportunities to fish for many vessels. Hard TACs are required to limit fishing effort to the appropriate amount in the U.S./Canada Area. Because the potential for an increased risk that the fishing mortality objectives would be compromised, the biological impacts of this alternative would be negative.

8.3.2 Bycatch Impacts

If no hard TACs are implemented it is possible that additional fishing effort could occur in the U.S./Canada Management Area, and increase the amount of bycatch from vessels fishing in the area. The overall level of effort in the groundfish fishery would still be set by the DAS allocations, which would be the same under the No Action alternative as under the Proposed or Status Quo alternatives. The groundfish species likely to be caught as bycatch would be GB yellowtail flounder, GB cod, and GB haddock, and well as winter flounder, witch flounder,

American Plaice, and white hake. Non-groundfish species affected would be monkfish, skates, lobster, and dogfish.

8.3.3 Habitat Impacts

If no hard TACs are implemented it is possible that additional fishing effort could occur in the U.S./Canada Management Area, and increase impacts to benthic habitat. The overall level of effort in the groundfish fishery would still be set by the DAS allocations, which would be the same under the No Action alternative as under the Proposed or Status Quo alternatives.

8.3.4 Impacts on Endangered and other Protected Species

The impacts on endangered and other protected species under the No Action Alternative (no hard TACs) would be similar to the impacts on such species under the proposed TACs or Status Quo TACs. Although some increase in fishing effort in the U.S./Canada Management Area could occur without hard TACs, the maximum amount of potential fishing effort in the fishery would be less than that analyzed under Amendment 13. Furthermore, Framework 42 reduced total fishing effort in the groundfish fishery in order to meet the rebuilding fishing mortality goals. The No Action Alternative would not impact the allocation of DAS in the fishery. DAS allocations cap the maximum amount of fishing effort allowable in the fishery, and differential DAS provide further effort control. Under the No Action alternative, a shift in fishing effort into the U.S./Canada Management Area could occur, but it would be constrained by the overall DAS allocation. Sea turtles are not likely to be impacted by effort shifts onto GB because sea turtle distribution in the Northeast Region is focused along the Mid-Atlantic and Southern New England shelf region. Most of the effort on GB is by trawl vessels, which are not likely to affect seals, dolphins, and small whales.

8.3.5 Economic Impacts

It is likely that the No Action Alternative (no hard TACs) would provide increased economic benefits to the industry for the 2008 fishing year, because it would be possible to harvest Eastern GB cod, GB yellowtail flounder, and Eastern GB haddock in greater amounts. However, if such harvest levels are associated with increased risk that the fishing mortality objectives are compromised, the long term economic gains could be reduced.

8.3.6 Social Impacts

The social impacts of the No Action Alternative are difficult to analyze because it is difficult to determine fishing behavior. Not specifying any hard TACs for the U.S./Canada Management Area would be inconsistent with the terms of the U.S./Canada Resource Sharing Understanding, and would likely result in strong concerns among the Canadian fishing industry, as well as negatively impact the effectiveness of U.S./Canada collaboration on regional transboundary resource management. The potential for increased landings under the No Action Alternative would make it likely that there would be some beneficial social impacts in the short term. However, due to the increased likelihood that the biological objectives of the FMP would not be met there may be negative long term social impacts associated with the No Action Alternative.

8.4 Cumulative Effects of the Proposed TACs

8.4.1 Introduction to Cumulative Impacts

A cumulative effects analysis is required by the Council on Environmental Quality (CEQ) (40 CFR part 1508.7). The concept behind cumulative effects analysis is to capture the total effects of many actions over time that would be missed by evaluating each action individually. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective but rather, the intent is to focus on those effects that are truly meaningful. This section analyzes the potential direct and indirect effects of the proposed action (summarized from Section 8.0) together with past, present, and reasonably foreseeable future actions as well as factors external to the multispecies fishery that affect the physical, biological, and socioeconomic resource components of the groundfish environment. Although predictions of synergistic effects from multiple sources are inherently less certain than predicted effects of individual actions, cumulative effects analyses are intended to alert decision makers to potential “hidden” consequences of the proposed actions.

The information presented in Section 7.0 (Affected Environment) describes the fishing history, natural history and current status of the resources and human environment. This helps characterize the environmental baseline against which to evaluate cumulative effects and serves as a starting point for the cumulative effects analysis. The baseline does not represent a static ‘snapshot’ of the resource. Instead, it represents the trend of the resource, incorporating the past influences on the resource. The cumulative past effects of groundfish fishery activity, combined with impacts from other fisheries, human-induced impacts, and climatic events influencing the resource, all contribute to the state of the baseline condition.

Valued Ecosystem Components

The cumulative effects analysis focuses on valued ecosystem components (VECs). For actions prior to Amendment 13, the VECs used were Resource, Habitat, and Community Benefits. For Amendment 13 and later actions, the following VECs are used:

1. Regulated groundfish stocks (target and non-target);
2. Non-groundfish species (incidental catch and bycatch);
3. Endangered and other protected species;
4. Habitat, including non-fishing effects; and
5. Human communities, including the economics of the fishery and fishing communities

The range of VECs chosen (target species, non-target species, protected species, habitat and the human communities) was limited to those for which a reasonable likelihood of meaningful impacts is expected. This is 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 EFH) 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 human communities VEC, no subsistence fishing or Indian treaty fishing occur in the area managed under this FMP. Further, vessels participating in the groundfish fishery must comply with all federal air quality (engine emissions) and marine pollution regulations. Therefore, the management measures contained in

this action would not likely result in any additional impact to air or marine water quality and thus, are not considered as a VEC in this analysis.

Temporal and Geographic Scope

While the effects of historical fisheries are considered, the temporal scope of past and present actions for regulated groundfish stocks, non-groundfish species, habitat and the human communities is primarily focused on actions that have taken place since implementation of the initial NE Multispecies FMP in 1977. An assessment using this timeframe demonstrates the changes to resources and the human communities that have resulted through management under the Council process and through U.S. prosecution of the fisheries, rather than foreign fleets. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, the analysis examines the period between implementation of this action (expected May 2008) and the planned implementation of Amendment 16 in May 2009. This temporal scope of two years for future actions is appropriate because the complexity of the fishery makes the evaluation of the future beyond two years very difficult and highly speculative.

The geographic scope of the analysis of impacts to regulated groundfish stocks, non-groundfish species and habitat for this action is the total range of these VECs in the Western Atlantic Ocean, as described in the Affected Environment and Environmental Consequences sections of the document (Sections 7 and 8). For endangered and protected species, the geographic range is the total range of each species. The geographic range for the human communities are the primary and secondary port groups bordering the range of the groundfish fishery (Section 7.4) from the U.S.-Canada border to, and including North Carolina.

8.4.2 Past, Present and Reasonably Foreseeable Future Actions

8.4.2.1 Target and Non-Target Species

Although management measures for groundfish were first enacted for the EEZ in 1977 under the original Groundfish FMP, the dramatic increase in larger vessels, bigger gear and electronic aids such as fishfinders and navigation equipment contributed to a greater efficiency and intensity of fishing, which in turn resulted in a precipitous drop in landings during the 1980s to an all-time low in the early 1990s. The following discussion is limited to those past management actions thought to have had the greatest impact on the New England groundfish fishery, habitat, protected resources and human communities for the purposes of this cumulative impacts assessment: Amendments 5, 7 and 13 to the FMP; the 1994 Emergency Action; Framework Adjustments 9, 40A, 40B, 41, and 42 to the FMP; and the Interim Actions of 2002.

To end overfishing and address the severe decline in the groundfish resources and the influx of more and larger vessels, the Council developed Amendment 5 to the FMP. This action, which became effective in 1994, implemented a moratorium on permits, as well as an effort-control program that proposed to reduce a vessel's days-at-sea (DAS) by 50% over a 5-7 year period. Amendment 5, thus, was the first action to restrict both access and effort in the multispecies fishery.

Despite implementation of Amendment 5, stocks continued to decline rapidly. In response, the Council requested that NMFS implement an emergency action to close, on a year-round basis, three large areas to all vessels capable of catching groundfish (Closed Area I, Closed Area II, and the Nantucket Lightship Closed Area). NMFS implemented the emergency action to close these three areas in December of 1994. These closure areas are thought to have had a major beneficial effect on groundfish stocks, as they afforded protection over large areas and for extended amounts of time. Indirect benefits to other species accrued from these closures as well,

such as the protection of sea scallops. Although there were large benefits attributed to these closures, it is important to note that they may have had a negative effect on other groundfish stocks as vessels moved elsewhere to fish. Framework 9, implemented in 1995, extended the emergency action permanently and also implemented measures to reduce the discard of groundfish by vessels fishing on non-groundfish species.

Amendment 7, implemented in 1996, accelerated the Amendment 5 DAS effort-reduction schedule and further reduced the bycatch of regulated multispecies. Similar to Amendment 5, the FSEIS for Amendment 7 specified that this action was expected to have a significant impact on a substantial number of small entities in the short-term, with higher, long-term benefits accruing to the industry and to the Nation. However, the combination of Amendments 5 and 7 to the FMP and Framework 9 reduced fishing effort significantly and provided large areas of year-round protection, especially on Georges Bank, for several species of groundfish. In response, the status of several groundfish stocks has improved over the past several years and landings increased as a result.

Following Amendment 7, several framework adjustments were implemented, adding further restrictions to the groundfish fishery. While the combination of measures implemented since the adoption of Amendment 5 improved stock status (increasing biomass and reducing fishing mortality) for many stocks, the improvement has not been achieved for all stocks.

