

DRAFT

Amendment 16

To the

Northeast Multispecies Fishery Management Plan

Including a

**Draft Environmental Impact Statement and an
Initial Regulatory Flexibility Analysis**

Note: The text of the management measures in this document is identical to the measures text dated May 23, 2008 and distributed in advance of the June, 2008 Council meeting. Only the paragraph numbering and page breaks are different.

In this document, the measures are in section 4, "Alternatives Under Consideration." When compared to the measures document, the paragraph numbers for the measures in this document are preceded with a 4. For example, paragraph 4.1 in this document is the same as paragraph 1.0 in the measures document dated May 23; paragraph 4.3.1 is the same as paragraph 3.1 in the measures document dated May 23, 2008.

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COVER SHEET

RESPONSIBLE AGENCIES:

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National Oceanic and Atmospheric Administration
U.S. Department of Commerce
Washington, D.C. 20235

New England Fishery Management Council
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PROPOSED ACTIONS:

Adoption, approval, and implementation of Amendment 16 to the Northeast Multispecies Fishery Management Plan.

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TYPE OF STATEMENT:

DRAFT

FINAL

ABSTRACT:

The New England Fishery Management Council and the NOAA Assistant Administrator for Fisheries propose to adopt, approve, and implement Amendment 16 to the Northeast Multispecies Fishery Management Plan (FMP) pursuant to the Magnuson-Stevens Fishery Conservation and Management Act (the Act). The DEIS presents the details of a management program designed to ensure compliance with the Act. It proposes measures to continue formal rebuilding programs for overfished stocks and to end overfishing on those stocks where it is occurring. Appropriate management measures will be adopted to implement these rebuilding programs. The Amendment includes measures that address a wide range of other management issues.

DATE BY WHICH COMMENTS MUST BE RECEIVED: _____

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1.0 Executive Summary

(to be completed)

In New England, the New England Fishery Management Council (NEFMC) is charged with developing management plans that meet the requirements of the Magnuson-Stevens Act (M-S Act). The Northeast Multispecies Fishery Management Plan (FMP) specifies the management measures for twelve groundfish species (cod, haddock, yellowtail flounder, pollock, plaice, witch flounder, white hake, windowpane flounder, Atlantic halibut, winter flounder, redfish, ocean pout) off the New England and Mid-Atlantic coasts. The most recent multispecies amendment, published as Amendment 13, was approved by the National Marine Fisheries Service in March, 2004 and became effective on May 1, 2004. This amendment adopted a broad suite of management measures in order to achieve fishing mortality targets and meet other requirements of the M-S Act.

For several groundfish stocks, the mortality targets adopted by Amendment 13 represented substantial reductions from existing levels. For other stocks, the mortality targets were at or higher than existing levels and mortality could remain the same or even increase. Because most fishing trips in this fishery catch a wide range of species, it is impossible to design measures that will selectively change mortality for individual species. The management measures adopted by the amendment to reduce mortality where necessary are also expected to reduce fishing mortality unnecessarily on other, healthy stocks. As a result of these lower fishing mortality rates, yield from healthy stocks is sacrificed and the management plan may not provide optimum yield - the amount of fish that will provide the greatest overall benefit to the nation. Amendment 13 created opportunities to target these healthy stocks. The FMP restricts the number of days that vessels can fish by allocating each limited access permit a specific amount of days-at-sea (DAS). Amendment 13 further defined three categories of DAS. The DAS categories are:

- Category A: These DAS can be used to target any regulated groundfish stock, subject to the restrictions on gear, areas, and landing limits that are defined by the FMP.
- Category B: These DAS are used to target healthy groundfish stocks – that is, stocks that are not overfished and that are not subject to overfishing. Programs to use Category B DAS prescribe specific conditions for their use.
- Category C: These DAS cannot be used, but remain associated with a permit. As stocks rebuild, in the future some of these DAS may be re-allocated into other categories and may be used.

Since the adoption of Amendment 13, five framework adjustment actions (Frameworks 40A, 40B, 41, 42, and 43) were adopted. These frameworks created opportunities to use Category B DAS in Special Access Programs or through the Category B (regular) DAS Pilot Project in order to target healthy stocks, adjusted measures to meet mortality targets, and limited the catch of groundfish in mid-water trawls.

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Amendment 13 adopted a schedule for periodic reviews of groundfish stock status to make certain that fishing mortality targets are achieved. The first adjustment was scheduled for May 1, 2006. In order to provide information on stock status for that action, groundfish stock assessments were performed in August 2005. Of nineteen managed groundfish stocks, the assessments found that fishing mortality for seven stocks exceeded Amendment 13 targets. FW 42 was designed to reduce mortality on these stocks so that rebuilding will continue. In addition, it modifies several other programs to meet the objectives of the M-S Act. Because of delays in developing this framework adjustment, the proposed management measures were not implemented on May 1, 2006. As a result, the Secretary of Commerce implemented measures that took effect on May 1, 2006, and remained in effect until Framework 42 was implemented on November 19, 2006.

Amendment 16 is being developed to adjust measures as necessary to continue the groundfish rebuilding plans adopted in Amendment 13.

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3.0 Background and Purpose

3.1 Brief History of Prior Management Actions

The Northeast Multispecies FMP was adopted in 1986 to manage key groundfish stocks from Maine to Cape Hatteras. Management actions under this FMP were summarized in Amendment 5, adopted in 1994. The key actions leading to this action since Amendment 5 are summarized below.

Sustainable Fisheries Act

Despite the efforts taken in Amendment 5 and the cutbacks made by the industry during the following years, new legislation in 1996 set the standards for effective management even higher. The Magnuson-Stevens Act was amended with the adoption of the Sustainable Fisheries Act (SFA) in 1996. The SFA placed new demands on fishery management plans to reduce bycatch, identify and protect Essential Fish Habitat, and minimize adverse effects of fishing on EFH to the extent practicable. It also initiated new National Standards in the MSFCMA that emphasized minimizing impacts to fishing communities, improving safety at sea, significantly reducing bycatch and improving the collection and use of fishery and biological data.

Amendment 7

The amendment accelerated the DAS effort reduction program established in Amendment 5, eliminated significant exemptions from the current effort control program, provided incentives to fish exclusively with mesh larger than the minimum required, broadened the area closures to protect juvenile and spawning fish, and increased the haddock possession limit to 1,000 pounds. It established a rebuilding program for Georges Bank (GB) and Southern New England (SNE) yellowtail flounder, GB and GOM cod, and GB haddock based primarily on days-at-sea (DAS) controls, area closures, and minimum mesh size. Additionally, the amendment changed existing permit categories and initiated several new ones, including an open access multispecies permit for limited access sea scallop vessels. Amendment 7 also created a program for reviewing the management measures annually and making changes to the regulations through the framework adjustment process to insure that plan goals would be met. Of all the major changes to the Northeast Multispecies Plan prior to 2000, Amendments 5 and 7 had the greatest impact on the fishery, both for stock rebuilding and in shaping the socio-economic conditions of the industry and fishing communities.

Amendment 9

Amendment 9 (1999) had a significant impact on the fishery, establishing new status determination criteria (overfishing definitions) and setting the Optimum Yield (OY) for twelve groundfish species to bring the plan into complete compliance with the SFA.

Amendment 11 and Essential Fish Habitat

This amendment adopted essential fish habitat (EFH) for New England groundfish stocks. However, according to a 2000 ruling in *American Oceans Campaign et al. v. Daley et al.* [Civil Action No. 99-982(GK)], EFH considerations continued to be inadequate in fishery management plans. The prosecution contested the adequacy of evaluations of fishing gear impacts on EFH and challenged NMFS approval of amendments and management plans which did not fully address the impacts of fishing on habitat. The U.S. District Court for the District of Columbia found that the agency's decisions on the subject EFH amendments were in accordance with the Magnuson-Stevens Act, but found that the EAs for the Councils' amendments were inadequate and in

violation of NEPA. The court determined that the EAs prepared for the EFH provisions of the fishery management plans did not fully consider all relevant alternatives. The court specifically criticized several of the EAs for evaluating only two options for the EFH amendments: either approval of the amendment or status quo. Additionally, the decision noted that the descriptions and analyses of the environmental impacts of the proposed actions and alternatives were vague or not fully explained. The court ordered NMFS to complete a new and thorough NEPA analysis for each EFH amendment named in the suit. Amendments 11 and 12 addressed the SFA requirements for designating EFH for all managed species and for managing whiting (silver hake), red hake and offshore hake through a separate small-mesh multispecies management plan implemented in 2000.

Amendment 13 Development and Implementation

Work on Amendment 13 began in February 1999, when the Council published a Notice of Intent recognizing the need for rebuilding plans that would be compliant with the SFA and new status determination criteria adopted by Amendment 9. In December 2001, during the drafting of the Amendment and immediately following the implementation of Framework 33, Conservation Law Foundation and other organizations successfully filed suit against NMFS alleging that the rebuilding plans NMFS had implemented were not consistent with Amendment 9 overfishing definitions (*Conservation Law Foundation et al. v. Evans et al.*). Additionally, they charged that there had been a consistent failure in management plans to assess bycatch reporting and establish measures to minimize bycatch and bycatch mortality (when bycatch is unavoidable). The plaintiffs prevailed on the issue that the rebuilding plans failed to implement a Standardized Bycatch Reporting Methodology. After a long series of negotiations among various parties, interim measures were adopted by the court and NMFS was instructed to submit a management plan to comply with the law. Amendment 13, which went into effect on May 1, 2004, met the requirements for compliance with that court order.

The main purpose of Amendment 13 was to end overfishing on groundfish stocks and to rebuild all of the groundfish stocks that were overfished. The Amendment addressed stock rebuilding issues, greatly reduced fishing effort and capacity in the multispecies fishery, included measures to minimize bycatch, instituted improved reporting and recordkeeping requirements, and implemented additional measures to specifically address habitat protection. The Amendment also mandated a periodic review of stock data midway through the implementation period, and called for a correction in management figures if necessary.

During the period of Amendment 13 development, the relationship between the multispecies fishing industry and the scientific community underwent some important changes. In September 2002, a Cape Cod fisherman convinced federal scientists that the trawl warps used to tow the groundfish survey gear used by the Northeast Fisheries Science Center were of different lengths, a fact that was confirmed. A series of workshops took place to assess how the warp length discrepancy and confounding structural problems with the otter trawl doors and footrope may have affected data quality. Issues surrounding the trawl warps, reference point estimates, and a trawl survey experiment were evaluated by Payne et al. (2003) and the general conclusion was that the information available was suitable for management. Payne et al. (2003) also provided numerous recommendations for further investigation of the issues raised. It is likely that in the future, greater emphasis will be placed on collaborative efforts in fisheries research in order to improve communication and understanding among fishermen and scientists, and to collect more comprehensive and complete data for management of the fishery.

Framework Adjustments and Interim Rule

The Northeast Multispecies FMP has been subject to many additional changes since its inception. Besides the 12 amendments implemented prior to development of Amendment 13, the multispecies plan has been altered multiple times since 1994.

The Council has held four annual reviews and made eight adjustments to the FMP to address Amendment 7 rebuilding needs (Frameworks 20, 24, 25, 26, 27, 30 and 33). In 1999, the Council submitted Framework 27 as the primary annual adjustment framework. Both Frameworks 27 and 30 contained trip limits for GOM and GB cod. In both cases, the Regional Administrator was authorized to reduce the trip limit when 75 percent of the target TAC for each stock was reached. On May 28, 1999, the Regional Administrator reduced the GOM cod limit implemented on May 1, 1999 of 200 pounds per day to 30 pounds per day, just three weeks into the fishing year. However, even before the trip limit was reduced, fishermen reported excessive discards of cod as seasonal closures ended. NMFS announced on July 29, 1999 that it disapproved the 30-day closure on Georges Bank proposed in Framework 30, but it approved the trip limit, which took effect on August 15. Framework 30 established a GB cod trip limit of 2,000 pounds per day/20,000 pounds maximum possession limit.

The Council submitted Framework 31 on October 14, 1999, which addressed discards in the Georges Bank and Gulf of Maine cod fisheries. NMFS approved an increased GOM cod trip limit on January 5, 2000, but it disapproved the change to the GB cod trip limit program that would have eliminated the authority of the Regional Administrator to make mid-season adjustments to the trip limit when 75 percent of the target TAC is reached.

Framework 33 was implemented on June 1, 2000 to reduce or maintain fishing mortality rates for the five critical stocks below fishing mortality rebuilding targets established by Amendment 7. This framework maintained some seasonal closures and implemented new ones, maintained or reduced trip limits, and mandated that party and charter vessels obtain a letter of authorization to fish in any of the GOM closed areas. The Council also proposed changes to the large mesh permit category, but these were not approved by NMFS. Implementation of Framework 33 was immediately followed by the CLF lawsuit mentioned earlier.

Framework 36 was completed in December 2001, but the Council did not adopt the framework and it was not submitted. Frameworks 37 and 38 instituted changes to management of the whiting fishery.

Framework 39 was drafted jointly with the scallop fishery and addressed scallop area management in parts of the groundfish closed areas, specifically portions of the Nantucket Lightship Area and Closed Areas I and II. Area closures had occurred to achieve groundfish mortality and rebuilding objectives, resulting in increased scallop biomass. The purpose of the Framework was to allow access to those scallop resources while providing measures to minimize and control bycatch of groundfish, including when and where scallop fishing could occur, as well as a limit on how much bycatch was to be allowed.

Framework 40A was created in order to mitigate economic and social impacts from the effort reductions imposed by Amendment 13. It was intended to provide additional opportunities for vessels in the fishery to target healthy stocks. The framework instituted the Category B (Regular) DAS Pilot Program, the Eastern US/Canada Haddock SAP Pilot Program, and the Closed Area I Hook Gear Haddock Special Access Program, a program that allows longline vessels to fish in Closed Area I to target haddock. The SAP program was only partially approved and did not allow participation by vessels that are not members of the GB Cod Hook Sector. In addition, FW 40-A

relieved an Amendment 13 restriction that prohibited vessels from fishing both in the Western U.S./Canada Area and outside that area on the same trip, and allowed for increase in incidental TACs.

Following Framework 40A, the Council sought to improve the effectiveness of the Amendment 13 effort control program, including the opportunities developed to use effort to target healthy stocks and other measures that were adopted to facilitate adaptation to the amendment's effort reductions. In Framework 40B, the Council considered measures to clarify the DAS allocations and provide a small allocation to all permit holders, to modify the DAS leasing and transfer programs, to improve opportunities to target healthy stocks, and to adjust the Georges Bank cod hook sector provisions in order to meet those purposes. The framework also included measures developed to address interactions between the herring fishery and regulated groundfish, since catches of groundfish that occur in the herring fishery are wasted and do not contribute to optimum yield in the groundfish fishery. Some of the actions in the framework included revising the Days-at-Sea (DAS) Leasing and Transfer Programs, modifying provisions for the Closed Area (CA) II Yellowtail Flounder Special Access Program (SAP), changing the allocation criteria for the Georges Bank (GB) Cod Hook Sector (Sector), establishing a DAS credit for vessels standing by an entangled whale, implementing new notification requirements for Category 1 herring vessels, and removing the net limit for trip gillnet vessels.

The purpose of Framework 41 was to revise the Closed Area 1 Hook Gear Haddock SAP, which was implemented in Framework 40A, to allow participation by non-sector vessels. The program, like many of the measures in Framework 40A was intended to help mitigate the economic and social impacts caused by the effort reductions adopted by Amendment 13.

Framework 42 introduced several measures to achieve rebuilding of fishing mortality targets. It included measures to implement the biennial adjustment, anticipated by Amendment 13, to the Northeast Multispecies FMP. The Framework instituted a wide range of changes included a Georges Bank yellowtail rebuilding strategy, several changes to the Category B (regular) DAS Program and two Special Access Programs, and an extension of the DAS leasing program. Additionally, it introduced the differential DAS system, where DAS are counted at the rate of 2:1 in certain areas in the Gulf of Maine (GOM) and Southern New England (SNE).

Framework 43 imposed a haddock catch cap for the herring fishery. Large haddock year classes had been leading to increased haddock bycatch by mid-water herring trawlers, particularly on Georges Bank. The Framework included a catch cap for haddock, an incidental catch allowance for other regulated multispecies, and a monitoring program for the catch cap. The existing classification of herring midwater trawl and purse seine gear relative to the multispecies fishery were also modified through the action.

Magnuson-Stevens Fishery Conservation and Management Reauthorization Act

In 2006, the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act was passed, which updated the original Magnuson-Stevens Act (MSA) as well as the Sustainable Fisheries Act of 1996. The bill reauthorized the MSA for Fiscal Years 2007 through 2013.

The MSA reauthorization contained several provisions that introduced new legal requirements for fishery management. Some of the key changes include:

- A firm deadline to end overfishing in America by 2011. For stocks that are currently experiencing overfishing, the deadline for ending that overfishing is 2010. Two key approaches are included to achieve this mandate:

- The reauthorization requires the use of Annual Catch Levels (ACLs) to prevent overfishing. Every management plan must contain an ACL, which is set at a level to ensure that overfishing does not occur in the particular fishery. The ACL is required to be set at or below the Acceptable Biological Catch (ABC) of the fishery. Furthermore, the Councils are directed to follow the recommendations of the Scientific and Statistical Committee (SSC), and the ACL cannot exceed the SSC's recommendation for ABC.
- Accountability Measures (AMs) are required in each management plan that detail what actions will be taken in the event of an overage of harvest level.
- A Limited Access Privilege Program (LAPP) provision.
 - In the MSA, the term "limited access privilege" means a Federal permit, issued as part of a limited access system under section 303A to harvest a quantity of fish expressed by a unit or units representing a portion of the total allowable catch of the fishery that may be received or held for exclusive use by a person; and: (a) includes an individual fishing quota; but (b) does not include community development quotas as described in section 305(i).
 - Much of the responsibility for the development of LAPPs, and their requirements, was delegated to the Councils, including what types of LAPPs can best meet the needs of a specific fishery, eligibility criteria for participation in a LAPP, and procedures for allocating harvest privileges among participants in a fishery. Questions have been raised about what entities qualify as LAPPs.

One more requirement in the MSA reauthorization applies specifically to New England fisheries. The Act states that the NEFMC, "may not approve or implement a fishery management plan or amendment that creates an individual fishing quota program, including a Secretarial plan, unless such a system, as ultimately developed, has been approved by more than 2/3 of those voting in a referendum among eligible permit holders...". Thus, a system for creating a referendum and determining voting eligibility would need to be formulated if the Council chose to pursue IFQs as a management tool.

3.1.1 Other actions affecting the fishery

3.1.1.1 Actions to Minimize Interactions with Protected Species

Many of the factors that serve to mitigate the impacts of the groundfish fishery on protected species are currently being implemented in the Northeast Region under either the Atlantic Large Whale Take Reduction Plan (ALWTRP) or the Harbor Porpoise Take Reduction Plan (HPTRP). In addition, the Northeast Multispecies FMP has undergone repeated consultations pursuant to Section 7 of the Endangered Species Act (ESA), with the most recent Biological Opinion dated June 14, 2001. In that Opinion, NMFS concluded that the continued authorization of the Northeast multispecies FMP would jeopardize the continued existence of ESA-listed right whales as a result of entanglement in gillnet gear. A Reasonable and Prudent Alternative (RPA) was provided to remove the likelihood of jeopardy, and the RPA measures were implemented, in part, through the ALWTRP. On April 2, 2008, NMFS reinitiated section 7 consultation on the continued authorization of the Northeast Multispecies FMP for two reasons: (1) new information on the number of loggerhead sea turtles captured in bottom otter trawl gear used in the fishery, and (2) changes to the ALWTRP that will result in the elimination of measures that were incorporated as a result of the RPA for the June 14, 2001, Opinion on the continued authorization of the Northeast Multispecies FMP. The new consultation is on-going.

3.1.1.2 Harbor Porpoise Take Reduction Plan

NMFS published the rule implementing the Harbor Porpoise Take Reduction Plan on December 1, 1998. The HPTRP includes measures for gear modifications and area closures, based on area, time of year, and gillnet mesh size. In general, the Gulf of Maine component of the HPTRP includes time and area closures, some of which are complete closures; others are closures to gillnet fishing unless pingers (acoustic deterrent devices) are used in the prescribed manner. The Mid-Atlantic component includes time and area closures in which gillnet fishing is prohibited regardless of the gear specifications. Based on an increase in harbor porpoise takes in the overall sink gillnet fishery in recent years, the Harbor Porpoise Take Reduction Team is currently developing options to reduce takes.

3.1.1.3 Atlantic Large Whale Take Reduction Plan

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

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

On June 21, 2005, NMFS published a proposed rule (70 *Federal Register* 35894) for changes to the ALWTRP, and published a final rule on October 5, 2007 (72 *Federal Register* 57104). The new ALWTRP measures expand the gear mitigation measures by: (a) including additional trap/pot and net fisheries (*i.e.*, gillnet, driftnet) to those already regulated by the ALWTRP, (b) redefining the areas and seasons within which the measures would apply, (c) changing the buoy line requirements, (d) expanding and modifying the weak link requirements for trap/pot and net gear, and (e) requiring (within a specified timeframe) the use of sinking and/or neutrally buoyant groundline in place of floating line for all fisheries regulated by the ALWTRP on a year-round or seasonal basis.

3.1.1.4 Atlantic Trawl Gear Take Reduction Team

The first meeting of the Atlantic Trawl Gear Take Reduction Team (ATGTRT) was held in September 2006. The ATGTRT was convened by NMFS as part of a settlement agreement between the Center for Biological Diversity and NMFS to address the incidental mortality and serious injury of long-finned pilot whales, short-finned pilot whales, common dolphins, and white-sided dolphins in several trawl gear fisheries operating in the Atlantic Ocean. Incidental takes of pilot whales, common dolphins and white-sided dolphins have occurred in fisheries operating under the Atlantic Mackerel, Squid, and Butterfish FMP, as well as in mid-water and bottom trawl fisheries in the Northeast. The last meeting of the TRT was in April 2007 and work is ongoing.

3.2 Purpose and Need for Action

This amendment is designed to meet all the requirements of the Magnuson-Stevens Act for the Northeast Multispecies Fishery, and is prepared by the New England Fishery Management Council (NEFMC; Council). After the proposed action is reviewed, the Amendment will be approved and implemented by the National Marine Fisheries Service (NMFS). Fifteen species of groundfish are managed under this plan. Twelve species are managed as large mesh species, based on fish size and type of gear used to harvest the fish: Atlantic cod, haddock, pollock, yellowtail flounder, witch flounder, winter flounder, windowpane flounder, American plaice, Atlantic halibut, redfish, ocean pout and white hake. Three species — silver hake (whiting), red hake, and offshore hake — are managed under a separate small mesh multispecies program, Amendment 12 to the Northeast Multispecies FMP. Several large mesh species are managed as two or more separate stocks, based on geographic region. For example, Atlantic cod is managed as two stocks: Georges Bank cod and Gulf of Maine cod.

Several groundfish stocks are either overfished, have been declared overfished in the past, or are experiencing overfishing and are currently rebuilding under programs that do not meet the requirements of the M-S Act. While many stocks will continue to increase under current fishing mortality rates – indeed, some will increase to levels not observed in the last thirty years – most stocks will not achieve levels that will support maximum sustainable yields.

In the 1996 reauthorization of the Magnuson-Stevens Act, Congress recognized that one of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats. To ensure habitat considerations receive increased attention for the conservation and management of fishery resources, the amended Magnuson-Stevens Act included new EFH requirements, and each fishery management plan must now include specific EFH provisions. Section 303(a)(7) of the Magnuson-Stevens Act requires that each FMP describe and identify EFH for the fishery based on the guidelines established by the Secretary (50 CFR part 600, Subpart J), minimize to the extent practicable adverse effects on EFH caused by fishing, and identify other actions to encourage the conservation and enhancement of EFH. The description and identification of EFH is applied as included in Amendment 13 to the Northeast Multispecies FMP of 1998.

<i>Need</i>	<i>Purpose</i>
Rebuild overfished fisheries by continuing programs adopted in Amendment 13 and, if necessary, adopt additional rebuilding programs	<ul style="list-style-type: none"> • Measures to reduce effort, including DAS reductions, trip limit reductions, and area closures • If necessary, adjust mortality targets for rebuilding programs
End overfishing	<ul style="list-style-type: none"> • Implement Annual Catch Limits and Accountability Measures • Adjust effort controls as necessary to reduce fishing mortality
Implement additional tools to meet mortality objectives	<ul style="list-style-type: none"> • Implement additional sectors • Adjust effort control program for non-sector vessels
Minimize, to the extent practicable, the adverse effects of fishing on essential fish habitat to comply with section 303(a)(7) of the Magnuson-Stevens Act	<ul style="list-style-type: none"> • Minimize, to the extent practicable, adverse effects on EFH caused by fishing, and identify other actions to encourage the conservation and enhancement of EFH.
Minimize bycatch and minimize mortality of bycatch that cannot be avoided	<ul style="list-style-type: none"> • Implement additional sectors • Consider increases in trip limits
Provide options for reducing harvesting capacity	<ul style="list-style-type: none"> • Measures to reduce effort, including DAS reductions, trip limit reductions, and area closures
Address numerous issues with respect to the administration of the fishery	<ul style="list-style-type: none"> • Implement additional sectors and address monitoring, enforcement, and transparency • Define Annual Catch Limits • Changes to the DAS Transfer and DAS Leasing programs • Address reporting requirements • Consider SAP revisions

3.3 Notice of Intent and Scoping Process

The Council announced its intent to prepare Amendment 16 and an Environmental Impact Statement (SEIS) on November 6, 2006 (71 *Federal Register* 64941). The scoping period extended from that date until December 29, 2006. The announcement stated that Amendment 16 will adjust management measures to continue the formal stock rebuilding programs adopted by Amendment 13 and achieve optimum yield. The Council said that it would consider alternative management systems in addition to adjustments to the existing effort control system. The notice

also announced that wolffish and cusk may be added to the fishery management unit. This decision will be made after assessments scheduled for 2008, but these assessments have been postponed and were not completed in time to incorporate results into this action.

At the beginning of the scoping period, the Multispecies Oversight Committee met with the Groundfish Advisory Panel and the Recreational Advisory Panel to develop standards that new management systems should meet. The recommendations from this meeting were considered by the Council. The Council published the following guidance for alternative management system proposals:

- Any new management system should clearly state the method of allocation proposed for individual, gear, or other sectors, and area TAC distributions for all Category A Days-at-Sea permit holders in the Gulf of Maine, Georges Bank, and Southern New England range managed under the Northeast Multispecies FMP.
- Proposed management concepts may be less dependent upon input controls such as effort closures and trip limits and create a closer link between allocation and catch.
- A new management proposal should include a mechanism for accountability, for all permit holders, of all catch of all stocks (managed under the Northeast Multispecies FMP) caught during his/her fishing operation regardless of allocation.
- Any new management system that is narrow in focus relative to gears, areas/sub-regions or permit categories and is absent detail for application to the Gulf of Maine, Georges Bank, and Southern New England areas should not be considered for inclusion as a management system proposal. (Such narrowly focused concepts may be considered as a component of a comprehensive management system at a later point in this process).

A scoping document with this guidance was published on the Council's web page (www.nefmc.org) and distributed at scoping hearings.

The Council conducted eight hearings to receive public comments (Ellsworth and Portland, Maine, Portsmouth, New Hampshire, Gloucester and Fairhaven, Massachusetts, South Kingstown, Rhode Island, Riverhead and New York City, New York). Notice of the scoping hearings was mailed to over 1,800 interested parties. This notice also announced the availability of the scoping document and listed four ways to submit comments: in person at any of the hearings, or in writing submitted through mail, facsimile, or email. Attendance was light, with only one attendee at one hearing and fewer than ten speakers at several. More comments were received in writing.

Comments identified issues for consideration. Perspectives on each of the issues varied widely. The major issues identified and discussed are summarized below. This summary does not reflect every scoping comment received. Comments are grouped into broad categories, but in some cases the specific comments overlapped several of these categories. Refer to the letters and scoping meeting summaries to gain a better perspective on individual comments, ideas, and suggestions. The Council received suggestions for three new management systems, often with several variations. Changes were suggested to the existing effort control system, and comments were received on other topics as well.

Days-at-Sea (DAS)

- Comments supported and opposed to the existing effort control system based on DAS.
- A written comment provided an extensive list of proposed changes to the DAS system, including: counting DAS as a minimum of twenty-four hours, eliminating spawning block

days out of the fishery, altering closed areas (including seasonal or rolling closures), modifying gear requirements, creating additional SAPs or modifying existing SAPs, modifying the DAS leasing and transfer programs, and re-examining all exempted fisheries to determine if they continue to meet groundfish bycatch restrictions.

- A written comment proposed modifying the effort control system to charge differential DAS based on landed catch rather than area fished.
- A comment suggested that if the Council abandons the DAS system then vessels that leased DAS to other vessels will be at a disadvantage if future access is based on recent fishing history.
- One comment suggested continuing to use DAS, but also defining an inshore and offshore area. Fishermen would declare into an area for the fishing year, and DAS might be charged at a differential rate in each area.

Hard TACs/Output Controls/ITQs

- Comments both supported and opposed the use of quotas (hard TACs) in this fishery.
- A proposal suggested quotas for all groundfish species and all species caught by groundfish vessels. This proposal suggested alternatives for allocating these quotas to various gear, vessel size, and temporal periods. It also suggested real-time landings reporting and a mandated level of observer coverage.
- One comment suggested using quotas (hard TACs) as a backstop for any management system adopted to manage groundfish. This proposal also suggested using quotas (bycatch caps) and other measures to minimize bycatch.
- An Individual Transferable Fishing Quota (ITQ) proposal was received from an organization. This organization prefers the DAS system, but argued that if quotas were adopted an ITQ was the only way to make them effective. The proposal detailed options for initial allocation of catch based on a combination of DAS and permit catch history, limits on ownership and acquisition of quota, transfers of quota, and management responses to an underage or overage of catch.
- One comment suggested using a system called “stewardship shares.” While similar to an ITQ, it differs in that the share owned by permit holders also represents a share of the stock biomass. An analogy is that the share of the resource represents a capital account and the share of the annual TAC is the interest produced. Permit holders can, within limits, withdraw from either in a given fishing year.
- One comment suggested using ITQs only on weak stocks, while continuing to use the DAS system for other stocks.

Area Management

- A proposal from a coalition of organizations and individuals proposed area management. Elements of this proposal included defining management areas that reflect ecological and biological uniqueness. Each area would have a finite, annual limit of fish that can be harvested from that area. Area-specific management rules would be developed with the participation of fishermen and local stakeholders from the area. Over time, local governance structures would be developed that would be nested within the current management system. Boundaries would be permeable – vessels could fish in more than one area. Real-time catch reporting would be developed. As an example of how this system could work, an additional submission proposed a specific area management structure and measures for an area off eastern Maine.
- Comments were received from a variety of individuals and organizations that supported the area management concept.

Point System

- An organization proposed a management system titled the “point system.” Each permit would be allocated a quantity of points based on its DAS allocation, baseline characteristic of the vessel, and past fishing history. These points would be the currency charged for landing regulated groundfish. For each regulated stock, point values (based primarily on the biological status of the stock) would be established. Generally, point values would be higher for stocks in poor condition, which would encourage fishermen to target stocks in healthy condition. Point values would be adjusted on a periodic basis over the course of the fishing year so that the catches do not exceed the target TACs for each stock. The proposal suggested mechanisms to track catch and points, free transferability of points, and retention of all legal-sized groundfish. Interactions with other management systems (sectors, area management) were also described.
- Numerous comments and petitions supported the point system.

Sectors

- Two organizations indicated their intent to submit applications for establishing new sectors. Subsequent to the scoping period, one of these organizations withdrew its interest.
- A research organization suggested changes to the sector provisions of the management plan. These included simplifying the process for submission and approval of new sectors, establishing a fixed time period for determining catch history, allowing sectors to trade catch allocations with other sectors, changing or eliminating the cap on sector allocations, and allowing sectors to define how catch histories are treated for vessels in the sector.
- Two organizations suggested establishing a fixed time period for determining catch histories. One of these organizations suggested allowing sectors to receive an allocation of all stocks caught, with a provision for a default allocation for stocks that are rarely caught.
- One comment opposed the creation of sectors in the groundfish fishery.

Recreational Measures

- Several comments supported the creation of an allocation for recreational vessels (including party/charter vessels).
- Two comments supported creation of a limited entry system for party/charter vessels fishing in the Gulf of Maine.
- Several comments objected to the seasonal prohibition on catching cod in the Gulf of Maine.

Miscellaneous Comments

- One comment suggested changing the General Category Scallop Exempted Fishery east of Cape Cod to allow fishing year-round.
- Several comments supported allowing a vessel to possess a scallop dredge permit and a limited access multispecies permit at the same time.
- One comment suggested allowing the scallop closed area access program yellowtail flounder incidental catch TAC to be allocated to different sectors of the scallop industry.
- One comment suggested renegotiating the U.S./Canada Resource Sharing Understanding to better take into account U.S. concerns.
- Several comments suggested creating a research set-aside in the groundfish fishery.
- One comment suggested incorporating the findings of several research papers into the management program, including a suggestion that fishery stocks should be managed as a portfolio with the goal of providing the greatest benefits over time.

Response to Scoping Comments

Summaries of the scoping hearings and all written scoping comments were provided to all Council members. These documents, as well as recordings of the scoping hearings, were made available to the public. The Council reviewed these comments over a six month period. The Groundfish Plan Development Team (PDT) reviewed the major management proposals on two separate occasions and provided comments and concerns on the proposals. The Multispecies (Groundfish) Committee reviewed the proposals over the course of three separate meetings, and the full Council discussed the comments at two meetings. Many of the scoping comments were incorporated into the alternatives considered in this action. The Council took the following action on the major scoping comments that were not developed into alternatives:

Days At Sea

- The Council decided to include only the following modifications to adjust the DAS system in Amendment 16:
 - count DAS as a minimum of 24 hours;
 - consider adjustments in differential DAS program;
 - trip limit triggers on stocks with trip limits;
 - adjustments to Category A, B and C DAS split as a tool for adjustments to the DAS program.
- The Council decided to consider as an alternative a conservation tax on DAS leasing equal to or greater than the tax on consolidation.

Hard TACs/Output Controls/ITQs

- The Council decided not to pursue an ITQ proposal because recent changes to the M-S Act impose a requirement for an industry referendum before an ITQ can be implemented. The Council does not believe there is enough time available to develop a proposal and complete the referendum in time for a May 1, 2009 implementation date.
- The Council decided not to pursue a “stand-alone” hard TAC alternative – that is, a management system that relies on hard TACs alone to control mortality. Past experiences with these systems have shown that they are fraught with problems that are difficult to solve (Morgan, 1997).
- The Council directed the Groundfish Committee to consider hard TACs for the common pool as a means for mortality control. *(It was clarified that the intent of this motion is for the hard TAC to be developed as a backstop to the effort control system, and not as a stand-alone hard TAC alternative).*
- The Council voted to include in Amendment 16, as an alternative for complying with ACL/AM requirements, a hard TAC backstop based on Amendment 13 hard TAC options and direct the Groundfish Committee to develop mitigating plans to avoid olympic fishing and hard shutdowns.

Area Management and Point System

- Due to limited time and resources, the Council designated Amendment 17 as the mechanism to further develop all management options including but not limited to area management, DAS performance plan, point system, ITQ management, party/charter limited entry, and approval of any new sector proposals or adjustments or modifications to existing sectors. Amendment 17 should also develop and establish a complete allocation system for the groundfish fishery. That Amendment will be developed following the completion of work on Amendment 16.

Sectors

- The Council decided to continue to pursue the development of sectors and approval of additional sectors in Amendment 16.

Miscellaneous Comments

- The Council supported expansion of the General Category Scallop exemption east of Cape Cod to a year-round fishery should an ongoing experiment demonstrate that this can be done without substantial impacts on yellowtail flounder. The Council believes this change can be made under existing NMFS authority without requiring a Council management action.
- The Council referred to the Scallop Oversight Committee suggestions that the scallop industry be allowed to allocate closed area incidental catch TACs to different segments of the scallop fleet. The Council and NMFS do not believe this decision requires a multispecies action and can be done in a scallop management action.
- The Council made a request that NMFS evaluate VMS requirements and determine if other processes, such as the “legacy code” and/or IVR, would be more practical than current practices.
- The Council voted to advance the concept of the running clock to the Enforcement Committee to see if enforcement problems cited in the past still exist.

3.4 Goals and Objectives

The goals and objectives of this amendment remain as described in Amendment 13:

Goal 1: Consistent with the National Standards and other required provisions of the Magnuson-Stevens Fishery Conservation and Management Act and other applicable law, manage the northeast multispecies complex at sustainable levels.

Goal 2: Create a management system so that fleet capacity will be commensurate with resource status so as to achieve goals of economic efficiency and biological conservation and that encourages diversity within the fishery.

Goal 3: Maintain a directed commercial and recreational fishery for northeast multispecies.

Goal 4: Minimize, to the extent practicable, adverse impacts on fishing communities and shoreside infrastructure.

Goal 5: Provide reasonable and regulated access to the groundfish species covered in this plan to all members of the public of the United States for seafood consumption and recreational purposes during the stock rebuilding period without compromising the Amendment 13 objectives or timetable. If necessary, management measures could be modified in the future to insure that the overall plan objectives are met.

Goal 6: To promote stewardship within the fishery.

Objective 1: Achieve, on a continuing basis, optimum yield (OY) for the U.S. fishing industry.

Objective 2: Clarify the status determination criteria (biological reference points and control rules) for groundfish stocks so they are consistent with the National Standard guidelines and applicable law.

- Objective 3:** Adopt fishery management measures that constrain fishing mortality to levels that are compliant with the Sustainable Fisheries Act.
- Objective 4:** Implement rebuilding schedules for overfished stocks, and prevent overfishing.
- Objective 5:** Adopt measures as appropriate to support international transboundary management of resources.
- Objective 6:** Promote research and improve the collection of information to better understand groundfish population dynamics, biology and ecology, and to improve assessment procedures in cooperation with the industry.
- Objective 7:** To the extent possible, maintain a diverse groundfish fishery, including different gear types, vessel sizes, geographic locations, and levels of participation.
- Objective 8:** Develop biological, economic and social measures of success for the groundfish fishery and resource that insure accountability in achieving fishery management objectives.
- Objective 9:** Adopt measures consistent with the habitat provisions of the M-S Act, including identification of EFH and minimizing impacts on habitat to the extent practicable.
- Objective 10:** Identify and minimize bycatch, which include regulatory discards, to the extent practicable, and to the extent bycatch cannot be avoided, minimize the mortality of such bycatch.