In response to a Federal Court decision in the case of *Conservation Law Foundation, et al. v. Evans, et al.*, NMFS, in May and August 2002, implemented management measures consistent with a Settlement Agreement through an interim final rule. Measures contained in the interim rule included a considerable reduction of DAS; increased gear restrictions for certain gear types, including gillnets, hook-gear, and trawl nets; modifications and additions to the closure areas; limits on yellowtail flounder catch; and more restrictive recreational fishing measures. It was projected that continuation of the Settlement Agreement for the duration of the 2003 fishing year would result in a 25-35% reduction in fishing effort, further protect several groundfish species, most notably GOM cod, and increase the likelihood of timely stock rebuilding.

Amendment 13, implemented on May 1, 2004, superseded the Settlement Agreement and adopted major changes to groundfish management. At the time of publication, the analysis contained in the Amendment 13 FEIS predicted the following impacts (described in detail in the amendment document): (1) For regulated stocks, an end to overfishing for all groundfish stocks, to rebuild overfished stocks by 2014 for most stocks (2018 for CC/GOM yellowtail flounder, 2026 for GB cod, and 2047 for redfish), reduce discards due to the adoption of an increased mesh size and create opportunities for groundfish vessels to target healthy stocks (SAPS); (2) for other stocks, reduce the bycatch of skates, dogfish and monkfish as a result of effort reductions; (3) no specific measures to protect endangered and other protected species were adopted however, effort reductions for regulated and other stocks would have negligible or possibly beneficial impacts; (4) specific measures to protect habitat included the adoption of areas closed to mobile gear, further benefits could also result from effort reductions on regulated and other stocks; and (5) short-term reductions in revenue would have negative impacts on fishing communities, but over the period of the rebuilding program revenues would increase, however, there was considerable uncertainty over whether current fishery participants would benefit from rebuilding.

Multispecies FW 40A, implemented November 19, 2004, created three opportunities for groundfish vessels to target healthy stocks. These included a pilot project SAP to target haddock in the Eastern U.S./Canada area, a SAP for GB Cod Hook Sector vessels to target haddock in CAI, and a Category B (regular) DAS pilot program that allows vessels to target healthy stocks in all areas while using Category B DAS (DAS that cannot be used outside these programs). All three programs were designed so that they would not threaten the mortality targets adopted by Amendment 13. This was accomplished by establishing incidental catch TACs for stocks of concern and requiring that the various programs end when these TACs are caught.

Multispecies FW 40B, effective in June 1, 2005, implemented management measures to improve the effectiveness of the effort control program implemented under Amendment 13, created additional opportunities to target healthy stocks and increased information available to assess groundfish bycatch in the herring fishery. The measures implemented under FW 40B were not expected to increase effort on groundfish species of concern nor threaten the mortality targets adopted by Amendment 13.

Multispecies FW 41, effective September 14, 2005, revised the Closed Area I Hook Gear Haddock SAP rules to allow for participation by non-Sector vessels. The intent of this program is to help mitigate the economic and social impacts caused by the fishing effort reductions that resulted from the implementation of Amendment 13. The measures implemented under FW 41 encourage effort on haddock, a healthy stock that can sustain increased catches, and are not expected to threaten the mortality targets adopted by Amendment 13.

Because implementation of Framework Adjustment (FW) 42 was delayed beyond the start of the 2006 FY (May 1, 2006), an Emergency Action was implemented at the beginning of the FY, and remained in place until superseded by FW 42 on November 22, 2006. The primary purpose of the Emergency Action was to reduce mortality on several groundfish stocks that were not achieving target F levels for 2006. These mortality reductions were in addition to the Amendment 13 default measures (revision of the DAS category A:B ratio from 60:40 to 55:45, and differential DAS counting outside of the U.S. Canada Management Area at a rate of 1.4:1), which became effective on May 1, 2006. The Emergency Action helped reduce mortality on virtually all stocks managed under the NE Multispecies FMP, although it did have some negative economic consequences as a result of effort reductions.

The Council developed FW 42 in accordance with the FMPs requirement for biennial adjustments, and it became effective on November 22, 2006. FW 42 implemented the Amendment 13 default measures, including revision of the DAS category A:B ratio from 60:40 to 55:45, and differential DAS counting in specific areas of the GOM and SNE at a rate of 2:1. These measures were designed to reduce F on multiple stocks for which the fishing mortality exceeded the level required under the rebuilding plan. Although the management measures targeted effort reductions for specific stocks, it is likely that they have also impacted other groundfish stocks because of the 'broad brush' nature of DAS reductions. All vessels are further constrained by DAS under the FW 42 regulations. Further, due to lost revenues, the measures implemented by FW 42 were predicted to cause significant economic impacts.

On August 10, 2007, NMFS implemented an emergency rule that reduced the minimum fish size for Georges Bank Haddock and Gulf of Maine haddock to 18 inches (from the previous minimum size of 19 inches) in order to reduce discarding. That rule expired on February 6, 2008, and was renewed through August 10, 2008. There is evidence that the emergency rule reduced discarding and waste of haddock.

Summary of Impacts

The cumulative impacts of past and present management actions have resulted in substantial effort reductions in the NE multispecies fishery. Although this has benefited some stocks (GB haddock), rebuilding has been slow for others (GB and GOM cod, CC/GOM, GB, and SNE/MA yellowtail flounder, GB and SNE/MA winter flounder, and white hake). It is anticipated that effort reductions implemented under Amendment 13 and continued by Framework 42 will continue, with modifications as necessary in 2009 (Amendment 16) in order to end overfishing for all stocks, while also creating new opportunities for groundfish vessels to target healthy stocks.

Other FMPs Past and Present Actions

Other recent management actions that may affect groundfish include the adoption of Amendment 1 to the Atlantic Herring FMP, Amendment 13 to the Atlantic Sea Scallop FMP; temporary measures to the Monkfish FMP; and Framework Adjustment 4 to the Monkfish FMP;

Amendment 1 to the Atlantic Herring FMP

Amendment 1 to the Atlantic Herring FMP was implemented on March 12, 2007 and implemented a limited access program and revised the herring area boundaries (and other measures as well). This amendment will likely have only minimal positive impacts to the groundfish resource.

Amendment 13 to the Atlantic Sea Scallop FMP

Amendment 13, implemented on June 13, 2007 continued and modified the administration of the sea scallop observer program. That program is not expected to have any impact on the groundfish FMP.

Framework Adjustment 20 to the Atlantic Sea Scallop FMP

Framework 20 was implemented on December 21, 2007. This action extended the interim measures implemented in December 2006 that expired December 23, 2007. The interim action reduced the number of access area trips for both the limited access and general category fleet, delayed the opening of the Elephant Trunk Access Area (ETAA) until March of 2007 and prohibited deckloading before departing the access area at the end of a trip.

Temporary Interim Measures to the Monkfish FMP

On May 1, 2007, NMFS implemented temporary interim measures including trip limits, days-at-sea allocations and TAC levels for limited access monkfish vessels for the 2007 fishing year. Effort limitations may have indirectly reduced impacts on the groundfish fishery.

Framework Adjustment 4 to the Monkfish FMP

FW 4 was implemented October 22, 2007, that included trip limits, days-at-sea allocations, and TAC levels for limited access monkfish vessels for the remaining three years of the rebuilding period. Because many vessels have both monkfish and groundfish permits, FW 4 also affected some groundfish vessels. Because the monkfish regulations are designed to avoid constricting a monkfish vessel's (those with groundfish permits) ability to target groundfish, FW 4 is not expected to impact groundfish vessels in a substantive way.

Reasonably Foreseeable Future Actions

Scallop FMP: Amendment 11 to the Scallop FMP

The proposed rule for Amendment 11 to the Atlantic sea scallop fishery management plan (FMP) published in the Federal Register on December 17, 2007. The comment period on the proposed rule ended on January 31, 2008. Amendment 11 would establish a new management program for the general category 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. If, as predicted, Amendment 11 results in a reduction in fishing effort in the general category scallop fishery, they may be corresponding reductions in groundfish bycatch.

Exempted Fishing Permits (EFPs)

Under the MSA, NMFS is authorized to require permits for experimental fishing activities. There are several ongoing programs that coordinate and fund experiments that test fishing gear or fishing operations. Many of these experiments are designed to identify ways to target healthy groundfish stocks and could lead to the future development of SAPs or other Category B DAS programs that are authorized by Amendment 13. As a result, the experiments often catch regulated groundfish and request an exemption from existing regulations. NMFS reviews these requests and grants approved experiments an EFP. However, to constrain mortality, NMFS often requires some of these experiments to use Category A DAS so that mortality falls within the range of impacts analyzed by Amendment 13 and subsequent framework actions. Although the Groundfish PDT has noted that the expected 2004 catches of GB cod and CC/GOM yellowtail flounder were high enough to cause concern, when approving EFPs, NMFS works to ensure that the experiments do not threaten Amendment 13 mortality objectives.

Delayed Opening of Eastern U.S./Canada Area for FY 2008

The current regulations under 50 CFR 648.85(a)(3)(iv)(D) provide the Regional Administrator authority to implement in-season adjustments to various management measures in order to prevent over-harvesting or facilitate achieving the TAC. On November 7, 2007, the New England Fishery Management Council (Council) voted to postpone the Fishing Year 2008 opening of the Eastern Area for trawl gear until August 1, 2008, and allow longline gear during the May through July period, provided such vessels do not catch more than 5 percent of the Eastern U.S./Canada cod TAC. Five percent of the cod TAC is equal to 33.35 mt of cod. The objective is to prevent trawl fishing in the Area during the time period when cod bycatch is likely to be very high. The goal is to prolong access to the Eastern Area in order to maximize the catch of available cod, haddock, and yellowtail flounder. This in-season adjustment was included in the proposed rule that published January 3, 2008.