3.5 Scientific and Management Uncertainty

The formal rebuilding programs established by Amendment 13 include an evaluation of progress at the mid-point of the rebuilding programs, followed by adjustments as necessary to continue rebuilding. Since most rebuilding programs will be completed in 2014, this plan means that adjustments to management measures, if necessary, will take effect at the beginning of fishing year 2009 (May 1, 2009). The Council prepared the planning timeline for this implementation date assuming that the management action might meet the criteria of significance as defined by the National Environmental Policy Act (NEPA). Given the various requirements for environmental impact statement reviews, public comment periods, and publication of regulations, this meant that the Council's final vote on the amendment needed to take place in early fall, 2008. Action on a draft document needed to take place in early June.

When preparing the timeline, it was quickly realized that these administrative deadlines would make it difficult to develop the scientific basis for the management action. Amendment 13 called for assessments to review status determination criteria and update of stock status for the mid-point adjustment. This assessment process not only takes time, but is dependent on the collection of fishery dependent and fishery independent information. The Council and NMFS were faced with a critical decision. If the scientific information was to be ready in time for the preparation of a draft document, the assessment work would need to be completed in early 2008. Because of the time necessary to collect data, however, this would mean that the assessments for an action implemented in 2009 would be based on data collected through 2006. For a variety of reasons, this was considered unacceptable. In order to base the 2009 measures on more recent data, the decision was made to delay the final assessment meeting until August, 2008. While this means

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that the 2009 measures will be based on data from 2007, it also means that the draft document must be prepared prior to the final assessment meeting.

As a result of this decision, there is considerable uncertainty about stock status, status determination criteria, and management measures in this document. There is no current information on stock status, there is only preliminary information on status determination criteria, and as a result there is considerable uncertainty over what measures may be needed to continue the rebuilding programs (as well as whether or not additional rebuilding programs are needed). The analyses of impacts are more uncertain, and are more qualitative than has recently been the case for other groundfish management actions.

The final amendment and EIS will be prepared after the assessments are completed, and will be based on the best estimates of stock status and status determination criteria that are available. It is not known whether this will result in measures that are more or less restrictive than those described in this draft document. It is not known how the impacts on the affected environment will change. The only certainty is that the final document will be very different than this draft.

4.0 Alternatives under consideration

4.1 No Action Alternative

The NEPA requires that the No Action alternative be included. Because of the complexity of groundfish management, this section will describe in general terms the existing management program. This provides the public and reviewers an overview to place the proposed changes in context. Subsequent sections will specifically identify the elements of the No Action alternative as an option so that the choices considered by the Council are explicit.

This alternative would not change any existing management measures. The management measures for the Northeast Multispecies Fishery would not be revised and the most recent measures adopted by Amendment 13, FW 40A, FW 40B, FW 41 and FW 42 would remain in effect as implemented. Current implementing regulations can be found at 50 CFR 648 Subpart F.

The most recent amendment to the Northeast Multispecies FMP was Amendment 13, implemented May 1, 2004. The Amendment 13 measures can be sorted into the following broad categories:

- Clarification of status determination criteria: overfishing definitions
- Rebuilding programs: fishing mortality trajectories designed to rebuild overfished stocks. These trajectories serve as the fundamental basis for management measures.
- Fishery administration measures: reporting requirements, provisions for sector allocation and special access programs (SAPs), the U.S./Canada Resource Sharing Understanding, permit requirements, DAS leasing, etc.
- Measures to control capacity: a DAS transfer program that allows the permanent transfer of DAS, and the categorization of DAS based on vessel fishing history during the period FY 1996 through FY 2001.
- Measures to minimize, to the extent practicable, the adverse effects of fishing on essential fish habitat (EFH).
- Measures to meet fishing mortality targets: measures for the commercial and recreational fishery designed to control fishing mortality.

Subsequent to Amendment 13, a series of framework actions modified the measures. The following discussion summarizes the most important elements of the management program as it existed during consideration of this action. The discussion is organized into the broad categories identified.

Status Determination Criteria (Overfishing Definitions)

Amendment to the M-S Act in 1996 adopted a requirement that every management plan specify objective and measurable criteria for determining when a stock is overfished and when it is subject to overfishing. Often referred to as overfishing definitions, these status determination criteria were first adopted for the Multispecies FMP with the approval of Amendment 9 in 1999. During the development of Amendment 13, the criteria were re-evaluated by the NEFSC (NEFSC ReferenceXXX). These new criteria were adopted in Amendment 13. They include estimates of SSB_{MSY} , MSY , and F_{MSY} , and target fishing mortality rates (or appropriate proxies when these parameters cannot be determined). Amendment 13 also adopted a process to adopt revised parameters and/or their numerical estimates. Amendment 13 also reiterated the definition of OY applicable for each stock in this FMP. The amendment also called for a re-evaluation of the status determination criteria in 2008 so that any necessary changes could be made at the beginning of the 2009 fishing year.

Under the No Action alternative, these status determination criteria and their numerical estimates would remain the same. The Amendment 13 parameters and their estimates are shown in Table XXXX.

Rebuilding Programs

“Overfished” stocks are those that are at low biomass levels. Amendment 13 and FW 42 adopted formal rebuilding programs for regulated groundfish stocks that are overfished. Stocks also need a rebuilding program if they were previously identified at low biomass levels and have not yet finished rebuilding. These programs take the form of a strategy that identifies target fishing mortality rates for these stocks. Since management measures are designed to achieve the fishing mortality rates specified in the rebuilding programs for overfished stocks, the rebuilding programs are a critical element of the management program.

Analyses in Amendment 13 demonstrates that if these fishing mortality rates are achieved, the overfished stocks should rebuild to a biomass that will support maximum sustainable yield, and will do so within the time period required by the M-S Act. The following stocks have formal rebuilding programs, xxxthough some of these stocks are no longer overfished and the rebuilding fishing mortality target is higher than current fishing mortality:

- GOM cod
- GB cod
- GB yellowtail flounder
- Plaice
- GB haddock
- GOM haddock
- CC/GOM yellowtail flounder
- SNE/MA yellowtail flounder
- SNE/MA winter flounder
- Windowpane flounder (south)
- White hake
- Redfish

- Ocean pout
- Atlantic halibut

Amendment 13 also provided for a mid-course evaluation of rebuilding progress and changes to the rebuilding programs as necessary. Changes might be necessary if the status determination criteria change or if rebuilding progress is behind or ahead of schedule.

Under the No Action alternative, the rebuilding programs and the associated target fishing mortality rates adopted by Amendment 13 and FW 42 would not be changed, regardless of stock conditions or any changes to status determination criteria.

Fishery Administration

The management program includes measures that address a wide range of issue. These include monitoring of catches and other fishing activity, measures to mitigate the social and economic impacts of rebuilding programs, procedures for periodic adjustments to the management program, and other needs. The major elements are briefly summarized below:

- Reporting requirements: Dealers are required to file weekly electronic reports of the purchase of groundfish. Vessel operators report catches on paper forms that must be submitted within fifteen days of the end of a month. Limited access vessels using a DAS are required to use a Vessel Monitoring System (VMS) that reports position on an hourly basis. Vessel operators also use VMS to report several types of fishing activity.
- Periodic adjustments: The FMP calls for a review of stock status and measures every two years, with the submission of management changes as may be necessary. The FMP also describes the types of measures that can be adjusted through these periodic adjustments, called framework actions.
- DAS leasing: Vessel operators are allowed to temporarily acquire DAS from other vessels through a leasing program. The maximum number of DAS that can be leased is limited. Vessels can only be leased to vessels of similar size (i.e. within the vessel upgrade restrictions for the permit).
- Special Access Programs (SAP): These programs relax regulatory restrictions in order to provide opportunities for vessels to target healthy groundfish stocks. For most programs, there are stringent requirements that include limits on catch of other species, additional reporting requirements, and gear restrictions. The current SAPs are:
 - Eastern US/CA Haddock SAP: Vessels using approved gear can fish for haddock in the Eastern US/CA Area while using Category B or Category A DAS. Vessels are allowed to fish in a small part of CAII. The SAP is open from August 1 through December 31. Vessels report catch daily through VMS. Catches of stocks of concern are limited by TACs.
 - CAI Hook Gear Haddock SAP: Longline vessels using specific bait (to reduce cod catches) are allowed to target haddock inside part of CAI. The total catch of haddock is limited by a TAC, as are the catches of stocks of concern. The area is open from October 1 through December 31. The open season is divided between sector and non-sector vessels. Vessels report catch daily through VMS.
 - CAII Yellowtail Flounder SAP: Vessels are allowed to target yellowtail flounder inside the southern part of CAII from July 1 through December 31. Vessels using trawl gear must use a haddock separator trawl or a flounder net. There is a limit on the maximum number of trips allowed each year, on the number of trips a

vessel can make each month, and on the amount of yellowtail flounder that can be caught each trip. There are limits on the catches of stocks of concern and daily reporting via VMS. This SAP is only open when the TAC for GB yellowtail flounder can support access to this area. This SAP has only been allowed once (in 2004) because of the status of yellowtail flounder.

- SNE/MA Winter Flounder SAP: In order to reduce discards of winter flounder in the fluke fishery, this SAP allows retention of up to 200 pounds of winter flounder while fishing without using a DAS. The vessel must be fishing west of 72° 30' W. longitude, must use mesh allowed under the summer flounder regulations, and the amount of winter flounder landed cannot exceed the amount of summer flounder landed.
- Category B (regular) DAS Program: This program allows vessels to use Category B (regular) DAS to target healthy stocks. In general, there are fewer restrictions on this program than on SAPs. The number of DAS that can be used each quarter is limited. Catches of stocks of concern are limited by hard TACs. Trawl vessels must use a separator trawl or other approved gear. Daily catch reporting is required.
- U.S./Canada Resource Sharing Understanding: The stock areas for GB yellowtail flounder, GB cod, and GB haddock straddle the international boundary between the U.S. and Canada. In order to develop a consistent management strategy for these stocks, Amendment 13 incorporated a process for the two countries to agree on annual harvest levels. The agreement applies to the entire GB yellowtail flounder stock area and part of the stock areas for cod and haddock. In order to implement the understanding, the U.S. adopted a suite of management measures that apply to the relevant management units. These include hard TACs on the catches, gear restrictions, and additional reporting requirements. The Regional Administrator has broad authority to make in-season adjustments as necessary to achieve the TACs.

Measures to Control Capacity

Amendment 13 adopted two measures intended to control capacity in the multispecies fishery. These two measures are embedded in the management approach, and could be considered elements of the measures to achieve rebuilding.

- DAS allocations: Amendment 13 categorized the DAS allocated to each vessel based on fishing history during fishing years 1996 through 2001. The DAS allocated were also assigned to one of three categories. Category A DAS can be used to fish for any groundfish stock under the requirements of the FMP. Category B DAS can only be used to target healthy stocks. One sub-category (called Category B (reserve) DAS) can only be used in approved SAPs. Category C DAS cannot be used at present but remain assigned to the permit. This categorization of DAS is a critical element of the existing management program.
- DAS Transfer Program: Vessel operators are allowed to make permanent transfers of DAS from one permit to another, subject to a number of restrictions. The DAS that are transferred are reduced by twenty percent (a “conservation tax” intended to reduce the number of DAS available and to account for the possibility DAS will move to more efficient vessels). Transfers can only be made between vessels of similar size.

Measure to Meet Rebuilding Mortality Targets

The multispecies fishery

A primary management tool in the multispecies fishery is the control on the amount of days (days-at-sea, or DAS) that fishing vessels can fish. Amendment 13 changed how the DAS assigned to a limited access multispecies permit can be used. For each limited access permit, Amendment 13 evaluated the fishing history of the permit during the period FY 1996 through FY 2001. For the years when the permitted vessel landed at least 5,000 pounds of regulated groundfish, the number of DAS used during a qualifying fishing year (not to exceed the permit's FY 2001 allocation) was defined as the vessel's "effective effort." Sixty percent of the permit's effective effort was defined as Category A DAS, while the other forty percent was defined as Category B DAS (evenly divided between Category B (regular) and Category B (reserve) DAS). The difference between the permit's effective effort and its 2001 allocation were then defined as Category C DAS. Amendment 13 specified that unless certain conditions are met, the ratio of Category A to Category B DAS for each permit would change to 45/55 on May 1, 2008.

Amendment 13 established limitations on the different DAS categories. Category A DAS can be used to target any groundfish stock, subject to the limitations of Amendment 13 (including landing limits, gear requirements, closed areas, reporting requirements, etc.). Category B DAS can only be used in specific programs that are designed to target healthy groundfish stocks. Category C DAS cannot be used at this time, but may be made available at some time in the future. The number of DAS that can be used (whether Category A or Category B) can affect the rebuilding programs. The management measures in Amendment 13 were designed to achieve the target fishing mortality rates, but were based on Category A DAS use only. Programs that allow for the use of Category B DAS must be carefully designed so that they do not unacceptably increase the risk that rebuilding fishing mortality targets will not be met (mortality will be too high). A primary management measure used to prevent the use of Category B DAS from unacceptably raising mortality rates are incidental catch TACs first adopted by FW 40A, and modified in FW 40B, FW 41, and FW 42. These incidental catch TACs would not be modified if the No Action alternative is adopted.

Amendment 13 adopted two programs that facilitate the exchange of DAS between limited access permit holders. The DAS leasing program allows the temporary transfer of DAS from one permit to another. The vessels exchanging DAS must have similar vessel lengths and horsepower. The DAS transfer program allows for the permanent transfer of DAS between two vessels. For the transfer program, the two vessels involved must have similar length, horsepower, gross, and net tonnage. In addition, the vessel selling DAS must exit all state and federal fisheries and any non-groundfish permits expire. Under the No Action alternative, there would not be any changes to either of these programs.

Amendment 13 provided a mechanism for a group of fishermen to operate as a sector, and established the GB Cod Hook Sector. FW 42 implemented an additional sector, the Fixed Gear Sector. Under the No Action alternative, only these two sectors would be allowed to operate, and there wouldn't be any changes to existing sector policies.

Existing regulations provide opportunities to target healthy groundfish stocks by establishing three SAPs and one program to use Category B (regular) DAS. GB haddock can be targeted using longline gear through the CAI Hook Gear Haddock SAP, and by vessels using trawl gear in the Eastern U.S./Canada Haddock SAP Pilot Program (other gear could be approved for this SAP as well). Each of these programs controls the catch of cod and haddock through a hard TAC supported by additional reporting and gear requirements. The CAII Yellowtail Flounder SAP provides an opportunity to target GB yellowtail flounder in CAII when that stock is healthy. The

Category B (regular) DAS Pilot Program was adopted for one year to allow vessels to target healthy stocks while using Category B (regular) DAS. For all of these programs, the catch of stocks of concern is limited by hard TACs (referred to as “incidental catch TACs”) that are monitored through additional reporting requirements. Under the No Action alternative, the Eastern U.S./CA Haddock SAP Pilot Program would end in December, 2008r, 2006. Incidental catch TACs would not be specified for FY 2010 and beyond, since they have only been specified through FY 2009.

4.2 Updates to Status Determination Criteria and Formal Rebuilding Programs

4.2.1 Revised status determination criteria

The M-S Act requires that every fishery management plan specify “objective and measureable criteria for identifying when the fishery to which the plan applies is overfished.” Guidance on this requirement identifies two elements that must be specified: a maximum fishing mortality threshold (or reasonable proxy) and a minimum stock size threshold. The M-S Act also requires that FMPs specify the maximum sustainable yield and optimum yield for the fishery.

Amendment 13 adopted status determination criteria for regulated groundfish stocks. It also provided that these criteria would be reviewed in 2008. This amendment will adopt new status determination criteria if determined appropriate to do so. This information is not yet available but preliminary information is included in this draft amendment.

4.2.1.1 Option 1 – No Action

Under this option, the status determination criteria adopted by Amendment 13 would not be changed. Amendment 13 established that there are two elements to these criteria. First, the criteria are specified as a parameter that describes a quantity. Second, the current numerical estimate of that parameter is determined. Changes in the parameter – such as using an index – based proxy rather than an estimate of SSB_{MSY} for the minimum biomass threshold – requires a management action by the Council. Changes in the numerical estimate do not normally require a management action with the exception of change that may result from the 2008 review of stock status.

The parameters that were adopted by Amendment 13 are listed in Table 1. The numerical estimates of these parameters that were adopted by Amendment 13 are listed in Table 2.

Table 1 – Amendment 13 status determination criteria

Stock	Biomass Target	Minimum Biomass Threshold	Maximum Fishing Mortality Threshold	Fishing Mortality Target
GOM Cod	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
GB Cod	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
GB Haddock	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
GOM Haddock	B_{MSY} Proxy/Fall Trawl Survey Index	$\frac{1}{2}$ Btarget	F_{MSY} Proxy/Relative Exploitation Index	75% of F_{MSY}
GB Yellowtail Flounder	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
Cape Cod/GOM Yellowtail Flounder	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
SNE/MA yellowtail flounder	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
American Plaice	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
Witch Flounder	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
Gulf of Maine Winter Flounder	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
GB Winter Flounder	B_{MSY}	$\frac{1}{2}$ Btarget	$F_{MSY}^{(1)}$	75% of F_{MSY}
SNE/MA Winter Flounder	SSB_{MSY}	$\frac{1}{2}$ Btarget	F_{MSY}	75% of F_{MSY}
Acadian Redfish	SSB_{MSY}	$\frac{1}{2}$ Btarget	$F_{50\%}$ proxy for F_{MSY}	75% of F_{MSY}
White Hake	B_{MSY} Proxy/Fall Survey Index (> 60 cm fish)	$\frac{1}{2}$ Btarget	F_{MSY} Proxy/Relative Exploitation Index (> 60 cm fish)	75% of F_{MSY}
Pollock	B_{MSY} Proxy/ Fall Survey Index	$\frac{1}{2}$ Btarget	F_{MSY} Proxy/ Relative Exploitation Index	75% of F_{MSY}
Windowpane Flounder (North)	B_{MSY} Proxy/Fall Survey Index	$\frac{1}{2}$ Btarget	F_{MSY} Proxy/Relative Exploitation Index	75% of F_{MSY}
Windowpane Flounder (South)	B_{MSY} Proxy/Fall Survey Index	$\frac{1}{2}$ Btarget	F_{MSY} Proxy/Relative Exploitation Index	75% of F_{MSY}
Ocean Pout	B_{MSY} Proxy/Fall Survey Index	$\frac{1}{2}$ Btarget	F_{MSY} Proxy/Relative Exploitation Index	75% of F_{MSY}
Atlantic Halibut	B_{MSY}	$\frac{1}{2}$ Btarget	$F_{MSY}^{(1)}$	75% of F_{MSY}

Table 2 – Amendment 13 numerical estimates of status determination criteria. (XXXCHECK NOTES)

1. Total biomass, metric tons
2. Unit is total stock biomass for fish ≥ 60 cm., mt
3. Unit is biomass weighted F
4. Survey based equivalents developed by GARM 2002

SPECIES	STOCK	NUMERICAL ESTIMATE OF STATUS DETERMINATION CRITERIA				
		B_{TARGET} (metric tons)	$B_{THRESHOLD}$ (metric tons)	F_{MSY} (Maximum fishing mortality)	F_{target} (at biomass target)	MSY (metric tons)
COD	GB	216,800	108,400	0.18	0.14	35,200
	GOM	82,800	41,400	0.23	0.17	16,600
HADDOCK	GB	250,300	125,150	0.26	.20	52,900
	GOM	22.17 kg/tow	11.09 kg/tow	0.23C/l	0.17 C/l	5,100
YELLOWTAIL FLOUNDER	GB	58,800	29,400	0.25	0.19	12,900
	SNE/MA	69,500	34,750	0.26	0.20	14,200
	CC/GOM	12,600	6,300	0.17	0.13	2,300
AMERICAN PLAICE		28,600	14,300	0.17	0.13	4,900
WITCH FLOUNDER		25,240	12,620	0.23	0.17	4,375
WINTER FLOUNDER	GB	9,400(1)	4,700	0.32	0.24	3,000
	GOM	4,100	2,050	0.43	0.32	1,500
	SNE/MA	30,100	15,050	0.32	0.24	10,600
REDFISH		236,700	118,350	0.04	0.03	8,200
WHITE HAKE ²		14,700(2)	7,350	0.29	0.22	4,200
		7.70 kg/tow	3.35 kg/tow	0.55 C/l	0.41 C/l	
POLLOCK		3.0 kg/tow	1.5 kg/tow	5.88 C/l	4.41 C/l	17,600
WINDOWPANE FLOUNDER	North	0.94 kg/tow	0.47 kg/tow	1.11 C/l	0.83	1,000
	South	0.92 kg/tow	0.46 kg/tow	0.31 C/l	0.23 C/l	900
OCEAN POUT		4.9 kg/tow	2.95 kg/tow	0.31 C/l	0.23 C/l	1,500
ATLANTIC HALIBUT		5,400(1)	2,700	0.06	0.4	300

4.2.1.2 Option 2 – Revised Status Determination Criteria

In 2008, the Northeast Fisheries Science Center (NEFSC) will conduct assessments of all nineteen regulated groundfish stocks. The results of those assessments will include either verification of the existing status determination criteria or suggestions for revisions to those status determination criteria. While these status determination criteria will not be final until September 2008, a biological reference point meeting was held in May 2008 and provided information on possible changes to the status determination criteria. This information includes the possible assessment models that will be used for each stock, as well as a range for the status determination criteria. **Note that the numerical estimates provided in Table 4 are preliminary and changes should be expected at the final assessment meeting in August, 2008.** This option does not revise the types of changes that require Council action, as described in Amendment 13. It also does not change the definition of optimum yield.

Note that in this option a fishing mortality target is not specified. Section 3.3.2 describes the process for setting Annual Catch Limits. In effect, the fishing mortality target is the mortality that results from the defined ACL.

Table 3 – Possible status determination criteria parameters based on April 2008 GARM III biological reference point meeting

Stock	Biomass Target	Minimum Biomass Threshold	Maximum Fishing Mortality Threshold
GOM Cod	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
GB Cod	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
GB Haddock	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
GOM Haddock	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
GB Yellowtail Flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
Cape Cod/GOM Yellowtail Flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
SNE/MA yellowtail flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
American Plaice	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
Witch Flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
Gulf of Maine Winter Flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
GB Winter Flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
SNE/MA Winter Flounder	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
Acadian Redfish	SSB _{MSY}	½ Btarget	F _{50%} proxy for F _{MSY}
White Hake	SSB _{MSY}	½ Btarget	F40% proxy for F _{MSY}
Pollock	B _{MSY} Proxy/ Fall Survey Index	½ Btarget	F _{MSY} Proxy/ Relative Exploitation Index
Windowpane Flounder (North)	B _{MSY} Proxy/Fall Survey Index	½ Btarget	F _{MSY} Proxy/Relative Exploitation Index
Windowpane Flounder (South)	B _{MSY} Proxy/Fall Survey Index	½ Btarget	F _{MSY} Proxy/Relative Exploitation Index
Ocean Pout	B _{MSY} Proxy/Fall Survey Index	½ Btarget	F _{MSY} Proxy/Relative Exploitation Index
Atlantic Halibut	SSB _{MSY}	½ Btarget	F0.1

Table 4 – Preliminary numerical estimates for status determination criteria based on GARM III biological reference point meeting

SPECIES	STOCK	Numerical Estimates of Status Determination Criteria			
		B _{TARGET} (metric tons)	B _{THRESHOLD} (metric tons)	F _{MSY} (Maximum fishing mortality)	MSY (metric tons)
COD	GB	143,343	71,672	0.25	30,220
	GOM	71,150	35,575	0.23	14,936
HADDOCK	GB	164,300	82,150	0.34	35,000
	GOM	5,995	2,998	0.454	1,360
	GB	46,000	23,000	0.254	10,000
YELLOWTAIL	SNE/MA	27,600	13,800	0.264	6,300
FLOUNDER	CC/GOM	8,310	4,155	0.238	1,820
AMERICAN PLAICE		18,988	9,494	0.204	4,497
WITCH FLOUNDER		10,863	5,432	0.22	2,195
	GB	15,500	7,750	0.25	3,400
WINTER	GOM	3,557	1,779	0.27	854
FLOUNDER	SNE/MA	37,608	18,804	0.26	9,658
REDFISH		239,309	119,655	0.0387	8,951
WHITE HAKE ²		56,500	28,250	0.205	7,000
POLLOCK		2.00 kg/tow	1.00 kg/tow	5.758 c/i	11,516
WINDOWPANE	North	1.14 kg/tow	0.57 kg/tow	0.62 c/i	700
FLOUNDER	South	0.33 kg/tow	0.165 kg/tow	1.53 c/i	500
OCEAN POUT		4.94 kg/tow	2.47 kg/tow	0.76 c/i	3,754
ATLANTIC HALIBUT		70,000	35,000	0.04	2,800

4.2.2 Revised mortality targets for formal rebuilding programs

Amendment 13 adopted formal rebuilding programs for overfished groundfish stocks. The amendment also called for an evaluation of rebuilding progress and an adjustment in mortality targets to achieve rebuilding, if necessary. This information will be developed after the status determination criteria are evaluated and current stock status is determined. Mortality targets will be adjusted as necessary to meet the rebuilding dates and probability of success adopted by Amendment 13 and Framework 42. This section assumes that there will not be any changes in the rebuilding time period or probability of success used to determine the target fishing mortality rates.

If a stock is determined to have reached the biomass target by the 2008 assessments, the completion of the formal rebuilding program will be noted in this section.

4.2.2.1 Option 1 – No Action

Under this option, the rebuilding fishing mortality rates adopted by Amendment 13 and Framework 42 (GB yellowtail flounder) would continue to guide management actions. These fishing mortality rates are considered as a package and not on a stock by stock basis – that is, all rebuilding fishing mortality targets must not change for this option to be selected.

There were three rebuilding strategies adopted by Amendment 13. First, for stocks that were not determined to be overfished, formal rebuild programs were not adopted and the goal was to prevent overfishing while achieving optimum yield. Second, the adaptive strategy strove to reduce fishing mortality to F_{MSY} through 2008, and then to the mortality necessary to rebuild the stock by the end of the rebuilding period. The adaptive strategy was adopted for GOM cod, GOM haddock, GB haddock, redfish, SNE/MA winter flounder, windowpane flounder (south), and ocean pout. Third, a phased reduction rebuilding strategy sought to reduce fishing mortality in a series of steps over time. This strategy was adopted for GB cod, American plaice, CC/GOM yellowtail flounder, SNE/MA yellowtail flounder, and white hake. Subsequent to Amendment 13, FW 42 adopted an adaptive rebuilding strategy for GB yellowtail flounder. The rebuilding fishing mortality rates that resulted from these approaches are shown in Table 5.

Table 5 – Rebuilding fishing mortality rates as adopted by Amendment 13 and FW 42.

Boldfaced italics identify phased reduction strategies; other rebuilding programs use the adaptive strategy. FW 42 illustrated two trajectories for GB yellowtail flounder based on two candidate assessment formulations. The second row for this stock reflects the Major Change assessment model that has been used for management advice.

SPECIES	STOCK	Rebuilt Year / Probability of Success	Fishing mortality rates for adopted rebuilding programs										
			2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	
Cod	GB	2026/50%	0.21	0.21	0.21	0.21	0.21	0.21	0.18	0.18	0.18	0.18	0.18
		<i>(add ten years)</i>	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18	0.18
	GOM	2014/50%	0.23	0.23	0.23	0.23	0.23	0.23	0.21	0.21	0.21	0.21	0.21
Haddock	GB	2014/50%	0.26	0.26	0.26	0.26	0.26	0.26	0.24	0.24	0.24	0.24	0.24
	GOM	2014/50%	0.23	0.23	0.23	0.23	0.23	0.23	0.22	0.22	0.22	0.22	0.22
Yellowtail Flounder	GB	2014/75%	NA	NA	0.25	0.25	0.25	0.25	0.16	0.16	0.16	0.16	0.16
			NA	NA	0.25	0.25	0.25	0.135	0.135	0.135	0.135	0.135	
	SNE/MA	2014/50%	0.37	0.37	0.26	0.26	0.26	0.17	0.17	0.17	0.17	0.17	
	CC/GOM	2023/50%	0.26	0.26	0.26	0.26	0.26	0.17	0.17	0.17	0.13	0.13	
	<i>(add ten years)</i>		0.13	0.09									
American Plaice		2014/50%	0.23	0.23	0.17	0.17	0.17	0.15	0.15	0.15	0.15	0.15	
Witch Flounder			No formal rebuilding program required (see overfishing discussion)										
Winter Flounder	GB		No formal rebuilding program required										
	GOM		No formal rebuilding program required										
	SNE/MA	2014/50%	0.32	0.32	0.32	0.32	0.32	0.23	0.23	0.23	0.23	0.23	
Redfish		2051/50%	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	
White Hake		2014/50%	1.03	1.03	1.03	1.03	1.03	1.03	0.23	0.23	0.23	0.23	0.23
Pollock			No formal rebuilding program required										
Windowpane Flounder	North	2014/50%	No formal rebuilding program required										
	South	2014/50%	0.98	0.98	0.98	0.98	0.98	0.49	0.49	0.49	0.49	0.49	
Ocean Pout⁽¹⁾		2014/50%	0.03	0.03	0.03	0.03	0.03	0.01	0.01	0.01	0.01	0.01	
Atlantic Halibut		UNK	Insufficient information to calculate rebuilding mortality										

4.2.2.2 Option 2 – Revised rebuilding mortality targets

After the assessments of all regulated groundfish stocks are completed in August 2008, an evaluation will be made as to whether adjustments to the rebuilding fishing mortality targets are necessary. Should they be necessary, they will be calculated based on estimates of stock status in 2008, revisions to status determination criteria (if any), and the rebuilding timelines and probabilities of success adopted by Amendment 13 and FW 42. These revised rebuilding targets cannot be calculated at the present time; they may be higher or lower than present rebuilding mortality rates.

4.2.2.3 Additional formal rebuilding programs

If any additional stocks are determined to be overfished by the assessments that will be conducted in 2008, formal rebuilding programs will be incorporated into this amendment.

4.3 Fishery Program Administration

4.3.1 Sector administration provisions

The management measures proposed in this section relate to the process for establishing sector allocations in the multispecies fishery. This section is intended to **update Section 3.4.16.1** of the final Amendment 13 SEIS (Sector Allocation). All of the sector policy changes proposed in this section will be implemented at the beginning of fishing year 2010 (May 1, 2010).

A sector allocation system would apportion part or all of groundfish fishery resources (denominated in terms of catch) to various industry sectors. While vessels might be assigned to sectors based on factors such as gear used, permit category, vessel size, homeport, area fished, etc., this measure allows vessels to form sectors of their own choosing. Such self-selected sectors might be based on common fishing practices, vessel characteristics, community organization, or marketing arrangements, but this would not be required. Since self-selection of sector membership would not necessarily be based on any common vessel or gear characteristics this alternative offers a great deal of flexibility in the formation of sectors. A group of permit holders would simply agree to form a sector and submit a binding plan for management of that sector's allocation of catch or effort. Allocations to each sector may be based on catch (hard TACs) or effort (DAS) with target TACs specified for each sector. Vessels within the sector would be allowed to pool harvesting resources and consolidate operations in fewer vessels if they desired. One of the major benefits of self-selecting sectors is that they provide incentives to self-govern, therefore, reducing the need for Council-mandated measures. They also provide a mechanism for capacity reduction through consolidation.

When evaluating the alternatives described below for the sector allocation process and the determination of sector contributions, the Council will consider the following goals:

- Address bycatch issues;
- Simplify management;
- Give industry greater control over their own fate;
- Provide a mechanism for economics to shape the fleet rather than regulations (while working to achieve fishing and biomass targets); and
- Prevent excessive consolidation that would eliminate the day boat fishery.

The alternatives for modifying and expanding the current sector allocation program for the multispecies fishery are described in the subsections below. Where appropriate, the no action alternative is identified relative to each issue for which changes or additions are being considered.

4.3.1.1 Sector Definition/Formation of a Sector

A sector means a group of persons holding limited access vessel permits who have voluntarily entered into a contract and agree to certain fishing restrictions for a specified period of time, and which has been granted a TAC(s) in order to achieve objectives consistent with applicable FMP goals and objectives. In the formation of a sector, sector participants can select who may participate. Only vessels with a limited access multispecies permit are eligible to join a sector. This means that confirmation of permit history (CPH) permits must be activated in order to be associated with a sector (this is consistent with the Groundfish DAS Leasing Program).

Participation in a self-selecting sector will be voluntary. Vessels that did not decide to join would remain in a *common pool* which will fish under the constraints imposed by the Council. Individuals that wished to form a sector and receive an allocation of catch or effort will be required to submit a proposal for formation of a sector and a legally-binding plan of operations which would require approval from the Regional Administrator (see below). These will be agreed upon and signed by all members of the sector.

The motivation to form or join a sector could be for several reasons: a desire of its members to consolidate operations in fewer vessels (reducing the cost of operations and possibly facilitating the profitable exit of some individual vessel owners from the fishery); assurance that the members of the sector would not face reductions of catch or effort as a result of the actions of vessels outside the sector (e.g., if the other vessels exceed their target TACs), and, potentially, freedom from restrictive regulations not needed to meet conservation objectives if the sector is constrained by a hard TAC (e.g., trip limits and potentially some time-area restrictions).

4.3.1.2 Preparation of a Sector Formation Proposal and Operations Plan

4.3.1.2.1 Option 1 - No Action

If the No Action Alternative is selected, then requirements for the formation proposal and operations plan submitted by a self-selecting sector remain the same and must have, *at a minimum*, the following components:

- A list of all participants and a contract signed by all participants indicating their agreement to abide by the operations plan accompanying the proposal.
- With the implementation of Amendment 13, a sector's operations plan must detail the following:
 - A list of all vessels that would be part of the sector including an indication for each vessel of whether it would continue to fish;
 - The original distribution of catch history, TACs, or DAS within the sector;
 - A detailed plan for consolidation of TACs or DAS, if any is desired, including a detailing of the quantity and duration of any redistribution of TAC or DAS within the sector;
 - A plan and analysis to show how the sector will avoid exceeding their allocated TACs (or target TACs if the allocation is in terms of DAS). This plan should include provisions for monitoring and enforcement of the sector regulations, including documentation of both landings and discards;
 - Rules for entry and exit to the sector (see more on this in next section) including procedures for removing or disciplining members of the sector who do not abide by its rules. Rules for entry and exit must also define how catch or DAS history that is developed by vessels participating in a sector is assigned to each vessel;

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- Procedure for notifying NMFS if a member is expelled from the sector for violation of sector regulations.

4.3.1.2.2 Option 2 - Additional Requirements

Under this option, a sector's operation plan must also include (in addition to the requirements specified in Amendment 13):

- Detailed information about overage penalties or other actions to be taken if the sector exceeds its ACE;
- Detailed information about the sector's *independent third-party weighmaster system* that is satisfactory to NMFS for monitoring landings and utilization of ACE;
- Detailed information about a monitoring program for discards, should the sector desire to include discards in its ACE and account for them at the sector's expense (see additional discussion of monitoring discards in Section XXX).
- A list of all Federal and State permits held by vessels participating in the sector;
- A list of specific ports where members will land fish; specific exceptions should be noted (e.g., safety, weather) and allowed, provided there is reasonable notification of a deviation from the listed ports; this requirement is in addition to the requirement for detailed information about the sector's independent third-party weighmaster system.
- TAC thresholds and details regarding the sector's plans for notifying NMFS once the specified TAC threshold has been reached.
- Identify potential redirection of effort as a result of sector operations, and if necessary propose limitations to eliminate adverse effects of any redirection of effort. (*Part of Council sector policy statement*).

An appropriate NEPA document assessing the impacts of forming the sector must be prepared. This will be written by the sector applicants, and submitted to NMFS through the Council. The contracts drawn up for the whiting and pollock cooperatives on the West Coast and Alaska might serve as a guide for determining the form and content of these plans.

The sector operations plan must be reviewed and approval given before the sector can operate. A sector must submit its *preliminary operations plan* to the Council no less than one year prior to the date that it wants to begin operations. *Final operations plans* may cover a two-year period and must be submitted to NMFS no later than September 1 prior to the fishing year in which the sector will operate. NMFS may consult with the Council and will solicit public comment on the operations plan consistent with the Administrative Procedure Act (APA). Upon review of the public comments, the Regional Administrator may approve or disapprove sector operations, through a final determination consistent with the APA.

Rationale: Option 1 merely restates the sector submission requirements that were included in Amendment 13 as written in the regulations. Option 2 expands on the submission requirements to require that sectors provide the Council additional details on reporting and monitoring and participation in other fisheries so that the Council can better evaluate the impacts of the sector.

4.3.1.3 Movement between Sectors

No changes are proposed to this element of the sector allocation process. Each sector will set its own rules on movement into and out of the sector.

Rationale: By not mandating the commitment time to a sector and allowing the sectors to set their own rules, the sector might be more successful in the long-term. This success will be realized, while working within their allocation (hard TAC), the group will be largely self-regulating. A code of conduct for all sectors should be developed by the Council or by industry with Council approval.

4.3.1.4 Allocation of Resources

4.3.1.4.1 General

Sectors will be allocated a hard TAC of all regulated groundfish stocks with the exception of halibut, ocean pout, and windowpane flounder. The provisions in this amendment eliminate the 20% cap on TAC shares that was established in Amendment 13. There will be no limit on the share of a stock's TAC that can be allocated to a sector.

The share of the annual TAC for a stock that is allocated to a sector will be calculated based on the history attached to each permit that joins the sector in a given year. This share may be adjusted due to penalties for exceeding the TAC in earlier years, or due to other violations of the management plan. When a sector's share of a stock is multiplied by the available catch, the result is the amount (weight) that can be harvested (landings and discards) that year. This amount (adjusted if necessary due to prior overages or penalties) will be referred to as the sector's ***Annual Catch Entitlement, or ACE***.