Amendment 16 to the Northeast Multispecies Fishery Management Plan

Amendment 16 to the NE Multispecies FMP is part of the biennial adjustment process established under Amendment 13 to the FMP. During this adjustment, the Council is expected to conduct a mid-point review to determine rebuilding progress and evaluate whether additional measures are necessary to maintain the Amendment 13 rebuilding programs for managed species. In addition to considering adjustments to the current effort control management system, as modified by Amendment 13 and subsequent frameworks, the Council may consider the development of up to 19 new sectors. Because the Council has not fully developed the Amendment proposals, it is impossible to predict the precise impacts of such measures, as final measures for inclusion in Amendment 16 will not be adopted until 2009. Any measures included in Amendment 16 will maintain the Amendment 13 rebuilding plans and achieve the mortality objectives of the FMP. Once implemented, Amendment 16 would bring the FMP into full compliance with MSA, as modified by the SFA and the MSA Reauthorization Act of 2006.

EFH Omnibus Amendment

An EFH Omnibus Amendment is currently under development for all of the Council's FMPs. The purpose of the amendment is to review and revise EFH components of the FMPs and to develop a comprehensive EFH management plan that will successfully minimize adverse effects of fishing on EFH through actions that will apply to all Council-managed FMPs. The Council is considering several measures for inclusion in the Omnibus Amendment, including a review and update of the following: (1) Description and identification of EFH; (2) non-fishing activities that may adversely impact EFH; (3) identification and consideration of new Habitat Areas of Particular Concern; and (4) integration of alternatives to minimize any adverse effects of fishing on EFH. While it is possible that the Council would recommend measures that could

impact multispecies EFH, because the amendment is under development, it is not possible to predict impacts to the multispecies fishery with any certainty.

Liquid natural gas (LNG) terminals

LNG facilities are currently planned or under construction for the following locations: Passamaquoddy, ME (onshore); two projects offshore of Boston, MA (one just southeast of Gloucester); Fall River, MA (onshore); Long Island Sound, NY (onshore); South Shore of Long Island, NY (onshore); Logan Township, NJ (onshore); Philadelphia, PA (onshore); and an expansion of an existing facility in Cove Point, MD. Depending on the specific location and type of LNG facility, a range of impacts to fisheries and/or fisheries habitat may result from both construction and operation of terminals. Due to the large size of LNG tankers, dredging may need to occur in order to access onshore terminals. Dredging can result in direct loss of fish and/or shellfish habitat and can elevate levels of suspended sediment within the water column. As with other dredging, suspended sediments can impact various life stages of fish and shellfish. Further, the construction of pipelines and fill associated with site construction can have adverse impacts on intertidal habitats and salt marshes in the area.

Offshore wind energy generation projects

Although only two offshore wind energy projects have formally been proposed in the northeast region, at least 20 other separate projects may be proposed in the near future. Cape Wind Associates (CWA) proposes to construct a wind farm on Horseshoe Shoal, located between Cape Cod and Nantucket in Nantucket Sound, Massachusetts. A second project is proposed by the Long Island Power Authority (LIPA) off Long Island, New York. The CWA project would have 130 wind turbines located as close as 4.1 miles offshore of Cape Cod in an area of approximately 24 square miles with the turbines being placed at a minimum of 1/3 mile apart. The turbines will be interconnected by cables, which will relay the energy to shore to the power grid. The Army Corps of Engineers developed a DEIS for the proposed CWA project on Horseshoe Shoal. Subsequently, the Minerals Management Service was named the lead Federal agency and a new DEIS is under development. If constructed, the turbines would preempt other bottom uses in an area similar to oil and natural gas leases. The potential impacts associated with the CWA offshore wind energy project include the construction, operation and removal of turbine platforms and transmission cables; thermal and vibration impacts; and changes to species assemblages within the area from the introduction of vertical structures.

8.4.2.2 Protected Species Past, Present, and Reasonably Foreseeable Future Actions

The following summarizes the past and present cumulative impacts to protected species, including a portion of the discussion that was included in the Amendment 13 Final Environmental Impact Statement.

Large Whales and Mammals

Large whales may be adversely affected by habitat degradation, habitat exclusion, acoustic trauma, harassment, or reduction in prey resources due to trophic effects resulting from a variety of activities including the operation of commercial fisheries. Ship strikes and fishing gear entanglement continue to be the most likely sources of injury or mortality for the right, humpback, fin and minke whales. Gear entanglement occurs in the vertical buoy lines of sink gillnet and pot/trap gear, the groundlines of pot/trap gear, and also in the net panels of gillnet gear. Sei, blue and sperm whales are also vulnerable, but fewer ship strikes or entanglements have been recorded. Mobile bottom trawls are less of a concern for the large whale species. Other marine mammals, such as harbor porpoise, dolphins and seals, are also vulnerable to entanglement in net gear (including seines, gillnets and drift nets).

Low frequency sonar may pose an additional threat, although the extent of its continued use by the U.S. military is unclear at this writing. A successful lawsuit brought by environmental groups limited the use of such sonar following a number of marine mammal deaths in the vicinity of naval exercises in several places around the world. A recent modification to the MMPA could override the lawsuit settlement agreement since it provides for a national security exemption in some circumstances and focuses on the “likelihood” of significant disruptions to behavior critical to survival rather than the “potential.”

The potential impact of pollution is more likely problematic in nearshore areas closer to the source, such as agricultural and urban runoff and sewer outfalls (see non-fishing impacts in Section 8.4.2.3 below). Nutrients can also promote toxic phytoplankton blooms, which have been known or suspected in killing whales and other marine mammals.

Sea Turtles

Turtles have been entangled in shrimp trawls, pound nets, bottom trawls and sink gillnets. Shrimp trawls are required to use turtle excluder devices. The diversity of the sea turtle life history also leaves them susceptible to many other human impacts, including impacts on land, in the benthic environment, and in the pelagic environment. Anthropogenic factors that negatively impact the success of nesting and hatching include: beach erosion, beach armoring and nourishment; artificial lighting; beach cleaning; increased human presence; recreational beach equipment; beach driving; coastal construction and fishing piers; exotic dune and beach vegetation; and poaching. An increased human presence at some nesting beaches or close to nesting beaches has led to secondary threats such as the introduction of exotic fire ants, and an increased presence of native species (e.g., raccoons, armadillos, and opossums) which raid and feed on turtle eggs. Entanglements in debris or ingestion of marine debris are also seen as possible threats.

Summary of Impacts

While reductions in fishing effort as a result of past fishery management actions is thought to have had a slightly positive impact on protected species, gear entanglement continues to be a likely source of injury or mortality. Therefore, the factors discussed above in conjunction with fishing effort have potentially had cumulative adverse effects on most protected species to varying degrees. Because of a lack of cause-effect data, little is known about the magnitude and scope of these factors and how they have contributed to the species’ special listing. The direct and indirect effects of the alternatives in this framework adjustment are assessed in Section 8.0 and do not appreciably increase impacts discussed and analyzed previously.

Reasonably Foreseeable Future Actions

Potential future actions whose effects would be cumulative to the proposed action include actions taken to protect marine mammals, and endangered or threatened species. Current measures in effect are discussed above in Section 8.4.2.2. 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: (1) short-term closures to sink gillnets under the Atlantic Large Whale Take Reduction Plan (ALWTRP) Dynamic Area Management (DAM) system; (2) changes to the Harbor Porpoise Take Reduction Plan; (3) the Strategy for Sea Turtle Conservation in Atlantic Ocean and Gulf of Mexico Fisheries to address sea turtle fisheries interactions in state and federal fisheries operating in the Atlantic and Gulf of Mexico through a consistent gear based approach; (4) measures adopted under the NMFS final rule implementing large-mesh gillnet closures off the North Carolina/Virginia coast to protect sea turtles; and (5) the proposed use of modified scallop dredge gear to reduce interactions with sea turtles. Since the specific elements of those potential changes is not known at this time, their effects cannot be determined.

In addition, regulations to the ALWTRP are proposed to be implemented to address the number of observed Atlantic large whale entanglements. A FEIS has been published and a Record of Decision signed. The purpose of the proposed action is to further reduce the risk of entanglement to Atlantic large whales in fishing gear. The proposed action includes broad-based gear modifications in lieu of seasonal and/or area management requirements. The proposed action would also apply to trap/pot and gillnet fisheries. As a result, vessels using gillnet gear in the multispecies fishery could be required to make modifications to their gear.

8.4.2.3 Habitat Past, Present, and Reasonably Foreseeable Future Actions

Past and Present Actions

The effects of mobile bottom-tending gear (trawls and dredges) on fish habitat have been recently reviewed by the National Research Council (NRC 2002). This study determined that repeated use of trawls/dredges reduce the bottom habitat complexity by the loss of erect and sessile epifauna, smoothing sedimentary bedforms and bottom roughness. This activity, when repeated over a long term also results in discernable changes in benthic communities, which involve a shift from larger bodied long-lived benthic organisms for smaller shorter-lived ones. This shift also can result in loss of benthic productivity and thus biomass available for fish predators. Thus, such changes in bottom structure and loss of productivity can reduce the value of the bottom habitat for demersal fish, such as haddock and cod. These effects varied with sediment type with lower level of impact to sandy communities, where there is a high natural dynamic nature to these bedforms, to a high degree of impact to hardbottom areas such as bedrock, cobble and coarse gravel, where the substrate and attached epifauna are more stable. In the Northwest Atlantic, the more valued groundfish habitat is located in areas where there is a high percentage of gravel and cobble (NREFHSC 2002), such as Georges Bank.

Use of trawls and dredges are common in inshore and offshore areas and somewhat less common in riverine areas. Section 9.3.1.2 of Amendment 13 indicates that mobile bottom-tending gears are commonly used in most inshore and offshore habitats. In the Northeast, otter trawls are used to prosecute most M-S Act managed fisheries including Northeast Multispecies. Smaller trawls are used in inshore areas and lower estuaries, which are managed by states and not subject to the MSA. In addition, in some states smaller dredges are used for harvesting oysters, bay scallops, sea urchins, quahogs, and mussels. Hydraulic dredging for softshell clams and bottom trawling for shrimp is also accomplished in certain nearshore and riverine habitats.

It is assumed for this analysis that the effects of bottom tending mobile gear are generally moderate to high, depending upon the type of bottom and the frequency of fishing activities, to haddock, cod and other demersal species affected by this action.

Summary of Impacts

While reductions in fishing effort as a result of past fishery management actions is thought to have had a positive impact on habitat and EFH, the repeated use of trawls/dredges reduces bottom habitat complexity, ultimately decreasing the value of habitat for demersal fish. Therefore, it is possible that past fishing activity in combination with other non-fishing impacts (discussed below), has had a cumulative adverse effect on habitat.

Reasonably Foreseeable Future Actions

EFH Omnibus Amendment

An EFH Omnibus Amendment is currently under development for all of the Council's FMPs. The purpose of the amendment is to review and revise EFH components of the FMPs and to develop a comprehensive EFH management plan that will successfully minimize adverse effects of fishing on EFH through actions that will apply to all Council-managed FMPs. The

Council is considering several measures for inclusion in the Omnibus Amendment, including a review and update of the following: (1) description and identification of EFH; (2) non-fishing activities that may adversely impact EFH; (3) identification and consideration of new Habitat Areas of Particular Concern; and (4) integration of alternatives to minimize any adverse effects of fishing on EFH. While it is possible that the Council would recommend measures that could impact multispecies EFH, because the amendment is under development, it is not possible to predict impacts to the multispecies fishery with any certainty.

8.4.2.4 Summary of Non-Fishing Effects

Although non-fishing effects is considered in the context of the habitat VEC, the impact of non-fishing effects is far reaching and has implications on the resources considered in this action and the human community.

Past and Present Actions

A comprehensive evaluation of non-fishing impacts to the multispecies fishery was conducted in Amendment 13. For fish habitat, non-fishing effects were reviewed in the Essential Fish Habitat Amendment for Groundfish prepared by the NEFMC (Amendment 11 to the Groundfish FMP, NEFMC 1998). Table 10 below summarizes the potential effects of numerous chemical, biological, and physical effects to riverine, inshore, and offshore fish habitats. In general, the closer to the coast, the greater the potential for adverse impact to fishery resources and EFH. For the offshore area, with the exception of events such as oil spills and algae blooms, which can spread over large areas, moderate effects were generally localized to a well-defined and relatively small impact area such as oil/gas mining and dredged material disposal. Thus, only small portions of fish stocks would potentially use these sparsely located areas and would be adversely affected. For example, dredged material disposal sites, usually about 1 km² in size, are managed by the U.S. Army Corps of Engineers and the U.S. EPA to minimize physical effect to the defined disposal area and allow no chemical effects at the site based on stringent sediment testing.

For groundfish stocks, there are several non-fishing threats that could have a direct and/or indirect impact. Several of the items identified as non-fishing threats to fish habitat, identified in Table 18, could also pose a threat to groundfish stocks, such as the oil spills, pesticides, and radioactive wastes. Similar to the discussion above on non-fishing impacts to fish habitat, generally the closer the proximity of groundfish stocks to the coast, the greater the potential for impact (although predation, a non-fishing impact, would be one threat that would occur everywhere). Many groundfish species reside in both inshore and offshore areas at different stages of their lives and during different seasons throughout the year. However, some stocks, such as SNE/MA winter flounder, live out a large portion of their lives closer to shore and may likely be impacted by inshore threats to a greater degree than some of the other groundfish species. In the offshore areas, such effects would likely be low because the localized nature of the effects would minimize exposure to organisms in the immediate area.

An additional inshore threat of note would be the effect on fishery resources presented by power plants. The operations of power plants are thought to be especially of consequence to fish eggs, larvae and juveniles. Entrainment, or intake of cooling seawater for the purposes of cooling power plant reactors, is known to draw in eggs and larvae and, therefore, could have a negative impact on groundfish resources that spawn in areas in close proximity to active power plants. An additional threat associated with power is the discharge of warm water. This thermal discharge is believed to have a negative impact on reproduction capability and recruitment of affected fishery resources.

Table 11. Potential non-fishing threats to fish habitat in the New England region prioritized within regions (H = high; M = moderate; L = low)

THREATS	RIVERINE	INSHORE	OFFSHORE
Chemical			
oil	M	M	M
heavy metals	M	M	M
nutrients	H	H	L
pesticides	M	M	L
herbicides / fungicide	M	M	L
acid	H	M	
chlorine	M	M	
thermal	M	M	
metabolic & food	M	M	
suspended particles	M	M	L
radioactive wastes	L	M	M
greenhouse gases	M	M	M
Biological			
nonindigenous / reared	M	M	M
nuisance / toxic algae	M	H	M
pathogens	M	M	M
Physical			
channel dredge	M	H	
dredge and fill	H	H	
marina / dock	M	H	
vessel activity	M	H	L
erosion control			
bulkheads	M	M	
seawalls		M	
jetties		M	
groins		M	
tidal restriction	M	H	
dam construction /	H	M	
water diversion			
water withdrawal	H	M	
irrigation	M	M	
deforestation	H	M	
mining			
gravel/mineral mining	M	M	M
oil/gas mining	L	M	M
peat mining	L		
debris	M	M	M
dredged material	L	M	M
artificial reefs	L	M	M

¹ From NEFMC (1998)

² Prioritization developed by compilation of *EFH Technical Team* survey

Reasonably Foreseeable Future Actions

Liquid natural gas (LNG) terminals

LNG facilities are currently planned or under construction for the following locations: Passamaquoddy, ME (onshore); two projects offshore of Boston, MA (one just southeast of Gloucester); Fall River, MA (onshore); Long Island Sound, NY (onshore); South Shore of Long Island, NY (onshore); Logan Township, NJ (onshore); Philadelphia, PA (onshore); and an expansion of an existing facility in Cove Point, MD. Depending on the specific location and type of LNG facility, a range of impacts to fisheries and/or fisheries habitat may result from both construction and operation of terminals. Due to the large size of LNG tankers, dredging may need to occur in order to access onshore terminals. Dredging can result in direct loss of fish and/or shellfish habitat and can elevate levels of suspended sediment within the water column. As with other dredging, suspended sediments can impact various life stages of fish and shellfish. Further, the construction of pipelines and fill associated with site construction can have adverse impacts on intertidal habitats and salt marshes in the area.

Offshore wind energy generation projects

Although only two offshore wind energy projects have formally been proposed in the northeast region, at least 20 other separate projects may be proposed in the near future. Cape Wind Associates (CWA) proposes to construct a wind farm on Horseshoe Shoal, located between Cape Cod and Nantucket in Nantucket Sound, Massachusetts. A second project is proposed by the Long Island Power Authority (LIPA) off Long Island, New York. The CWA project would have 130 wind turbines located as close as 4.1 miles offshore of Cape Cod in an area of approximately 24 square miles with the turbines being placed at a minimum of 1/3 mile apart. The turbines will be interconnected by cables, which will relay the energy to shore to the power grid.

The Army Corps of Engineers developed a DEIS for the proposed CWA project on Horseshoe Shoal. Subsequently, the Minerals Management Service was named the lead Federal agency and a new DEIS is under development. If constructed, the turbines would preempt other bottom uses in an area similar to oil and natural gas leases. The potential impacts associated with the CWA offshore wind energy project include the construction, operation and removal of turbine platforms and transmission cables; thermal and vibration impacts; and changes to species assemblages within the area from the introduction of vertical structures.

8.4.2.5 Human Communities

Past and Present Actions

Past and Present Actions

Past management actions have had negative effects on communities. Management actions taken prior to Amendment 5 failed to reverse increases in fishing mortality and declines in groundfish stock size. As a result, landings and revenues began a slow decline until the mid-1990's. These economic losses translated into reductions in the number of fishing vessels and fishermen, caused consternation in fishing communities, and led to a regulatory response that exacerbated many of these problems. For both Amendment 5 and Amendment 7, impacts to fishing communities were predicted to be significant, with substantial short-term losses in revenue. Some communities lost access to the resource entirely as vessels left the fishery and stock size contracted. However, as a result of Amendments 5 and 7 stock sizes began to increase, resulting in greater landings and revenues.