As discussed above, a sector's operations plan must show how the sector plans to avoid exceeding its ACE and must identify overage penalties and actions to be taken should the ACE be exceeded. In cases where a sector exceeds its ACE, overages will be paid back in pounds, on a pound per pound basis.

NMFS will withhold 20 percent of each ACE at the beginning of the fishing year for a period of forty-five days. This is to allow for time to process any end-of-year transfers of ACE and to determine whether any reductions in ACE are necessary due to overage in the previous year.

Rationale: This changes the sector provisions of Amendment 13 and clarifies how resources are allocated to a sector. Sectors can no longer request an allocation of groundfish DAS based on the DAS allocated to permits that join the sector. In addition, sectors fishing for groundfish must have an allocation of *all regulated groundfish stocks except halibut, ocean pout, and windowpane flounder*. This eliminates the situation where sectors could request allocations of selected regulated groundfish stocks and modify effort controls to facilitate targeting of other stocks.

TACs will not be allocated to sectors for Atlantic halibut, ocean pout, northern windowpane flounder, and southern windowpane flounder because these stocks have small TACs, and vessels have limited landings history. Allocating these stocks to sectors would complicate monitoring of sector operations and would require a different scheme for determining each permit's potential sector contribution. Rather than complicate sector administration, sectors will be limited to restrictions designed to discourage targeting of these stocks. For example, the catch of halibut is limited to one fish per trip (similar measures may be needed for the three other stocks).

4.3.1.4.2 Sector Overages

To be clear, in the subsequent discussion the term "sector overage" means exceeding a TAC in year one after any ACE transfers have occurred with the result that sector will receive a deduction of ACE in year two.

- In the first situation, a vessel (or small number of vessels) leaves the sector but the remaining vessels have enough ACE to cover the overage deduction. The PDT recommends that any impacts on departing members be specified and addressed by the sector operations plan and sector contract rather than by regulation. This provides the most flexibility and can be done through indemnification provisions and other legal constructs. Existing sectors have already incorporated provisions that address this situation (such as limiting fishing activity by the vessel if it leaves the sector the year after the overage). It also simplifies administration for NMFS.
- In the second, a sector disbands completely and no sector exists to cover the overage deduction, or there is insufficient ACE in year two to cover the year one overage. In this case, in order to account for the overharvested fish, individual permit holders are held responsible for reducing their catch the appropriate amount in the subsequent fishing year (rather than the sector, since it no longer exists). The deduction follows the individual permits. If an individual permit joins another sector, the overage penalty follows that permit into the other sector. Each permit is responsible for part of the overage penalty, calculated as simply the overage penalty divided by the number of vessels. If a permit does not join a sector the permit receives a DAS penalty. Two suggested ways to calculate this penalty are (one will be selected by the Council):
 - Option 1 - Each permit receives a percentage reduction in DAS equal to the maximum percentage overage of the sector. Example; the sector goes 5% over on stock A and 10% on stock B. each permit receives a 10% DAS reduction; *or*
 - Option 2 - Each permit receives a flat DAS deduction based on the number of pounds of overage by the sector, divided by the number of vessels in the sector. Example: A sector of ten permits goes 10,000 pounds over on stock A and 20,000 pounds over on stock B. Each permit is responsible for 3,000 pounds of overage. If the penalty is 1 DAS for every 1,000 pounds each permit is penalized three DAS.

Rationale: If a sector exceeds its ACE in any given year, its allocation in the subsequent year is reduced to account for the overage. This section specifies how exit of vessels from the sector affects the overage provision.

4.3.1.4.3 U.S./Canada Area

Option 1 - No Action

Under the no action option, separate allocations will not be made for each portion of a stock that is caught both inside and outside the US/Canada Area.

Option 2 - Separate Allocations

For stocks that are managed under the terms of the US/CA Resource Management Understanding, sectors will be provided a specific ACE for those stocks that have a TAC that is specific to the Eastern US/CA area. At present, this applies to GB cod and GB haddock, but this measure is intended to apply to other stocks if an area-specific TAC is defined. If a TAC is defined for the Eastern US/CA area by the understanding, and that stock is caught both inside this area and outside this area, a separate allocation of ACE will be made for each portion of the stock. These allocations are not interchangeable; they can only be taken from the appropriate area. The allocation of ACE will be the same percentage as the sector's overall allocation for these stocks: if a sector receives ten percent of the GB haddock, then it will receive ten percent of the Eastern GB haddock.

Rationale: This measure ensures that common-pool and sector fishing vessels fishing in the Eastern US/CA area do not adversely impact each other. It prevents one group from catching the entire TAC in the area, closing it to the other group. This measure will initially apply only to Eastern GB cod and Eastern GB

haddock, but is written so that it can be applied to other stocks in the future if necessary. As currently there is only on TAC for GB yellowtail flounder, this provision does not apply to that stock, which does not have a specific TAC for the Eastern US/CA area. Should the Eastern US/CA area be closed to limit catches of GB yellowtail flounder by common pool vessels, sectors could request an exemption from that closure as long as they have ACE remaining for the stocks in that area.

4.3.1.4.4 Sector Baseline Calculations/Potential Sector Contributions

In order to allocate a share of the available catch to a sector, the potential sector contribution (PSC) (commonly referred to as permit history) for each permit must be calculated. The present method for calculating PSC/history was developed in Amendment 13 and is described in the No Action Alternative. There are five alternatives under consideration to change the way history is calculated for each permit. Unless changed by a future action, once a permit's PSC is calculated in accordance with the selected PSC option, that PSC is permanent. *The Council cautions that regardless which method is used to determine permit history in this management action, the Council may choose a different method for calculating permit history in the future.*

Note that catch history would be allocated to the sector as a whole and not necessarily to individual vessels within the sector. The self-selecting sector would then have to develop its own set of rules to distribute the sector's allocation among its membership. Allocation of TACs must be consistent with the measures adopted for the remainder of the fishery. If measures designed for the rest of the fishery will reduce mortality of a species well below its target, it may be inappropriate to base the TAC for a sector on the target fishing mortality.

Closed Area 1 Hook Gear Haddock SAP landings can be used to determine potential sector contributions in all of the alternatives described below.

No Action Alternative (Status Quo/Amendment 13)

Allocation of resources will be based on the accumulated catch histories *over the previous five years* for which data are available for each member of the self-selected sector, as described in Amendment 13. For example, for sectors beginning operations in FY 2009, the baseline period would be FY 2002 – FY 2006. Each permit's landings for the time period are divided by the total landings of the stock to determine each permit's share.

Option 1 - Landings History Only FY 1996 – FY 2006

Under this alternative, permit history will be based on the landings history of each permit during the time period FY 1996 – FY 2006. Landings history will be based on the information in the NMFS commercial dealer database. For each permit, the landings for each stock will be summed over the time period. This value will be divided by the total landings by permits eligible to join sectors (as of April 30, 2008) during the same period. This includes limited access permits (including Handgear A permits) and limited access permits that are in the confirmation of permit history category. The result will be the share of each stock for each permit. Discards will not be counted when calculating permit history, even though both discards and landings are counted against a sector's ACE.

Rationale: This option is based on the concept that vessel landing history reflects current participation in the fishery. An eleven year period is used to mitigate regulatory changes and their impacts on individual vessels. A date is specified for calculating history (the end of FY 2007) so that the calculation is only done once and the resulting shares become fixed. This date was selected as it is the last day that a vessel can renew its permit for FY 2007.

Option 2 - 50% Landings History and 50% Vessel Baseline Capacity for Landed Stocks FY 1996 – FY 2006

Under this alternative, landings history for each permit/stock will be calculated in the same manner described above for Alternative 1. Vessel baseline capacity will be calculated using the following formula:

$$(10L + HP) \times (\text{allocated "A" DAS}) = \text{baseline capacity}$$

The portion allocated based on capacity applies *only* to stocks landed by the permit. The length and horsepower characteristics of the capacity portion in the formula above will be fixed as of January 29, 2004, which is consistent with the baseline established by NMFS for the Groundfish DAS Leasing Program.

The landings history share and the baseline capacity share for each permit will be averaged to obtain a value for each stock. Under this alternative, each permit will receive history only for groundfish stocks that it landed between FY 1996 and FY 2006.

Rationale: This option incorporates characteristics of the permit (vessel) that are believed to contribute to fishing power and thus the value of the permit. By incorporating factors other than landings history alone to determine the potential sector contribution for the permit, this option takes into account that some permits may not have targeted groundfish during the time period but may still have the ability to do so. This part of the formula only applies to stocks caught by the permit. Note that the inclusion of other factors only contributes to the calculation for those permits that have an allocation of Category A DAS. This formula effectively halves the landings history for any permit that does not have Category A DAS allocated.

Option 3 - 50% Landings History and 50% Vessel Baseline Capacity for All Stocks FY 1996 – FY 2006

Under this alternative, landings history for each permit/stock will be calculated in the same manner described above for Alternative 1. Vessel baseline capacity will be calculated using the following formula:

$$(10L + HP) \times (\text{allocated "A" DAS}) = \text{baseline capacity}$$

The portion allocated based on capacity applies to *all* stocks for which ACE will be allocated. The length and horsepower characteristics of the capacity portion in the formula above will be fixed as of January 29, 2004, which is consistent with the baseline established by NMFS for the Groundfish DAS Leasing Program.

The landings history share and the baseline capacity share for each permit will be averaged to obtain a value for each stock. This alternative is different from Alternative 2 in that every permit will receive an allocation of every applicable groundfish stock.

Rationale: As with Option 2, this option incorporates permit characteristics into the potential sector contribution calculation. Unlike Option 2, this component applies to all stocks, not just those caught by the permit during the time period. This change means that every permit will be assigned a potential sector contribution for every stock. This recognizes that under the DAS system any permit has the potential to fish in any area and catch any stock.

Option 4 - 50% Landings History and 50% A DAS for All Stocks FY 1996 – FY 2006

Under this alternative, landings history for each permit/stock will be calculated in the same manner described above for Alternative 1. Vessel baseline capacity will be represented by allocated "A" DAS for *all* stocks for which ACE will be allocated.

The landings history share and the A DAS share for each permit will be averaged to obtain a value for each stock.

Rationale: As with Option 2, this option incorporates permit characteristics into the potential sector contribution calculation. Unlike Option 2 or Option 3, only the Category A DAS allocated to the permit are considered. This option recognizes that length and horsepower may not have a strong impact on catches by vessels using fixed gear. Similar to Option 3, the capacity component in this option applies to all stocks, not just those caught by the permit during the time period. This change means that every permit will be assigned a potential sector contribution for every stock. This recognizes that under the DAS system any permit has the potential to fish in any area and catch any stock.

Option 5 – Existing Sector Allocations

For the GB Cod Hook Gear Sectors and the Fixed Gear Sector, the allocation of GB cod will be done as adopted by Amendment 13. That is, the sector share will be calculated based on landings of GB cod during the period FY 1996-FY 2001, divided by the total landings of GB cod during that period. This calculation will only apply to those permits that committed to the sector as of ~~members of the sector as of April 30,~~ March 1, 2008. For any other past or future member of these sectors, the sector share will be calculated as adopted by this action. For all other stocks, the potential sector contribution will be calculated as adopted by this action.

If this option is not selected, the potential sector contribution for members of these sectors will be calculated as adopted by this action.

Rationale: This option recognizes that vessels that are members of the two existing sectors made investment decisions based on the qualification criteria adopted by Amendment 13. To change the allocation method might disadvantage those vessels. This provision only applies to members of the two sectors in FY 2007. A fixed pool of vessels has to be identified for this provision or else each time a vessel enters or exits one of these sectors, the potential sector contribution for all permits must be recalculated.

4.3.1.5 Transfer of Annual Catch Entitlements (ACE)

4.3.1.5.1 Option 1 - No Action

If this option is selected, transfer of ACE between sectors will not be authorized.

4.3.1.5.2 Option 2 - Provisions for Transferring ACE

A sector can carry up to 10 percent of unused ACE forward into the next fishing year.

There are no restrictions on the nature of the transfer of ACE between sectors. The exchange of ACE between two sectors is viewed as a private business arrangement. Sectors can seek compensation (monetary or otherwise) when transferring ACE to another sector. Sectors are not obligated to transfer unused ACE to a sector that needs additional ACE.

In addition, all or a portion of a sector's ACE of any stock can be transferred to another sector. This exchange can occur at any time during the fishing year and up to two weeks into the following fishing year. The transfer does not become effective until it is approved by NMFS.

During the fishing year, a sector should project when its ACE will be exceeded and should cease fishing operations prior to exceeding it. If the sector's ACE is exceeded, the sector must cease operations in that stock area until it can acquire additional ACE through a transfer to balance the catch, and the sector also

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must comply with other overage penalties that may be applicable. A sector can resume fishing in the stock area if it acquires more ACE.

These provisions do not provide for the permanent transfer of sector shares. The only method for transferring sector shares is by moving permits between sectors, and this can only be accomplished prior to the beginning of the fishing year.

Proposed ACE transfers will be referred to NMFS. The transfer is not considered authorized until NMFS notifies both sectors. The NMFS review of a transfer request will be based on general issues such as whether both sectors are complying with reporting or other administrative requirements. The responsibility for ensuring that sufficient ACE is available to cover the transfer is the responsibility of the sector manager. NMFS approval of a transfer does not absolve the sector from managing its ACE.

Transfers of previous year's ACE after the end of the fishing year will allow sectors to balance accidental overages if other sectors hold unused ACE at the end of the year and are willing to transfer that ACE to the sector with an overage. Should a sector be unable to acquire ACE from another sector to balance an overage, the overage will be deducted from the next year's ACE allocation, and the sector may be subject to other penalties. Since ACE transfers may take place after fishing has commenced and it will not be clear whether sectors are able to balance overages by acquiring ACE until all transfers have been processed, 20% of each sector's ACE allocation for each stock will be held in reserve by NMFS until 45 days after the beginning of the fishing year to ensure that sectors will have sufficient ACE to balance overages from the previous year.

Rationale: Allowing transfer of ACE provides flexibility for sectors to adjust their allocations to account for unusual circumstances or to take advantage of other opportunities. For example, there may be instances where a sector does not have an allocation for a stock that has an unusual distribution due to oceanographic conditions – without allowing ACE transfer, the sector may be forced to discard this stock and may have to cease fishing because of the discards. Allowing the exchanges to continue for a brief period after the end of the fishing year provides a limited opportunity for a sector to quota balance in the instances that the ACE was inadvertently exceeded. This provision is not intended to allow sectors to exceed their ACE.

4.3.1.6 Mortality/Conservation Controls

Sectors are required to ensure that ACEs are not exceeded during the fishing year. Sectors should project when its ACE will be exceeded and should cease fishing operations prior to exceeding it. If the sector's ACE is exceeded, the sector must cease operations in that stock area until it can acquire additional ACE through a transfer to balance the catch, and the sector also must comply with other overage penalties that may be applicable.

It will be necessary to establish appropriate restrictions on catch or effort for each sector to ensure that they do not exceed their ACE (through landings or discards). Hard annual TACs by species will be allocated to the sector as a whole. The sector will be required to submit an Operations Plan for approval by the Regional Administrator. The Operations Plan should detail the allocation of ACE within the group, how the catch of the sector would be monitored, and a plan for operation or cease of operations once the ACEs of one or more species are taken. TAC thresholds and details regarding the sector's plans for notifying NMFS once the specified TAC threshold has been reached also must be part of the operations plan. The plan must provide assurance that the sector would not exceed the ACEs allocated to it (either through landings or discards). See Section 3.1.2 for specific requirements of the sector Operations Plan.

The ACE allocated to sectors applies all catches of those stocks by sector vessels, whether caught during directed groundfish fishing trips or on other trips. For example, groundfish caught while targeting skates or monkfish applies to the sector's groundfish TAC. If the sector does not have ACE

This paragraph needs to be reviewed by the Council; it reflects a Committee recommendation.

available, then its vessels cannot participate in these fisheries. There are two exceptions. Since an ACL sub-component for yellowtail flounder is determined for scallop vessels, yellowtail flounder caught by a sector vessel fishing in the General Category scallop fishery, or by a vessel with a combination groundfish permit that is fishing in the scallop dredge fishery, applies to the ACL sub-component and not the sector's ACE.

Sector vessels are prohibited from landing ocean pout and windowpane flounder. Catches of ocean pout and windowpane flounder cannot be landed, which will discourage sectors from targeting these stocks.

4.3.1.7 Interaction of Sector with Common Pool Vessels

As noted above, sectors will be assigned an ACE (share of total TAC) based on landings history or a combination of landings history and vessel capacity. While it is appropriate for changes in stock condition to affect the amount of fish that the share represents, sectors should not suffer if other sectors, or common pool vessels, exceed TACs and create a need for mortality reductions.

If a sector does not exceed its ACE in a given fishing year, but other sectors or common pool vessels exceed the remaining TAC, the sector's quota [in absolute (not share) terms] in the following years will not be reduced. This does not permanently change the sector's percentage of the total TAC, however. In the extreme case, the total resources available may be less than a sector's absolute quota. In this instance, the sector's share will be temporarily increased by the percentage that other sectors exceeded their quota. As stock conditions improve, the sector will keep this temporary increase in share until its annual quota is the same as it was prior to the stock decline. The sector's permanent share will then revert to its original share.

If a sector exceeds its ACE, the sector's quota will be reduced in the following year and the sector may be subject to enforcement action. If the sector exceeds its ACE repeatedly, the sector's share can be permanently reduced as a penalty or the sector's authorization to operate withdrawn.

If declining stock conditions result in a need to reduce fishing mortality, and all sectors and common pool vessels have operated within TAC limits, a sector's share will not be changed, but the amount this share represents may be due to reduced overall TACs. If stock conditions improve, and a sector stays within its quota while other sectors do not, the sector will receive a temporary increase in share equal to the amount that other sectors exceeded their quota.

Some multispecies management measures that apply to common pool vessels will also apply to any vessel in a sector, and these measures are listed below. Other groundfish measures that are not included in the list below may be altered through a sector's operations plan. In its operations plan, a sector should specify any additional multispecies management measures that should not apply to the sector. Exemptions and/or modifications to other management measures must be approved by NMFS.

The following list may be modified through a framework adjustment. Sectors *cannot* request exemption from the management measures included in this list. Current measures that will apply to both sector and common pool vessels include:

- Year round closed areas
- Permitting restrictions (vessel upgrades, etc.)
- Gear restrictions designed to minimize habitat impacts (roller gear restrictions, etc.)
- Reporting requirements (not including DAS reporting requirements)

Similarly, all sectors will be universally exempt from some multispecies management measures. A sector must request changes or exemptions to other multispecies management measures in its operations plan, as appropriate.

The following list of sector exemptions may be modified in the future through a framework adjustment. **With the implementation of this amendment, all sectors will be exempt from:**

- Trip limits on stocks for which a sector receives an allocation (all stocks except halibut, ocean pout, and windowpane flounder);
- Seasonal closed areas (note that this does not include the Gulf of Maine “rolling” closures; at present the only seasonal closure is in May, on Georges Bank); and
- Groundfish DAS restrictions.

These universal exemptions only apply to groundfish fishing regulations. They do not apply to requirements implemented by other management plans. For example, certain categories of monkfish permits must use a groundfish DAS when using a monkfish DAS. That requirement continues until or unless the monkfish FMP changes it. If vessel with a monkfish Category C or D permit is in a groundfish sector and wants to use a monkfish DAS and land the monkfish trip limit associated with using a monkfish DAS, then it must use a groundfish DAS while that is required by the monkfish FMP. The same vessel can instead not use either a groundfish or monkfish DAS and be limited to the monkfish trip limit for vessels not fishing on a monkfish DAS.

Rational: This section clarifies the exemptions that apply to all sectors, minimizing the administrative burden for sectors since they do not have to request these exemptions, and for NMFS since the agency will not have to evaluate the universal exemptions.

4.3.1.8 Sector Participation in Special Management Programs

Sector participation in existing special management programs is described below. If additional program are adopted, specific provisions for sector participation will be defined. In all cases, sector vessels cannot participate in a special management program unless the sector has an allocation for the stocks caught in this SAP in order to participate.

4.3.1.8.1 Eastern U.S. Canada Haddock SAP

For a sector exempt from DAS, the only benefit to this SAP is that it allows fishing in the far northern tip of CAII. Assuming the Council adopts the Committee’s recommendation to have specific TACs for the eastern US/CA stocks, the following provisions apply for sector participation:

- (1) Sector vessel participating in the SAP must follow reporting requirements.
- (2) All catch applies against the sector’s allocated TACs for each stock, including those specific to the Eastern U.S./Canada area, but not against any incidental catch TACs.
- (3) Sectors can fish in the corner of CAII (within SAP boundaries) during the season of the SAP.
- (4) There are no specific gear requirements for sectors. Since the sectors will have hard TACs on most species, gear requirements designed to maximize catch of the target species may not be necessary. Presumably sectors will adjust their operation to maximize their benefits from their available TACs.

Rationale: Because this SAP allows access to only a small part of CAII, and sectors are expected to have a hard TAC on their catches of cod and haddock in the Eastern U.S./Canada area, there is little need to restrict sector participation in this SAP to specific gears.

4.3.1.8.2 Closed Area II Yellowtail Flounder SAP

This SAP has a limit on the catch per trip of target species, limit on the total number of trips, limits on the number of trips that can be taken each month, gear requirements, and a cod catch limit.

- (1) Sectors are subject to reporting requirements, limits on the number and frequency of trips, and the catch limit for target species.
- (2) Sectors are not subject to the cod or haddock trip limit.
- (3) Sectors are subject to the gear requirement. This SAP is designed to target flounder and it would not be appropriate to allow sectors to use gear designed to target other species in this SAP. The PDT recognizes this may seem inconsistent with the advice for the Eastern U.S./Canada SAP, but note that unlike in that SAP, the access area is much larger and the sector's catch of the target species (GB YTF) is not limited by a specific sector Eastern U.S./Canada area TAC.

Rationale: Unlike the Eastern U.S./Canada Haddock SAP, the CAII yellowtail flounder SAP provides access to a large area in CAII. Non-sector vessels are limited in the number of trips they can take each month, in the gear that can be used, and the amount of the target species that can be landed each trip. If sector vessels are not subject to the same provisions, they would have an unfair advantage in this SAP.

4.3.1.8.3 Closed Area I Hook Gear Haddock SAP

This SAP provides an opportunity to target GB haddock within CAI. The SAP already has provisions that describe requirements for sectors and additional provisions are not proposed (but see section 3.7 for possible SAP changes).

4.3.1.9 Sector Annual Reports

The annual report is intended to provide information necessary to evaluate the biological, economic, and social impacts of sectors and their fishing operations. As such, information must be provided that described the catch and characteristics of the sector.

Approved sectors must submit an annual year-end report to NMFS and the Council, within 60 days of the end of the fishing year that summarizes the fishing activities of its members, including harvest levels of all species by sector vessels (landings *and* discards by gear type), enforcement actions, and other relevant information required to evaluate the performance of the sector. The annual report must report the number of sector vessels that fished for regulated groundfish and the permit numbers of those vessels (except when this would violate protection of confidentiality), the number of vessels that fished for other species, the method used to estimate discards, the landing ports used by sector vessels while landing regulated groundfish, and any other information requested by the Regional Administrator.

Rationale: This measure clarifies the information that should be reported in annual reports so that sectors can be evaluated.

4.3.1.10 Monitoring and Enforcement

It will be the responsibility of each sector to enforce any provisions adopted through procedures established in the operations plan and agreed to through the sector contract. Ultimately, a sector may desire to expel a member due to repeated violations of sector provisions. Once a vessel enters into a sector, it cannot fish during that fishing year under the regulations that apply to the common pool. In other words, if a vessel is expelled from a sector, it cannot participate in the groundfish fishery during the remainder of that fishing year.

For the purposes of enforcement, a sector is a legal entity that can be subject to NMFS enforcement action for violations of the regulations pertaining to sectors. Vessels operating within a sector are responsible for judgments against the sector.

Sector operations plans will specify how a sector will monitor its landings to assure that sector landings do not exceed the sector allocation. At the end of the fishing year, NMFS will evaluate landings using IVR,

VMS, and any other available information to determine whether a sector has exceeded any of its allocations based on the list of participating vessels submitted in the operations plan.

The next two paragraphs describe the requirements necessary for monitoring both landings and discards. These sections add additional requirements to those currently in place (such as weighmasters/dockside monitors for all landings, improved discard monitoring systems, etc.). The range of alternative considered by the Council includes the current system (No Action) as well as the system proposed below.

In conjunction with NMFS, the Council will develop the standards for reporting and monitoring systems that must be met by sectors. Once these standards are developed, they will be reviewed and implemented by NMFS consistent with the APA. In the absence of published standards, the process for using an assumed discard rate described above will be used to account for discards in the catch. The Council anticipates developing the standards and NMFS approval and implementation prior to FY 2010.

4.3.1.10.1 Monitoring and Enforcement of Landings

Sector operations plans must provide detailed information about how landings in the fishery will be monitored, reported, and enforced within the sector.

- Sectors are required to land *all* legal-sized fish from stocks managed by the FMP that are specifically allocated to the sector.
- Sectors must demonstrate the ability to accurately attribute landings to a specific statistical area.
- Sectors are required to report all landings and discards by sector vessels to NMFS on a weekly basis.
- Sectors are required to develop and implement an independent third-party weighmaster/dockside monitoring system that is satisfactory to NMFS for monitoring landings and utilization of ACE. The details of the weighmaster/dockside monitoring system must be provided in the sector's operations plan.
- The sector operations plan also must include a list of specific ports where members will land fish; specific exceptions should be noted (e.g., safety, weather) and allowed, provided there is reasonable notification of a deviation from the listed ports.

The enforcement committee recommends the term "dockside monitoring program."

Rationale: The only fishing mortality control for sectors is the hard TAC that, if caught, results in the sector vessels not being allowed to fish. Effective management of sectors requires that catch be accurately known. This is important not only for managers but also so that each sector is confident that all sectors are being held to the same standards. The provisions in this section are designed to ensure that landings are accurately monitored. The weighmaster/dockside monitoring system provides an independent verification of landed weights.

4.3.1.10.2 Monitoring and Enforcement of Discards

Sector operations plans must provide detailed information about how discards in the fishery will be monitored, reported, and enforced within the sector.

- Discards will not be counted when determining the sector's ACE but will be counted against the ACE during the fishing year.
- Discards will be counted at the previous assumed discard rate, calculated as often as is practicable, by gear, and that amount will be deducted off the top of the ACE. The calculated discard rate will be used to add a discard estimate to each landing by sector vessel's so that total catch can be determined for

each trip. A sector must develop an adequate monitoring system and demonstrate to NMFS that discards can be accurately monitored and counted as part of the ACE, at the sector's expense. Details about such a monitoring system must be provided in the sector's operations plan. This system will enable the sector to deduct annual discards from the ACE instead of using assumed discard rates.

- Discard rates used before sectors develop adequate monitoring systems will be determined in one of two ways:

Option 1: The discard rate used will be based on the most recent assessment for the stock,

Option 2: A sector-specific discard rate would be calculated based on observer data from the previous year.

- Sectors are required to report all landings and discards by sector vessels to NMFS on a weekly basis.

Rationale: The only fishing mortality control for sectors is the hard TAC that, if caught, results in the sector vessels not being allowed to fish. Effective management of sectors requires that catch be accurately known. This is important not only for managers but also so that each sector is confident that all sectors are being held to the same standards. A portion of catch could be comprised of discards. A two-step approach is being taken to monitor discards. First, initially an estimated discard rate will be developed that will be used to inflate sector landings to total catch. This approach is required because there is only limited experience with what discard rates will be for vessels operating in sectors.

4.3.2 Possession of a limited access multispecies permit and a limited access scallop permit by the same vessel

4.3.2.1 Option 1 - No Action

At present, only those limited access scallop permit holders that qualified for a combination vessel limited access multispecies permit are permitted to hold a limited access scallop permit and a limited access multispecies permit at the same time. Under the No Action option, this restriction will continue. Vessels with a limited access scallop permit will not be allowed to obtain a limited access multispecies permit, and vessels with a trawl limited access scallop permit that choose to modify their permit to a dredge limited access scallop permit must surrender any limited access multispecies permit that is held.

Rationale: This option continues the restriction adopted in Amendment 5 when the limited access permit system was created for the multispecies FMP.

4.3.2.2 Option 2 – Removal of restriction

A vessel may possess a limited access multispecies permit and a limited access scallop permit at the same time, even if the scallop dredge vessel did not qualify for a limited access multispecies vessel combination permit. This change allows a limited access scallop vessel to acquire a limited access multispecies permit, and also allows vessels that possess a limited access scallop trawl permit and a limited access multispecies permit to change the scallop trawl permit to a scallop dredge permit (if consistent with all provisions of the Atlantic Sea Scallop FMP) without surrendering the limited access multispecies permit.

Most limited access scallop permit holders that do not hold a limited access multispecies combination permit also hold an open access scallop Northeast multispecies possession limit permit. This open access permit allows the vessel to land a limited amount of Northeast multispecies caught while fishing for scallops. Should such a scallop vessel acquire a limited access multispecies permit, the multispecies landings history from the open access permit does not transfer to the acquired limited access permit. As long as only limited access multispecies permits are eligible for membership in sectors, and potential sector contributions in the multispecies fishery are based wholly or in part on landings history, only multispecies

landings history acquired while using a limited access multispecies permit is considered when calculating potential sector share contributions.

Rationale: Fishing vessels represent a substantial capital investment. In both the scallop and multispecies fisheries, conservation controls limit the efficient use of these resources. If the current restriction that prevents a vessel owner from having a limited access groundfish permit and a limited access scallop permit on the same vessel is lifted, vessel owner's will be able to increase the return on their investments by participating in both fisheries. This will also provide vessel owner increased flexibility to conduct fishing operations in a profitable way, moving between the two fisheries as opportunities develop.

4.3.3 Annual Catch Limits

While this action will specify the process for Annual Catch Limits (ACLs), they will be implemented as required by the M-S Act (FY 2010 or 2011 based on whether a stock is subject to overfishing or not).

4.3.3.1 Option 1 – No Action

If this option is selected, a process for implementing Annual Catch Limits (ACLs) will not be adopted in this action.

4.3.3.2 Option 2 – Annual Catch Limits

Revisions to the M-S Act in 2006 require that fishery management councils “develop annual catch limits for each of its managed fisheries that may not exceed the fishing level recommendations of its scientific and statistical committee or the peer review process...” This option implements that requirement for the Northeast Multispecies FMP. This section was prepared in the absence of guidance from the NMFS on the implementation of this requirement. Revisions may be considered after that guidance is published.

There are several steps that must be specified to set ACLs. In some cases, the M-S Act requires certain steps to be performed by specific entities (generally either the Council or the Science and Statistical Committee (SSC)). These requirements will be discussed in more detail later in this section.

- Appropriate fishing mortality references must be identified.
- Current stock size must be estimated.
- Available catches must be estimated for the appropriate fishing mortality references at current, or projected, stock sizes, taking into account biological and management uncertainty and risk.
- For some data-poor stocks, available catch may have to be determined without benefit of fishing mortality estimates or targets, or stock size estimates.
- Available catch will need to be allocated to different components of the fishery (sectors/common pool vessels, commercial/recreational), or to other fisheries (Scallop dredge, midwater trawl, etc.).
- Council decisions will need to be reviewed, discussed, and published.

This section will describe the process for all of these steps.

4.3.3.2.1 Definitions

The following definitions define terms used in this section. Table 6 summarizes this information.

OFL: Overfishing level. The catch that results from applying the fishing mortality rate that defines overfishing to a current or projected estimate of stock size. This is usually F_{MSY} or its proxy. Catches that exceed this amount would be expected to result in overfishing.

ABC: Allowable biological catch. The maximum catch that is recommended for harvest, consistent with meeting the biological objectives of the management plan. ABC can never exceed the OFL. ABC will be based on $F_{control\ rule}$ for stocks that are not in a rebuilding program, and will be based on the rebuilding fishing mortality (F_{reb}) rate for stocks that are in a rebuilding program. The determination of ABC will consider biological uncertainty.

ACL: Annual catch limit. The catch level selected such that the risk of exceeding the ABC is consistent with the management program. ACL can be equal to but can never exceed the ABC. ACL should be set lower than the ABC when necessary due to uncertainty over the effectiveness of management measures. The ACL serves as the level of catch that determines whether accountability measures (AMs) are implemented.

Table 6 – Overview of definitions used in ACL process

Acronym	Definition	Considerations
OFL	Catch at F_{MSY}	Point estimates of F_{MSY} , stock size
ABC	Catch at $F_{control\ rule}$ or $F_{rebuild}$	Biological uncertainty over current stock size, estimate of F , or other parameters (growth, recruitment, etc.)
ACL	$\leq ABC$	Uncertainty from other sources, evaluation of risk to achieving management goals if ABC is exceeded

4.3.3.2 Administrative process for setting multispecies ACLs

This section delineates the administrative steps for setting ACLs for multispecies stocks. The ACL process will become an element of the existing periodic adjustment process. The biennial adjustment process requires the PDT to prepare a SAFE report every year. Every two years, the PDT evaluates whether management measures need to be revised in order to meet mortality objectives. The PDT is required to submit suggested measures to the Council by September 1 if revisions are necessary. The Council will then consider adjustments over the course of two Council meetings. The first meeting, in September, will be the first framework meeting for any revisions. The second framework meeting will take place in either October or November.

The PDT will develop recommendations for Allowable Biological Catch (ABC) for each multispecies stock based on the definitions in Table 6. These recommendations form the basis for setting ACLs. The PDT recommendations will include the following elements:

- OFL estimates for the next three fishing years, based on the point estimates of F_{MSY} (or its proxy) and the point estimate of future stock size. While it is expected that OFLs will be determined every two years, the PDT will recommend them for three years in case of a delay of updates.
- As part of the biennial adjustment process, the PDT should evaluate whether rebuilding is proceeding as planned and whether adjustments are necessary to fishing mortality targets in order to maintain rebuilding trajectories.
- ABC recommendations for the next three fishing years, based on either $F_{control\ rule}$ (stocks not in a rebuilding program) or F_{reb} (stocks in a rebuilding program). The PDT recommendation should report the catch that results from the point estimates of the target fishing mortality rate and projected stock size. If the PDT recommends reducing the ABC from this amount, the

recommendation should include an explicit discussion of the biological uncertainties that are taken into account in developing the recommendation. For some stocks, information may not be available to estimate fishing mortality or stock size; the PDT will develop a recommendation for those stocks using any available data. While it is expected that ABCs will be determined every two years, the PDT will recommend them for three years in case of a delay in implementation.

- An evaluation whether the ABC's have been exceeded in earlier years.
- A summary indicating whether ACLs have been exceeded in recent years.
- A recommendation for setting ACLs for the next three years. The PDT will describe the uncertainties and risks considered when developing these recommendations. While it is expected that ACLs will be determined every two years, the PDT will recommend them for three years in case of a delay in implementation.

The PDT recommendations for setting ABCs will be provided to the SSC prior to the September Council meeting. Guided by terms of reference prepared by the Council, the SSC will review the PDT recommendations and will either approve those recommendations or will provide an alternative recommendation. In either case, the SSC will explicitly describe the elements of biological uncertainty that were considered in developing its recommendation. If requested by the Council, the SSC may comment on the uncertainty and risk that should be considered by the Council when setting ACLs and whether the PDT has identified those elements sufficiently for Council consideration. If the SSC recommends an ABC that differs from the PDT recommendation, the PDT will revise its ACL recommendations using the new ABCs.

This process will be modified for those stocks or management units that are subject to the U.S./Canada Resource Sharing Understanding. Assessments of these stocks or management units that are prepared by the Trans-boundary Resource Assessment Committee (TRAC), a peer-review process as envisioned by the M-S Act. For these stocks, the Trans-boundary Management Guidance Committee (TMGC) develops recommended catch levels on an annual basis. These are essentially ACLs as they take into account various types of uncertainty and risk but they cannot be characterized as ABCs. As a result the recommendations will be reviewed by the SSC to verify that they are consistent with the SSC recommendations for ABCs.

It is not clear if this step is necessary for all TMGC recommendations, or just for GB yellowtail flounder.

The Council will consider the ABC recommendations of the SSC and the ACL recommendations of the PDT (and TMGC) and will make a decision on those recommendations prior to December 1. If the Council questions the SSC recommendation, it can ask for a more detailed explanation from the SSC, but the Council must establish ACLs that are equal to or lower than the ABC recommended by the SSC. When setting ACLs, the Council will consider the advice of the SSC and the PDT and will provide the rationale used for setting the ACLs.

Once the Council has approved ACLs, they will be submitted to NMFS prior to December 15 for approval and implementation. ACLs can be implemented in several ways. If the Council is submitting a management action as part of the periodic adjustment process, the ACLs can be included in that document. Alternatively, the ACLs can be submitted as part of a specification package supported by the appropriate NEPA document. It should be noted that in many instances ACLs merely reflect the catch associated with the mortality targets determined by the management plan and therefore the impacts are consistent with those evaluated when the mortality targets were adopted. For this reason, in those instances that an ACL is not revised, it is anticipated that there will not be a need for a new supporting NEPA document.

After receipt of the Council decision for ACLs – either as part of a new management action or as part of a specification package – NMFS will review the Council's decision and if consistent with applicable law will implement the ACL consistent with the Administrative Procedures Act (APA).

4.3.3.2.3 ACL Sub-Components

Once an overall ACL is determined, the Council may divide the ACL into sub-components. These sub-components will facilitate management of the catch of a stock so that if catches are excessive measures can be designed for the portions of the fishery that are responsible for the excessive catch. In this context the term “sub-component” is used in two senses: first, to indicate that the overall may be divided into smaller portions that are attributed to specific fisheries, and second to refer to those smaller portions that are not considered ACLs and are not subject to AMs.

There are two broad divisions that will be considered. The overall available catch is considered an ACL. It may be divided into sub-ACLs for specific fisheries or other sub-components. In the case of the sub-ACLs, AMs are required for these divisions. Second, part of the available catch may be divided into sub-components that are not referred to as sub-ACLs and are not subject to the requirement that AMs be specified. In some instances – for example, state waters fisheries – these sub-components are outside the Council’s jurisdiction but must still be considered when developing management plans. It is important to note that the controls on the portion of the fishery that is subject to AMs must be sufficient to prevent overfishing on the stock as a whole. The sub-components that are identified, and whether they are ACLs or not, and appropriate AMs, can be revised through the framework adjustment process.

For those sub-components that are not ACLs, there are broad categories. First, small amounts of regulated groundfish are caught in a variety of fisheries. Where individually these elements are too small to reliably monitor, they are aggregated into an “Other non-specified” category. Second, some fisheries are specifically identified, such as the scallop fisher or fisheries in state waters. For the category described as “other non-specified”, catches will be monitored and if the catch rises above five percent accountability measures will be developed to prevent the overall ACL from being exceeded.

The proposed sub-components that will be adopted at the implementation of this amendment are shown in Table 9. **In the case of trans-boundary stocks, this table is based on the catch available to U.S. fishermen.** Where possible, the percentage of the sub-component that will be allocated to specific fisheries is shown. For some stocks, this value cannot be determined because they will be determined by the analyses in GARM III.

For the scallop dredge fishery, the specific value is not specified because this will be determined as part of the biennial adjustment process. Catches of regulated groundfish in the scallop fisheries depend on a wide range of factors: scallop and groundfish abundance, the scallop rotational management program, etc. These factors are variable and cannot be predicted in this action. The amount of yellowtail flounder allowed for the scallop dredge fishery will, at a minimum, be consistent with the incidental catch amounts for the Closed Area access programs (ten percent of the GB yellowtail flounder and SNE/MA yellowtail flounder ACL when CAI, CAI, or the NLCA access programs are in effect).

Table 7 –ACLs and sub-components for groundfish stocks. Recreational values will be determined after GARM III assessments, which will also determine the amount available for commercial groundfish. Scallop values to be determined during biennial adjustment process and other values for those stocks will be adjusted accordingly.

Stock	ACL					
	ACLs/Controlled by AM			Other Sub-Components		
	Commercial Groundfish	Rec Gfish	Herring MWT	Other Non-Specified	Scallop	State Waters
GB Cod	95% - X	X		5.0%		
GB Haddock	94.8%		0.2%	5.0%		
GB YTF	95.0% - X			5.0%	X	
SNE/MA YTF	95.0% - X			5.0%	X	
CC/GOM YTF	95.0% - X			5.0%	X	
GOM Cod	63.0%	22.0%		5.0%		10.0%
Witch	95.0%			5.0%		
Plaice	95.0%			5.0%		
GOM WFL	77.0%	18.0%		5.0%		
SNE/MA WFL	71.0%	24.0%		5.0%		
GB WFL	95.0%			5.0%		
White Hake	95.0%			5.0%		
Pollock	95% - X	X		5.0%		
Redfish	95.0%			5.0%		
Pout	95.0%			5.0%		
GOM/GB Windowpane	70.0%			30.0%		
SNE/MA Windowpane	70.0%			30.0%		
GOM Haddock	94.8% - X	X	0.2%	5.0%		
Halibut	95.0%			5.0%		

4.3.4 Allocation of Groundfish to the Commercial and Recreational Groundfish Fisheries

4.3.4.1 Option 1 – No Action

At present, there is no allocation of groundfish made between the recreational groundfish fishery (private boat/party/charter) and the commercial groundfish fishery. If this No Action option is adopted, this situation will continue.

4.3.4.2 Option 2 – Commercial and recreational groundfish allocation for certain stocks

For stocks identified in Table 8, the Annual Catch Limit (ACL) will be defined separately for the recreational and commercial (U.S.) components of the groundfish fishery. The proportion allocated to these fisheries will be determined using the time periods shown in the table based on the data that is used in GARM III assessments. When possible, the shares will be determined by using the numbers of fish in the years caught (as used by the assessment: harvested, landed, or discarded) by each component. The shares determined in this manner will be applied to the ACL to determine the weight of catch available for each component. If the number of fish caught by each component is not available, the shares will be calculated based on weight. The proportion for each year will be calculated, and then the average proportion over the time period will be the share for each component of the fishery. The proportions will be reviewed consistent with the periodic assessment cycle, and if determined necessary, changes can be implemented through a framework action. Any changes that are adopted will not affect the implementation of accountability measures based on proportions that were in effect at the time of the catches.

For GOM haddock and pollock, if the recreational harvest is included in the assessment in 2008, recreational and commercial proportions will be determined and applied to future ACLs.

Two different time periods are reflected in the table. For GOM cod, the proportions for each fishery are relatively constant regardless of the time period used. The 1996 -2006 time period was selected in part because of this fact, but also because this is the period being considered for determining the potential sector contribution for each commercial limited access permit. For the two winter flounder stocks, the proportion harvested by the recreational fishery has substantially declined in recent years, possibly as a result of low stock sizes. For that reason, a longer period is used to reflect periods of higher abundance.

As noted, the actual percentages will be determined based on data used in GARM III assessments that will be completed in August, 2008. Preliminary estimates of these values are shown in Table 8. These percentages may change once the assessments are completed.

Table 8 – Proposed time periods for calculating the recreational and commercial share of the groundfish ACL and preliminary estimate of recreational allocation that results

Stock	Years	Preliminary Estimate
GOM Cod	1996 - 2006	25.9%
GB Cod	1996 - 2006	6.9%
GOM Haddock	1996 - 2006	16.8%
Pollock	1996 - 2006	6.1%
GOM Winter Flounder	1982 - 2006	17.8%
SNE/MA Winter Flounder	1982-2006	21.0%

Rationale: By allocating certain groundfish stocks to the commercial and recreational components of the fishery, the design of management measures can be tailored to the components that are responsible should mortality targets be exceeded. Different time periods are used for different stocks. A longer period is used for winter flounder stocks in recognition that recent recreational catches are low due to depressed stock conditions and recreational catches were much higher in the past than in recent years. This is also why these values will be periodically examined as stocks rebuild. For GOM cod, GB cod, and pollock, the recreational harvest has been more consistent over time and the selection of different time periods does not result in large changes in the allocations. The proposed periods for these stocks are the same period being considered for determining the PSC for commercial permits.

4.3.4.3 Option 3 – Commercial and recreational allocation for certain stocks – winter flounder modification

{TO BE COMPLETED.}

4.3.5 Changes to the DAS Transfer and DAS Leasing Programs

4.3.5.1 Option 1 – No Action

If this option is selected, there will not be any changes made to the conservation tax charged by the DAS leasing program or the DAS transfer program. DAS will be leased without any conservation tax, while a twenty percent conservation tax will be charged for using the DAS transfer program.

4.3.5.2 Option 2 - DAS Transfer Program Conservation Tax

The Council will consider changing or eliminating the conservation tax on DAS transfers, currently set at 20 percent. If a change is made, transfers that have taken place before the change will be treated in one of two ways:

Option A: No adjustment will be made for permits previously charged the conservation tax.

Option B: Permits that have been previously charged a conservation tax will have their tax refunded (consistent with the revised tax).

Rationale: There has been limited use of the DAS transfer program. Modifying or eliminating the conservation tax may encourage use

4.3.5.3 Option 3 - DAS Leasing Program Conservation Tax

The Council will consider setting a tax on DAS leasing that is equivalent to the tax adopted for the DAS transfer program.

Rationale: Since the DAS can be acquired through the leasing program without a conservation tax, this program may inhibit consolidation in the fishery. In addition, the program may not be conservation neutral and may be increasing fishing mortality on some stocks. If the conservation tax on the leasing program and the DAS transfer program are the same, it may encourage vessel owners to consolidate permits, and if a tax is adopted it may reduce mortality impacts of the leasing program.

4.3.5.4 Option 4 - DAS Transfer Program Conservation Tax Exemption Window

An owner of multiple groundfish permits will be allowed to consolidate the DAS and catch history of those permits onto a single vessel while exempt from the DAS conservation tax. The period when such transfers will be exempt from the DAS transfer program conservation tax will be limited to a specific time period, after which any use of the DAS transfer program will be subject to the DAS transfer tax that is in effect. The time period considered for this exemption window is between three months and one fishing year.

Rationale: This measure will encourage owners of multiple limited access groundfish permits to consolidate their permits on one vessel. The limited period when such transfers are not subject to the conservation tax will encourage permit holders to make this decision. Permit holders will have reduced costs since they will no longer have to maintain vessels (skiffs) to hold additional permits, will not have to renew those permits annually, and will not have to file VTRs for those permits. To the extent that vessels take advantage of this opportunity, this will reduce the administrative burden on NMFS of processing DAS leases among vessels with the same owner. It will also reduce the risk that some of those permits may be reactivated in the future, either in the groundfish fishery or other fisheries.

4.3.6 Reporting Requirements

This measure proposed to add additional requirements for limited access groundfish vessels to facilitate the monitoring of Annual Catch Limits (ACLs) and sectors. The measures in this section, if adopted, apply to all limited access groundfish vessels, whether fishing in the common pool or as a member of a sector. They are in addition to any specific requirements applicable to either common pool or sector vessels that are adopted in other sections.

4.3.6.1 Option 1 – No Action

Under the No Action option, no additional reporting requirements are adopted that are not specified in other sections.

4.3.6.2 Option 2 – Area-specific reporting requirements

The implementation of ACLs and the possible implementation of additional sectors places increased importance on timely reporting of catch (kept and discarded) information. The current reporting system relies on submission of paper VTRs to identify area fished. There are delays in receiving and processing these VTRs that make them unusable for timely monitoring of either sector catch or ACLs, which are stock specific. In order to improve the timeliness of reporting, additional requirements will be adopted. Note that these requirements do not replace the existing requirements for dealer and vessel reporting. Amendment 13 included language that authorized the future use of electronic reporting systems as a replacement for the VTR. This option does not preclude that possibility in the future, but does not replace

VTRs with this proposal. This option also does not replace reporting requirements for special management programs or fishing in the U.S./Canada area. To the extent possible, NMFS will develop procedures for these new requirements that reduce unnecessary duplication.

Four broad reporting areas will be established (see Figure 1). These areas were determined so that all groundfish catch in the area can be allocated to the appropriate stock. All limited access groundfish vessels required to use VMS will be required to make a declaration via VMS at the beginning of a trip on whether they intend to fish in one broad reporting area or multiple reporting areas. This declaration must be made prior to departing on every groundfish fishing trip. If a vessel operator reports that he is only going to fish in one area, the vessel cannot fish in multiple reporting areas on that trip, but can fish in multiple areas on subsequent trips. Vessels that notify NMFS they intend to fish in multiple areas will be required to submit a daily report to NMFS that reports kept groundfish catch by broad reporting area (other reporting periods may be authorized by NMFS). There is no restriction on the number of areas that can be fished on such trips, or on the number of times a vessel can enter or exit any area, as long as accurate daily catch reports are submitted by VMS.

In order to link this information on area fished and catch to dealer data, each limited access groundfish vessel operator (whether fishing in one or multiple broad reporting areas) will be required to report a VTR serial number for the trip via VMS at a time specified by NMFS. The vessel operator must also provide this VTR serial number to the dealer or dealers purchasing the fish from that trip, as well as to the observer if the trip is observed. The dealer will include this serial number when reporting purchases to NMFS. NMFS will provide directions for reporting this serial number for those vessels that fish in multiple statistical areas or use multiple gears on the same trip (vessels are required to submit a new VTR page for each statistical area fished or gear used).

Rationale: The rationale is included in the description of the measure.

GOM Area/Reporting Area 1

Point	Latitude	Longitude
G1	(¹)	(¹)
G2	43° 58' N.	67° 22' W.
G3	42° 53.1' N.	67° 44.4' W.
G4	42° 31' N.	67° 28.1' W.
CII3	42° 22' N.	67° 20' W.
G6	42° 20' N.	67° 20' W.
G10	42° 20' N.	70° 00' W.
G9	42° 00' N.	(²)

¹The intersection of the shoreline and the U.S.-Canada Maritime Boundary.

²The intersection of the Cape Cod, MA, coastline and 42°00' N. lat.

Inshore GB Area/Reporting Area 2

Point	Latitude	Longitude
G9	42° 00' N.	(¹)
G10	42° 20' N.	70° 00' W.
IGB1	42° 20' N.	68° 50' W.
IGB2	41° 00' N.	68° 50' W.
IGB3	41° 00' N.	69° 30' W.
IGB4	41° 10' N.	69° 30' W.
IGB5	41° 10' N.	69° 50' W.
IGB6	41° 20' N.	69° 50' W.
IGB7	41° 20' N.	70° 00' W.
G12	(²)	70° 00' W.

¹The intersection of the Cape Cod, MA, coastline and 42°00' N. lat.

²South facing shoreline of Cape Cod.

Offshore GB Area/Reporting Area 3

Point	Latitude	Longitude
IGB1	42° 20' N.	68° 50' W.
CII3	42° 22' N.	67° 20' W.
SNE1	40° 24' N.	65° 43' W.
SNE2	(¹)	69° 00' W.
SNE3	39° 50' N.	69° 00' W.
SNE4	39° 50' N.	68° 50' W.
IGB2	41° 00' N.	68° 50' W.
IGB1	42° 20' N.	68° 50' W.

¹The U.S.-Canada Maritime Boundary as it intersects with the EEZ.

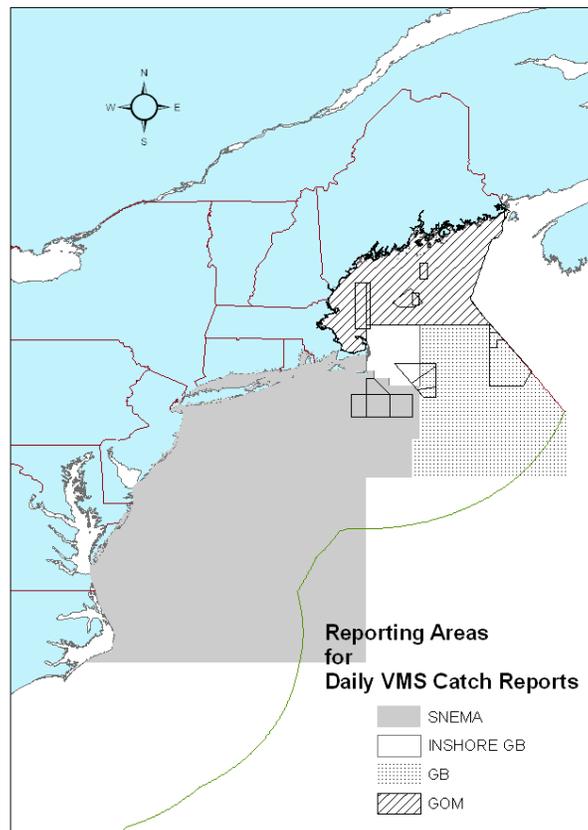
SNE/MA Area/Reporting Area 4

Point	Latitude	Longitude
G12	(¹)	70° 00' W.
IGB7	41° 20' N.	70° 00' W.
IGB6	41° 20' N.	69° 50' W.
IGB5	41° 10' N.	69° 50' W.
IGB4	41° 10' N.	69° 30' W.
IGB3	41° 00' N.	69° 30' W.
IGB2	41° 00' N.	68° 50' W.
SNE4	39° 50' N.	68° 50' W.
SNE3	39° 50' N.	69° 00' W.
SNE2	(²)	69° 00' W.

¹South facing shoreline of Cape Cod.

²The U.S.-Canada Maritime Boundary as it intersects with the EEZ.

Figure 1 – Proposed reporting areas



4.3.6.3 Option 3 – Accounting for discards for non-sector vessels

The requirement to monitor ACLs means that catch (landings and discards) must be estimated. Measures to monitor discards by sector vessels are described in section 3.1.10.2. For non-sector vessels in the commercial fishery, a discard rate, by gear, will be determined and applied to the landings for each trip. The discard rate will be determined in one of two ways:

Option 1: The discard rate used will be based on the most recent assessment for the stock,

Option 2: A discard rate will be calculated based on observer data from the previous year on trips by vessels that are not in sectors.

Rationale: ACLs are based on total catch (landings and discards) for most stocks. Discards need to be accounted for in order to determine whether ACLs have been caught and AMs need to be implemented. This option uses a discard rate to inflate landings to provide an estimate of total catch that can be updated on a weekly basis (the frequency of submission for dealer reports). This provides a timely estimate of in-season catches that can be used to monitor ACLs. In-season monitoring estimates will be compared to catch estimates determined by the assessments to verify that this practice is not mis-estimating discards.

4.3.7 Special Access Programs

4.3.7.1 Closed Area I Hook Gear Haddock SAP Revisions

The CAI Hook Gear Haddock SAP provides an opportunity to target GB haddock within the boundaries of CAI. Changes are being considered to the area and the season, and to the provisions adopted to mitigate competition between sector and common pool participants.

4.3.7.1.1 Option 1 – No Action

If this option is selected there will not be any changes to the SAP regulations. The area of the SAP will continue to be as shown in Figure 2. The season for the SAP will continue to be October 1 to December 31. The season will continue to be split in half, with one half of the season for sector vessels and the other half for common pool vessels. The TAC for GB haddock caught in the SAP will continue to be divided equally between sector and common pool vessels.

4.3.7.1.2 Option 2 – Closed Area I Hook Gear Haddock SAP Revisions

If selected, this Option will revise the season, area, and other provisions of the CAI Hook Gear Haddock SAP.

Season: The SAP would be extended to nine months, May 1 through January 31. Fishing would be allowed in the SAP during the May seasonal closure on GB. Sector and non-sector vessels can fish at any time during the SAP season – the current division of the season into sector and non-sector participation periods would be eliminated.

Area: The area of the SAP would be expanded to include the northern portion of CAI, as shown in Figure 2. The coordinates for the revised SAP area would be:

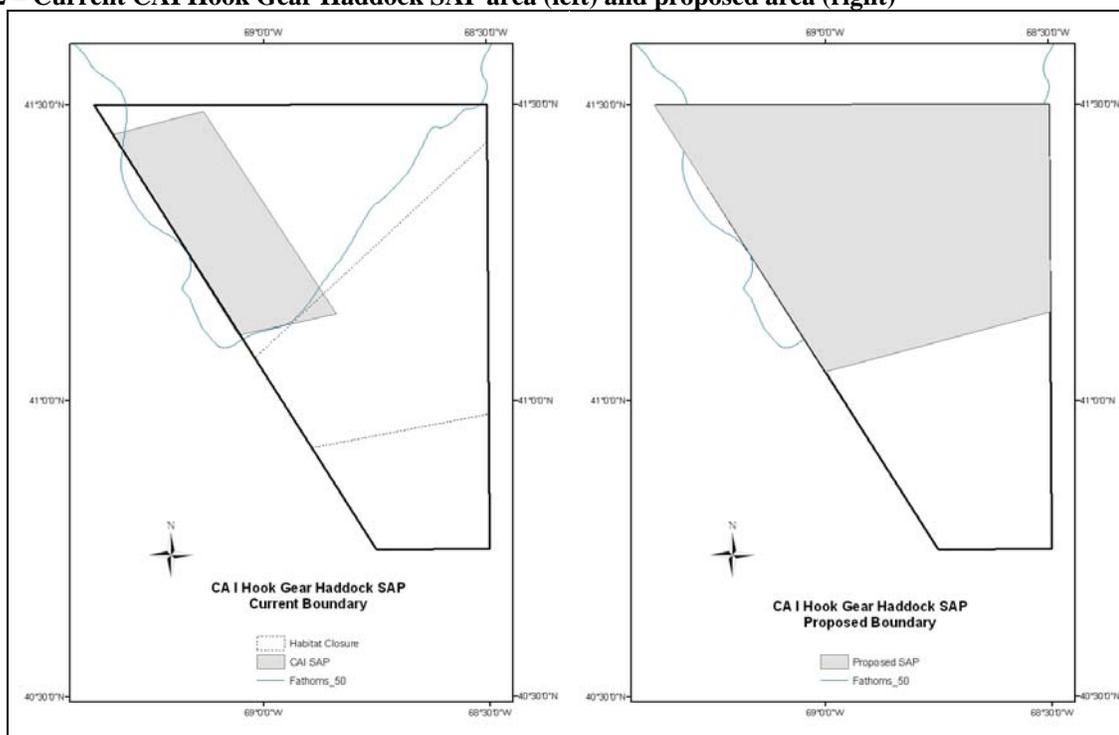
41-09 N	68-30 W
41-30 N	68-30 W

41-30 N 69-23 W
41-04 N 69-01.75 W

TAC: The SAP TAC for GB haddock would no longer be split between sector and non-sector vessels.

Rationale: SAP participants have not harvested the available catch. The extension of the season and area is intended to provide more opportunities to harvest haddock in this SAP. The extended season and area make it unlikely that the conflicts between sector and non-sector participants will be an issue.

Figure 2 – Current CAI Hook Gear Haddock SAP area (left) and proposed area (right)



4.3.7.2 Eastern U.S./Canada Haddock SAP

This SAP provides an opportunity to target GB haddock in the Eastern U.S./Canada area, including a small portion of CAII.

4.3.7.2.1 Option 1 - No Action

The SAP is scheduled to terminate on December 31, 2008. If the No Action alternative is selected, the SAP will not be re-opened.

4.3.7.2.2 Option 2 – Reauthorization of the Eastern U.S./Canada Haddock SAP

This option reauthorizes the SAP and continues it indefinitely unless changed by a future Council action, or unless closed for the season by the Regional Administrator consistent with the Administrative Procedures Act and SAP regulations. All provisions of the SAP remain and are not changed.

4.3.7.3 Closed Area II Yellowtail Flounder SAP

4.3.7.3.1 Option 1 – No modifications

If this option is selected, the CAII yellowtail flounder SAP will not be modified to provide an opportunity to target GB haddock within the SAP area.

4.3.7.3.2 Option 2 – Closed Area II SAP Modification

This option modifies the existing CAII yellowtail flounder SAP to provide an opportunity to target GB haddock in the SAP area even when the SAP is not opened to allow targeting of GB yellowtail flounder. The SAP provisions are modified as follows:

- When the SAP is opened to allow targeting of GB yellowtail flounder, the current SAP provisions apply. These include gear requirements, limits on the number of trips, limits on the number of trips a vessel can make each month, season, limits on the yellowtail flounder catch per trip, and possession limits for cod. With this action, the eliminator trawl is authorized for this SAP when it is open to target yellowtail flounder.
- When the SAP is not open to allow targeting of GB yellowtail flounder (either because there is insufficient GB yellowtail flounder TAC to open the SAP at all, or the SAP was opened but the number of trips allowed has been reached), the SAP may be opened to target GB haddock subject to the provisions in this section.

Haddock Season: The haddock season is July 1 through January 31.

Opening Criteria: This SAP can be opened for targeting haddock only if the Eastern GB haddock TAC has not been caught. All catches in this SAP will be applied against the Eastern GB haddock SAP. If sectors receive an allocation of Eastern GB haddock, only catches of haddock by non-sector vessels will be applied to this TAC. If sectors receive ACE for Eastern GB haddock (see section 3.1.4.3.2), they can fish in this SAP as long as they have ACE remaining for the stocks caught in this SAP, even if the SAP is closed to non-sector vessels.

Trip Limits: There are no haddock trip limits unless trip limits are implemented for the entire GB haddock resource. Trip limits for other species are the same as those in effect when using gear subject to the gear performance standards.

No discard provision and DAS flips: A vessel fishing in this SAP cannot discard legal-sized regulated NE multispecies, Atlantic halibut, or ocean pout, unless required to do so by regulations implementing sectors. If a vessel exceeds an applicable trip limit, it must flip to a Category A DAS and must exit the SAP.

Gear requirements: At times when the SAP is open to target GB yellowtail flounder, vessels must use the gear authorized for that SAP (flounder net, haddock separator trawl, and eliminator trawl). When open

only to target haddock, the flounder net is not authorized and vessels must use a haddock separator trawl, eliminator trawl, five-point trawl, or hook gear.

Rationale: Catches of GB haddock have been well below target catches in recent years, and the U.S. Eastern GB haddock TAC has never been harvested. During the CAII Yellowtail Flounder SAP opening in 2004, about one million pounds of haddock were landed on 319 trips into the SAP area while targeting flounder. This proposed change uses gear requirements to avoid catching yellowtail flounder when the SAP is not open to that gear.

4.3.8 Haddock Minimum Size

The minimum size for haddock (both GOM and GB) is changed to 18 inches.

4.3.9 Periodic Adjustment Process

The periodic adjustment process is modified as follows:

Measures implemented in this action can be adjusted via framework actions consistent with the periodic adjustment process. These additional measures include, but are not limited to:

- Changes to the ACL and AM process or implementation
- Modifications to sector administration policies
- Reporting requirements

Membership of the Groundfish Plan Development Team (PDT) is revised to be consistent with Council policy that all members should be technical personnel. The Chair of the Groundfish Advisory Panel, and one other interested person, will no longer be appointed to the PDT.

4.4 Measures to Meet Mortality Objectives

4.4.1 Introduction

The development of measures to meet mortality objectives has been hampered because of the lack of information on current stock status, including status determination criteria (fishing mortality thresholds and biomass targets). The uncertainty over current stock status and status determination criteria will not be resolved until stock assessments are completed in August 2008. As a result, it is not clear what the measures should be designed to accomplish. This is less of a problem for describing proposed sectors (section 4.4), since they will be limited by a hard TAC, but it remains a problem when describing the impacts of those sectors. It is a substantial problem for determining appropriate effort controls for commercial fishing vessels that are not in sectors and for recreational vessels (including private boat fishermen, and party/charter operators). This cascades into a problem with designing accountability measures as well (section 4.5), since the AMs may be based on the same tools used to control mortality.

Because assumptions have to be made to move forward, the measures in sections 4.2 and 4.3 are evaluated by comparing them to the mortality changes called for by the rebuilding programs in Amendment 13 (see Table XXX). It is uncertain whether these reductions will be sufficient to achieve rebuilding or if smaller changes may be acceptable. Arguments can be made that the Amendment 13 reductions are unlikely to be sufficient and larger reductions are needed. These arguments highlight that 2004 fishing mortality rates exceeded rebuilding targets for several stocks and as a result FW 42 adopted additional measures to reduce mortality. Since mortality was higher than required, it may be reasonable to

expect that rebuilding progress is lagging and larger reductions than predicted by Amendment 13 may be necessary. At the same time, a counter-argument notes that catches in 2005 and 2006 have been well below target levels for almost all stocks. This can be interpreted as an indication that fishing mortality rates should be lower than the targets, leading to more rapid rebuilding progress. If this is the case, then the mortality reductions called for by Amendment 13 may be larger than necessary.

Neither of these two arguments is likely to be completely correct. It is more likely that for some stocks the Amendment 13 reductions may not be large enough, while for others they may be too large. Effort control development depends on the reductions needed for specific stocks. While the options shown below can be considered illustrative of the type of measures that may be adopted in the final document, it is not likely that any of these options will be adopted without changes. They illustrate a range of measures that could be adopted to achieve a range of mortality objectives.

4.4.2 Effort Control Options

In all of these options, measures in existence in FY 2008 continue unless changed by this action. All of the options, including No Action, a change in the Category A/Category B DAS split (effectively a reduction in Category A DAS).

4.4.2.1 No Action

If adopted, the effort controls adopted by Amendment 13 and subsequent frameworks would continue unchanged. These measures include a change in the Category A and Category B DAS split (45/55, or an 18 percent reduction in allocated Category A DAS) that is scheduled to occur in FY 2009 unless certain conditions are met: overfishing is not occurring on any stock and additional fishing mortality reductions are not needed to rebuild any stock.

The Groundfish Oversight Committee is developing four broad alternatives for this section. The PDT is continuing to evaluate direction provided by the Committee and may suggest other changes to these measures. The Committee will continue this work at a meeting on June 2, 2008, and will present results to the Council. As of May 22, 2008, the language shown here describes the broad shape of the alternatives but not the specific details. This language is included to acquaint the Council and the public with the alternatives being developed, but the actual language and measures are likely to be modified by the Committee before the Council meeting.

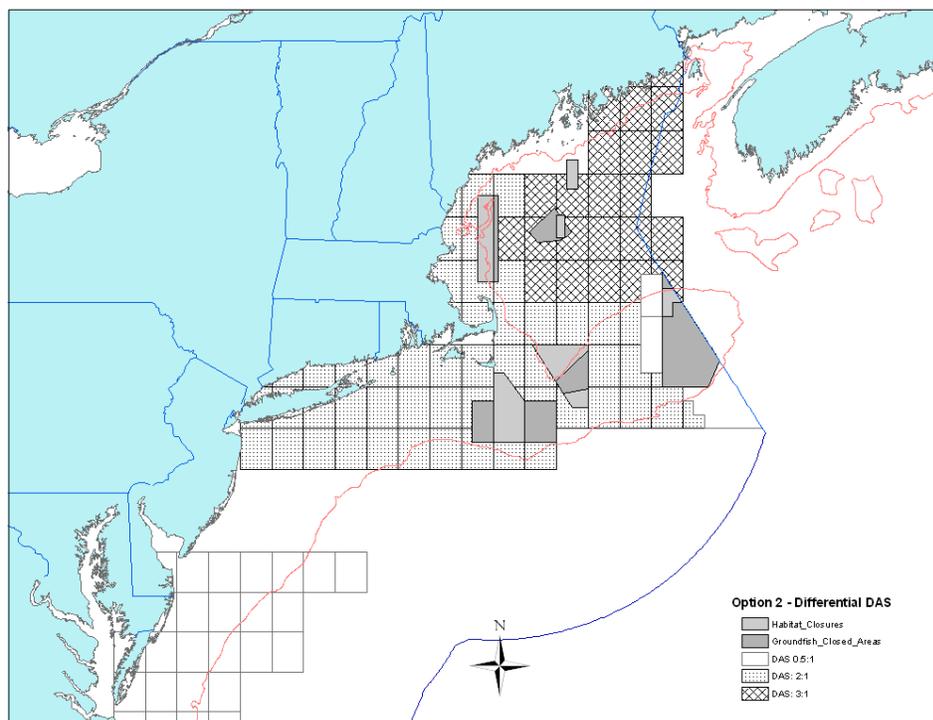
4.4.2.2 Option 1 – DAS reduction

This option uses a 70 percent reduction in allocated Category A DAS to achieve the mortality reductions called for by Amendment 13 (these may or may not be the reductions required for this amendment). As a result of this action, the Category A/Category B DAS split would be 16.5%/83.5%. Most other current measures remain, including differential DAS counting areas, all rolling and seasonal closed areas and gear requirements. Trip limit adjustments are being developed.

4.4.2.3 Option 2 – Differential DAS and DAS Reduction

This option combines a reduction of 35 percent in Category A and additional differential DAS areas (see Figure 3). The DAS reduction results in a Category A/Category B DAS split of 35.75%/64.25%. Most other current measures remain, including differential DAS counting areas, all rolling and seasonal closed areas and gear requirements. Trip limit adjustments are being developed.

Figure 3 – Option 2, differential DAS counting areas



4.4.2.4 Option 3 – 24 hour clock, Restricted Gear Areas, and GOM Offshore Closure

This option eliminates differential DAS counting areas, reduces Category A DAS by 55 percent, and counts all DAS in 24-hour increments (i.e. 6 hours is counted as one DAS, 25 hours is counted as two DAS, etc.). The category A/Category B DAS split that results is 24.75%/75.25%. Most other current measures remain, including seasonal and rolling closures and gear requirements. Trip limit modifications are being developed.

A key feature of this option is a year round closure to groundfish fishing in the offshore Gulf of Maine and the addition of two areas where only specific gear can be used while fishing on a groundfish DAS. In the gear areas, gear may be restricted to those gears that do not catch yellowtail flounder and winter flounder. Gears being considered include:

Trawl Gear: Haddock separator trawl, eliminator trawl, five-point trawl, raised-footrope trawl, rope trawl. The haddock separator trawl, eliminator trawl, and raised footrope trawl are described in the regulations.

Rope trawl: The design includes a four-panel structure to increase headline height and large mesh in the front part of the trawl. The separator panel is made from a series of parallel ropes of different lengths. The panel is one-third from the fishing line in the vertical plane. There is a large escape opening in the bottom of the trawl.

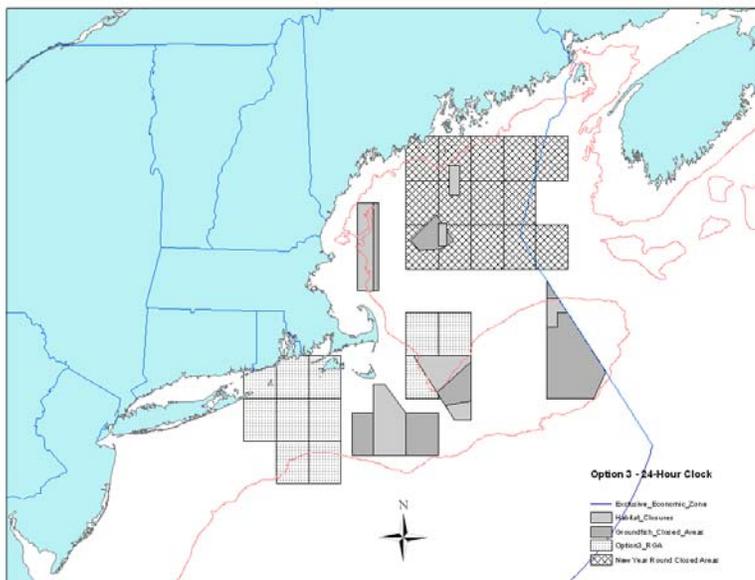
Five-point trawl: A modified three-bridle, four-panel box trawl based on a sweepless raised footrope trawl design that separates fish by exploiting differences between the behaviors of cod and haddock. The net flies over cod while retaining haddock, which generally move upward as the trawl approaches. Specifically, the net only contacts the bottom with 5 “drop chains” along the footrope.

Sink gillnets: No tiedown nets allowed unless using mesh over eight inches

Longline/tub trawls

Handgear

Figure 4 – Option 3, 24-hour clock, restricted gear areas, offshore GOM closed area



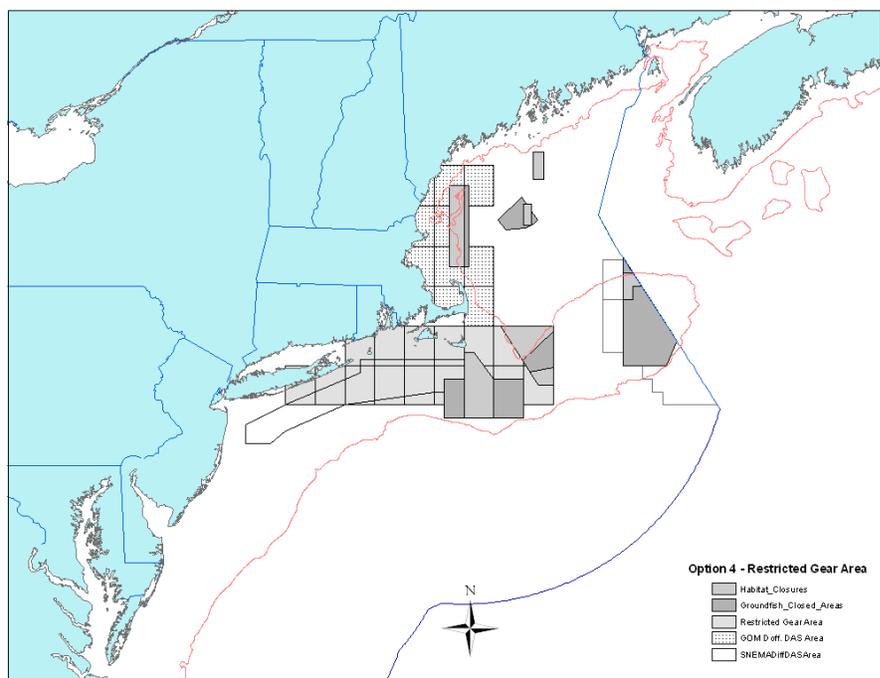
4.4.2.5 Option 4 – DAS Reduction and restricted gear areas

This option reduces Category A DAS by 18 percent, as in the no Action alternative. This results in a Category A/Category B DAS split of 55/45. Most other current measures remain, including seasonal and rolling closures and gear requirements. Trip limit modifications are being developed.

A key feature of this option is the addition of areas where only specific gear can be used while fishing on a groundfish DAS. In the gear areas, gear may be restricted to those gears that do not catch yellowtail flounder and winter flounder. Gears being considered include:

- Trawl Gear: Haddock separator trawl, eliminator trawl, five point trawl, raised footrope trawl, rope trawl
- Sink gillnets: No tiedown nets allowed unless using mesh over eight inches
- Longline/tub trawls
- Handgear

Figure 5 – Option 4, restricted gear area



4.4.3 Recreational Management Measures

Recreational measures will be designed consistent with the allocations adopted in section 3.4 and any necessary adjustments in fishing mortality.

4.4.4 Implementation of Additional Sectors/Modifications to Existing Sectors

The following list summarizes the new sector applications, and request for modifications to existing sectors, that were received for inclusion in Amendment 16. The Council has determined that if approved new sectors will begin operating in FY 2010, not FY 2009. This is to allow more time for sector organizers and NMFS to prepare for their implementation.

When submitted, most applications were based on the existing sector regulations that were adopted by Amendment 13. Since several Council policies may revise those regulations, some of the applications may be modified. This list does not include all exemptions requested by the sectors, but just those that are not consistent with existing, or proposed, sector policies that would need a Council decision. As an example, some sectors have asked to be allowed to trade ACE. Since this is being considered as a policy for all groundfish sectors, that request is not listed in this section. Some sectors asked to be exempt from year-round closed areas – since that is not consistent with existing or proposed sector policies, that request is listed. Almost all sectors asked for allocations of specific groundfish stocks, but the Council sector policy will require these sectors to receive an allocation of all stocks caught. Most sectors submitted documents to the Council incorporating the proposed sector policies.

Should the Council not adopt the proposed policies (such as trading of ACE, universal exemptions, etc.), the final amendment may need to be modified to reflect individual sector requests. Presumably a sector could still request an exemption from NMFS without Council action unless it is specifically prohibited.

Several sectors have asked for allocations of stocks not managed by this FMP. Since these requests cannot be granted until other FMPs adopt sectors, they are not addressed here and are not listed.