Because Amendments 5 and 7 failed to reduce fishing mortality to within legal requirements of the SFA (adopted after the implementation of Amendment 5), additional

measures were needed. The Settlement Agreement and Amendment 13 imposed further restrictions on the industry. In the short term, Amendment 13 measures are expected to reverse recent increases in landings and revenues that have benefited communities. The measures will also limit the opportunities for many fishermen to participate in the groundfish fishery through DAS reductions –over 300 permit holders do not have any Category A DAS needed to fish for any stock of groundfish. Over the longer term, however, the pace of stock rebuilding is expected to increase under Amendment 13 and landings and revenues will increase as well. These increases will benefit fishing communities. Further, SAPs implemented through Amendment 13 and FW 40A have created opportunities for groundfish vessels to target healthy stocks. While these SAPs are limited in scope, the programs should help mitigate some of the negative impacts on communities that resulted from Amendment 13.

Summary of Impacts

Past management actions have had a cumulative adverse impact on communities that depend on the groundfish resource. Although special programs implemented through Amendment 13 and subsequent framework actions have provided the industry opportunities to target healthy groundfish stocks, substantial increases in landings and revenue will likely not take place until further stock rebuilding occurs under the Amendment 13 rebuilding plan.

Reasonably Foreseeable Future Actions

Several of the future management actions discussed under the previous VECs would likely impact human communities. For example, both the Emergency Action to Implement Measures to Reduce Overfishing in the Northeast Multispecies Complex and the Annual TAC Adjustment for the U.S. Canada Management Area would constrain fishing effort and likely limit economic benefits to communities. Further, future actions to protect endangered or threatened species and habitat could also require the industry to make gear modifications or displace fishing effort. Although it is not possible to predict the exact nature of these impacts, actions taken to protect these resources could result in a loss of revenue to human communities.

In addition to management actions, non-fishing effects may also impact human communities. As previously discussed in Section 8.4.2.3 there are several LNG projects in various stages of the approval process. Depending on the location of the project, a range of impacts can occur, including impacts to communities. Due to the potentially hazardous nature of the facilities (LNG is transported via tanker to specialized terminals), security zones are generally established around LNG facilities. This can restrict access to areas traditionally utilized for fishing and shellfishing, essentially closing some areas to fishing and thus reducing fishing opportunities.

8.4.3 Cumulative Effects on Groundfish Stocks

The cumulative effects of this action on groundfish stocks, in combination with other past, present, and reasonably foreseeable actions would have a relatively minor impact on the groundfish stocks. In general, the prior multispecies actions of Amendment 5 and 7 initiated rebuilding of the multispecies stocks. While the pace of rebuilding did not meet the legal rebuilding requirements, these two actions and subsequent framework actions reversed a long decline in groundfish stock biomass. Amendment 13 implemented measures to increase the rate of rebuilding to achieve compliance with the MSA. The amendment also adopted the Understanding with Canada to ensure that shared stocks are effectively managed. FWs 40-A and 40-B implemented specialized programs in order to increase opportunities to use Category B DAS. The NMFS Emergency Action and FW 42, implemented in 2006, further decreased fishing mortality on stocks of concern by reducing fishing effort and future actions (e.g., Amendment 16 to the FMP) would continue to achieve rebuilding plans. The proposed action would implement

hard TACs for eastern GB cod, eastern GB haddock, and GB yellowtail flounder for the 2008 Fishing Year that meet the requirements of the Understanding and the Amendment 13 rebuilding goals. When combined with the other major actions, including FW 42, this action would not result in significant cumulative impacts on groundfish species.

8.4.3.1 Cumulative Effects on Non-Groundfish Species

The cumulative effect of this action on non-groundfish stocks, in combination with other past, present, and reasonably foreseeable actions would have a minor, positive impact on non-groundfish stocks. Amendments 5 and 7, and subsequent framework actions reduced fishing effort, and implemented mesh restrictions that curtailed fishing on non-groundfish species, and specified exemptions to allow other fisheries to occur on a limited scope. Amendment 13 reduced fishing effort, increased mesh sizes, and implemented the use of selective gear in Eastern U.S./Canada Area. The Amendment 13 measures designed to reduce fishing effort and modify gear selectivity also indirectly affect other species, usually in a positive manner. If the hard TACs result in more total fishing effort on GB, species such as monkfish, whiting, and skates may be negatively impacted (slightly). Given the status of these species, described in Section 7.2.2, minor increases in fishing mortality are not likely to impact the status of those stocks. Recent actions have further reduced fishing effort, providing positive benefits to non-groundfish species. The cumulative impacts of past actions have benefited non-groundfish resources and future fisheries actions are not expected to jeopardize stocks. Because the proposed action would maintain the Amendment 13 rebuilding goals, when combined with the other actions, this action would not result in significant cumulative impacts on non-groundfish species.

8.4.3.2 Cumulative Effects on Endangered and other Protected Species

The cumulative effect of this action, in combination with other past, present, and reasonably foreseeable actions would have a neutral impact on endangered and protected species. Amendments 5 and 7 to the FMP, and subsequent framework actions resulted in declines in fishing effort. While reductions in fishing effort as a result of past management actions is thought to have had a slightly positive impact on protected species, gear entanglement continues to be a likely source of injury or mortality. Various factors discussed in Amendment 13, potentially have had cumulative adverse effects on most protected species to varying degrees. Because of a lack of cause-effect data, little is known about the magnitude and scope of these factors and how they have contributed to the species' special listing. The direct and indirect effects of the proposed TACs do not appreciably increase impacts discussed and analyzed previously. The proposed TACs represent a change from the TACs specified for 2007, and the analysis in Section 8.1.4 indicates that the TACs are not likely to have any additional impacts on Endangered and Protected Species that were not previously analyzed in Amendment 13 to the FMP, or the previous EAs for this annual action. The cumulative impacts of past actions have reduced effort and future actions are expected to continue this trend. Because the proposed action would only slightly modify current levels of fishing effort, when combined with other actions, the proposed action would not result in significant cumulative impacts to endangered and other protected species.

8.4.3.3 Cumulative Effects on Habitat

The cumulative effect of this action, in combination with other past, present, and reasonably foreseeable actions would have a minor, impact on habitat. Amendments 5 and 7, and subsequent framework adjustments resulted in a reduction in fishing effort. Amendment 13 implemented a suite of measures that minimized, to the extent practicable, the adverse effects of

fishing on Essential Fish Habitat. These measures included areas restricted to all mobile bottom-tending gear and benefits that accrue from the effort reductions and other provisions of the amendment. The proposed TACs do not impact the total amount of fishing effort allowed under the FMP, but could result in effort shifts. An EFH Omnibus Amendment is currently under development for all of the Council's FMPs. The purpose of the amendment is to review and revise EFH components of the FMPs and to develop a comprehensive EFH management plan that will successfully minimize adverse effects of fishing on EFH through actions that will apply to all Council-managed FMPs. Although non-fishing anthropogenic habitat impacts persist (e.g., pollution, habitat loss, LNG terminal construction, etc.), The NMFS Emergency Action and FW 42 have further decreased fishing effort, and its impacts on habitat. Although the proposed action may cause slight shifts in fishing effort, overall effort would not be impacted. Therefore, this action, when combined with other actions, would not result in significant cumulative impacts on groundfish and non-groundfish habitat or EFH.

8.4.3.4 Cumulative Effects on Communities

Beginning with Amendments 5 and 7, and expected to continue under Amendment 13, and more recent management actions, there have been reductions in the size of the groundfish fleet and the negative impacts to communities as a result of the reductions in fishing effort required to meet fishing mortality objectives. Some communities lost access to the resource entirely as vessels left the fishery or stock size contracted. As stock size began to grow as a result of Amendments 5 and 7, landings and revenues also began to grow. In 1994, groundfish revenues from multispecies vessels were approximately 94 million dollars. In 1997 that revenue had declined to 82 million dollars. In 2001, groundfish revenues for multispecies vessels had increased to 99 million dollars (Amendment 13). Amendment 13 implemented additional restrictions on the fishery that were expected to slow the rate of increase in landings and revenue in the short term (that accrue from stock rebuilding). Under Amendment 13, there were further reductions in DAS allocations, and over 300 limited access permits were allocated zero Category A DAS. FWs 40-A and 40-B created additional opportunities to use Category B DAS, and provided some short-term mitigation of the negative effects of Amendment 13. Information from Framework Adjustment 42 indicated that groundfish revenues declined from 101 million dollars in FY 2001 to 74 million dollars in FY 2004 (expressed in constant 1999 dollars; FW 42). Framework Adjustment 42, implemented in November 2006, was expected to result in a 10 percent in overall fishing revenue for groundfish vessels. Analyses of similar actions under the groundfish plan have typically proven to overestimate income loss, largely because businesses adjust somewhat in order to minimize losses.

Although past and present multispecies management actions have reduced effort, and near term future actions would likely continue that constraint, thus reducing revenue, landings and revenues are expected to increase in the long term as stocks increase. The proposed action is likely to result in increased revenues from the U.S./Canada Area and maintain consistency with the multispecies rebuilding goals established under Amendment 13, ultimately contributing to healthier groundfish stocks. Therefore, this action, when combined with other past, present, and future actions would maintain effort constraints, and will be within the scope of revenues previously analyzed under Amendment 13 and modified by FWs 40-A, 40-B, 42, and previous hard TAC specifications.

9.0 Applicable Law

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

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

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

The hard TACs contribute to the ability of the FMP to prevent overfishing by setting appropriate caps to the amount of catch allowable of the shared stocks of GB cod, haddock, and yellowtail flounder. Based upon the status of the stocks, the proposed TACs are greater than those specified for the 2007 fishing year.