4.4.4.1 Modifications to the Georges Bank Cod Hook Sector

The existing sector is proposed to be modified as follows:

- The sector would receive an allocation of all regulated groundfish stocks that are allocated to sectors (i.e. not just GB cod).
- Fishing would be allowed in all stock areas.
- The sector asks for exemptions from the following regulations. These are not authorized by existing or proposed sector provisions:
 - Paper VTRs
 - Annual closures
 - Treatment of catch history
 - Sector will be credited with catching 20 percent of TAC regardless of actual percentage of TAC achieved (*this provision was in the proposal submitted; the sector has informally said it will remove this request*).
 - Catch histories will remain constant within the sector.
 - The sector will be exempt from compensating NMFS for administrative burden (*this may not be germane since sectors do not appear to be subject to cost-recovery provisions*).

4.4.4.2 Modifications to the Fixed Gear Sector

The existing sector is proposed to be modified as follows:

- The sector would receive an allocation of all regulated groundfish stocks that are allocated to sectors (i.e. not just GB cod).
- Fishing would be allowed in all stock areas.
- The sector asks for exemptions from the following regulations. These are not authorized by existing or proposed sector provisions:
 - Paper VTRs
 - Annual closures
 - Treatment of catch history
 - Sector will be credited with catching 20 percent of TAC regardless of actual percentage of TAC achieved (*this provision was in the proposal submitted; the sector has informally said it will remove this request*).
 - Catch histories will remain constant within the sector.
 - The sector will be exempt from compensating NMFS for administrative burden (*this may not be germane since sectors do not appear to be subject to cost-recovery provisions*).

4.4.4.3 Sustainable Harvest Sector

This sector would be established in collaboration with the Portland Fish Exchange. This sector may consist of more than 60 vessels. The sector members intend to fish in all management areas (GOM, GB, SNE/MA) and with all allowed gear. The sector is requesting that its allocation of white hake be allowed to exceed 20 percent. While current regulations allow a sector to request an exemption from this cap on sector share, the Council is considering removing this limit for all stocks.

All exemptions requested by the sector are consistent with existing or proposed sector policies, with one exception. The sector has indicated it will request an exemption from the 12 inch roller gear area. This may require Council action, as section 3.1.7 prohibits sectors from requesting an exemption from gear requirements adopted to minimize, to the extent practicable, the adverse effects of fishing on essential fish habitat.

4.4.4.4 Port Clyde Community Groundfish Sector

The Port Clyde Draggermen's Co-Op and the Midcoast Fishermen's Association propose a community-based sector, with membership of more than ten vessels expected. The sector initially requested allocations for GOM stocks, suggesting that the intended operating area is statistical areas 511, 512, 513, 514 and 515, but . Members will primarily use trawl gear but will be allowed to use other legal gear (gillnets and longlines). All exemptions requested are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Port Clyde, ME, Cape Porpoise/Saco, ME, Cundy's Harbor, ME, Portland, ME, Monhegan, ME, Boothbay Harbor, ME, and Phippsburg, ME

Primary unloading ports anticipated: Port Clyde, ME, Cape Porpoise/Saco, ME, Cundy's Harbor, ME, Portland, ME, Monhegan, ME, Boothbay Harbor, ME, and Phippsburg, ME

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: Any gear allowed by regulations

Potential secondary gear: Any gear allowed by regulations

Primary fishing areas: Gulf of Maine

Potential other fishing areas: Georges Bank, Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.5 New Bedford Deep Water Trawl Sector

This sector will be formed of vessels that fish primarily on Georges Bank or in Southern New England. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: New Bedford, MA.

Primary unloading ports anticipated: New Bedford, MA

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Georges Bank, Southern New England

Potential other fishing areas: Gulf of Maine

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.6 New Bedford and Southern New England Fixed Gear Sector

This sector will be formed of vessels that fish primarily, fishing primarily on Georges Bank and in Southern New England. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: New Bedford, MA.

Primary unloading ports anticipated: New Bedford, MA

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: gillnet, bottom longline

Potential secondary gear: otter trawl

Primary fishing areas: Georges Bank, Southern New England

Potential other fishing areas: Gulf of Maine

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)
Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.7 New Bedford Channel Trawl Sector

This sector will be formed of vessels that fish primarily on Georges Bank and in Southern New England. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: New Bedford, MA.

Primary unloading ports anticipated: New Bedford, MA

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Georges Bank, Southern New England

Potential other fishing areas: Gulf of Maine

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.8 New Hampshire and Southern Maine Fixed Gear Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Portsmouth, NH, Seabrook, NH, and Portland, ME

Primary unloading ports anticipated: Portsmouth, NH, Seabrook, NH, and Portland, ME

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: gillnet, bottom longline

Potential secondary gear: otter trawl

Primary fishing areas: Gulf of Maine,

Potential other fishing areas: Georges Bank, Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.9 New Hampshire and Southern Maine Trawl Gulf of Maine Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Portsmouth, NH, Seabrook, NH, and Portland, ME

Primary unloading ports anticipated: Portsmouth, NH, Seabrook, NH, and Portland, ME

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Gulf of Maine,

Potential other fishing areas: Georges Bank, Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.10 Gloucester Trawl/Western Gulf of Maine Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Gloucester, MA.

Primary unloading ports anticipated: Gloucester, MA

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Gulf of Maine,

Potential other fishing areas: Georges Bank, Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.11 Gloucester Fixed Gear Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Gloucester, MA

Primary unloading ports anticipated: Gloucester, MA

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: gillnet, bottom longline

Potential secondary gear: otter trawl

Primary fishing areas: Gulf of Maine,

Potential other fishing areas: Georges Bank, Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.12 Gloucester/Boston Trawl Gulf of Maine and Georges Bank Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine and Georges Bank. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Gloucester and Boston, MA.

Primary unloading ports anticipated: Gloucester and Boston, MA.

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Gulf of Maine, Georges Bank

Potential other fishing areas: Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.13 South Shore Trawl Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine. Requested exemptions are consistent with existing or proposed sector policies.

Primary hauling ports anticipated: Green Harbor, MA, Scituate, MA, Plymouth, MA, and Sandwich, MA

Primary unloading ports anticipated: Green Harbor, MA, Scituate, MA, Plymouth, MA, and Sandwich, MA

(Other hauling or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Gulf of Maine, Georges Bank

Potential other fishing areas: Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.14 South Shore Fixed gear Sector

This sector will be formed of vessels that fish primarily in the Gulf of Maine. Requested exemptions are consistent with existing or proposed sector policies.

Primary hauling ports anticipated: Green Harbor, MA, Scituate, MA, Plymouth, MA, and Sandwich, MA

Primary unloading ports anticipated: Green Harbor, MA, Scituate, MA, Plymouth, MA, and Sandwich, MA

(Other hauling or unloading ports may be specified in the operations plan.)

Primary gear: gillnet, bottom longline

Potential secondary gear: otter trawl

Primary fishing areas: Gulf of Maine, Georges Bank

Potential other fishing areas: Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.15 Point Judith and Southern New England Offshore Trawl Sector

This sector will be formed of vessels that fish primarily on Georges Bank and in Southern New England. Requested exemptions are consistent with existing or proposed sector policies.

Primary hauling ports anticipated: Point Judith, RI, Stonington, CT, and New Bedford, MA

Primary unloading ports anticipated: Point Judith, RI, Stonington, CT, and New Bedford, MA

(Other hauling or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Georges Bank, Southern New England

Potential other fishing areas: Gulf of Maine

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.16 Point Judith and Southern New England Trawl Sector

This sector will be formed of vessels that fish primarily in Southern New England. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Point Judith, RI, Stonington, CT, and New Bedford, MA

Primary unloading ports anticipated: Point Judith, RI, Stonington, CT, and New Bedford, MA
(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Georges Bank, Southern New England

Potential other fishing areas: Gulf of Maine

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.17 Tri-State Sector

Working with the Cape Cod Commercial Hook Sector, this sector will be formed to operate in all management areas using all legal gear (trawl, gillnet, hook). In addition to exemptions that are consistent with current or proposed policies, the sector asks for exemptions from the following regulations. These are not authorized by existing or proposed sector provisions:

- Paper VTRs
- Annual closures
- Treatment of catch history.
- Sector will be credited with catching 20 percent of TAC regardless of actual percentage of TAC achieved (*this provision was in the proposal submitted; the sector has informally said it will remove this request*).
- Catch histories will remain constant within the sector.
- The sector will be exempt from compensating NMFS for administrative burden (*this may not be germane since sectors do not appear to be subject to cost-recovery provisions*).

4.4.4.18 Pier 6 Initiative

This sector will be formed of up vessels that fish primarily in the Gulf of Maine and Georges Bank. Requested exemptions are consistent with existing or proposed sector policies.

Primary hailing ports anticipated: Boston, MA.

Primary unloading ports anticipated: Boston, MA.

(Other hailing or unloading ports may be specified in the operations plan.)

Primary gear: otter trawl

Potential secondary gear: gillnet, bottom longline

Primary fishing areas: Gulf of Maine, Georges Bank

Potential other fishing areas: Southern New England

Estimated sector ACE share: 0-20% (but may exceed 20% subject to elimination of the 20% cap)

Stocks: All regulated groundfish stocks (except Atlantic halibut, ocean pout, windowpane flounder) as proposed by Amendment 16

4.4.4.19 Martha's Vineyard Sector

A sector is proposed based in Martha's Vineyard. An initial application suggested this group was interested in using regulatory discards to stock a cod hatchery on the island. Cod would then be released in designated areas protected by closures in an attempt to increase cod stocks near the island. At a subsequent meeting, the proponent asked to be exempt from the permit history qualification criteria, to receive an allocation of one million pounds of cod, haddock, and pollock, and to be allowed to have members who have open access permits join the sector.

4.4.5 Accountability Measures

While this action will specify the process for accountability measures, they will be implemented as required by the M-S Act (FY 2010 or 2011).

4.4.5.1 Commercial Groundfish Common Pool Accountability Measures

4.4.5.1.1 Common Pool Vessels Accountability Measure Alternative 1 – "Hard" Total Allowable Catch (TAC)

This alternative proposes a "hard" TAC backstop for common pool vessels in the commercial groundfish fishery as the accountability measure to ensure that overfishing does not occur. Under this measure, most commercial groundfish fishing by common pool vessels ceases in a stock area when it is projected that the TAC of a stock will be caught. This accountability measure does not apply to recreational groundfish fishing, commercial groundfish fishing within sectors, or incidental catches of groundfish in other fisheries (e.g. yellowtail flounder in the scallop dredge fishery).

The Council directed the Groundfish Committee to incorporate measures in this alternative that would avoid Olympic fishing and hard shutdowns.

Affected Stocks

TACs will be determined for all stocks in the multispecies FMP. TACs will be specified and monitored for the commercial fishery. If enough information is available, TACs for a species will be based on total commercial removals: commercial landings and discards. This requires sufficient information to adequately estimate and monitor discards. While for some stocks such information is already available and is included in stock assessments, for other stocks it is not. When discards cannot be accurately estimated, then the TAC is specified for and based on landings.

There will be a separate TAC for each of the stocks managed under the multispecies plan. Each TAC will be determined based on stock status and will be calculated according to the periodic adjustment schedule adopted in Amendment 13 (i.e. every two years).

Target (Trimester) TACs

For each stock, the total annual TAC will be apportioned to trimesters based on recent landings patterns. Each trimester will be four months in duration. The trimesters will be divided as follows:

1st trimester: May 1-August 31

2nd trimester: September 1-December 31

3rd trimester: January 1-April 30

The target TACs, or percentages of total TAC allocated to each trimester, are shown in Table 9. At implementation, the initial calculations will be based on the period FY 2002-2006, the most recent period with data complete as of the date of the draft of Amendment 16. Subsequent calculations will use the most recent five year periods available when the calculations are performed. For other stocks, the distribution of landings has been heavily influenced by management measures and the distribution shown in the table represents a preferred distribution of landings. The initial apportionment of stock to trimester is shown in Table 9.

Table 9 – Initial apportionment of common pool TAC to trimesters

Stock	Trimester 1	Trimester 2	Trimester 3
GOM Cod	27%	36%	37%
GB Cod	25%	37%	38%
GOM Haddock	27%	26%	47%
GB Haddock	27%	33%	40%
CC/GOM Yellowtail	35%	35%	30%
GB Yellowtail	19%	30%	52%
SNE/MA Yellowtail	21%	37%	42%
GOM Winter	37%	38%	25%
GB Winter	8%	24%	69%
SNE/MA Winter	36%	50%	14%
Witch Flounder	27%	31%	42%
Plaice	24%	36%	40%
Pollock	28%	35%	37%
Redfish	25%	31%	44%
White Hake	38%	31%	31%
N. Windowpane			
S. Windowpane			
Ocean Pout			
Halibut			

Setting the TAC and TAC Adjustment

The TACs will be reviewed on a biennial basis as part of the periodic adjustment process adopted by Amendment 13. TACs will be determined and set for each of the next two years. The TAC set each year will either be altered from the previous year's TAC based on a review process or renewed unchanged. If the Council does not recommend a change to a TAC, there is no requirement for submission of a Council document or a new NEPA document.

For the purposes of determining this TAC, the basic process is outlined as:

- The Annual Catch Limit (ACL) for the stock is determined.
- The catch available to the groundfish fishery is determined by subtracting the catch for other fisheries from the ACL and the amount reserved for a research set-aside.

- The catch available to the commercial and recreational groundfish fishery is determined based on the percentage of each stock allocated to each.
- The catch available to common pool vessels is determined by subtracting the catch available to the commercial groundfish sectors.

Measures to ensure the TACs are not exceeded

Stock Area Closures

In any trimester, when it is projected that ninety percent of the TAC for a stock will be caught, NMFS will close the area where the stock is caught to all groundfish fishing using gear capable of catching that species (see below for an exception to this requirement). Gear used to catch other species will still be allowed to fish in the area. As an example, if an area is closed to stop the catch of yellowtail flounder, groundfish fishing by common pool vessels using hook gear may still be allowed in the area since they catch little yellowtail flounder. The area closed will be based on the area that accounted for ninety percent of the reported (VTR) landings in prior years. Areas that will be closed for each stock are shown in Table 10. These areas are based on statistical areas where ninety percent of the catch was taken in recent years. The Regional Administrator is authorized to expand or narrow the areas closed based on additional information. For example, some stocks are found in a narrow depth range and it may be possible to use this information to limit the area that must be closed. Other stocks may expand their range as they rebuild, and larger areas may be needed to prevent exceeding the TAC.

Catching ninety percent of a TAC of northern windowpane flounder, southern windowpane flounder, ocean pout, or Atlantic halibut will not result in closing a stock area to groundfish fishing. When sixty percent of the TAC for these stocks is projected to be caught, the Regional Administrator will have the authority to specify a trip limit that is calculated to prevent the TAC from being exceeded prior to the end of the fishing year.

If a trimester TAC is not caught in the first or second trimester, the uncaught portion will be carried forward into the next trimester. Uncaught portions in the third trimester will not be carried over into the following fishing year.

If the TAC for the first two trimesters is exceeded, the overage will be deducted from the TAC for the third trimester. If the TAC for the year is exceeded, an amount equal to the overage will be deducted from the TAC for common pool vessels in the following year.

Rationale: Most regulated groundfish are caught by commercial vessels targeting groundfish. This measure is designed to ensure that TACs are not exceeded. By closing stock areas to groundfish fishing before the groundfish TAC is achieved, it reduces the likelihood the groundfish TAC will be exceeded. Note that an adjustment is made when setting the TAC to account for catches in other fisheries.

A different approach is used for four stocks with small landings. Windowpane flounders, ocean pout, and Atlantic halibut are typically incidental catches in the groundfish fishery – they are rarely targeted. In order to avoid closing the groundfish fishery because catches of these minor stocks approach a TAC, the Regional Administrator is given the ability to establish trip limits to further discourage any possible targeting of these stocks if necessary to reduce the likelihood the TAC will be exceeded.

Table 10 – Gears prohibited in specific areas when a TAC is caught.

SPECIES	STOCK	Area/Gear Prohibited When TAC is Caught
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		Statistical Areas	Gear
Cod	GB	521,522,525,526,561	Trawl, gillnet, longline/hook
	GOM	513,514,515	Trawl, gillnet, longline/hook
Haddock	GB	521,522,561	Trawl, gillnet, longline/hook
	GOM	512,513,514,515	Trawl, gillnet, longline/hook
Yellowtail Flounder	GB	522,525,561,562 (all)	Trawl, gillnet
	SNE/MA	537,539,612,613	Trawl, gillnet
	CC/GOM	514,521	Trawl, gillnet
American Plaice		512,513,514,515,521,522	Trawl
Witch Flounder		512,513,514,515,521,522	Trawl
Winter Flounder	GB	521,522,562	Trawl
	GOM	514	Trawl, gillnet
	SNE/MA	521,526,537,539,612,613	Trawl
Redfish		513,514,515,521,522,561	Trawl
White Hake		511,512,513,514,515,521,522,525,561,613,616	Trawl, gillnet, longline/hook
Pollock		513,514,515,521,522,561	Gillnet, trawl, longline/hook

Rationale: Some stock areas cover broad areas, even though the species may not be caught throughout the area. By limiting closures to areas where most of the stock is caught, the stock is protected while allowing opportunities to fish for other stocks. For example, the GB cod stock area stretches from Georges Bank to New Jersey, but very little cod is caught west of 70W. Other species are caught in narrow depth bands within a stock area. Similarly, there is no reason to restrict gear that does not catch a particular species from an area when the TAC is caught. This may also encourage development of more selective fishing techniques so that fishing can continue when the TAC for one species is caught.

White Hake Possession Limit

If this AM is chosen, the white hake possession limit will be reduced to 500 lbs./DAS with a maximum of 2,000 lbs./trip.

Rationale: White hake is widely distributed (see Table 10). Because the TAC is expected to be small while white hake is rebuilt, there is a concern that approaching this TAC could result in a closure of the entire fishery. The reduced possession limit is intended to discourage targeting white hake in order to reduce the likelihood of an area-wide shutdown.

Catch Monitoring

- All offloads of all regulated groundfish must be verified by an independent, third-party weighmaster that meets standards established by the NMFS. Funding of this program is the responsibility of the industry.
- When monitoring progress towards the TAC during the fishing year, NMFS will consider both landings and discards. If near real-time observer information is available, it will be used to provide an in-season estimate of discards. If this information is not available, a discard estimate will be developed using the proportion of catch discarded according to the most recent assessment or PDT calculation.

4.4.5.1.2 Common Pool Vessels Accountability Measure Alternative 2 – Differential DAS/DAS Adjustment (*Not yet approved by Council*)

In March, NMFS will estimate total catches based on ten months of catch data (catch data through February). Using this information, NMFS will adjust DAS counting for the following fishing year based on whether ACLs are exceeded or not. If an ACL for any stock is exceeded, NMFS will calculate the differential DAS rate change needed to prevent the ACL from being exceeded the following year. If this calculation results in similar changes needed in all areas, NMFS will revise the Category A/Category B DAS split to account for the change.

If in a given area catches of all stocks are at least ten percent less than the groundfish ACL, NMFS will apply differential DAS to reduce the rate DAS are counted in order to allow harvests in a subsequent year to attain the ACL. If similar changes are needed in all areas, NMFS will revise the Category A/Category B DAS split rather than apply area specific differential DAS changes.

The basis for these changes will be the areas shown in Table 11 and the differential DAS factor changes are shown in Table 12. These changes will be published by NMFS consistent with the APA prior to the start of the subsequent fishing year. The first such change will be effective in FY 2011, based on the implementation of ACLs in FY 2010.

Table 11 – Stocks and areas for differential DAS AM adjustment

Area	Stocks	Areas Included (depends on final measures)
Inshore GOM	GOM Cod GOM Haddock CC/GOM yellowtail GOM winter flounder GOM/GB windowpane flounder	114-116,123-125,132,133,138-140
Offshore GOM	White Hake Pollock Redfish Witch Plaice Halibut	98,99,112,113,118-122, 126-131,134-137,141-143,148-150,154,155
Offshore GB	GB cod GB haddock GB yellowtail (see note) GB winter flounder	75-79, 92-97,108-111
SNE/MA	SNE/MA winter flounder SNE/MA yellowtail flounder	64-73, 80-90,100-106

SNE/MAB windowpane flounder

Table 12 – Differential DAS AM factor (to be developed)

Percent of ACL Caught	Differential DAS Factor
0.5	
0.6	
0.7	
0.8	
0.9	No Change
1.0	No Change
1.1	
1.2	
1.3	
1.4	
1.5	
1.6	
1.7	
1.8	
1.9	
2.0	

4.4.5.2 Recreational Fishery Accountability Measures

TBD based on specific recreational measures.

4.4.5.3 Multispecies Sector Accountability Measures

The sector administration provisions defined in section 3.1 incorporate measures designed to ensure that each sector – and as a result, sectors as a whole - do not contribute to overfishing. To summarize those elements:

- The catch allocated to each sector is based on the Annual Catch Limit established by the Council (section 3.3). The ACL takes into account biological and management uncertainty to reduce the risk of overfishing.
- Sectors are required to stop groundfish fishing when they are projected to have caught their allocation for any groundfish stock.
- Reporting requirements are implemented to ensure monitoring of sector catches is timely and accurate. These requirements include:
 - Weekly catch reporting to NMFS.
 - Identification of specific landing ports.
 - Notice to NMFS when catches approach a defined threshold.
- Sectors are provided opportunities to “balance” catches with their allocation through the trading of annual catch entitlements between sectors.
- If a sector exceeds its allocation in a given year, and cannot balance its catch and allocation through the trading of annual catch entitlements, then its allocation in the following year is reduced by the overage (see section 3.1).

4.5 Alternatives Considered and Rejected

4.5.1.1 Research Set-Aside Program

A research set-aside program will be established for the groundfish fishery. The purpose of this program is to provide a portion of the available catch that can be used for research, including cooperative research, without requiring participating vessels to use days-at-sea or sector allocations to account for the mortality that results from the research. It is not intended that this set-aside will be sufficient to fund cooperative research programs. This program is not intended to preclude research that is conducted using days-at-sea or sector allocations to account for mortality.

For each regulated groundfish stock, one percent of the available catch will be set aside for conducting research. This set-aside will be available to any research associated with the groundfish fishery: it can be used for research projects related to the commercial and recreational groundfish fisheries, or other fisheries that have an incidental catch of groundfish. The process used to award the set-aside is as follows:

- (1) NMFS will publish a Request for Proposals (RFP) in the Federal Register, consistent with procedures and requirements established by the NOAA Grants Office, to solicit proposals for the upcoming fishing year, based on research priorities identified by the Council.
- (2) NMFS will convene a review panel including the Council's Research Steering Committee, as well as technical experts, to review proposals submitted in response to the RFP.
 - (i) Each panel member will recommend which research proposals should be authorized to utilize research quota, based on the selection criteria described in the RFP.
 - (ii) The NEFSC Director and the NOAA Grants Office will consider each panel member's recommendation, provide final approval of the projects and the Regional Administrator may, when appropriate, exempt selected vessel(s) from regulations specified in each of the respective FMPs through written notification to the project proponent.
- (3) The grant awards approved under the RFPs will be for the upcoming fishing year. Multi-year awards are possible. Proposals to conduct research that would end after the fishing year, will be eligible for consideration.
- (4) Research projects will be conducted in accordance with provisions approved and provided in an Exempted Fishing Permit (EFP) issued by the Regional Administrator.
- (5) If a proposal is disapproved by the NEFSC Director or the NOAA Grants Office, or if the Regional Administrator determines that the allocated research quota cannot be utilized by a project, the Regional Administrator shall reallocate the unallocated or unused amount of research quota to the respective commercial and recreational fisheries by publication of a notice in the Federal Register in compliance with the Administrative Procedure Act, provided:
 - (i) The reallocation of the unallocated or unused amount of research quota is in accord with National Standard 1, and can be available for harvest before the end of the fishing year for which the research quota is specified; and
 - (ii) Any reallocation of unallocated or unused research quota shall be consistent with the proportional division of quota between the commercial and recreational fisheries in the relevant FMP and allocated to the remaining quota periods for the fishing year proportionally.
- (6) Vessels participating in approved research projects may be exempted from certain management measures by the Regional Administrator, provided that one of the following analyses of the impacts associated with the exemptions is provided:
 - (i) The analysis of the impacts of the requested exemptions is included as part of the annual quota specification packages submitted by the Council; or

3B Alternatives under consideration
20B Alternatives Considered and Rejected

(ii) For proposals that require exemptions that extend beyond the scope of the analysis provided by the Council, applicants may be required to provide additional analysis of impacts of the exemptions before issuance of an EFP will be considered.

5.0 Affected Environment

5.1 Physical Environment

Amendment 13 included a thorough description of the physical environment of the Northeast multispecies fishery, including oceanographic and physical habitat conditions in the Gulf of Maine – Georges Bank region and the area south of New England. Some of the information presented in this section was originally included in the EA for the Omnibus EFH Amendment (NEFMC 1998a). The Northeast Shelf Ecosystem (Figure 10) has been described as including the area from the Gulf of Maine south to North Carolina, extending from the coast seaward to the edge of the continental shelf, including the slope sea offshore to the Gulf Stream (Sherman et al. 1996). The continental slope of this region includes the area east of the shelf, out to a depth of 2000 m. A number of distinct sub-systems comprise the region, including the Gulf of Maine, Georges Bank, the Mid-Atlantic Bight, and the continental slope. Occasionally another subsystem, Southern New England, is described; however, Amendment 13 incorporated the distinctive features of this region into the descriptions of Georges Bank and the Mid-Atlantic Bight. The following summary highlights the major elements of the physical environment discussed in Amendment 13. The monkfish fishery overlaps the area of the multispecies fishery, and, therefore, the description of the physical environment for Framework 42 is applicable to Monkfish Framework 3.

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

The broad-scale hydrography of the Gulf of Maine – Georges Bank region is strongly influenced by variation in the major water mass fluxes into the Gulf of Maine. The two key sources of inflows to the Gulf of Maine are Scotian Shelf water, which is relatively cool and fresh, and slope water, which is relatively warm and more saline. The volume ratio of Scotian Shelf water to slope water was roughly 1:2 during the 1980s, while during the 1990s, the volume ratio has been roughly 2:1 (Pers. Comm. Dr. David Mountain, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA 02543). As a result of these broad-scale changes in inputs, water salinity has been lower in the Gulf of Maine during the 1990s.

Changes in the relative salinity of the Gulf of Maine have been indexed by salinity anomalies on the northwest flank of Georges Bank during 1975-2001. The observed salinity anomaly index shows cyclic variation on a 3-5 year time scale. During the 1990s, the salinity anomaly index has been low. In particular, salinity was very low during the 1996-1999 period. Since 1999, the salinity index has returned to normal levels. Based on some recent research, it appears that when salinity is low during autumn, chlorophyll levels in the subsequent spring tend to be higher than average, indicating higher primary production in the Gulf of Maine. Whether this higher primary production funnels upward through the food web to improve growth of commercially exploited fishes is not known, however.

During 1998, there was an unusual influx of Labrador slope water (LSW) into the Gulf of Maine (Pers. Comm. Dr. David Mountain, Northeast Fisheries Science Center, 166 Water Street, Woods Hole, MA

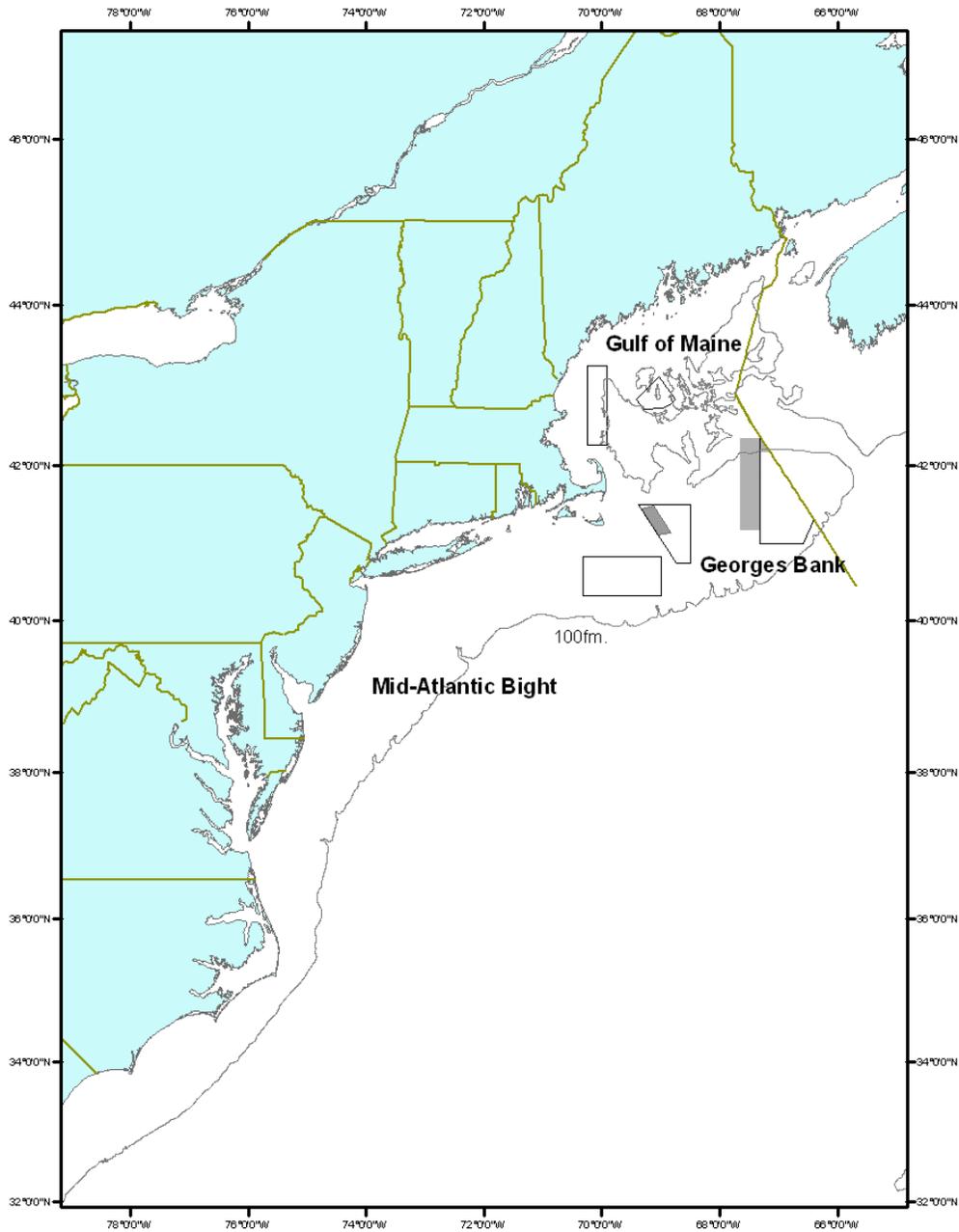
02543). The event began in January and was detectable through the autumn of 1998. Labrador slope water is cooler and fresher than the “normal” water mass of slope water that flows into the Gulf. Thus, the influx of LSW reduced water temperatures, on average, in 1998. This event was also notable because it was the first time since the 1960s that a LSW mass was observed in the Gulf of Maine. The unusual influx of LSW likely corresponds to a delayed response of local ocean conditions to the dramatic change in the North Atlantic Oscillation Index, a broad-scale measure of winter atmospheric pressure, during 1995-1996.

Interestingly, recruitment of several groundfish stocks in the Gulf of Maine was above recent average levels in 1998. In particular, the 1998 year classes of white hake, American plaice, witch flounder, and Gulf of Maine cod were larger than might be expected given recent low levels of recruitment. In addition, the 1998 and 1999 year classes of Georges Bank haddock were large in comparison to recent levels. Overall, it appears that the LSW event of 1998 may have had a positive effect on larval survival of several groundfish stocks, as measured by recruitment estimates taken from stock assessments.

While fishing activity under Category A DAS and the Category B (regular) DAS program can occur through the geographic range of the fishery, the CAI Hook Gear Haddock SAP and the Eastern U.S./Canada Haddock SAP are limited to two well-defined areas. The CAI Hook Gear Haddock SAP takes place in the northwestern corner of CAI. Depths in this area generally range from fifty to eighty fathoms, though there are some shallower depths along the southern and southeastern boundaries. The sediment in most of this area is gravelly sand, with some small patches that are primarily sand in the northwest and southeast corners. While there are some gravel areas in CAI, they are outside of the SAP area. The total area for the SAP is 221 sq. nm., while the area for CAI is 1,148 sq. nm.

The Eastern U.S./CA Area Haddock SAP takes place in and near CAII. Only a small portion of the SAP – 45 sq. nm., only four percent of the total SAP area – is actually inside CAII (total area 2,650 sq. nm). Depths in the area of the SAP range from under ten fathoms on several ridges to the west of CAII, to over 110 fathoms at the northern end of the area. Much of the sediment in the area is sand. There are, however, a series of gravel and/or gravelly sand ridges that run northwest to southeast in the middle of the area west of CAII. There is also an area of mud in the deep water at the northwestern corner.

Figure 10 - U.S. Northeast Shelf Ecosystem, showing multispecies year round mortality closed areas and current SAP areas (shaded)



5.2 Regulated Groundfish Stock Status

{To be developed}

5.3 Habitat

The area affected by the Proposed Action has been identified as EFH for species managed under the NE Multispecies; Atlantic Sea Scallop; Atlantic Monkfish; Summer Flounder; Scup and Black Sea Bass; Squid, Atlantic Mackerel and Butterfish; Atlantic Surf Clam and Ocean Quahog; Atlantic Bluefish; Atlantic Billfish; and Atlantic Tuna, Swordfish and Shark Fishery Management Plans. In general, EFH for these species includes pelagic and demersal waters, saltmarsh creeks, seagrass beds, mudflats and open bay areas, as well as mud, sand, gravel and shell sediments over the continental shelf, and structured habitat containing sponges and other biogenic organisms (NMFS 2002). Specific text descriptions and accompanying maps detailing EFH by species and life stage are included in the Omnibus EFH Amendment.

From a biological perspective, habitats provide living things with the basic life requirements of nourishment and shelter. With regards to the species included in the northeast multispecies fishery management unit, Amendment 13 provided a detailed description of the physical and biological habitat characteristics of the area affected by the multispecies fishery, throughout its range. Framework 42 proposes measures that will impact the Gulf of Maine broadly and specific areas on George's Bank. Since the Category B (regular) DAS Pilot Program is not limited to a specific area, the entire geographic area described in Amendment 13 (the Northeast Region) is applicable to the Proposed Action. Key elements of that description are highlighted below.

Section 9.0 of the FEIS to Multispecies Amendment 13 described benthic habitats that exist within the range of these two fisheries, physical and biological characteristics of regional oceanographic sub-systems, and assemblages of fish and benthic organisms. They also included a description of canyon habitats on the edge of the continental shelf. Details relating to the Gulf of Maine, Georges Bank, and southern New England/Mid-Atlantic Bight sub-systems are provided in the following three sections. The EFH text descriptions and map designations for the various life stages of monkfish and groundfish complex species were defined in the Habitat Omnibus Amendment (NEFMC 1998a). Essential fish habitat designations which summarize the environmental needs and distribution of monkfish are contained below. Designations for species included in the Multispecies fishery management unit can be found in Section 3.0 of the 1998 Habitat Omnibus Amendment (www.nefmc.org). For more information on monkfish and groundfish complex species EFH refer to the Habitat Omnibus Amendment (NEFMC 1998a).

A description of the physical environment of the Northeast multispecies fishery, including oceanographic and physical habitat conditions in the Gulf of Maine – Georges Bank region and the area south of New England is found in Section 9.1 of Amendment 13. Some of the information presented in this section was originally included in the EA for the Omnibus EFH Amendment (NEFMC 1998a).

5.3.1 Habitat Associations

5.3.1.1 Gulf of Maine

The Gulf of Maine's geologic features, when coupled with the vertical variation in water properties, result in a great diversity of habitat types. The greatest number of invertebrates in this region is classified as mollusks, followed by annelids, crustaceans, echinoderms and other (Theroux and Wigley 1998). By weight, the order of taxa changes to echinoderms, mollusks, other, annelids and crustaceans. Watling (1998) used numerical classification techniques to separate benthic invertebrate samples into seven types of bottom assemblages. These assemblages are identified in and their distribution is depicted in . This classification system considers benthic assemblage, substrate type and water properties. Several authors have examined the species assemblages and related them to habitat areas or physical characteristics. For example, Overholtz & Tyler (1985) identified five assemblages for this region (Table 23).

Table 22 - Gulf of Maine benthic assemblages as identified by Watling (1998)

Benthic Assemblage	Benthic Community Description
1	Comprises all sandy offshore banks, most prominently Jeffreys Ledge, Fippennies Ledge, and Platts Bank; depth on top of banks about 70 m; substrate usually coarse sand with some gravel; fauna characteristically sand dwellers with an abundant interstitial component.
2	Comprises the rocky offshore ledges, such as Cashes Ledge, Sigsbee Ridge and Three Dory Ridge; substrate either rock ridge outcrop or very large boulders, often with a covering of very fine sediment; fauna predominantly sponges, tunicates, bryozoans, hydroids, and other hard bottom dwellers; overlying water usually cold Gulf of Maine Intermediate Water.
3	Probably extends all along the coast of the Gulf of Maine in water depths less than 60 m; bottom waters warm in summer and cold in winter; fauna rich and diverse, primarily polychaetes and crustaceans; probably consists of several (sub-) assemblages due to heterogeneity of substrate and water conditions near shore and at mouths of bays.
4	Extends over the soft bottom at depths of 60 to 140 m, well within the cold Gulf of Maine Intermediate Water; bottom sediments primarily fine muds; fauna dominated by polychaetes, shrimp, and cerianthid anemones.
5	A mixed assemblage comprising elements from the cold water fauna as well as a few deeper water species with broader temperature tolerances; overlying water often a mixture of Intermediate Water and Bottom Water, but generally colder than 7° C most of the year; fauna sparse, diversity low, dominated by a few polychaetes, with brittle stars, sea pens, shrimp, and cerianthid also present.
6	Comprises the fauna of the deep basins; bottom sediments generally very fine muds, but may have a gravel component in the offshore morainal regions; overlying water usually 7 to 8° C, with little variation; fauna shows some bathyal affinities but densities are not high, dominated by brittle stars and sea pens, and sporadically by a tube-making amphipod.
7	The true upper slope fauna that extends into the Northeast Channel; water temperatures are always above 8° and salinities are at least 35 ppt; sediments may be either fine muds or a mixture of mud and gravel.

Figure 34 - Distribution of the seven major benthic assemblages in the Gulf of Maine as determined from both soft bottom quantitative sampling and qualitative hard bottom sampling.

The assemblages are characterized as follows: 1. Sandy offshore banks; 2. Rocky offshore ledges; 3. Shallow (<50 m) temperate bottoms with mixed substrate; 4. Boreal muddy bottom, overlain by Maine Intermediate Water, 50 – 160 m (approx.); 5. Cold deep water, species with broad tolerances, muddy bottom; 6. Deep basin warm water, muddy bottom; 7. Upper slope water, mixed sediment. Source: Watling 1998.

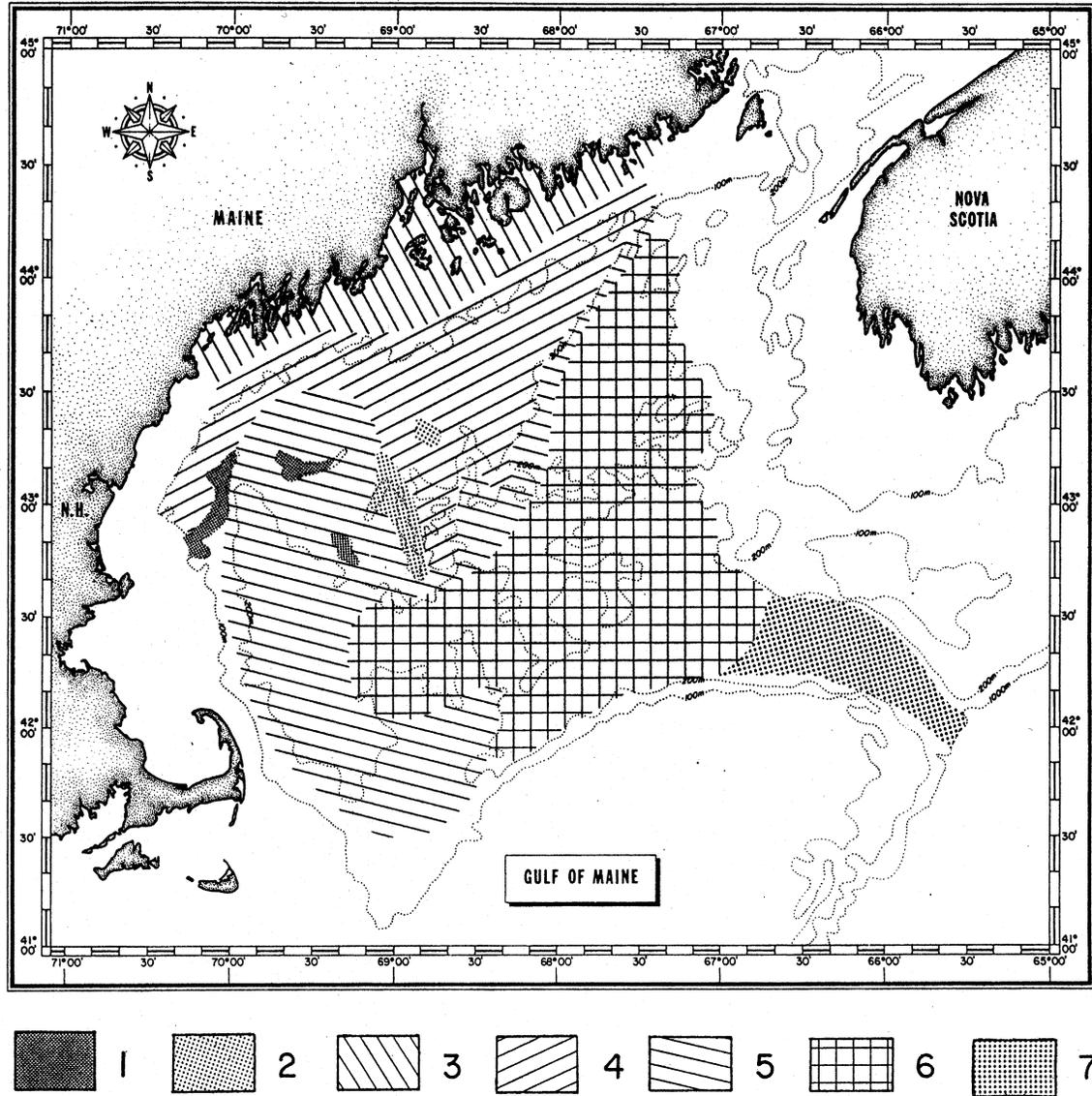


Table 23 - Comparison of demersal fish assemblages of Georges Bank and Gulf of Maine identified by Overholtz and Tyler (1985) and Gabriel (1992).

Gabriel analyzed a greater number of species and did not overlap assemblages.

Overholtz & Tyler (1985)		Gabriel (1992)	
Assemblage	Species	Species	Assemblage
Slope & Canyon	offshore hake blackbelly rosefish Gulf stream flounder fourspot flounder monkfish, whiting white hake, red hake	offshore hake blackbelly rosefish Gulf stream flounder fawn cusk-eel, longfin hake, armored sea robin	Deepwater
Intermediate	whiting red hake monkfish Atlantic cod, haddock, ocean pout, yellowtail flounder, winter skate, little skate, sea raven, longhorn sculpin	whiting red hake monkfish short-finned squid, spiny dogfish, cusk	Combination of Deepwater Gulf of Maine/Georges Bank & Gulf of Maine-Georges Bank Transition
Shallow	Atlantic cod haddock pollock whiting white hake red hake monkfish ocean pout yellowtail flounder windowpane winter flounder winter skate little skate longhorn sculpin summer flounder sea raven, sand lance	Atlantic cod haddock pollock yellowtail flounder windowpane winter flounder winter skate little skate longhorn sculpin	Gulf of Maine-Georges Bank Transition Zone Shallow Water Georges Bank- Southern New England
Gulf of Maine- Deep	white hake American plaice witch flounder thorny skate whiting, Atlantic cod, haddock, cusk Atlantic wolffish	white hake American plaice witch flounder thorny skate, redfish	Deepwater Gulf of Maine-Georges Bank
Northeast Peak	Atlantic cod haddock pollock ocean pout, winter flounder, white hake, thorny skate, longhorn sculpin	Atlantic cod haddock pollock	Gulf of Maine-Georges Bank Transition Zone

5.3.1.2 Georges Bank

The interaction of several environmental factors including availability and type of sediment, current speed and direction, and bottom topography have been found to combine to form seven sedimentary provinces on eastern Georges Bank (Valentine et al. 1993), which are outlined in Table 24 and depicted in Figure 35.

Theroux and Grosslein (1987) identified four macrobenthic invertebrate assemblages that corresponded with previous work in the geographic area. They noted that it is impossible to define distinct boundaries between assemblages because of the considerable intergrading that occurs between adjacent assemblages; however, the assemblages are distinguishable. Their assemblages are associated with those identified by Valentine et al. (1993).

The Western Basin assemblage (Theroux and Grosslein 1987) is found in the upper Great South Channel region at the northwestern corner of the bank, in comparatively deep water (150-200 m) with relatively slow currents and fine bottom sediments of silt, clay and muddy sand. This is the general area of the CAI Hook Gear Haddock SAP. Fauna are comprised mainly of small burrowing detritivores and deposit feeders, and carnivorous scavengers. Representative organisms include bivalves (*Thyasira flexuosa*, *Nucula tenuis*, *Musculus discors*), annelids (*Nephtys incisa*, *Paramphinome pulchella*, *Onuphis opalina*, *Sternaspis scutata*), the brittle star (*Ophiura sarsi*), the amphipod *Haploops tubicola*, and red crab (*Geryon quedenis*). Valentine et al. 1993 did not identify a comparable assemblage; however, this assemblage is geographically located adjacent to Assemblage 5 as described by Watling (1998).

The Northeast Peak assemblage is found along the Northern Edge and Northeast Peak, which varies in depth and current strength and includes coarse sediments, mainly gravel and coarse sand with interspersed boulders, cobbles and pebbles. This is the general area of part of the CAII Haddock SAP, though the assemblage also extends to the east into Canadian waters. Fauna tend to be sessile (coelenterates, brachiopods, barnacles, and tubiferous annelids) or free-living (brittlestars, crustaceans and polychaetes), with a characteristic absence of burrowing forms. Representative organisms include amphipods (*Acanthonotozoma serratum*, *Tiron spiniferum*), the isopod *Rocinela americana*, the barnacle *Balanus hameri*, annelids (*Harmothoe imbricata*, *Eunice pennata*, *Nothria conchylega*, and *Glycera capitata*), sea scallops (*Placopecten magellanicus*), brittlestars (*Ophiacantha bidentata*, *Ophiopholis aculeata*), and soft corals (*Primnoa resedaeformis*, *Paragorgia arborea*).

The Central Georges assemblage occupies the greatest area, including the central and northern portions of the bank in depths less than 100 m. This area is included in both the CAII Haddock SAP (the portion of the SAP area west of CAII) and the Western U.S./Canada area. Medium grained shifting sands predominate this dynamic area of strong currents. Organisms tend to be small to moderately large in size with burrowing or motile habits. Sand dollars (*Echinarachnius parma*) are most characteristic of this assemblage. Other representative species include mysids (*Neomysis americana*, *Mysidopsis bigelowi*), the isopod *Chiridotea tuftsi*, the cumacean *Leptocuma minor*, the amphipod *Protohaustorius wigleyi*, annelids (*Sthenelais limicola*, *Goniadella gracilis*, *Scalibregma inflatum*), gastropods (*Lunatia heros*, *Nassarius trivittatus*), the starfish *Asterias vulgaris*, the shrimp *Crangon septemspinosa* and the crab *Cancer irroratus*.

The Southern Georges assemblage is found on the southern and southwestern flanks at depths from 80 m to 200 m, where fine grained sands and moderate currents predominate. Many southern species exist here at the northern limits of their range. Dominant fauna include

amphipods, copepods, euphausiids and starfish genus *Astropecten*. Representative organisms include amphipods (*Ampelisca compressa*, *Erichthonius rubricornis*, *Synchelidium americanum*), the cumacean *Diastylis quadrispinosa*, annelids (*Aglaophamus circinata*, *Nephtys squamosa*, *Apistobranchus tullbergi*), crabs (*Euprognatha rastellifera*, *Catapagurus sharreri*) and the shrimp *Munida iris*.

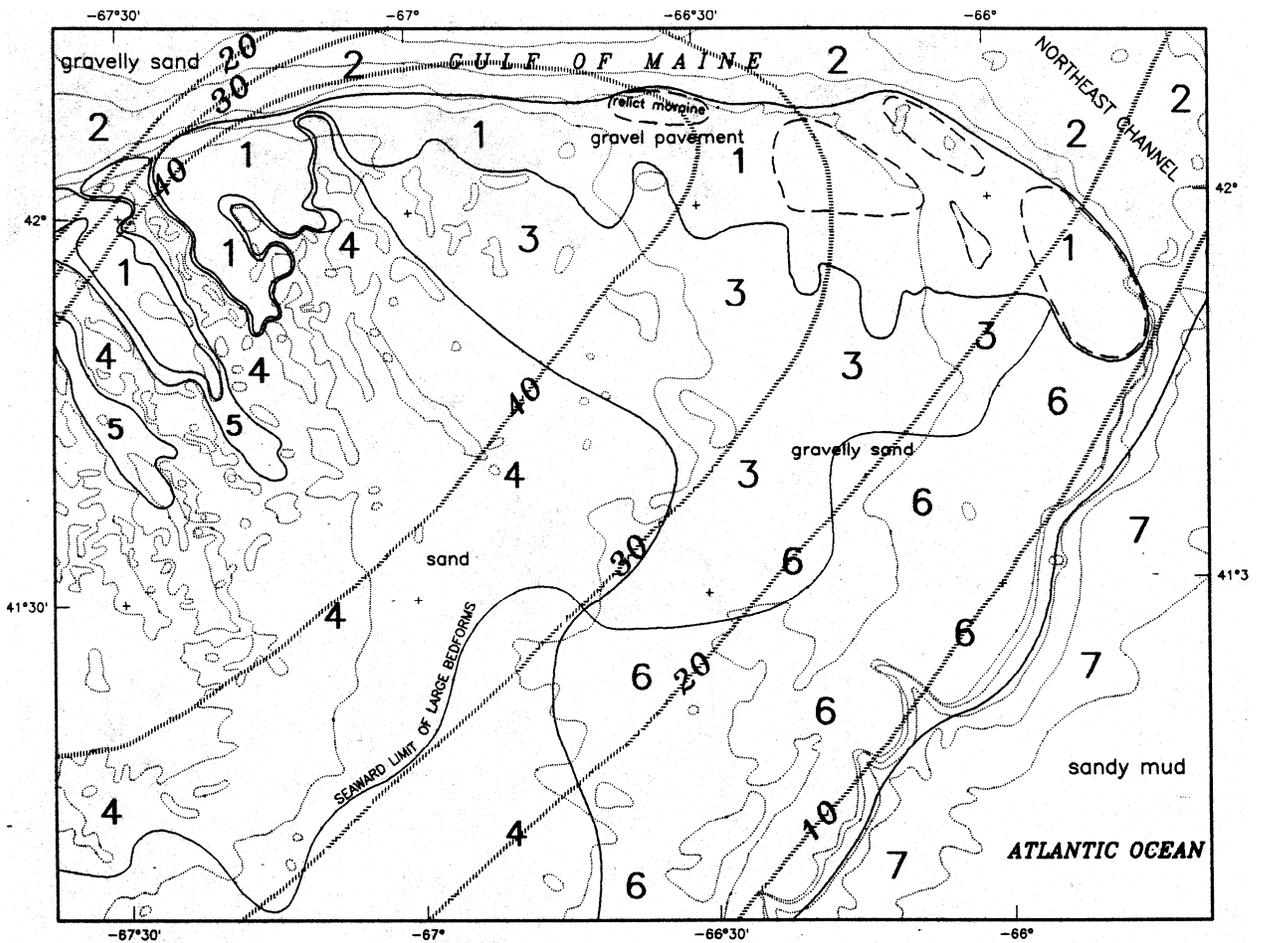
Along with high levels of primary productivity, Georges Bank has been historically characterized by high levels of fish production. Several studies have attempted to identify demersal fish assemblages over large spatial scales. Overholtz and Tyler (1985) found five depth-related groundfish assemblages for Georges Bank and the Gulf of Maine that were persistent temporally and spatially. Depth and salinity were identified as major physical influences explaining assemblage structure. Gabriel identified six assemblages, which are compared with the results of Overholtz & Tyler (1984) in Mahon et al. (1998) found similar results.

Table 24 - Sedimentary provinces of Georges Bank, as defined by Valentine *et al.* (1993) and Valentine and Lough (1991) with additional comments by Valentine (personal communication) and Benthic Assemblages assigned from Theroux and Grosslein (1987).

Sedimentary Province	Depth (m)	Description	Benthic Assemblage
Northern Edge / Northeast Peak (1)	40-200	Dominated by gravel with portions of sand, common boulder areas, and tightly packed pebbles. Representative epifauna (bryozoa, hydrozoa, <i>anemones</i> , and <i>calcareous</i> worm tubes) are abundant in areas of boulders. <i>Strong tidal and storm currents.</i>	Northeast Peak
Northern Slope & Northeast Channel (2)	200-240	Variable sediment type (gravel, gravel-sand, and sand) scattered bedforms. This is a transition zone between the northern edge and southern slope. <i>Strong tidal and storm currents.</i>	Northeast Peak
North / Central Shelf (3)	60-120	Highly variable sediment type (ranging from gravel to sand) with rippled sand, large bedforms, and patchy gravel lag deposits. <i>Minimal epifauna on gravel due to sand movement. Representative epifauna in sand areas include amphipods, sand dollars, and burrowing anemones.</i>	Central Georges
Central & Southwestern Shelf - <i>shoal ridges</i> (4)	10-80	Dominated by sand (fine and medium grain) with large sand ridges, dunes, waves, and ripples. Small bedforms in southern part. <i>Minimal epifauna on gravel due to sand movement. Representative epifauna in sand areas include amphipods, sand dollars, and burrowing anemones.</i>	Central Georges
Central & Southwestern Shelf - <i>shoal troughs</i> (5)	40-60	Gravel (including gravel lag) and gravel-sand between large sand ridges. Patch large bedforms. Strong currents. (Few samples – submersible observation noted presence of gravel lag, rippled gravel-sand, and large bedforms.) <i>Minimal epifauna on gravel due to sand movement. Representative epifauna in sand areas include amphipods, sand dollars, and burrowing anemones.</i>	Central Georges
Southeastern Shelf (6)	80-200	Rippled gravel-sand (medium and fine-grained sand) with patchy large bedforms and gravel lag. Weaker currents; <i>ripples are formed by intermittent storm currents. Representative epifauna include sponges attached to shell fragments and amphipods.</i>	Southern Georges
Southeastern Slope (7)	400-2000	Dominated by silt and clay with portions of sand (medium and fine) with rippled sand on shallow slope and smooth silt-sand deeper.	none

Figure 35 - Sedimentary provinces of eastern Georges Bank based on criteria of sea floor morphology, texture, sediment movement and bedforms, and mean tidal bottom current speed (cm/sec).

Relict moraines (bouldery sea floor) are enclosed by dashed lines. Source: Valentine and Lough (1991).



5.3.1.3 Southern New England/Mid-Atlantic Bight

Three broad faunal zones related to water depth and sediment type were identified for the Mid-Atlantic by Pratt (1973). The “sand fauna” zone was defined for sandy sediments (1% or less silt) which are at least occasionally disturbed by waves, from shore out to 50 m. The “silty sand fauna” zone occurred immediately offshore from the sand fauna zone, in stable sands containing at least a few percent silt and slightly more (2%) organic material. Silts and clays become predominant at the shelf break and line the Hudson Shelf Valley, and support the “silt-clay fauna.”

Demersal fish assemblages were described at a broad geographic scale for the continental shelf and slope from Cape Chidley, Labrador to Cape Hatteras, North Carolina (Mahon *et al.* 1998) and from Nova Scotia to Cape Hatteras (Gabriel 1992). Factors influencing species distribution included latitude and depth.

Results of these studies were similar to an earlier study confined to the Mid-Atlantic Bight continental shelf (Colvocoresses and Musick 1983). In this study, there were clear variations in species abundances, yet they demonstrated consistent patterns of community composition and distribution among demersal fishes of the Mid-Atlantic shelf. This is especially true for five strongly recurring species associations that varied slightly by season. The boundaries between fish assemblages generally followed isotherms and isobaths. The assemblages were largely similar between the spring and fall collections, with the most notable change being a northward and shoreward shift in the temperate group in the spring.

Table 25 - Major Recurrent Demersal Finfish Assemblages of the Mid-Atlantic Bight During Spring and Fall as Determined by Colvocoresses and Musik (1983).

Season	Species Assemblage				
	Boreal	Warm temperate	Inner shelf	Outer shelf	Slope
Spring	Atlantic cod little skate sea raven monkfish winter flounder longhorn sculpin ocean pout whiting red hake white hake spiny dogfish	black sea bass summer flounder butterfish scup spotted hake northern searobin	windowpane	fourspot flounder	shortnose greeneye offshore hake blackbelly rosefish white hake
Fall	white hake whiting red hake monkfish longhorn sculpin winter flounder yellowtail flounder witch flounder little skate spiny dogfish	black sea bass summer flounder butterfish scup spotted hake northern searobin smooth dogfish	windowpane	fourspot flounder fawn cusk eel gulf stream flounder	shortnose greeneye offshore hake blackbelly rosefish white hake witch flounder

5.3.2 Gear Effects

Section 10.3.1.2.4 of Amendment 13 describes the general effects of trawls and dredges on benthic marine habitats, as reported in three recent reports (ICES 2000, Johnson 2002, and NRC 2002). (The report by Morgan and Chuenpagdee was not available when this summary was written: it generally confirms the findings of the other three reports). All four of these reports are international or national in scope and include information on the effects of types of trawls and dredges not used in the Northeast region of the U.S. (e.g., beam trawls and toothed scallop dredges) and affected habitats not found in the NE region (e.g., coral reefs and maerl beds). The conclusions reached are, nevertheless, pertinent to an evaluation of potential adverse impacts of the types of trawls and dredges used in this region. To re-iterate, the four major types of habitat modification caused by bottom trawls that are identified in the ICES (2001) report are the following:

- Loss or dispersal of physical features such as peak banks or boulder reefs (changes are always permanent and lead to an overall change in habitat diversity, which can in turn lead to the local loss of species and species assemblages dependant on such features);
- Loss of structure-forming organisms such as bryozoans, tube-dwelling polychaetes, hydroids, seapens, sponges, mussel beds, and oyster beds (changes may be permanent and can lead to an overall change in habitat diversity which can in turn lead to the local loss of species and species assemblages dependant on such biogenic features);
- Reduction in complexity caused by redistributing and mixing of surface sediments and the degradation of habitat and biogenic features, leading to a decrease in the physical patchiness of the sea floor (changes are not likely to be permanent);
- Alteration of the detailed physical features of the sea floor by reshaping seabed features such as sand ripples and damaging burrows and associated structures which provide important habitats for smaller animals and can be used by fish to reduce their energy requirements (changes are not likely to be permanent).

The NRC (2002) report also identified three major effects of trawling and dredging, the first two of which are also mentioned in the ICES (2001) report:

- Reduced habitat complexity;
- Discernible changes in benthic communities (caused by repeated trawling and dredging);
- Reduced productivity of benthic habitats.

The four effects of trawling identified in the ICES (2001) report are listed in order of decreasing permanence. Given the MSA definition of “adverse” as “more than minimal and not temporary,” the first effect is clearly adverse. The second effect may be permanent and the other two are not likely to be permanent. However, they are still considered as potential adverse impacts since they are effects that could persist in certain habitats that are exposed to more or less continual, or frequently repeated, trawling activity. Furthermore, given the similarity in the habitat effects of dredges and trawls noted in the NRC (2002) and Morgan and Chuenpagdee (2003) reports, all of these potential adverse effects are considered to apply equally well to both gear types.

Looking at the effects of bottom trawls, scallop dredges, and hydraulic clam dredges in the NE region, there is more specific information to evaluate. According to the October 2001 workshop report (NREFHSC 2002), otter trawls had greater overall impacts than scallop dredges, but affected physical and biological structure equally. Effects on biological structure scored higher than effects on physical structure for both gears. In addition, trawls were judged to have some effects on major physical features.

Additional information is provided in this report on the recovery times for each type of impact for all three gears in mud, sand, and gravel habitats (“gravel” includes other hard-bottom habitats). This information makes it possible to rank these three substrates in terms of their vulnerability to the effects of bottom trawling and dredging, bearing in mind that other factors such as frequency of disturbance from fishing and from natural events are also important. Otter trawls and scallop dredges were assigned higher impact scores in gravel, mud ranked second for trawls (and sand third), and sand ranked second for scallop dredges (this gear is not used in mud habitats). Clam dredges had low impacts compared to scallop dredges and trawls and are only used in sand and not used to target groundfish stocks.

Effects of trawls on major physical features in mud (deep-water clay-bottom habitats) and gravel bottom were described as permanent, and impacts to biological and physical structure were given recovery times of months to years in mud and gravel. Impacts of trawling on physical structure in sand were of shorter duration (days to months) given the exposure of most continental shelf sand habitats to strong bottom currents and/or frequent storms.

For scallop dredges in gravel, recovery from impacts to biological structure was estimated to take several years and, for impacts to physical structure, months to years. In sand, biological structure was estimated to recover within months to years and physical structure within days to months.

Results of a comprehensive review of available gear effect studies published through the summer of 2002 (Stevenson et al. 2004) that were relevant to the NE region of the U.S. are summarized in Section 10.3.1.2.4.2 of Amendment 13. Positive and negative effects of otter trawls and scallop dredges from these publications are listed by substrate type in Amendment 13 along with recovery times (when known). Without more information on recovery times, it is difficult to be certain which of the negative effects listed in these tables last for, say, more than a month or two. In fact, it is difficult to conclude in some cases (e.g., furrows produced by trawl doors) whether the habitat effect is positive, negative, or just neutral. Despite these shortcomings in the information, the scientific literature for the NE region does provide some detailed results that confirm the previous determinations of potential adverse impacts of trawls and dredges that were based on the ICES (2001), NRC (2002), and Morgan and Chuenpagdee (2003) reports.

A final step in the process of assessing the potential adverse impacts of fishing on benthic EFH that was taken for this amendment is the determination of which of the 39 federally-managed species in the Northeast region have EFH which is vulnerable to the adverse impacts of otter trawls. Based on information originally included in Stevenson et al (2004), the Council concluded, for Amendment 13, that the use of otter trawls has more than a minimal or temporary adverse effect on benthic EFH for the following species (and life stages) EFH: American plaice (Juvenile (J), Adult (A)), Atlantic cod (J, A), Atlantic halibut (J, A), haddock (J, A), ocean pout (E, L, J, A), red hake (J, A), redfish (J, A), white hake (J), silver hake (J), winter flounder (A), witch flounder (J, A), yellowtail flounder (J, A), red crab (J, A), black sea bass (J, A), scup (J), tilefish (J, A), barndoor skate (J, A), clearnose skate (J, A), little skate (J, A), rosette skate (J, A), smooth skate (J, A), thorny skate (J, A), and winter skate (J, A). (Note: A: adults; J: juveniles; L: larvae; E: eggs). Based on the results of the November 2001 Gear Effects Workshop

(NREFHSC 2001), the gear effects analysis performed in Amendment 13 concluded that fixed bottom-tending gear types such as bottom longlines and gill nets (in the context of the Northeast Multispecies fishery) have minimal adverse effects on EFH in this region.

Table 26. Species and life stages determined to be adversely impacted by otter trawls in Amendment 13.

(Bold: species within the Multispecies fishery management unit). Those species with moderate or high vulnerability rankings were determined to be adversely impacted in a manner that is more than minimal and less than temporary in nature.)

Species	Lifestage	Otter Trawl Vuln.
American Plaice	A	High
American Plaice	J	Moderate
Atlantic Cod	A	Moderate
Atlantic Cod	J	High
Atlantic Halibut	A	Moderate
Atlantic Halibut	J	Moderate
Haddock	A	High
Haddock	J	High
Ocean Pout	A	High
Ocean Pout	J	High
Ocean Pout	L	High
Ocean Pout	E	High
Pollock	A	Moderate
Red Hake	A	Moderate
Red Hake	J	High
Redfish	A	Moderate
Redfish	J	High
Silver Hake	J	Moderate
White Hake	J	Moderate
Winter Flounder	A	Moderate
Witch Flounder	A	Moderate
Witch Flounder	J	Moderate
Yellowtail Flounder	A	Moderate
Yellowtail Flounder	J	Moderate
Barndoor Skate	A	Mod
Barndoor Skate	J	Mod
Black Sea Bass	A	High
Black Sea Bass	J	High
Clearnose Skate	A	Mod
Clearnose Skate	J	Mod
Little Skate	A	Mod
Little Skate	J	Mod
Rosette Skate	A	Mod
Rosette Skate	J	Mod
Scup	J	Mod
Smooth Skate	A	High
Smooth Skate	J	Mod
Thorny Skate	A	Mod
Thorny Skate	J	Mod
Tilefish	A	High
Tilefish	J	High
Winter Skate	A	Mod
Winter Skate	J	Mod

In order to minimize and mitigate the adverse effects of the fishery on EFH, under Amendment 13, the Council implemented Habitat Alternative 2 (Benefits of other Amendment 13 alternatives), Alternative 7 (Expand the list of gears prohibited in year-round closed areas to include clam dredges), and Alternative 10b (Compromise Habitat Closure Areas). Habitat

Alternative 10b prohibited bottom-tending mobile gear (includes most gear capable of catching groundfish gear) from fishing in vulnerable areas containing the above benthic habitat types. This measure applied to approximately 2,811 square nautical miles within the EEZ. Alternative 7 prohibited clam dredges from accessing portions of groundfish closed areas they were permitted to access in the past. Additionally, Alternatives 2, which include effort reductions and additional groundfish closed areas, were implemented to further mitigate the adverse effects of the fishery on EFH.

Because the monkfish fishery overlaps significantly with the groundfish fishery in the northern fishery management area and the habitat closed areas extend into the southern fishery management area, measures to protect habitat in Amendment 10 and Amendment 13 assist in minimizing the effect of fishing on EFH in the monkfish fishery. The alternatives implemented in Monkfish Amendment 2 focus on those areas (offshore/shelf slope/canyons) and gears modifications (trawl mesh) where the monkfish fishery operations do not overlap (spatially or gear use) with the groundfish or scallop fisheries. The Councils closed Oceanographer and Lydonia Canyons deeper than 200 meters, a total closure of 116 square nautical miles, to vessels on a monkfish DAS to minimize the impacts of the directed monkfish fishery on deepwater canyon, hard bottom communities.

The management measures, implemented through Amendment 13 and Amendment 2, minimized the adverse effects of fishing on EFH, to the extent practicable pursuant to Section 303(A)(7) of the MSA).

5.4 Marine Mammals and Protected Species

The following protected species are found in the environment utilized by the groundfish fishery. A number of them are listed under the Endangered Species Act of 1973 (ESA) as “endangered” or “threatened”, while others are identified as protected under the Marine Mammal Protection Act of 1972 (MMPA). Actions taken to minimize the interaction of the fishery with protected species are described in [Section 3.1.1.1 \[Background Section mentioning HPRT, ALWTRP, etc.\]](#) of this document. Monthly reports of observed incidental takes are available on the NEFSC website at <http://www.nefsc.noaa.gov/femad/fishsamp/fsb/>.

Cetaceans

Northern right whale (*Eubalaena glacialis*)
Humpback whale (*Megaptera novaeangliae*)
Fin whale (*Balaenoptera physalus*)
Blue whale (*Balaenoptera musculus*)
Sei whale (*Balaenoptera borealis*)
Sperm whale (*Physeter macrocephalus*)
Minke whale (*Balaenoptera acutorostrata*)
Pilot whale (*Globicephala* spp.)
Spotted dolphin (*Stenella frontalis*)
Risso’s dolphin (*Grampus griseus*)
White-sided dolphin (*Lagenorhynchus acutus*)
Common dolphin (*Delphinus delphis*)
Bottlenose dolphin: coastal stocks (*Tursiops truncatus*)
Harbor porpoise (*Phocoena phocoena*)

Status

Endangered
Endangered
Endangered
Endangered
Endangered
Endangered
Protected
Protected
Protected
Protected
Protected
Protected
Protected
Protected

Seals

Harbor seal (<i>Phoca vitulina</i>)	Protected
Gray seal (<i>Halichoerus grypus</i>)	Protected
Harp seal (<i>Phoca groenlandica</i>)	Protected
Hooded seal (<i>Crystophora cristata</i>)	Protected

Sea Turtles

Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered
Green sea turtle (<i>Chelonia mydas</i>)	Endangered*
Loggerhead sea turtle (<i>Caretta caretta</i>)	Threatened

Fish

Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered
Atlantic salmon (<i>Salmo salar</i>)	Endangered

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

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

It is expected that all of the remaining species identified have the potential to be affected by the operation of the groundfish fishery. However, given differences in abundance, distribution and migratory patterns, it is likely that any effects that may occur, as well as the magnitude of effects when they do occur, will vary among the species. Summary information is provided here that describes the general distribution of cetaceans, pinnipeds, and sea turtles within the management area for the Groundfish FMP as well as the known interactions of gear used in the groundfish fishery with these protected species. Additional background information on the range-wide status of marine mammal and sea turtle species that occur in the area can be found in a number of published documents. These include sea turtle status reviews and biological reports (NMFS and USFWS 2007; Hirth 1997; USFWS 1997; Marine Turtle Expert Working Group (TEWG) 1998 & 2000), recovery plans for Endangered Species Act-listed sea turtles and marine mammals (NMFS 1991; NMFS and USFWS 1991a; NMFS and USFWS 1991b; NMFS and USFWS 1992; NMFS 1998; USFWS and NMFS 1992; NMFS 2005), the marine mammal stock assessment reports (*e.g.*, Waring *et al.* 2006 and 2007), and other publications (*e.g.*, Clapham *et al.* 1999; Perry *et al.* 1999; Wynne and Schwartz 1999; Best *et al.* 2001; Perrin *et al.* 2002). Additionally, the Center for Biological Diversity and the Turtle Island Restoration Network has recently filed a petition to reclassify loggerhead turtles in the North Pacific Ocean as a distinct population segment (DPS) with endangered status and designate critical habitat under the ESA (72 *Federal Register* 64585; November 16, 2007). While this petition is geared toward the North Pacific, the possibility exists that it could affect status in other areas. NMFS has found that the petition presents substantial scientific information that the petition action may be warranted, and has published a notice and request for comments, available at: <http://www.nmfs.noaa.gov/pr/pdfs/fr/fr72-64585.pdf>.

Sea Turtles

Loggerhead, leatherback, Kemp's ridley, and green sea turtles occur seasonally in southern New England and Mid-Atlantic continental shelf waters north of Cape Hatteras. In general, turtles move up the coast from southern wintering areas as water temperatures warm in the spring (James *et al.* 2005; Morreale and Standora 2005; Braun-McNeill and Epperly 2004; Morreale and Standora 1998; Musick and Limpus 1997; Shoop and Kenney 1992; Keinath *et al.* 1987). The trend is reversed in the fall as water temperatures cool. By December, turtles have passed Cape Hatteras, returning to more southern waters for the winter (James *et al.* 2005; Morreale and Standora 2005; Braun-McNeill and Epperly 2004; Morreale and Standora 1998; Musick and Limpus 1997; Shoop and Kenney 1992; Keinath *et al.* 1987). Hard-shelled species are typically observed as far north as Cape Cod whereas the more cold-tolerant leatherbacks are observed in more northern Gulf of Maine waters in the summer and fall (Shoop and Kenney 1992; STSSN database).

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

Large Cetaceans (Baleen Whales and Sperm Whale)

The western North Atlantic baleen whale species (Northern right, humpback, fin, sei, and minke) follow a general annual pattern of migration from high latitude summer foraging grounds, including the Gulf of Maine and Georges Bank, and low latitude winter calving grounds (Perry *et al.* 1999; Kenney 2002). However, this is an oversimplification of species movements, and the complete winter distribution of most species is unclear (Perry *et al.* 1999; Waring *et al.* 2007). Studies of some of the large baleen whales (right, humpback, and fin) have demonstrated the presence of each species in higher latitude waters even in the winter (Swingle *et al.* 1993; Wiley *et al.* 1995; Perry *et al.* 1999; Brown *et al.* 2002).

In comparison to the baleen whales, sperm whale distribution occurs more on the continental shelf edge, over the continental slope, and into mid-ocean regions (Waring *et al.* 2005). However, sperm whales distribution in U.S. EEZ waters also occurs in a distinct seasonal cycle (Waring *et al.* 2007). Typically, sperm whale distribution is concentrated east-northeast of Cape Hatteras in winter and shifts northward in spring when whales are found throughout the Mid-Atlantic Bight (Waring *et al.* 2005). Distribution extends further northward to areas north of Georges Bank and the Northeast Channel region in summer and then south of New England in fall, back to the Mid-Atlantic Bight (Waring *et al.* 1999).

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

The groundfish fishery does not operate in low latitude waters where calving and nursing occurs for these large cetacean species (Aguilar 2002; Clapham 2002; Horwood 2002; Kenney 2002; Sears 2002; Whitehead 2002).

Gillnet gear is known to pose a risk of entanglement causing injury and death to large cetaceans. Right whale, humpback whale, and minke whale entanglements in gillnet gear have been documented (Johnson *et al.* 2005; Waring *et al.* 2007). However, it is often not possible to attribute the gear to a specific fishery. For the period March 2006 – February 2008, five incidents of whale takes were observed on trips targeting groundfish, all of which were taken in bottom trawl trips. Of those five takes, four were of whales that were in various states of decomposition, while one pilot whale was deemed “fresh”. No takes were observed in groundfish sink gillnets.

Small Cetaceans (Dolphins, Harbor Porpoise and Pilot Whale)

Numerous small cetacean species (dolphins, pilot whales, harbor porpoise) occur within the area from Cape Hatteras through the Gulf of Maine. Seasonal abundance and distribution of each species in Mid-Atlantic, Georges Bank, and/or Gulf of Maine waters varies with respect to life history characteristics. Some species primarily occupy continental shelf waters (e.g., white sided dolphins, harbor porpoise), while others are found primarily in continental shelf edge and slope waters (e.g., Risso’s dolphin), and still others occupy all three habitats (e.g., common dolphin, spotted dolphins). Information on the western North Atlantic stocks of each species is summarized in Waring *et al.* (2007). Small cetaceans are known to be captured in gillnet and trawl gear, although the rate of bycatch of harbor porpoise in trawl gear is so low as to be considered 0 (Waring *et al.* 2007).

With respect to harbor porpoise specifically, the most recent Stock Assessment Reports show that the estimated number of harbor porpoise takes is increasing, moving closer to the Potential Biological Removal level calculated for this species rather than declining toward the long-term Zero Mortality Rate Goal (ZMRG), which is 10 percent of PBR (approximately 75 animals). The most recent stock assessment report states that the average annual estimated harbor porpoise mortality and serious injury in the Northeast sink gillnet fishery during 1994-1998, before the Harbor Porpoise Take Reduction Plan (HPTRP), was 1,163, and from 2000 to 2004 was 450 (Waring *et al.*, 2007). Observer information collected from January 2005 to June 2006 has indicated an increase in porpoise bycatch throughout the geographic area covered by the HPTRP in both the Gulf of Maine and Mid-Atlantic regions. The Harbor Porpoise Take Reduction Team is currently developing options to reduce takes.