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

The hard TACs are based upon the most recent stock assessments (Transboundary Resource Assessment Committee Status Report for 2007). Furthermore, the hard TACs are consistent with the fishing mortality strategy shared both the United States and Canada. The Transboundary Resource Assessment Committee (TRAC) is a committee consisting of scientific staff from NMFS and Canada's Department of Fisheries and Oceans that jointly assess the status of shared U.S./Canada stocks.

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

The proposed hard TACs and the joint U.S./Canada management strategy upon which they are based, enable management of the shared groundfish stocks across their range, regardless of political boundaries.

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

The TACs do not discriminate between residents of different states. The TACs apply equally to all vessels, regardless of homeport or location. While the measures do not discriminate between permit holders, they may have different impacts on different participants due to differences in the distribution of fish, the different amounts of TAC for various species, and the fact that the TACs and associated regulations of the FMP may affect fishing behavior in a complex manner.

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

The TACs are intended to limit the catch of the shared GB stocks in order to achieve the biological goals of the FMP, and do not have economic allocation as their purpose. The restrictions associated with TACs may affect the economic efficiency of vessels fishing in the U.S./Canada Management Area.

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

The TACs specify maximum catch levels for 3 different GB stocks. The TACs are applied in a broad manner, and do not have the affect of restricting fishing opportunity to a particular sector of the fishery.

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

The TACs do not duplicate other fishery regulations. The TACs are necessary to limit the maximum allowable catch of three shared stocks of GB groundfish.

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

The ports where most of the hard TAC would be landed are New Bedford, Gloucester, and Portland. Although such ports are not necessarily fishery dependant communities, and there may be other fishery dependant communities, these ports lie within New England sub-regions for which fishing dependence indices have been developed (Hall-Arbor et. al., 2001). The New Bedford/South Shore, Gloucester/North Shore, and the Upper Midcoast Maine regions are the regions most likely to be affected by the proposed TACs.

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

All of the GB cod, haddock, and yellowtail flounder (in the pertinent management areas) count toward the TAC, regardless of whether such catch is the target species, or whether it is bycatch, or discarded. The accounting of all fish caught serves as an incentive for fishers to reduce bycatch in order to decrease the rate at which the TAC is harvested, and enable more fishing opportunity in the U.S./Canada Area. The delayed opening of the Eastern U.S./Canada Area until August 1, 2008, and gear restrictions that apply to the Eastern U.S./Canada Area will continue to reduce bycatch of cod and yellowtail flounder. Observers are deployed to a portion of vessels fishing in the U.S./Canada Management Area in order to obtain additional information, including bycatch data (in addition to the bycatch data supplied by the vessel owners through the Vessel Monitoring System and Vessel Trip Reports).

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

The TACs are consistent with the promotion of safety and human life at sea to the extent practicable. Because the hard TACs, in conjunction with the other management measures serve to set a maximum amount of harvestable fish, the TACs may contribute towards an incentive for derby fishing behavior. In-season management actions may serve to prolong the period of time vessel have access to the U.S./Canada are and reduce some incentives for derby behavior. The individual vessel operator is ultimately responsible for the safety of the vessel, regardless of derby incentives or other economic incentives to maximize profit.

EFH Assessment

Description of Action

The purpose of this action is to specify the FY 2008 hard TACs for cod, haddock, and yellowtail flounder in the U.S./Canada Management Area on eastern GB, in accordance with the FMP and the Understanding. The selected TACs are as follows: 667 mt cod, 8,050 mt haddock, and 1,950 mt yellowtail flounder. These TACs represent increases compared with the TACs that were implemented for the 2007 FY (494 mt cod; 6,270 mt haddock; and 900 mt yellowtail flounder). For further details on the action and its purpose, please refer to Sections 4.0 and 5.0 of this document.

Potential Adverse Effects on EFH

This action is not expected to have any adverse effect on EFH since the increase in the TACs are not expected to result in a substantial increase in fishing effort, and the total effort will be constrained by the cod TAC. It is likely that the Eastern U.S./Canada Area will close prior to the end of the fishing year. No fishing will take place inside the groundfish and habitat closed areas on GB. For a more detailed description of the potential adverse effects of this action on EFH, refer to Section 8.1.3 of this document.

Conclusion

The proposed action would have no adverse impacts on EFH, therefore no EFH consultation is required. Adverse impacts of the NE multispecies fishery on EFH will continue to be minimized by this action.

9.2 National Environmental Policy Act (NEPA)

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

9.2.1 Environmental Assessment

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

- Need for this action: Section 4.0
- Alternatives considered: Section 6.0
- Environmental impacts of proposed action: Section 8.1

- Agencies and persons consulted on this action: Section 9.2.4

9.2.2 Finding of No Significant Impact

National Oceanic and Atmospheric Administration Order (NAO) 216-6 provides 16 criteria for determining the significance of the impacts of a final fishery management action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 CFR 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:

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 TACs are not reasonably expected to jeopardize the sustainability of any target species that may be affected. The purpose of the TACs is the protection of the target species. Hard TACs in the U.S./Canada Management Area have been demonstrated to be effective in restricting fishing effort in the FMP. The management measures of the FMP, which are designed to prevent overharvest of the TAC will constrain catch (Sections 8.1 and 8.4).

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

The proposed TACs are not reasonably expected to result in cumulative adverse effects on non-target species. Hard TACs have been effective in restricting fishing effort in the FMP, which in turn would restrict impacts on non-target species. The cumulative effects of the TACs on non-target species are described in Sections 8.1 and 8.4.

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

The proposed TACs are not reasonably expected to allow substantial damage to the ocean and coastal habitats and/or EFH. The TACs will allow similar, or slightly more fishing effort on GB as was allowed under the FY 2007 TACs. The impacts of the TACs on habitat are analyzed in Section 8.1.4.

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

The proposed TACs are not reasonably expected to have a substantial adverse impact on safety. Although the specification of hard TACs may encourage the development of a derby fishery, and create an additional incentive for risk-taking, the decisions of the vessel operator will determine whether the derby incentive or other economic incentives actually have an effect on vessel safety.

5. Can the proposed action be reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat of these species?

The proposed TACs are not reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat. A number of endangered or threatened species and marine mammals are found within the geographic range of the NE multispecies fishery. The impacts of the TACs on these species are described in Section 8.1.5. The proposed TACs will likely have a negligible impact because they are not likely to result in a substantial increase fishing effort in the U.S./Canada Management Area.

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

The proposed action is not reasonably expected to have a substantial impact on biodiversity and ecosystem function within the U.S./Canada Management Area, or the larger geographic area pertinent to the fishery at-large. The TACs are biologically based, and consistent with the fishing mortality goals of the FMP. Minimal increase in the amount of fishing effort as a result of these TACs is anticipated.

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

The proposed TACs are not expected to have significant social or economic impacts that are interrelated with significant natural or physical environmental effects (Section 8.4). The increased TACs will likely have some positive economic impacts, but the expected economic gains will be minor relative to the total revenue taken in by limited access NE multispecies vessels (Section 8.1.5). It is unknown whether additional vessels will participate in this fishery or whether fishing behavior will change. The protections to the environment will not be substantively modified.

8. To what degree are the effects on the quality of the human communities expected to be highly controversial?

The effects of the proposed TACs on the human communities are not expected to be highly controversial. The amount of fishing opportunity in the U.S./Canada Management Area will be modified, and the net amount of fishing effort, and revenue that results from the FY 2008 TACs, may be higher than from FY 2007. Some industry members question the underlying science upon which the yellowtail flounder TAC is based.

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

No, the proposed action cannot be reasonably expected to result in substantial impacts to unique areas or ecologically critical areas. The only designated HAPC in the areas affected by this action are protected by an existing closed area that would not be affected by this action. In addition, vessel operations around the unique historical and cultural resources encompassed by the Stellwagen Bank National Marine Sanctuary would not likely be altered by this action. As a result, no substantial impacts are expected from this action.

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

The proposed action is not expected to result in highly uncertain effects on the human communities or involve unique or unknown risks. Although it is unclear just how individual participants in the fishery will react to the proposed TACs, the proposed TACs will result in the impacts to the human communities as described in Section 8.0, with a relative amount of certainty.

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

The proposed TACs are related to Amendment 13, because that management action implemented the requirements and process for implementing such TACs. Amendment 13 and subsequent management actions (framework adjustments (FW)) should be considered as the baseline against which the proposed actions should be compared, due to the large scope of the changes of those previous actions, and the relatively minor changes that the proposed TACs represent. Based upon the EIS for Amendment 13, the EA for FW 42, and the 2008 EA for this annual hard TAC specification, the impacts of this action are not expected to be significant, and the combined effects of the proposed action with these other related actions, are not expected to be significant. Section 8.4 of this document contains a detailed analysis of the cumulative impacts.

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

The proposed action is not likely to affect objects listed in the National Register of Historic Places or cause significant impact to scientific, cultural or historical resources. The only object listed in the National Register of Historic Places that is close to the area affected by this action is the wreck of the steamship *Portland* within the Stellwagen Bank National Marine Sanctuary. The proposed action would not regulate current fishing practices within the sanctuary, which does not overlap with the U.S./Canada Management Area. Regardless, vessels typically avoid fishing near shipwrecks or bottom obstructions in order 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 nonindigenous species?

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

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

No, the proposed action is not likely to establish precedent for future actions with significant effects. The proposed action results from a routine regulatory requirement and will be of limited duration (FY 2008). The specification of hard TACs for the U.S./Canada Management Area is an annual occurrence.