Pinnipeds

Of the four species of seals expected to occur in the area, harbor seals have the most extensive distribution with sightings occurring as far south as 30° N (Katona *et al.* 1993). Grey seals are the second most common seal species in U.S. EEZ waters, occurring primarily in New England (Katona *et al.* 1993; Waring *et al.* 2007). Pupping colonies for both species are also present in New England, although the majority of pupping occurs in Canada. Harp and hooded seals are less commonly observed in U.S. EEZ waters. Both species form aggregations for pupping and breeding off of eastern Canada in the late winter/early spring, and then travel to more northern latitudes for molting and summer feeding (Waring *et al.* 2007). However, individuals of both species are also known to travel south into U.S. EEZ waters and sightings as well as strandings of each species have been recorded for both New England and Mid-Atlantic waters (Waring *et al.* 2007). All four species of seals are known to be captured in gillnet and/or trawl gear (Waring *et al.* 2007).

5.5 Human Communities and the Fishery

5.5.1 Overview

5.5.1.1 Commercial Harvesting Sector

5.5.1.2 DAS Allocations and Use

{Waiting for data from NMFS NERO}

5.5.1.3 Landings and Revenues

5.5.1.4 Vessel Operating Costs

The NMFS observer program collects cost information on selected observed trips. Data were queried to provide information on variable trip costs in recent fishing years. A value per day absent was calculated for each trip and then an annual average value over all trips determined for the primary groundfish gears. Data for FY 2007 is incomplete and only reflects trips through the beginning of February, 2008. Table 18 provides a summary of these data for trips that reported keeping regulated groundfish. Note that this information does not reflect all vessel costs. In addition to fixed costs that are not reported, costs to lease DAS are not included. Nominal values are shown.

Variable costs on these observed trips increased between FY 2003 and FY 2007 with much of the increase due to increased fuel costs. Total costs per day absent declined slightly for gillnet gear from FY 2005 to FY 2006, and for longline gear between FY 2004 and FY 2006, while costs for trawl gear increased steadily. Using FY 2004 as a base year (implementation of Amendment 13), total costs for gillnet gear increased by 17 percent, for longline gear increased by 11 percent, and for trawl gear increased by 47 percent. Fuel costs per gallon more than doubled for all three gear categories. Examining average fuel costs for FY 2007 indicate that average fuel prices climbed steadily from about \$2.40/gallon at the beginning of the fishing year to over \$3.20/gallon by January. The average price for FY 2007 is likely to be higher than the partial-year data shown here.

Table 18 – Variable costs on observed trips landing regulated groundfish (FY 2007 data incomplete). Data are averages with the exception of number of trips observed.

Gear	Data	FY				
		2003	2004	2005	2006	2007
Gillnet	Number of Trips	38	174	184	108	87
	CREW	3	3	3	3	3
	GRTONS	18	20	21	25	18
	BHP	378	337	330	328	302
	STEAMTIM	3.2	2.2	3.0	3.9	2.7
	FOODCOST/DA	\$32	\$27	\$29	\$31	\$31
	ICECOST/DA	\$15	\$23	\$21	\$27	\$22
	FUELPRICE/DA	\$1.36	\$1.57	\$2.16	\$2.30	\$2.68
	FUELCOST/DA	\$105	\$79	\$122	\$149	\$143

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	MISCCOST/DA	\$60	\$89	\$88	\$39	\$47
		\$192	\$195	\$244	\$225	\$228
	TOTALCOST/DA					
Longline	Number of Trips	3	44	45	32	9
	CREW	2	2	2	2	2
	GRTONS	20	16	21	20	18
	BHP	305	356	387	357	422
	STEAMTIM	2.0	3.6	5.5	4.3	5.8
	FOODCOST/DA	\$13	\$25	\$27	\$24	\$23
	ICECOST/DA	\$15	\$46	\$23	\$25	\$33
	FUELPRICE/DA	\$1.35	\$1.82	\$2.30	\$2.23	\$2.94
	FUELCOST/DA	\$72	\$195	\$227	\$200	\$308
	MISCCOST/DA	\$68	\$393	\$236	\$201	\$332
	OTALCOST/DA	\$158	\$618	\$493	\$423	\$689
Trawl	Number of Trips	78	281	379	257	255
	CREW	3	3	3	3	3
	GRTONS	121	104	90	108	97
	BHP	548	525	482	545	490
	STEAMTIM	9.8	10.0	8.9	10.6	9.1
	FOODCOST/DA	\$86	\$82	\$68	\$78	\$73
	ICECOST/DA	\$105	\$78	\$87	\$86	\$82
	FUELPRICE/DA	\$1.24	\$1.63	\$2.11	\$2.26	\$2.65
	FUELCOST/DA	\$419	\$541	\$601	\$769	\$795
	MISCCOST/DA	\$102	\$122	\$89	\$83	\$164
	OTALCOST/DA	\$681	\$793	\$817	\$989	\$1,084

5.5.1.5 Category B (regular) DAS Program

{Waiting for data from NMFS NERO}

5.5.1.6 Haddock Separator Trawl Performance

{To be completed}

5.5.1.7 Recreational Harvesting Sector

{To be completed}

6.0 Environmental Impacts of the Management Alternatives

The impacts of the proposed management alternatives are described in this section. Expected impacts are considered in four broad categories:

Biological impacts: the effect on fishing mortality, bycatch and bycatch mortality, and protected and threatened species

Economic impacts: the effects of the proposed measures on revenues and costs in the fishery, and the impacts of those changes on other entities in coastal communities

Social impacts: the effects of the proposed measures on fishing communities and participants in the fisheries affected by the FMP

Habitat impacts: the effects of the proposed measures and the extent to which they will minimize the adverse effects of fishing on essential fish habitat

6.1 Analytic Approach and Limitations

The Council is proposing changes to address several broad issues: rebuilding overfished stocks, ending overfishing, modifications to existing sector policies, addressing requirements to minimize bycatch and/or bycatch mortality, and numerous administrative measures. Analyses are grouped in the same manner, but the emphasis is on analysis of the measures designed to control fishing mortality. In the case of measures designed to control fishing mortality, the impacts of measures are analyzed by combining the measures as much as possible. This is because many of the proposed measures interact with each other and analyzing the measures individually does not capture the true impact of adopting a suite of measures. Where possible, quantitative impacts are estimated, but the Council has limited ability to quantify the impacts of some of the indirect management measures proposed in this framework. As a result, most alternatives are a combination of quantitative and qualitative analysis. Some management measures are included in several alternatives. Where this occurs, the detailed analysis is only described the first time the measure appears in an alternative. In later alternatives, the measure is referenced and its effects summarized.

6.1.1 Stock Status Uncertainty

As noted in section 4.4, design of the management measure alternatives was hampered by the lack of information about current stock status and status determination criteria. Analysis of the impacts of the proposed management measures is also hindered by this same uncertainty.

When developing recent groundfish management actions (Amendment 13, FW 42, etc.), the Council was first provided information on both stock status and status determination criteria. With these two pieces of information, management measures were designed to achieve specific management objectives. Perhaps the most critical objective in terms of designing measures were the changes in fishing mortality needed to meet requirements to rebuild stocks or end overfishing. Once measures were developed to achieve those change, economic and social impacts could be estimated.

For this management action, the requirement to meet a specific regulatory timeline prevents the Council from waiting until stock status and status determination criteria have been updated before developing a draft document. As a result, there is increased uncertainty about the final design of the management measures and this leads to uncertainty over whether the impacts described in this section will reflect the impacts when a final decision is made. This uncertainty also leads to less quantitative analysis than in previous draft multispecies management actions.

6.1.2 Closed Area/Effort Control Analysis

One of the primary analytic tools used to analyze both the biological and economic impacts of the effort control alternatives (section 4.4.2) is the closed area model. Changes in mortality brought about by area closures and revised trip limits were projected through a non-linear programming model using the General Algebraic Modeling System (GAMS). The model has been previously described in Amendment 13 (NEFMC 2003) and FW 42 (NEFMC 2006). This model attempts to estimate fishery responses to management measures based on economic factors. The results can also be used to estimate changes in exploitation, which can be converted to changes in fishing mortality. Over time, the model has been modified in response to suggestions from reviewers. The current formulation of the model used for these analyses incorporates non-groundfish species into the model, attempts to account for exchanges of DAS through leasing activity, and allows vessels the potential to fish in more areas and time periods. More information on the current model structure can be found in Appendix XXX.

To use the model, an initial model run was made based on the no action management regime. Additional model runs are then made based on proposed changes in seasonal and year round area closures, changes in trip limits, and changes in days at sea under each management option. The estimated catch stream from each option is then compared to the no action catch stream, and the percentage change in landings is calculated. These numbers should be interpreted as the percent change in exploitation brought about by the proposed management action using the conditions which existed during the 1998-2001 time period. Changes in the exploitation rate can then be interpreted as equivalent changes in mortality. However, results should be interpreted cautiously because some conditions may have changed which are not reflected in the base year data.

Additionally, there is variability around the estimates which is not fully captured by the model. One weakness of the model is the uncertainty about catch rates that result from opening areas that have been closed for a lengthy period of time. This is most problematic when changing the boundaries of year round closed areas. Because there is limited trip information in the closed area, the closed area model may under-estimate the catch rates that will result when an area closed to year round fishing is re-opened. This is less of a problem for seasonal closures, since the model incorporates recent trip information that reflects the catch rates that result immediately after opening an area. An advantage of the model is that unlike the “no displacement” analysis of closed areas (that is, assuming that effort in a newly closed area does not fish in another location), it assumes fishing effort moves out of a closed area into an open area based on rational decisions to maximize revenue. A second advantage is that the model output can include predicted impacts on revenues, and this can be broken down by gear sector and tonnage class of vessel. *The model is a simulation of behavioral responses to changes in fishery regulations. It should not be interpreted as a precise calculation of future fishing mortality. While the model output results in apparently precise numerical estimates, it is better to interpret these as broad indicators of relative changes, rather than as precise predictions of mortality impacts. Small percentage changes, for example, should be viewed as less likely relative outcomes than large percentage changes. For stocks where the Council is implementing measures to make large reductions in fishing mortality, it should be clear that the results of the measures will have to be carefully monitored to make sure the objectives are achieved. The model may not capture the exact response of fishermen to the regulations and as a result may over or under estimate the realized impacts.*

As noted earlier, the percentage results should be interpreted as indicators of the relative change in exploitation between options, and not as precise predictions of the result. Changes in exploitation must be converted to a change in fishing mortality in order to determine if mortality

objectives are being met. When large reductions in mortality are needed, the PDT uses the criteria that if the estimated reduction is within ten percent of the needed reduction, the proposed measures are successful. The closed area output includes information on the revenues of individual vessels, and this is used in the analysis of economic impacts of the alternatives (section 5.4).

The use of this model to evaluate effort controls for previous management actions has been challenged. Most recently, a lawsuit was filed in 2007 challenging the model's use to develop FW 42 management measures. That lawsuit is still pending. As noted earlier, changes have been made to the model since its use in FW 42. As management measures become increasingly complex, it becomes more difficult to adapt the model to capture the interactions between measures and the model results become more uncertain. The PDT explored the development of different models for this action, but there was not sufficient time or resources to develop and vet an alternative prior to submitting this document.

6.1.3 Combination of Quantitative Results

While the closed area model is the primary analytic tool used to estimate impacts of management measures, other models are used as well. The closed area model results show changes in exploitation, while the model used for estimating the impacts of mesh change shows reduction in fishing mortality. Prior to combining the results from these two models, the changes in exploitation are converted to percentage reductions in fishing mortality.

When quantitative impacts are calculated for more than one measure, they are not additive because the measures interact with each other. They are combined by first calculating a multiplier value for each, then by multiplying those values together. The multiplier is determined from the following formula:

$$\text{Multiplier} = 1 - (\text{Estimated F reduction})$$

Both of these issues are considered in the summary of biological impacts at the end of each alternative. The summary tables show impacts on fishing mortality for GOM cod and GB cod.

6.1.4 Limitations

Analysis of the impacts of the proposed management alternatives is complicated by the following factors.

- The range of proposals and the interaction between management measures precludes analysis of the components on both large and small scales..
- Many of the management measures interact with each other. Whenever possible, the impacts of each alternative are analyzed as a combination of measures, usually by using the closed area model. When estimates of fishing mortality reductions are obtained from different analytic techniques, they cannot be summed to obtain an estimate of the overall impacts. This is partly because the measures interact with each other, even if analyzed separately.
- The impacts of some measures in the alternatives cannot be quantified. When possible, impacts are expressed in a combination of quantitative and qualitative terms.
- There is limited ability to model long-range economic impacts. Any attempt to model economic impacts into the future assumes no changes in the structure of the economy in the interim. This is an unrealistic assumption over the time periods associated with the rebuilding plans.

- There is limited ability to estimate the economic impacts of changes to the recreational fishing measures. There is both a lack of available data and lack of an ability to predict how recreational fishermen will react to changes. The motivations for recreational fishing are many and varied, and predicting changes in recreational fishermen's behavior is nothing more than guesswork.

6.2 Biological Impacts of the Alternatives

6.2.1 Revised Status Determination Criteria

The specification of status determination criteria (SDC) is required by the guidelines for interpretation of the National Standards (NSGs). The SDC are the biological underpinnings of the management program. Comparison of current stock status (fishing mortality and stock biomass, or proxies for those values) to the SDC determines whether the management plan is meeting biological objectives and complies with legal requirements.

Under the No Action alternative, the SDC adopted by Amendment 13 would continue to guide management actions. The impacts of this choice vary among stocks. For some stocks, the biomass SDC (or target biomass) is higher than the value proposed in Option 1. In these cases, the stock would be ultimately rebuilt to a larger stock size. For other stocks, the Amendment 13 value is lower and if this option is selected the stock's rebuilding potential might not be realized. These differences are highlighted in Table XXX. There are also differences in fishing mortality thresholds – for some stocks, the Amendment 13 values are higher, for others they are lower. Keeping a lower value might be viewed as a biological benefit to the stock as it would result in lower catches from the fishery.

In addition to differences in values, in some instances the Amendment 13 SDCs are a different parameter than what is recommended in Option 1. Continuing to use a parameter that is not consistent with the currently used assessment model would make it difficult to accurately determine stock status. Selecting the No Action alternative is also not consistent with using the best available science for management actions.

The impacts of Option 1 are in the opposite direction of those for the No Action alternative. Option 1 SDCs, however, are based on the best available science.

6.2.2 Revised Mortality Targets for Formal Rebuilding Programs

Because stock status is unknown, revisions to the mortality targets for rebuilding programs are undefined (Option 2, see section 4.2.2.2). In broad terms, however, biological impacts of choosing the No Action alternative (Option 1) over Option 2 can be described. If after stock status is determined fishing mortality needs to be reduced to complete the Amendment 13 rebuilding plans, then if Option 1 is adopted stocks will not be rebuilt by the end of the rebuild period. Stock size will be lower than if that was accomplished. If stock status suggests fishing mortality can be increased and Option 1 is adopted, then stocks should rebuild more quickly than proposed by Amendment 13. It is likely that some mix of these results will result, since it is not likely that every stock in a rebuilding program will require the same change in fishing mortality.

6.2.3 Additional Formal Rebuilding Programs

As noted in section 4.2.2.3, once current stock status is determined it may be necessary to adopt additional formal rebuilding programs if additional stocks are determined to be overfished. Without estimates of current and future status for these stocks, it is not possible to determine with certainty if those rebuilding programs will achieve the target biomass more quickly than current regulations. In general, however, the expectation is that in the case of stocks that are newly discovered to be overfished, the adoption of a formal rebuilding program increases the likelihood that stock biomass will be increased to the target biomass in a fixed time period.

6.2.4 Fishery Program Administration

6.2.4.1 Sector Administration Provisions

This action proposes numerous changes to the administration of voluntary, self-selecting sectors. All of these changes are designed to improve the effectiveness of sectors as a management option. Some of the proposed changes are primarily administrative in nature. Many of these administrative measures provide more detail on the information sector organizers should submit when applying for a sector or in annual reports. These are unlikely to have any direct biological impacts. The proposed measures that fall into this category are:

- Sector formation proposal and operations plan revisions
- Sector annual reports

This action also considers five alternatives to the existing method used to determine the potential sector contribution (permit history) for limited access permit holders eligible to join sectors. While these options determine the annual catch entitlement (ACE) for each sector, which limits the sector's catch, the options themselves do not have direct biological impacts. They are different ways of allocating the same amount of the resource. It is possible that these options may have different indirect biological impacts. For example, if one option results in allocating more groundfish to a sector that because of its fishing practices has more interaction with a non-groundfish stock that is over-fished, that option could increase fishing mortality on that stock and slow rebuilding progress. These types of indirect impacts are impossible to predict without knowing sector membership and fishing practices.

Allocation of Resources

This action proposes to change how resources are allocated to sectors. As currently implemented, sectors are allowed to choose which stocks will be fished under a hard TAC and can rely on DAS to control mortality on other stocks. This could result in increased fishing mortality on other stocks that is not anticipated by the sector concept. This is because DAS are only part of the effort control system, which includes gear restrictions, trip limits, and seasonal and year round closed areas. Catch rates while using DAS without these other restrictions would likely be higher, so the DAS cannot be expected to be an adequate mortality control.

The option being considered will require that sector fishing be limited by a hard TAC for all regulated groundfish stocks, except for ocean pout, the two windowpane flounder stocks, and halibut. Limiting sectors to TACs for more stocks should provide more certainty that fishing mortality targets will be met. For the four stocks not limited by a hard TAC, measures will be adopted to reduce the likelihood that these stocks are targeted and to control catches (halibut is already limited to one fish per trip).

This option also provides that when the sector's are issued their ACE at the beginning of the fishing year, twenty percent will be withheld for up to forty-five days. This provides an opportunity for NFMS to verify that sector's did not exceed their ACE in the previous year, and to adjust allocations of ACE in the current year if that occurred. This measure provide positive biological benefits because it makes it more likely that fishing mortality targets (that is, the portion subject to fishing by sectors) will not be exceeded over successive fishing years.

U.S./Canada Area

This action proposes to make a specific allocation of cod and haddock on eastern GB that is subject to management under the terms of an understanding between the U.S. and Canada. This is not expected to have any direct biological impacts, as it is primarily an allocation issue. It may have some benefits in controlling fishing mortality and reducing discards of non-target species as it allows sectors to operate in a rationale manner in this area rather than compete in a derby with non-sectors vessels in this area.

Transfer of Catch Entitlements

An option is proposed that would allow sectors to transfer ACE between sectors. Allowing transfer of ACE should not result in increased fishing mortality. It does not change the allocations to the sectors and so at worse should be neutral – that is, this option should not increase or decrease fishing mortality. ACE trading may actually prove to help control fishing mortality. Since sectors must stop fishing on all groundfish stocks in an area if an ACE for one stock is exceeded, there is the possibility that if a sector unexpectedly approaches the limit for one stock, members may have an incentive to illegally discard additional catches in order to avoid sacrificing yields on other stocks. Allowing the trading of ACE helps to reduce this perverse incentive because it provides a sector an opportunity to acquire more ACE for this stock and continue fishing, discouraging discards. Note that this provision does not allow a sector to continue fishing if its ACE is exceeded – the measure still requires that sectors stop fishing if this is the case.

The provision also allows sectors to trade ACE for a brief period after the end of the fishing year, to “balance the books” and avoid an overage penalty. This should be a rare occurrence since sectors are required to monitor catches in-season and stop fishing if an ACE is expected to be exceeded. This should not have any impact on fishing mortality.

This option also proposes to allow sectors to carry-over unused ACE into the next fishing year. The percentage of ACE that can be carried-over in this manner is limited to ten percent of the ACE that is allocated. An allocation carry-over can increase the risk that overfishing will occur. The reason is that there is not a one-to-one relationship between uncaught fish in year one and fish available for catching in year two. The relationship will be dynamic and stock specific, depending on such factors as natural mortality, selection pattern for that species, recruitment, and species growth. Allowing carry-over creates the possibility that by design of the management plan catches in year two will exceed the year two TAC by enough to cause overfishing. This risk increases if the stock is stable or declining in stock size, or if the target fishing mortality is low relative to natural mortality (as is the case for several rebuilding plans).

The PDT examined two illustrations of this problem that assumed the entire carry-over and base allocation are caught in the subsequent year. While this assumption may be unrealistic (it more likely that part of the available catch will not be caught each year) the illustrations show that allowing a carry-over increases the risk of overfishing in a given year. The likely schedule of TAC adjustments means that these risks increase the older the assessment used to calculate the

TAC¹. Other sources of uncertainty - retrospective patterns, etc. – could also exacerbate this problem. While there are economic and social benefits to allowing a carry-forward, it is not clear that a measure that explicitly allows the possibility of overfishing can be implemented given current legal requirements. It may be possible to develop an approvable carry-over system (that is, one with minimal risk of overfishing) by reducing allocations sufficiently so that even if the maximum carry-over is harvested in the following year, overfishing does not occur. One way to design such a program is to withhold part of the sector allocation each year to allow for the possibility of carry-over. It should also be noted that the risk of overfishing as a result of carry-over may be reduced if the ACE is based on an ACL that accounts for that risk.

Interaction with Common Pool Vessels/Universal Exemptions

This section specifies the measures that sectors cannot be excused from, as well as those that all sectors receive an exemption. There are no changes to the measures that all sectors must follow, and the rationale for those requirements is not repeated. This action, however, establishes several measures that all sectors will not have to follow. Without exception, these measures are elements of the input/effort control system used to control fishing mortality on groundfish vessels. Since sectors are subject to a hard TAC for most stocks, these measures are unnecessary for controlling fishing mortality.

Participation in Special Management Programs

These measures describe sector participation in special management programs. Since these program do not provide sectors additional effort or catch, and all catches will apply against sector ACE, these measures are not expected to have any effect on fishing mortality.

Monitoring and Enforcement

Sector fishing activity is controlled by limits on how much the sector can catch – ACE. These are “hard” limits- that is, sectors must stop fishing before they exceed these limits. There are two components to catch – landings and discards. In order to ensure that sector catches are actually limited to the ACE, both landings and discards must be accurately monitored. The measures in this section are designed to increase confidence that sector catches are accurate.

The requirement that sectors land all legal-sized fish is meant to discourage sectors from discarding catches to avoid exceeding ACE. While admittedly difficult to monitor or enforce, this measure does encourage sectors to land all catch of legal-size. If adhered to, this measure may reduce discards of legal fish. Sectors are also required to prove they can attribute landings to a specific stock area, in order to reduce the likelihood sector catches will be applied to the wrong stock. This could lead to indirect benefits as improved attribution of catch to stock areas may lead to better management and assessment of the stocks. Finally, the requirement that sectors implement an improved dockside monitoring system, and limit landings to specific ports, will improve confidence in landed amounts.

With respect to accounting for sector discards, two approaches are included in this amendment. The first approach is an interim approach and applies an estimated discard rate to sector landings on a trip-by-trip basis. This discard rate will be determined one of two ways, but in both instances is based on observer information collected by the NMFS observer program as detailed in the SBRM amendment. With the initiation of additional sectors, this discard rate will be based on fishing activity prior to implementation of the new sectors. Many of the discards during this period are caused by regulations (trip limits, quotas, etc.) that sectors will not be required to adhere to. As a result, it is likely that these discard rates will be higher than those experienced by

¹ The PDT assumes that assessments will not be performed every year.

the sector and using this rate will over-estimate sector catches. This could help reduce fishing mortality, since the catches that are applied against ACE are likely to be higher than actual catches, and sectors may have to stop fishing earlier as a result.

Another possibility, however, is that while this may hold true while sectors have sufficient ACE available to continue fishing, as they approach an ACE that could result in stopping fishing, discard rates might increase above those used in the estimated discard rate. For this reason, the use of an estimated discard rate is intended to be a temporary measure. Sectors will be required to develop a monitoring system that meets NMFS standards that will adequately monitor discards by sector vessels. Standards will be developed and published to facilitate the development of such systems. Once the system is developed, a sector will be required to use it, which should improve discard estimation for sectors.

6.2.4.2 Possession of a limited access multispecies permit and a limited access scallop permit by the same vessel

The impacts of this measure on groundfish fishing mortality are unclear. The measure does not create additional groundfish effort: the pool of available groundfish DAS remains the same. At present, however, a large number of the allocated DAS are not used. If this measure results in scallop vessels acquiring groundfish permits, using the attached DAS, and increasing the percentage of DAS that are used, then fishing mortality might increase on groundfish stocks. While the design of effort controls is based on the number of allocated DAS, the input date for the CAM is based in part on recent fishing activity and if this measure results in changes to that activity model impacts are less certain.

There may also be distributional effects that are difficult to estimate. Many scallop vessels fish out of southern New England or Mid-Atlantic ports. If these vessels acquire groundfish permits and change the area where the accompanying DAS are fished, fishing mortality rates could be affected.

Complicating this picture, however, is that it is unclear how vessel owners will react to this measure. For example, if the result is that a groundfish vessel owner acquires a scallop permit and as a result spends less time groundfish fishing, groundfish fishing mortality may be reduced. The same could be true if a scallop vessel owner acquired a groundfish permit and does not fish as hard as the prior owner, or targets different stocks.

6.2.4.3 Annual Catch Limits

By themselves, ACLs will not have any direct effect on fishing mortality. They are merely define of the catch that should be taken from the fishery to reduce the likelihood of overfishing. If used to help design management measures, and as the basis for AMs, ACLs are expected to reduce the risk that fishing mortality targets will be exceeded. They allow for a more explicit incorporation of uncertainty and risk when determining catch levels. It is important to note that ACLs are designed to prevent overfishing – that is, to prevent exceeding the maximum fishing mortality threshold.

The proposed measure defines the process for setting ACLs for regulated groundfish. Included are definitions for determining an overfishing level (OFL) and an Allowable Biological Catch (ABC). The ABC is defined in such a way that it is based on the fishing mortality rate associated with the rebuilding plan (for overfished stocks) or the control rule. These fishing mortality rates will always be less than the maximum fishing mortality threshold when the stock is less than

B_{MSY} or its proxy. This provides a measure of caution even before the ACL is determined. The ACL cannot exceed the ABC, which further reduces the risk the overfishing threshold will be exceeded. By specifying an ACL, such uncertainties as management uncertainty and risk can be considered. In order to monitor ACLs and adopt the appropriate AMs, sub-components of each ACL are identified. These sub-components allocate a portion of each stock to different fisheries. While this can be viewed as an allocation decision with only social and economic implications, in reality by promoting a more accurate accounting of how groundfish are caught it may lead to less risk that mortality targets will be exceeded.

Determining the correct amount to allocate to various sub-components is difficult because for the most part there is not a ready estimate of groundfish caught in other “fisheries” as the management system uses the term. For example, the SBRM is designed around “fishing modes”: a particular gear, mesh size, access category, and port of departure. Where the SBRM refers to large mesh otter trawl vessels leaving from New England ports, managers think of the groundfish or fluke fisheries. In addition, in the past assessments have not included all catch. Some stocks do not include discards, or do not consider discards from fisheries with low observer coverage or low discard rates.

The PDT considered several sources of information to construct the proposed option. Since groundfish are only supposed to be landed by vessels with a groundfish permit, the primary source of catch in other fisheries should be discards. First, the PDT used discard estimates from an NEFSC reference document that estimates discards for 2005 by fishing mode using the SBRM methodology. The species where discards by gear not typically considered groundfish gear (scallop dredges, mid-water trawls, pelagic longlines, etc.) exceeded five percent of landings were identified. These were ocean pout, windowpane flounder, winter flounder, and yellowtail flounder. Preliminary 2005 and 2006 catch (landings and discards) estimates for these species were further examined by stock to see if there were stock specific differences. Second, in the case of SNE/MA yellowtail flounder, an attempt (not entirely successful) was made to determine if discards were primarily caused by non-groundfish activity by looking at the target species on tows where yellowtail flounder was discarded. This does not seem to be the case. Third, a NMFS report to Congress was reviewed to determine the catch within state waters fisheries. Finally, observer data for exempted fisheries was reviewed to see if any exempted fisheries exceeded the overall five percent standard. While in most cases there are significant numbers of observed trips where groundfish exceeds the five percent standard and these fisheries may need to be more closely examined, in no case did the overall total on all observed trips exceed five percent of the total catch.

These analyses suggest that for most stocks the amount allowed for “other non-specified fisheries” should be five percent. For windowpane flounders and ocean pout this amount should be 30 percent. A specific sub-component should be allocated to the scallop fishery for all yellowtail flounder stocks and possibly windowpane flounder stocks. Determining the appropriate amount for the scallop fishery is difficult. It is probably unwise to attempt to set a fixed percentage. The “right” amount may depend on the rotational management program, stock status, and other factors. The Council believes it may be better to leave the specific amount undefined, but establish a process to determine the amount through the periodic adjustment process. Existing regulations suggest that this amount would be at least 10 percent for those areas that have closed area access programs in effect. The proposal shows that ACLs are only specified for the commercial groundfish, recreational groundfish, and the herring mid-water trawl fishery. In part this is due to the impracticality of developing AMs for other sub-components in the time available for this amendment. In essence, it means that the groundfish fishery is accountable for

overages by any other group. This decision will need to be re-evaluated in the future after monitoring the performance of these sub-components.

6.2.5 Impacts on bycatch

6.2.6 Impacts on Protected Species

The primary impact of the alternatives being considered in this amendment on protected species will be driven by the magnitude and breadth of effort reductions or increases that will be determined by the GARM assessment currently in process [or, scheduled for completion by x?]. Fishing patterns and overall effort, in terms of the times, areas and fishing gears used will most certainly change in response to the management measures that the Council adopts as a result of changes in the status of individual stocks relative to their biological reference points. These changes in effort will determine the overall and specific impact of the measures in the amendment on protected species.

While the Council anticipates some stocks will require substantial effort reductions to end overfishing or rebuild overfished stocks, it does not necessarily follow that those reductions will automatically result in overall reduced impact of the fishery on protected species. As the industry adapts to additional restrictions in effort on some species, and increased opportunity to fish for others, the pattern of effort will determine the fisheries' interaction with protected species relative to its current level. At this time, since the final outcome of the GARM is not known, the impact of the amendment measures on protected species cannot be predicted specifically, or quantitatively. The following measure-by-measure sections will qualitatively discuss the expected direction of protected species impacts, or highlight those measures where even the direction of the impacts on protected species cannot be predicted at this time.

6.2.6.1 Protected Species Impacts of Updates to Status Determination Criteria and Formal Rebuilding Programs

Revised status determination criteria (Section x) and revised mortality targets for formal rebuilding programs (Section x) will not have a direct impact on protected species because they do not, in and of themselves, change fishing effort or behavior. As such the alternatives under consideration will not directly impact protected species compared to the no action alternatives. Whatever impact indirectly precipitates from any changes to status determination criteria or mortality targets will be discussed in the context of the specific management measures the Council adopts as a consequence.

6.2.6.2 Protected Species Impacts of Fishery Program Administration Measures

6.2.6.2.1 Sector Administration Provisions

This section contains a number of measures pertaining to the administration of sectors: sector definition/formation of a sector; preparation of a sector formation proposal and operations plan; movement between sectors; allocation of resources; transfer of annual catch entitlements; mortality/conservation controls; interaction of sector with common pool vessels; sector participation in special management programs; sector annual reports; and, sector monitoring, enforcement and transparency. Since these measures are administrative in nature, they are as a

group not likely to cause any impact on protected species. The impact of sectors on protected species is discussed below under the [section x], Measures to Meet Mortality Objectives.

6.2.6.2.2 Possession of a limited access multispecies permit and a limited access scallop permit by the same vessel

Under current FMP regulations, a limited access scallop vessel cannot also hold a limited access multispecies permit, unless that vessel qualified as a “combination vessel” under the original limited access permit program adopted in Amendment 5. While the proposal to allow additional vessels to hold both limited access multispecies and scallop permits is essentially an administrative change, there could be some impact on protected species, although, at this time, the magnitude of that change cannot be determined, since it is unknown how many vessels would avail themselves of this opportunity, and, relative to the current fishing activity, what type of gear the vessel would use, and where and when it would fish.

On the one hand, the impact on protected species could be positive, since one of any overlapping permits held by both vessels would be retired in the process of combining the multispecies and scallop permits on one vessel. For example, if a multispecies vessel that also has a limited access monkfish permit buys the permits of a scallop vessel that also holds a monkfish limited access permit, one of the two monkfish permits would be retired. In this example, since nearly all scallop vessels that hold monkfish limited access permits (185 vessels in 2007) do not use their monkfish DAS because of the requirement to also use a scallop DAS when on a monkfish DAS, the actual immediate effort reduction that would occur as a result of the retirement of the monkfish permit would be much less than the number of permits being retired.

On the other hand, the impact on protected species could be negative, if the acquiring vessel changes the pattern of effort such that the chances of interaction (with protected species) is greater than it was when the two vessels fished their permits separately. For example, if the scallop vessel currently fishes in times and areas where protected species interactions are minimal, and changes that pattern upon obtaining a multispecies permit to times when such interactions are more likely because it is now fishing for multispecies during that time, then this provision would have a negative effect on protected species.

The final effect of this proposal on protected species, whether positive or negative, ultimately will depend on the number of vessels that avail themselves of this opportunity, the types of gears they use, and how their pattern of effort would change relative to the spatial or temporal presence of protected species. As such, the magnitude and direction of the impact of this proposal compared to the no action alternative cannot be predicted at this time.

6.2.6.2.3 Annual Catch Limits

This is a proposal to adopt a process for setting annual catch limits (ACLs) as mandated by the MSA. As such, it is a purely administrative measure with no direct impact on protected species. Depending on whether those limits are greater or less than current levels on which management measures are based, there could be an indirect impact, but such impacts would be the result of the measures themselves, and not of the process of setting the limits.

6.2.6.2.4 Allocation of Groundfish to the Commercial and Recreational Groundfish Fisheries

This is a proposal to adopt a process for allocating the available catch to different components of the fishery (commercial and recreational), it is administrative, and would not, in and of itself, have a direct impact on protected species. Since the proposal is to use recent relative catch histories for the two components to allocate shares of the overall available catch, the action items will, on the surface, have no different impact than the no action alternative on protected species. If, however, and for whatever reason (poor data, evolving/changing relative effort, etc.), the actual allocation results in increased commercial share, there could be an indirect negative impact on protected species compared to no action, if that increase would otherwise not have taken place and is realized in gears/times/areas where there is potential for protected species interactions. Conversely, if the commercial share ends up being less than what would otherwise occur, then this process could be viewed as having a positive indirect effect, since recreational fishery interaction with protected species is minimal or non-existent. The ultimate impact of this administrative proposal, again, will depend on what management measures are adopted and how fishing effort responds.

6.2.6.2.5 Changes to the DAS Transfer and DAS Leasing Programs

The Council is considering several changes to the DAS transfer and leasing programs with regards to a conservation tax.

Option 1, no action

Under the no action alternative, no conservation tax is assessed on leased DAS, while a 20% tax is applied under the DAS transfer program. Since this is the existing regime, the impact on protected species will be neutral.

Option 2 – DAS Transfer Program Conservation Tax

The Council is considering changing or eliminating the 20% conservation tax on DAS transfers. If the Council decides to make such a change, it will also consider whether to leave in place any conservation tax applied to prior transfers (Option A) or refund DAS, consistent with the new tax level, to prior transfers where the conservation tax had applied. Only two DAS transfers have taken place under the existing rules, which suggests that more DAS transfers would occur if the tax is reduced or eliminated. This may not necessarily be the case, however, because any other permits associated with the vessel transferring its DAS would be retired. In terms of protected species impacts, therefore, this option has the potential to reduce overall effort (because of the retired other permits) which would be somewhat offset if the transferred DAS would otherwise have not been used. Nevertheless, it is impossible to predict with any reasonable degree of certainty if, and how many, vessels would avail themselves of the reduced or eliminated conservation tax, and whether any such transactions would be positive or neutral with respect to protected species impacts. There is also the possibility of an overall increase in effort, with potential negative effects on protected species, if a substantial number of DAS transfers take place involving DAS that would otherwise have been inactive.

Option 3 – DAS Leasing Program Conservation Tax

The Council is considering setting a conservation tax on leased DAS equivalent to any conservation tax applied to the DAS transfer program (see Option 2 above). A vessel that leases out its DAS does not lose any other permits, and, therefore, the current program represents a potential increase in effort, proportional to the number of otherwise inactive DAS that are leased

out. In Framework 42 (April, 2006), the Council noted that DAS leasing may have increased fishing mortality, but it is not clear if this translated into increased risk to protected species. To the extent a DAS leasing conservation tax would slow down or eliminate any effort increases that result from DAS leasing, the impact of this option on protected species could be positive, but such an outcome is uncertain and unpredictable.

Option 4 – DAS Transfer Program Conservation Tax Exemption Window

In a fourth option, the Council is considering allowing the owner of multiple groundfish permits to consolidate (transfer) the DAS and catch history of those permits into a single permit while being exempt from any conservation tax that would otherwise apply. This exemption would be available for a limited time only, after which any conservation tax applied to other DAS transfers would also apply to single-owner transfers. Whether vessel owners will avail themselves of this opportunity depends in part on whether a DAS leasing conservation tax is applied, under Option 3. If no tax is applied to leased DAS, an owner would most likely lease those DAS to himself, so as not to lose the value of the other fishery permits that would be retired in a DAS transfer. Such may also be the case if the tax applied to leased DAS is equivalent to the transfer DAS, even if the transfer is done without a tax under this option, due to the residual value of the other permits. The impact of this option on protected species, therefore, is probably neutral, or at least unpredictable at this time, since it is unclear whether and how many permit holders would avail themselves of this opportunity. It is also unpredictable what the net effect would be if transfers were done without a conservation tax, but all other associated fishing permits were retired in the transaction.

6.2.6.2.6 Reporting Requirements

The Council is considering a measure that would require all limited access groundfish vessels that are required to use VMS to declare at the start of the trip whether they intend to fish on one broad reporting area or multiple reporting areas. This proposal would not currently replace the VTR reporting requirement, but could do so in the future. This proposal is purely administrative in nature, and as such, would not have an impact on protected species.

6.2.6.2.7 Protected Species Impacts of Special Access Programs

Closed Area I Hook Gear Haddock SAP Revisions

[Waiting for confirmation/ data on level of observer coverage in current SAP]

Eastern U.S./Canada Haddock SAP Area

Under the no action alternative (Option 1), the Eastern U.S./Canada Haddock SAP would terminate on November [xx], 2008. Under Option 2, the SAP would be reauthorized and continued indefinitely, unless changed by a future Council action, or unless closed for the season by the Regional Administrator under the terms of the SAP regulations. Since there is no evidence of protected species interactions in this fishery, the impact of Option 2 is likely to be neutral compared to no action, or moderately and indirectly positive, if vessels that otherwise would have fished in the SAP, were it not extended, shift their effort to areas and times with a higher chance of interactions.