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 intended to implement TACs that are designed to meet the biological objectives of the FMP and sustain groundfish resources. The action would not threaten a violation of Federal, state, or local law or requirements to protect the environment. This action was determined to be consistent with the Coastal Zone Management Act (CZMA) requirements of pertinent states.

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

As specified in the responses to the first two criteria of this section, the proposed action is not expected to result in cumulative adverse effects that would have a substantial effect on target or non-target species. This action increases the allowable catch levels of 3 target species, but would not have an adverse affect because of increasing stock sizes of the target species and management measures that control fishing effort on both target and non-target species. Section 8.4 of this document contains a detailed analysis of the cumulative impacts.

FONSI STATEMENT: In view of the information presented in this Environmental Assessment, which analyzed the beneficial and adverse impacts, the proposed action will not significantly affect the quality of the human communities, with specific reference to the criteria contained in NOAA Administrative order 216-6 implementing the National Environmental Policy Act. Accordingly, the preparation of an Environmental Impact Statement for this proposed action is not necessary.

Regional Administrator, Northeast Region

Date

9.2.3 List of Preparers; Point of Contact

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9.2.4 Agencies Consulted

The following agencies were consulted in the preparation of this document:
New England Fishery Management Council.

9.2.5 Opportunity for Public Comment

The TACs were developed in accordance to the processes specified in the NE Multispecies FMP. The public had an opportunity to comment at a public meeting of the New England Fishery Management Council, and a propose rule soliciting public comments was published in the Federal Register on January 3, 2008 (73 FR 441).

9.3 Endangered Species Act (ESA)

Section 7 of the Endangered Species Act requires federal agencies authorizing activities that affect threatened or endangered species to ensure that those activities do not jeopardize the continued existence of listed species. NMFS has concluded that the proposed TACs are not likely to jeopardize any ESA-listed species or alter or modify a critical habitat, based on the discussion of impacts in this document (Section 8.1.5) and on the assessment of impacts in the Amendment 13 Final Supplemental Environmental Impact Statement. The TACs are not likely to reduce the effectiveness of the take reduction plans.

9.4 Marine Mammal Protection Act (MMPA)

In the Amendment 13 FSEIS, the mortality and serious injury of protected species were assessed relative to the Potential Biological Removal (PBR) allowed under the MMPA for each species and were found to be below those levels. Amendment 13, which included implementation of the U.S./Canada Management Area restrictions, concluded that the measures would not compromise the ability of the species protected by the MMPA to achieve their optimum sustainable population levels. Framework Adjustment 42, implemented additional reductions in effort in November, 2006.

9.5 Coastal Zone Management Act

NMFS has made the determination that the proposed TACs are consistent with the enforceable policies of the approved coastal management programs, and has sent letters to the affected coastal states, in compliance with the Coastal Zone Management Act.

9.6 Administrative Procedure Act

The proposed TACs are being implemented in accordance with the requirements of the Administrative Procedure Act. A proposed rule was published in the Federal Register on January 3, 2008 that solicited public comment on the proposed TACs through February 4, 2008.

9.7 Information Quality Act

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

9.7.1 Utility of Information Product

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

The Federal Register document and this EA includes: A description of the groundfish TACs, the process under which they were developed, and the biological strategy upon which they are based. In addition, the pertinent documents remind the public that future modifications to the hard for the U.S./Canada shared stocks of Eastern GB cod, Eastern GB haddock, and GB yellowtail flounder TACs are possible. The TACs are consistent with the NE Multispecies Fishery Management Plan (FMP) and the conservation and management goals of the Magnuson-Stevens Fishery Conservation and Management Act.

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

The action implements groundfish TACs for the 2008 fishing year, which are different from the TACs specified for the 2007 fishing year. The TACs represent a revision, based upon the most recent science (the best available information). The hard TACs were developed as a result of a multi-stage process that involved the United States and Canadian resource managers, fishing industry representatives, and scientists, as well as the New England Fishery Management Council (Council). The Final Environmental Assessment was revised to reflect more recent information on the fishery (i.e., recent catch levels).

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

The Federal Register document that announces the groundfish TACs, as well as the Environmental Assessment that analyzes the potential impact of such TACs, will be made available in printed publication and on the Internet website for the NE Regional Office.

9.7.2 Integrity of Information Product

The information product meets the following standards for integrity:

- If information is confidential, it is safeguarded pursuant to the Privacy Act and Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business and financial information). (e.g., confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100- Protection

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

9.7.3 Objectivity of Information

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

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

(2) Describe how this information product meets the applicable objectivity standards.

What published standard(s) govern the creation of the Natural Resource Plan? Does the Plan adhere to the published standards?

The FMP must comply with the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Regulatory Flexibility Act, the Administrative Procedures Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, and Executive Orders 12612 (Federalism), 12630 (Property Rights), 12866 (Regulatory Planning), and 13158 (Marine Protected Areas). In addition, the hard TACs for the GB stocks should be consistent with the recommendations of the Council and the Transboundary Management Guidance Committee. NMFS has determined that the specification of the TACs is consistent with the National Standards of the Magnuson-Stevens Act and all other applicable laws. NMFS, in making that determination, took into account the data, views, and comments received on the proposed rule.

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

The TACs have been approved for compliance with all the applicable National Standards, including National Standard 2. National Standard 2 states that the FMP's conservation and management measures shall be based upon the best scientific information available. The TACs are based upon recent, updated stock assessments of the three transboundary stocks (Transboundary Resource Assessment Committee Status Report 2007).

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

The policy choices (i.e., TACs) that are proposed are supported by the available scientific information. The TACs are designed to meet the conservation goals and objectives of the FMP, and the hard TACs are consistent with the U.S./Canada Resource Sharing Understanding. The supporting materials and analyses used to develop the TACs are

contained in readily available documents that are specified in the Environmental Assessment.

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

The hard TAC review process involves the Transboundary Resource Guidance Committee (TMGC), the U.S./Canada Transboundary Resources Steering Committee, the Council, NMFS Northeast Regional Office, and NMFS headquarters. Senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, and population biology, are members of the TMGC, and the Steering Committee. The Council review process involves public meetings at which affected stakeholders have opportunity to provide comments on the proposed TACs. Staff at the Regional Office who sit on the pertinent Committees have expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the TACs and clearance of the final rule is conducted by staff at NMFS Service Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

9.8 Regulatory Impact Review

This section contains a Regulatory Impact Review, in compliance with Executive order 12866 and the Regulatory Flexibility Act. The information contained in this section complements the information in other sections of this EA. The principal elements of the Regulatory Impact Review include a description of the management objectives, a description of the fishery, a statement of the problem, a description of each proposed alternative, including the "no action" alternative; and an economic analysis of the expected effects of each proposed alternative relative to the baseline. The management objectives underlying the proposed TACs are described in Section 4.0; a description of the fishery is found in Section 7.4; a description of the alternatives is in Sections 5.0 and 6.0; and an economic analysis is in Section 8.1.6. The baseline against which the proposed alternative is compared is FY 2006.

9.8.1 Executive Order (E.O.) 12866

E.O. 12866 ensures that the agency take an analytical approach to rulemaking, and adopt a regulation only upon a determination that the benefits of the regulation justify its costs. E.O. 12866 requires a review of proposed regulations to determine whether or not the expected effects would be significant, where a significant action is one that meets anyone of four criteria.

One of the principal criteria is the expected magnitude of the economic impacts of the proposed action. Based upon the estimates of revenue from the harvest of the GB TACs during the 2006 (Section 4.0), the economic impacts would be less than the \$ 100 million threshold associated with an action classified as significant.

Because the proposed TACs meet none of the four defined criteria, the proposed action does not constitute a significant action:

- Have an annual effect on the economy of \$ 100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the

- environment, public health or safety, or State, local, or tribal governments or communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
 - Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or rights and obligations of recipients thereof; or
 - Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.

9.8.2 Regulatory Flexibility Act

Final Regulatory Flexibility Analysis

Description of the Reasons Why Action by Agency is Being Considered

The specification of hard TACs is necessary in order to limit fishing mortality in the U.S./Canada Management Area (geographic area of Georges Bank defined to facilitate management of stocks of cod, haddock, and yellowtail flounder that are shared with Canada). Limitation of fishing mortality in this area, and coordination with Canada enhances management of such stocks. Further description of the purpose and need for the TACs is contained in Section 4.0. Additional information on the economic impacts of this action is contained in Section 8.1.6 of this document.

The Objectives and Legal Basis for the Proposed Action

The NE Multispecies FMP and promulgating regulations at 50 CFR § 648.85(a)(2) require the development and implementation of hard TACs, in order to properly manage the stocks of cod, haddock, and yellowtail flounder shared with Canada.

Estimate of the Number of Small Entities

Under the Small Business Administration (SBA) size standards for small fishing entities (\$4 million), all permitted and participating vessels in the groundfish fishery are considered to be small. Gross sales by any one entity (vessel) do not exceed this threshold. The maximum number of entities that could be affected by the proposed TACs is approximately 1,000 vessels, i.e., those with limited access NE multispecies DAS permits, with an allocation of Category A or B DAS. Realistically however, the number of vessels that will choose to fish in the U.S./Canada Management Area could be substantially less than 1,000 vessels. During fishing years 2004 through 2006, the number of vessels fishing in the U.S./Canada Area ranged from 161 to 184. Because the regulatory regime in FY 2008 will be similar to that in place in the past, and based on data from FY 2007, it is likely that the number of vessels that choose to fish in the U.S./Canada Area during FY 2008 will be similar to the past.

Reasons for Selecting the Proposed Alternative. Minimization of Impacts on Small Entities

Summary Statement

The TACs will have a more positive economic impact than the status quo TACs. Adoption of the status quo TACs is not consistent with the FMP. Although the no action alternative (no TACs) would not constrain catch in the U.S. Canada Management Area, and therefore provide some additional fishing opportunity, the no action alternative is not a reasonable alternative. The no action alternative is inconsistent with the NE Multispecies FMP in both the short and long term. As such, the no action alternative would likely provide less economic benefits to the industry in the long term than the proposed alternative.

Detailed Description

Three alternatives for hard TACs were considered for FY 2008: The proposed TACs, the status quo TACs, and the no action alternative. No other TAC alternatives were considered. The process for establishing TACs is based on the best scientific information available designed to yield only one set of TACs. The TACs implemented by this action will have a more positive economic impact than the status quo TACs. Additional revenue as a result of the larger TACs could be approximately \$ 1,854,000 from cod and haddock. Substantial revenue from other species would be generated, based upon the additional amount of access to the Eastern U.S./Canada Area. Adoption of the status quo TACs would not be consistent with the FMP because the status quo TACs do not represent the best available scientific information. Although the no action alternative (no TACs) would not constrain catch in the U.S./Canada Management Area, and therefore would likely provide some additional fishing opportunity, the no action alternative is not a reasonable alternative because it is inconsistent with the FMP in both the short and long term. The FMP requires specification of hard TACs in order to limit catch of shared stocks to the appropriate level (i.e., consistent with the Understanding and the FMP). As such, the no action alternative would likely provide less economic benefits to the industry in the long term than the TACs being implemented.

Responses to Public Comments on the IRFA and Changes made to the Action

There were no public comments on the IRFA and there are no changes being made to the specifications and in-season action as a result of public comments.

Other Regulatory Flexibility Requirements

The TACs are not likely to be controversial because they represent increases over the 2007 Fishing Year TACs, and NMFS and the Council are becoming more effective at implementing in-season measures designed to maximize the harvest of the available TACs. The TACs do not modify any collection of information, reporting, or recordkeeping requirements. Lastly, the TACs do not duplicate, overlap, or conflict with any other federal rules.

10.0 References

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Appendix

Summary of Management Actions in U.S./Canada Management Area and Closed Area II; May 1, 2004 through April 30, 2005

US/CA Management Area		Closed Area II	
Date	Management Action	Date	Management Action
May 1, 2004	Fishing year begins		
		June 1, 2004	Special Access Program (SAP) opens for yellowtail flounder
August 18, 2004	70 % of yellowtail TAC caught; 1,500 lb/day; 15,000 lb/trip implemented (yellowtail)		
		September 3, 2004	Closure of SAP due to attainment of 320 trips.
October 1, 2004	Closure of Eastern US/CA Area to groundfish vessels; prohibition on retention of yellowtail from Western US/CA Area. (85 % of TAC caught)		
		November 2, 2004	Scallop Access Program opened
November 19, 2004	Eastern US/CA Haddock SAP Pilot Program opened (FW 40-A implemented)		
December 31, 2004	Eastern US/CA Haddock SAP Pilot Program closed (end of season per regulations).		

January 14, 2005	Opening of Eastern US/CA Area to groundfish vessels; trip limit of yellowtail 15,000 lb/trip; cod 5,000 lb/trip; Haddock Separator Trawl Required		
		January 31, 2005	Scallop Access Program closed
February 9, 2005	Yellowtail trip limit reduced to 5,000 lb/trip		
April 1, 2005	Eastern US/CA Area closed to mults DAS vessels; prohibition of retention of yellowtail in Western US/CA Area (100% of TAC caught)		
April 30, 2005	END OF FISHING YEAR		

**Summary of Management Actions in U.S./Canada Management Area and
Special Programs; May 1, 2005 through April 30, 2006**

		Closed Area II	
Date	Management Action	Date	Management Action
May 1, 2005	* Fishing year begins; * Eastern *US/CA Area Haddock SAP Pilot Opens * New Qtr for Regular B DAS Pilot Program		Note: northern tip of Closed Area II open for vessels fishing in Haddock SAP
		June 15, 2005	Scallop Access Program opens.
July 7, 2005	TACs for fishing year finalized (Final Rule published in FR)		
July 12, 2005	Limit number of trips to one per month to slow the rate of cod harvest in Eastern U.S./CA Area.		
July 18, 2005	Prohibit use of Regular B DAS in the GB cod stock area due to attainment of GB cod incidental TAC (for program)		
July 27, 2005	Require use of haddock separator trawl in the Eastern U.S./CA Area (no longer allowed to use flatfish net)		
August 1, 2005	New quarter of Regular B DAS Pilot Program begins; Program open again in GB cod stock area.		

August 26, 2005	Closure of Eastern U.S./CA Area (and haddock SAP) due to attainment of 90 % of cod TAC		Note; Scallop Access Program still open
October 1, 2005	Closed Area I Hook Gear Haddock SAP opens to Sector vessels.		
October 6, 2005	Regular B DAS Pilot Program closed due to projected use of 1,000 Regular B DAS.		
October 15, 2005	Closed Area I Hook Gear Haddock SAP opens to non-Sector vessels (closed to Sector vessels).		
December 21, 2005	Implementation of 15,000 lb per trip limit of Georges Bank yellowtail flounder		
December 27, 2005	Adjustment of Closed Area I Hook Gear Haddock SAP Quota for period 2 (from 500 to 536.6 mt)		
February 9, 2006	Attainment of 70% of yellowtail flounder TAC; implementation of 1,500 lb per DAS limit (non-discretionary).		
February 21, 2006	Removal of 1,500 lb daily limit, based upon projection, to prevent under-harvest.		

March 24, 2006	Removal of 15,000 lb/trip limit, based upon projection to facilitate harvest of TAC; Projection indicates 85% of TAC will be harvested w/out limit.		
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**Summary of Management Actions in U.S./Canada Management Area and
Special Programs; May 1, 2006 through April 30, 2007**

		Closed Area II SAP and Scallop Access Programs	
Date	Management Action	Date	Management Action
May 1, 2006	* Fishing year begins; * New Qtr for Regular B DAS Pilot Program. Emergency Action rules in place		
May 22, 2006	Notice that zero trips are allocated for CA II Yellowtail Flounder SAP		
		June 15, 2006	Scallop Access Program opens. CA II and NLCA
June 19, 2006	Required use of haddock separator trawl in the Eastern U.S./CA Area (no longer allowed to use flatfish net); associated performance measures (no more than 500 lb of flatfish, combined)		
		July 13, 2006	Closure of NLCA Scallop Access Area to General Category Vessels (to prevent exceeding the 577 trip allocation)
		July 20, 2006	Closure of NLCA Scallop Access Area to Limited Access vessels to prevent exceeding the yellowtail bycatch TAC

August 1, 2006	* Eastern US Canada Area Haddock SAP Opens		
		September 6, 2006	Closure of CA II Scallop Access Area (to prevent exceeding yellowtail bycatch TAC)
October 1, 2006	CA I Hook Gear Haddock SAP Opened (non-Sector, then Sector)		
Nov 22, 2006	FW 42 adjusted TAC calculation; TAC for SAP adjusted upwards as of December 8, 2006 (during period 2).		
December 31, 2006	CA I Hook Gear Haddock SAP Closed		
December 31, 2006	Eastern US/CA Haddock SAP Closed		
March 5, 2007	Lifted requirement for Eastern US/CA Area that trawl vessels may not use a flounder net; Now may use either type of required net; Yellowtail trip limit for all gear types (except separator trawl) set to 5,000 lb per DAS (a 5-fold increase in potential ytail for trawlers switching from haddock separator trawl to a flounder net). Western limit still at 10,000 lb/trip		

April 5, 2007	New yellowtail flounder trip limit: 5,000 lb yellowtail flounder trip limit in East and 10,000 lb trip limit in West replaced by 25,000 lb trip limit in both areas.		
April 25, 2007	Close the Eastern U.S./Canada Area due to attainment of the cod TAC.		

Summary of Management Actions in U.S./Canada Management Area and Special Programs; May 1, 2007 through April 30, 2008 (as of Nov 2, 2008)

		Closed Area II SAP and Scallop Access Programs	
Date	Management Action	Date	Management Action
May 1, 2007	* Fishing year begins; * New Qtr for Regular B DAS Pilot Program. Yellowtail Flounder Trip limit at 3,000 lb/trip.		
May 11, 2007	Proposed rule: That zero trips are allocated for CA II Yellowtail Flounder SAP		
		June 15, 2007	NLCA and CA I Access Areas open to limited and open access scallop vessels.
June 20, 2007	Closure of Eastern U.S./Canada Area due to cod catch projection. (at 52%; projected to reach 100% July 12.		
		July 8, 2007	NLCA Access Area closed to general category to prevent exceeding trip allocations.
		July 15, 2007	CA I Access Area closed to general category to prevent exceeding trip allocations.

October 20, 2007	Opening of Eastern U.S./Canada Area and EUSCA SAP (through Nov, unless closed earlier due to the TAC) Observer program to ensure high coverage.		
November 27, 2007	Increase Yellowtail flounder trip limit up to 7,500 lb/trip		
December 1, 2007	Closure of Eastern US/CA Area		
January 10, 2008	Yellowtail trip limit reduced to 1,500 lb/trip		
January 24, 2006	All federally permitted vessels prohibited from possessing GB yellowtail flounder (100% of TAC harvested)		