Closed Area II Yellowtail Flounder SAP

The Council is considering modifying the CAII yellowtail flounder SAP to provide an opportunity to target GB haddock in the SAP area, even when the SAP is not opened to targeting

of yellowtail flounder. Under the no action alternative, no such opportunity would exist. The impact of the proposal on protected species is potentially negative based on the fact that some vessels (i.e., non-sector vessels) would be using Category B DAS that they would otherwise not have used, resulting in some net increase in trawl fishing effort. The magnitude of the impact, however, cannot be determined because it is uncertain how many vessels would or could participate in this program. Furthermore, under the terms of the proposal, if a vessel exceeds any applicable trip limits, it must flip to Category A DAS, which would result in no net increase in effort compared to no action.

6.2.6.2.8 Haddock Minimum Size

This action would reduce the haddock minimum size on commercial vessels to 18 inches from 19 inches. Recreational vessels already have an 18-inch minimum size. Such a change is not likely to affect overall fishing effort, nor how that effort is distributed, and, consequently, will not impact protected species interactions, either positively or negatively.

6.2.6.2.9 Periodic Adjustment Process

This proposal would enable the Council to make changes via the framework adjustment procedure to the ACL and AM process or implementation, the sector administration policies, or reporting requirements. While these are all administrative in nature, and not likely to have any protected species impacts, all framework adjustments must complete an environmental document that includes discussion of protected species impacts of the actions being proposed.

6.2.6.3 Measures to Meet Mortality Objectives

In general, the measures that will be adopted to meet mortality objectives will be determined by the stock status and status determination criteria that will be produced by the GARM. As such, the specifics of the measures are not known at this time, and, it follows, that the impact of these prospective measures on protected species cannot be determined. Likely, however, overall effort levels will need to be reduced substantially as a result of the preliminary information on the status of some groundfish stocks. On the other hand, some stocks will probably be able to absorb and increase in effort. In terms of protected species impacts, the final determination will be based on which stocks will see an increase in effort and which will see a decrease, and, subsequently, on what gears those different fisheries use, and where and when they take place relative to the presences of protected species.

6.2.6.3.1 Effort Control Alternatives

[Only no action described so far]

6.2.6.3.2 Recreational Management Measures

No specific measures are proposed at this time for the recreational component of the groundfish fishery, pending the allocation process adopted under Section 3.4. Since there is no known interaction between the recreational groundfish fishery and protected species, it is unlikely that whatever measures are adopted will have any direct impact on protected species.

6.2.6.3.3 Implementation of Additional Sectors/Modifications to Existing Sectors

The Council is considering adoption of as many as 17 new sector programs, and modifications to the two existing sector programs. The impact of each sector on protected species depends on the gear used and the time and area in which the fishery occurs relative to the presence/absence of protected species. In addition, since sectors are primarily formed to realize efficiencies in the use of vessels out of the consolidation or redistribution of sector vessel effort, such efficiencies may result in reduced overall fishing effort. If that effort reduction actually occurs, there may be a

positive impact on protected species, to the extent that those fisheries had a prior interaction with protected species, because fewer vessels will be fishing for less total time. In other words, if sector vessels are not constrained by trip limits, or realize other efficiencies, there will be less fishing for a given total catch, reducing the likelihood of protected species interaction. Neither factor contributing to the analysis of potential impact on protected species (either the gear/area/time changes, nor the efficiencies that will be realized) can be predicted at this time.

Furthermore, each sector proposal must be accompanied by its own Environmental Assessment, wherein protected species impacts need to be analyzed and discussed. That analysis should take into account the number of vessels involved, the gears used, where and when the vessels will be fishing, and other consequences of their becoming more efficient, including displacement of effort to other fisheries. Once those factors are established for each sector, then the likely impact on protected species can be determined.

6.2.6.3.4 Accountability Measures

The Council is considering three components for accountability measures to comply with MSA requirements: common pool, recreational, and sectors. Accountability measures are intended to ensure that catch targets are not exceeded, and, if they are, to implement a management response that will ensure overfishing does not occur or continue.

Common Pool Vessel Accountability Measure Alternative 1

This proposal would implement a quota (hard TAC) for commercial vessels that are not participating in a sector program. Also excluded from this provision are recreational groundfish vessels, and vessels that have an incidental catch of groundfish in other fisheries, such as the yellowtail flounder catch in the scallop dredge fishery. The quota would be established for each stock on a trimester basis, based on recent landings patterns. In any trimester when it is projected that 90% of the TAC for a stock will be caught, NMFS will close the area where the stock is caught to all groundfish fishing with gear capable of catching that species. Uncaught portions of a quota may be moved to the next trimester, but uncaught portions of a stock quota will not be carried forward to the next year. Overages of the quota in the first two trimesters will be deducted from the third trimester quota, while annual overages will be deducted from the subsequent year's quota.

The purpose of using a trimester approach, rather than an annual quota, is to spread the fishery out over the year and avoid a prolonged closure at the end of the year. Whether this approach will be successful at preventing a derby-style fishery, where vessels race to catch the fish before a closure takes place, remains to be seen. If successful, fishing could continue at an acceptable and steady pace throughout the year. If unsuccessful, because fishermen modify their behavior in anticipation that the fishery could be closed, fishing effort would likely be more intense during the first part of the trimester, and be halted upon reaching the quota. The impact on protected species will depend on the overlap in distribution of such species during times when the fishery is active versus times when it is closed (if that occurs). Being a trimester schedule, if a closure occurs it would be in the second part of each trimester, but if and when such closures are imposed, cannot be predicted. Furthermore, if vessels anticipate a closure, effort could be more intense during the early part of the trimester. The trimesters are: May-August, September-December, and January-April.

Recreational Fishery Accountability Measures

[Not specified]

Multispecies Sector Accountability Measures

As noted in the discussion of sector programs under measures to meet mortality objectives, the impact on protected species of each sector, and, therefore, its accountability measures, will be analyzed and discussed in the Environmental Assessment prepared for each sector proposal.

6.3 Impacts to Essential Fish Habitat

6.4 Economic Impacts

6.4.1 Analysis of PSC Options

Three of the options for determining potential sector contributions (PSCs) include a factor that has been described as a “capacity” factor. This analysis examines whether the “capacity” components of the potential sector contribution options show a systematic relationship to output. The dependent variable (output measure) was the VTR-reported kept pounds of regulated groundfish. Independent variables used were length, horsepower, gross tonnage, and days absent (DA), calculated from the VTR and not the DAS database). Models were constructed for the three primary gear types: trawl, gillnet, and longline, and for FY 2001 through 2006.

The data were analyzed for their fit to two models: a linear model and a Cobb-Douglas production function. In each case, stepwise regression procedures were followed to fit the model. Parameters were included if they contributed significantly to the predictive power of the model.

The attached tables summarize the model results, showing the factors that were significant in each model and the contribution to R^2 . In all models, DA (days absent) was significant and contributed most to the predictive power of the models. For otter trawl gear, length and horsepower were usually significant but contributed little to the model’s predictive power. Tonnage was also significant in the linear model but again added little to the model’s predictive power. For gillnet and longline gear, almost all the predictive power of the model is related to days absent. While length, horsepower, and tonnage were significant in some years, these factors contributed little to improving the predictive power of the model.

To summarize, for the factors considered, the results suggest that days absent provides most of the predictive power in determining the output of regulated groundfish for a groundfish permit. Vessel characteristics provide little to explaining output even in those cases where the parameters are statistically significant. This suggests that PSC Option 4 likely has the closest relationship to potential output for those options that include a “capacity” factor.

Table 19 - Stepwise Order for Cobb-Douglas Model

Trawl	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
DAS	1	1	1	1	1	1
Length	2	3	3			
Horsepower		2	2	2	2	2
Tonnage						
Gillnet						
DAS	1	1	1	1	1	1
Length		2		2	2	2
Horsepower						
Tonnage						
Long Line						
DAS	1	1	1	1	1	1
Length		4	2	2	2	2
Horsepower		3	3	3	3	3
Tonnage		2				

Table 20 - Stepwise Order for Linear Model

Trawl	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
DAS	1	1	1	1	1	1
Length		4	4			
Horsepower	3	2	2	2	2	2
Tonnage	2	3	3	3		3
Gillnet						
DAS	1	1	1	1	1	1
Length						
Horsepower						
Tonnage						2
Long Line						
DAS	1	1	1	1	1	1
Length			2			3
Horsepower	2	3	3	3	3	2
Tonnage		2		2	2	

Table 21 - Stepwise Marginal Contribution to R-Square for Cobb-Douglas Model

Trawl	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
DAS	0.8226	0.8766	0.8128	0.8335	0.82	0.8634
Length	0.0245	0.002	0.0026			
Horsepower		0.0131	0.0255	0.0097	0.007	0.0143
Tonnage						
Gillnet						
DAS	0.7791	0.7826	0.797	0.8184	0.8438	0.7586
Length		0.007		0.0032	0.0025	0.0033
Horsepower						
Tonnage						
Long Line						
DAS	0.6315	0.7208	0.5701	0.6116	0.7607	0.7637
Length		0.014	0.0516	0.0126	0.0101	0.0084
Horsepower		0.0132	0.0521	0.0273	0.0289	0.0128
Tonnage		0.014				

Table 22 - Stepwise Marginal Contribution to R-Square for Linear Model

Trawl	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006
DAS	0.6837	0.702	0.6763	0.7505	0.759	0.6926
Length		0.0023	0.0029			
Horsepower	0.0058	0.0484	0.0585	0.0448	0.0296	0.0231
Tonnage	0.0552	0.0058	0.0081	0.0018		0.0034
Gillnet						
DAS	0.6366	0.6994	0.7768	0.8033	0.7347	0.6385
Length						
Horsepower						
Tonnage						0.0076
Long Line						
DAS	0.6937	0.6107	0.363	0.5717	0.6301	0.7077
Length			0.0527			0.0269
Horsepower	0.0139	0.0175	0.0824	0.0449	0.025	0.009
Tonnage		0.0132		0.0521	0.0088	

6.4.2 Economic Impacts of Sector Share Allocations

The following sections compare the potential sector contributions (PSCs) for four different options considered by the Council. These values were calculated by the Groundfish PDT, and the results may differ from the final values determined by NMFS for each permit. The final NMFS values will take into account corrections to the data, challenges to the PSC determinations for individual permits, and possible differences in the tracking of the ownership of permits over time.

The PDT analyses are believed sufficient to illustrate the differences between the options, but should not be viewed as a definitive determination of the allocation results from the different options. This summary also reflects impacts over a group of vessels, and the impacts for any individual vessel within that group may differ from those shown here.

The five options analyzed were:

- No Action Alternative (Status Quo/Amendment 13): Allocation of resources will be based on the accumulated catch histories *over the previous five years* for which data are available for each member of the self-selected sector, as described in Amendment 13. For example, for sectors beginning operations in FY 2009, the baseline period would be FY 2002 – FY 2006. Each permit's landings for the time period are divided by the total landings of the stock to determine each permit's share.
- Option 1 - Landings History Only FY 1996 – FY 2006
- Option 2 - 50% Landings History and 50% Vessel Baseline Capacity for Landed Stocks FY 1996 – FY 2006: Under this alternative, landings history for each permit/stock will be calculated in the same manner described above for Alternative 1. Vessel baseline capacity will be calculated using the following formula:

$$(10L + HP) \times (\text{allocated "A" DAS}) = \text{baseline capacity}$$

The portion allocated based on capacity applies *only* to stocks landed by the permit.

- Option 3 - 50% Landings History and 50% Vessel Baseline Capacity for All Stocks FY 1996 – FY 2006: Under this alternative, landings history for each permit/stock will be calculated in the same manner described above for Alternative 1. Vessel baseline capacity will be calculated using the following formula:

$$(10L + HP) \times (\text{allocated "A" DAS}) = \text{baseline capacity}$$

The portion allocated based on capacity applies to *all* stocks for which ACE will be allocated.

- Option 4 - 50% Landings History and 50% A DAS for All Stocks FY 1996 – FY 2006: Under this alternative, landings history for each permit/stock will be calculated in the same manner described above for Alternative 1. Vessel baseline capacity will be represented by allocated "A" DAS for *all* stocks for which ACE will be allocated. The landings history share and the A DAS share for each permit will be averaged to obtain a value for each stock.

For each permit, the PSC was calculated for each of the options for each of fifteen regulated groundfish stock. The results were then aggregated by homeport state and by three vessel size classes (large > 70 feet, medium 50-70 feet, and small under 50 feet). The results were also aggregated by broad stock areas fished by the permits. The differences between the alternatives are also compared and briefly discussed.

As suggested by the Groundfish PDT, in order to give a more concrete illustration of the differences between the alternatives, the shares were then applied to the FY 2009 TTACs (as

estimated in FW 42) to determine the weight of fish in each category of vessel size and homeport state. The TTACs were first reduced to account for a research set aside of one percent, recreational harvest, and Canadian harvest. As one final illustration, the resulting amounts were multiplied by an average price per pound of live weight based on the available CY 2007 dealer data (not all data is entered in the database). These average prices are species, and not stock, specific, and may not reflect differences in value between stocks or seasonal variations in price. Live weight was used to calculate an average price since TTACs are based on lived weight. The weights and prices used are shown in Table XXXX. No estimates are provided for GOM winter flounder since FW 42 did not provide TTACs for that stock due to assessment uncertainty.

H4 - PSC Shares, ACE Allocations and Potential Value by Vessel Length Group

PSC shares calculated for eligible permits for the No Action option and Options 1-4 are shown in Table 24, aggregated by three vessel length classes. The resulting ACE that permits would bring to a sector, and an estimated value for that ACE, are shown in Table 25 through Table 29.

The No action option and Options 1 use landings history alone to calculate ACE and differ only in the time period used. In general, large vessels get a larger ACE for most GOM stocks under Option 1, reflecting the fact that in recent years large vessels have not fished as much in this area as they did over the entire time period. For medium-sized vessels there is little difference between these two history-based options. While small vessels gain GB cod ACE under Option 1, as a group they lose GOM cod and GOM haddock.

Options 2, 3, and 4 all add an additional capacity factor to the calculation of each permit's potential sector contribution. In general, adding this additional factor tends to move ACE away from the vessel size classes that had the majority of a stock under either the No Action option or Option 1. For example, GOM cod tends to move from the small vessels to large vessels; GB haddock moves from large vessels to small and medium vessels; SNE/MA yellowtail flounder moves from medium vessels to both large and small vessels.

In terms of ACE value (ignoring whether a vessel size class is capable of actually harvesting a particular stock) large vessels would receive the highest value under Option 1 and the value declines for each subsequent option. The value of ACE for medium vessels gains under each successive option, peaking at \$57.9 million under Option 4. Small vessels do slightly better under the No Action option than Option 1, but do better under each successive option, peaking at \$73.5 million under Option 4. Most of the increase for both small and medium vessels can be attributed to receiving a larger share of GB haddock under successive options.

H4 - PSC Shares, ACE Allocations and Potential Value by Homeport State

PSC shares aggregated by homeport state are shown in Table 30 through Table 34, with the resulting ACE allocations shown in Table 35 through Table 39 and values in Tables XXX through XXX.

Vessels that claim Massachusetts as homeport state would receive the largest ACE under the No Action option, with a very similar allocation under Option 1. The ACE for these vessels declines under each subsequent option. Vessels with homeports of Maine or New Hampshire would receive the least ACE under Option 1 increasing to a maximum under Option 4. Again, these changes are in large part due to changes in the distribution of GB haddock under the different alternatives. Rhode Island vessels would receive the largest ACE under the No Action option, followed by Option 3. Vessels with homeports of New Jersey or New York receive the largest

ACE under Option 3 as well. Similar trends are seen for value, shown in Table 40 through Table 44.

6.4.3 PSC ACE Allocations and Potential Value by Area Fished

As seen in the preceding sections, the PSC options have different impacts on different stocks. This suggests that the areas fished by a permit may be important in defining the impacts of the alternatives. Using VTRs, permits were classified as to whether they fished in one or more broad fishing areas (GOM, GB, or SNE/MA). Again, no allowance is made for whether a permit is capable of catching fish from a particular stock. The resulting PSCs from each option were then aggregated for the areas fished. The results are summarized in Table 45 through Table 54.

In general, permits that have a history of fishing in all three areas receive more ACE (weight and value) under the No Action option and Option 1 – those options that rely on landings history alone. These permits receive the least ACE under Option 4. Permits that fished only in the GOM receive their largest ACE under Option 4. The same is true for permits that fished only on GB or on both GB and in the GOM. Permits that fished only in the SNE/MA area do their best under either Option 3 or 4 in terms of total ACE and value. Permits that fished in SNE/MA and the GOM do their best under Option 4, while those that fished in SNE/MA and GB do their best under Option 3. As with the earlier aggregations by length and homeport state, many of the differences can be attributed to the different distribution of GB haddock under the different options.

These broad overviews do not capture the results for individual stocks. As an example, while permits that fished only in SNE/MA receive the largest total ACE under Option 3 or 4, under these options they receive smaller ACE for SNE/MA yellowtail flounder and SNE/MA winter flounder than with Option 1 or 2.

6.4.4 ACE Allocations by Sector

In order to provide information on the impacts of the different PSC options on individual sectors, the PSCs were aggregated by sector membership. Membership was as reported to NMFS by March 1, 2008 and may not represent membership once sectors are implemented. Since specific membership for Northeast Seafood Coalition sectors was not identified, all permits that signed up for these sectors were lumped together in the summary tables. *These tables should be viewed with caution and should not be used as the sole basis for business decisions.* Allocations of ACE to sectors depend on which permits join each sector. If membership differs from that used to construct these tables, then the allocations could prove to be very different than those shown here. In addition, these tables are subject to all the caveats used in the previous analyses – PDT estimates are not likely to exactly match PSCs calculated by NMFS. To emphasize these caveats, all that is shown is the ACE, in metric tons, estimated for each sector.

Table 23 – TACs and species values used to evaluate PSC options

	TAC	Price
GOM Cod	8048	1.59
GB Cod	8103	1.59
GOM Winter	0	2.07
GB Winter	1916	2.07
SNEMA		
Winter	2621	2.07
CCGOM YT	596	1.86
GB YT	1383	1.86
SNEMA YT	267	1.86
GOM Haddock	881	1.53
GB Haddock	45520	1.53
Witch	3487	2.4
Plaice	3542	1.61
Pollock	5412	0.46
Redfish	2166	0.57
White Hake	419	1.15

Table 24 – Estimated potential sector contribution shares by vessel length group

Stock	No Action			Option 1			Option 2			Option 3			Option 4		
	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
Number of Vessels	311	288	769												
GOM Cod	9.20%	28.26%	62.54%	16.10%	29.97%	53.93%	27.97%	28.63%	43.40%	31.68%	27.38%	40.94%	24.81%	28.25%	46.94%
GB Cod	70.71%	11.85%	17.44%	60.63%	11.24%	28.13%	57.38%	17.95%	24.67%	53.94%	18.02%	28.04%	47.08%	18.89%	34.03%
GOM Winter	10.30%	48.73%	40.97%	11.99%	47.38%	40.64%	25.06%	38.41%	36.53%	29.62%	36.08%	34.29%	22.75%	36.96%	40.29%
GB Winter	94.84%	5.14%	0.02%	95.49%	4.47%	0.04%	88.67%	8.38%	2.95%	71.37%	14.63%	13.99%	64.51%	15.50%	19.99%
SNEMA Winter	65.59%	27.68%	6.73%	66.61%	25.03%	8.36%	63.27%	23.78%	12.95%	56.93%	24.91%	18.16%	50.07%	25.78%	24.15%
CCGOM YT	31.36%	37.44%	31.20%	32.90%	37.12%	29.98%	42.08%	30.35%	27.57%	40.08%	30.96%	28.96%	33.21%	31.83%	34.96%
GB YT	90.06%	9.94%	0.00%	90.03%	9.97%	0.00%	86.38%	11.66%	1.96%	68.64%	17.38%	13.98%	61.78%	18.25%	19.97%
SNEMA YT	44.39%	48.80%	6.80%	47.94%	44.46%	7.60%	57.95%	33.41%	8.64%	47.60%	34.63%	17.78%	40.73%	35.50%	23.77%
GOM Haddock	34.54%	25.97%	39.49%	47.87%	25.26%	26.87%	44.17%	26.56%	29.27%	47.56%	25.03%	27.41%	40.70%	25.90%	33.41%
GB Haddock	81.80%	9.55%	8.65%	82.86%	10.17%	6.97%	71.55%	16.30%	12.15%	65.06%	17.48%	17.46%	58.19%	18.35%	23.46%
Witch	51.74%	31.27%	16.99%	52.05%	32.65%	15.30%	50.59%	29.13%	20.28%	49.65%	28.72%	21.63%	42.79%	29.59%	27.62%
Plaice	55.11%	32.88%	12.01%	50.05%	34.39%	15.56%	49.94%	29.42%	20.64%	48.65%	29.59%	21.75%	41.79%	30.47%	27.75%
Pollock	41.40%	23.97%	34.63%	42.21%	25.10%	32.69%	45.22%	24.55%	30.23%	44.73%	24.94%	30.32%	37.87%	25.82%	36.32%
Redfish	67.41%	20.73%	11.86%	67.53%	21.94%	10.52%	57.09%	23.43%	19.48%	57.39%	23.37%	19.24%	50.53%	24.24%	25.23%
White Hake	49.00%	28.86%	22.14%	48.80%	29.93%	21.27%	48.78%	27.26%	23.96%	48.03%	27.36%	24.61%	41.16%	28.23%	30.60%

Table 25 – No Action allocation option: ACE (weight) and value of ACE by vessel length group

Stock	ACE Allocations (metric tons)			Value of ACE Allocations			Average ACE Allocations per Vessel (pounds)			Average Value of ACE Allocations per Vessel		
	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
Number of Vessels	293	264	626									
GOM Cod	740.8	2274.3	5032.9	\$2,596,741	\$7,972,154	\$17,641,872	5574	18992	17724	\$8,863	\$30,198	\$28,182
GB Cod	2865.3	480.0	706.7	\$10,043,778	\$1,682,720	\$2,477,034	21559	4009	2489	\$34,279	\$6,374	\$3,957
GOM Winter	0.0	0.0	0.0	\$0	\$0	\$0	0	0	0	\$0	\$0	\$0
GB Winter	1817.2	98.5	0.3	\$8,292,805	\$449,504	\$1,399	13673	823	1	\$28,303	\$1,703	\$2
SNEMA Winter	1719.2	725.4	176.4	\$7,845,596	\$3,310,238	\$805,157	12936	6057	621	\$26,777	\$12,539	\$1,286
CCGOM YT	186.9	223.1	185.9	\$766,409	\$915,027	\$762,496	1406	1863	655	\$2,616	\$3,466	\$1,218
GB YT	1245.5	137.4	0.0	\$5,107,447	\$563,554	\$68	9372	1148	0	\$17,432	\$2,135	\$0
SNEMA YT	118.5	130.3	18.2	\$486,025	\$534,340	\$74,484	892	1088	64	\$1,659	\$2,024	\$119
GOM Haddock	304.3	228.8	347.9	\$1,026,419	\$771,770	\$1,173,457	2290	1911	1225	\$3,503	\$2,923	\$1,875
GB Haddock	37235.1	4347.6	3937.3	\$125,595,257	\$14,664,626	\$13,280,806	280165	36306	13866	\$428,653	\$55,548	\$21,215
Witch	1804.2	1090.4	592.4	\$9,545,944	\$5,769,550	\$3,134,362	13575	9106	2086	\$32,580	\$21,854	\$5,007
Plaice	1951.9	1164.7	425.4	\$6,927,952	\$4,134,085	\$1,509,959	14686	9726	1498	\$23,645	\$15,659	\$2,412
Pollock	2240.7	1297.0	1874.3	\$2,272,315	\$1,315,315	\$1,900,766	16859	10831	6601	\$7,755	\$4,982	\$3,036
Redfish	1460.0	449.0	257.0	\$1,834,680	\$564,228	\$322,935	10985	3750	905	\$6,262	\$2,137	\$516
White Hake	205.3	120.9	92.8	\$520,472	\$306,602	\$235,213	1545	1010	327	\$1,776	\$1,161	\$376
Total	53894.9	12767.6	13647.5	\$182,861,841	\$42,953,713	\$43,320,008	405517	106619	48063	\$624,102	\$162,703	\$69,201

Table 26 – Option 1 allocation: ACE (weight) and value of ACE by vessel length group

Stock	ACE Allocations (metric tons)			Value of ACE Allocations			Average ACE Allocations per Vessel (pounds)			Average Value of ACE Allocations per Vessel		
	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
GOM Cod	1295.4	2412.0	4340.6	\$4,540,736	\$8,454,968	\$15,215,063	9747	20142	15286	\$15,497	\$32,026	\$24,305
GB Cod	2456.8	455.6	1139.7	\$8,611,699	\$1,596,863	\$3,994,970	18485	3804	4014	\$29,391	\$6,049	\$6,382
GOM Winter	0.0	0.0	0.0	\$0	\$0	\$0	0	0	0	\$0	\$0	\$0
GB Winter	1829.6	85.7	0.7	\$8,349,296	\$391,007	\$3,405	13766	716	3	\$28,496	\$1,481	\$5
SNEMA Winter	1745.9	655.9	219.2	\$7,967,386	\$2,993,372	\$1,000,233	13136	5478	772	\$27,192	\$11,339	\$1,598
CCGOM YT	196.1	221.2	178.7	\$804,134	\$907,211	\$732,587	1476	1848	629	\$2,744	\$3,436	\$1,170
GB YT	1245.1	137.8	0.0	\$5,105,738	\$565,136	\$195	9369	1151	0	\$17,426	\$2,141	\$0
SNEMA YT	128.0	118.7	20.3	\$524,824	\$486,787	\$83,238	963	991	71	\$1,791	\$1,844	\$133
GOM Haddock	421.7	222.6	236.7	\$1,422,432	\$750,675	\$798,540	3173	1858	834	\$4,855	\$2,843	\$1,276
GB Haddock	37717.0	4629.7	3173.3	\$127,221,018	\$15,616,114	\$10,703,557	283792	38661	11175	\$434,201	\$59,152	\$17,098
Witch	1815.0	1138.4	533.7	\$9,603,058	\$6,023,081	\$2,823,717	13656	9506	1879	\$32,775	\$22,815	\$4,511
Plaice	1772.7	1218.2	551.1	\$6,292,017	\$4,324,040	\$1,955,940	13338	10173	1941	\$21,474	\$16,379	\$3,125
Pollock	2284.5	1358.3	1769.3	\$2,316,706	\$1,377,449	\$1,794,240	17189	11343	6231	\$7,907	\$5,218	\$2,866
Redfish	1462.7	475.3	228.0	\$1,838,099	\$597,270	\$286,474	11006	3969	803	\$6,273	\$2,262	\$458
White Hake	204.5	125.4	89.1	\$518,448	\$317,891	\$225,947	1539	1047	314	\$1,769	\$1,204	\$361
Total	54574.9	13254.8	12480.3	\$185,115,591	\$44,401,864	\$39,618,107	410634	110687	43952	\$631,794	\$168,189	\$63,288

Table 27 – Option 2 allocation: ACE (weight) and value of ACE by vessel length group

Stock	ACE Allocations (metric tons)			Value of ACE Allocations			Average ACE Allocations per Vessel (pounds)			Average Value of ACE Allocations per Vessel		
	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
GOM Cod	2251.1	2303.9	3493.0	\$7,890,777	\$8,075,891	\$12,244,099	16938	19239	12301	\$26,931	\$30,590	\$19,559
GB Cod	2325.0	727.4	999.5	\$8,150,001	\$2,549,908	\$3,503,624	17494	6075	3520	\$27,816	\$9,659	\$5,597
GOM Winter	0.0	0.0	0.0	\$0	\$0	\$0	0	0	0	\$0	\$0	\$0
GB Winter	1698.9	160.6	56.5	\$7,753,069	\$732,895	\$257,744	12783	1341	199	\$26,461	\$2,776	\$412
SNEMA Winter	1658.3	623.2	339.5	\$7,567,713	\$2,843,858	\$1,549,420	12477	5204	1196	\$25,828	\$10,772	\$2,475
CCGOM YT	250.8	180.9	164.3	\$1,028,394	\$741,716	\$673,822	1887	1511	579	\$3,510	\$2,810	\$1,076
GB YT	1194.7	161.2	27.1	\$4,898,924	\$661,170	\$110,975	8989	1346	95	\$16,720	\$2,504	\$177
SNEMA YT	154.7	89.2	23.1	\$634,434	\$365,771	\$94,644	1164	745	81	\$2,165	\$1,385	\$151
GOM Haddock	389.1	234.0	257.9	\$1,312,603	\$789,247	\$869,797	2928	1954	908	\$4,480	\$2,990	\$1,389
GB Haddock	32569.7	7419.3	5531.0	\$109,858,710	\$25,025,719	\$18,656,261	245062	61957	19479	\$374,944	\$94,794	\$29,802
Witch	1764.1	1015.9	707.0	\$9,334,036	\$5,375,043	\$3,740,777	13274	8483	2490	\$31,857	\$20,360	\$5,976
Plaice	1769.0	1041.9	731.0	\$6,279,001	\$3,698,294	\$2,594,701	13311	8701	2574	\$21,430	\$14,009	\$4,145
Pollock	2447.4	1328.6	1636.0	\$2,481,980	\$1,347,328	\$1,659,088	18415	11095	5762	\$8,471	\$5,104	\$2,650
Redfish	1236.5	507.5	422.0	\$1,553,793	\$637,730	\$530,321	9304	4238	1486	\$5,303	\$2,416	\$847
White Hake	204.4	114.2	100.4	\$518,236	\$289,575	\$254,475	1538	954	353	\$1,769	\$1,097	\$407
Total	49913.9	15907.9	14488.3	\$169,261,669	\$53,134,144	\$46,739,748	375563	132843	51024	\$577,685	\$201,266	\$74,664

Table 28 – Option 3 allocation: ACE (weight) and value of ACE by vessel length group

Stock	ACE Allocations (metric tons)			Value of ACE Allocations			Average ACE Allocations per Vessel (pounds)			Average Value of ACE Allocations per Vessel		
	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
GOM Cod	2549.4	2203.6	3295.0	\$8,936,308	\$7,724,382	\$11,550,077	19182	18402	11604	\$30,499	\$29,259	\$18,451
GB Cod	2185.8	730.0	1136.1	\$7,662,011	\$2,559,047	\$3,982,474	16447	6096	4001	\$26,150	\$9,693	\$6,362
GOM Winter	0.0	0.0	0.0	\$0	\$0	\$0	0	0	0	\$0	\$0	\$0
GB Winter	1367.5	280.3	268.1	\$6,240,704	\$1,279,340	\$1,223,664	10290	2341	944	\$21,299	\$4,846	\$1,955
SNEMA Winter	1492.3	652.9	475.9	\$6,809,963	\$2,979,324	\$2,171,703	11228	5452	1676	\$23,242	\$11,285	\$3,469
CCGOM YT	238.9	184.5	172.6	\$979,545	\$756,546	\$707,841	1797	1541	608	\$3,343	\$2,866	\$1,131
GB YT	949.4	240.3	193.3	\$3,892,889	\$985,532	\$792,648	7143	2007	681	\$13,286	\$3,733	\$1,266
SNEMA YT	127.1	92.5	47.5	\$521,114	\$379,107	\$194,628	956	772	167	\$1,779	\$1,436	\$311
GOM Haddock	419.0	220.5	241.5	\$1,413,388	\$743,691	\$814,567	3153	1841	850	\$4,824	\$2,817	\$1,301
GB Haddock	29614.5	7957.3	7948.2	\$99,890,738	\$26,840,368	\$26,809,583	222826	66450	27991	\$340,924	\$101,668	\$42,827
Witch	1731.4	1001.4	754.2	\$9,161,058	\$5,298,513	\$3,990,285	13028	8363	2656	\$31,266	\$20,070	\$6,374
Plaice	1723.3	1048.2	770.5	\$6,116,654	\$3,720,396	\$2,734,947	12966	8753	2714	\$20,876	\$14,092	\$4,369
Pollock	2421.0	1350.0	1641.0	\$2,455,210	\$1,369,045	\$1,664,141	18216	11273	5779	\$8,380	\$5,186	\$2,658
Redfish	1243.2	506.1	416.7	\$1,562,196	\$636,024	\$523,623	9354	4227	1467	\$5,332	\$2,409	\$836
White Hake	201.3	114.6	103.1	\$510,232	\$290,623	\$261,431	1514	957	363	\$1,741	\$1,101	\$418
Total	46264.0	16582.3	17463.7	\$156,152,012	\$55,561,937	\$57,421,613	348101	138475	61502	\$532,942	\$210,462	\$91,728

Table 29 – Option 4 allocation: ACE (weight) and value of ACE by vessel length group

Stock	ACE Allocations (metric tons)			Value of ACE Allocations			Average ACE Allocations per Vessel (pounds)			Average Value of ACE Allocations per Vessel		
	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small	Large	Medium	Small
GOM Cod	1996.7	2273.9	3777.4	\$6,998,964	\$7,970,668	\$13,241,135	15023	18989	13303	\$23,887	\$30,192	\$21,152
GB Cod	1907.6	765.4	1379.0	\$6,686,599	\$2,683,047	\$4,833,887	14353	6392	4857	\$22,821	\$10,163	\$7,722
GOM Winter	0.0	0.0	0.0	\$0	\$0	\$0	0	0	0	\$0	\$0	\$0
GB Winter	1235.9	297.1	383.0	\$5,640,240	\$1,355,674	\$1,747,794	9299	2481	1349	\$19,250	\$5,135	\$2,792
SNEMA Winter	1312.3	675.7	633.0	\$5,988,555	\$3,083,746	\$2,888,690	9874	5643	2229	\$20,439	\$11,681	\$4,615
CCGOM YT	198.0	189.7	208.3	\$811,711	\$777,882	\$854,339	1489	1584	734	\$2,770	\$2,947	\$1,365
GB YT	854.4	252.4	276.2	\$3,503,435	\$1,035,041	\$1,132,593	6429	2108	973	\$11,957	\$3,921	\$1,809
SNEMA YT	108.7	94.8	63.5	\$445,927	\$388,665	\$260,257	818	792	224	\$1,522	\$1,472	\$416
GOM Haddock	358.5	228.2	294.3	\$1,209,314	\$769,634	\$992,698	2698	1905	1036	\$4,127	\$2,915	\$1,586
GB Haddock	26488.4	8354.7	10676.8	\$89,346,495	\$28,180,811	\$36,013,384	199305	69768	37601	\$304,937	\$106,745	\$57,529
Witch	1492.0	1031.9	963.2	\$7,894,033	\$5,459,585	\$5,096,239	11226	8617	3392	\$26,942	\$20,680	\$8,141
Plaice	1480.0	1079.1	982.9	\$5,253,285	\$3,830,152	\$3,488,559	11136	9011	3461	\$17,929	\$14,508	\$5,573
Pollock	2049.4	1397.2	1965.4	\$2,078,300	\$1,416,960	\$1,993,136	15420	11668	6922	\$7,093	\$5,367	\$3,184
Redfish	1094.4	525.0	546.5	\$1,375,276	\$659,787	\$686,781	8235	4385	1925	\$4,694	\$2,499	\$1,097
White Hake	172.5	118.3	128.2	\$437,281	\$299,897	\$325,109	1298	988	452	\$1,492	\$1,136	\$519
Total	40748.8	17283.4	22277.8	\$137,669,413	\$57,911,548	\$73,554,601	306603	144330	78456	\$469,861	\$219,362	\$117,499

Table 30 - No Action Option Contribution Shares by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
Number of Vessels	18	716	202	22	87	79	112	112	9	11
GOM Cod	0.07%	61.33%	19.73%	0.00%	17.68%	0.06%	0.53%	0.29%	0.00%	0.31%
GB Cod	0.22%	80.43%	5.49%	0.63%	0.45%	0.25%	2.84%	9.27%	0.02%	0.41%
GOM Winter	0.04%	89.02%	4.13%	0.01%	2.37%	0.04%	2.26%	2.10%	0.00%	0.02%
GB Winter	0.17%	85.93%	1.01%	1.81%	0.00%	0.59%	2.08%	8.35%	0.05%	0.01%
SNEMA Winter	3.61%	58.86%	1.32%	0.19%	0.09%	7.95%	8.70%	19.17%	0.11%	0.00%
CCGOM YT	0.03%	86.90%	2.72%	0.25%	3.97%	0.07%	2.12%	3.93%	0.00%	0.00%
GB YT	0.64%	61.71%	0.86%	7.35%	0.00%	2.01%	6.11%	20.93%	0.25%	0.15%
SNEMA YT	6.48%	19.12%	4.18%	1.64%	0.00%	5.49%	17.08%	45.44%	0.57%	0.00%
GOM Haddock	0.02%	69.47%	21.57%	0.00%	6.95%	0.05%	0.29%	0.49%	0.00%	1.17%
GB Haddock	0.13%	72.53%	9.63%	1.34%	0.01%	0.40%	3.99%	11.80%	0.00%	0.17%
Witch	0.19%	63.37%	21.92%	0.81%	3.24%	1.07%	1.44%	7.09%	0.02%	0.84%
Plaice	0.17%	53.23%	32.45%	1.28%	2.26%	0.91%	1.68%	7.07%	0.01%	0.92%
Pollock	0.07%	53.02%	32.63%	0.03%	11.32%	0.03%	0.31%	1.14%	0.00%	1.45%
Redfish	0.22%	64.71%	28.43%	0.00%	2.62%	0.06%	0.58%	1.62%	0.00%	1.75%
White Hake	0.06%	40.52%	49.49%	0.00%	6.25%	0.13%	0.39%	1.57%	0.00%	1.59%

Table 31 - Option 1 Contribution Shares by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	0.52%	59.38%	21.75%	0.00%	15.92%	0.74%	0.55%	0.68%	0.01%	0.46%
GB Cod	0.29%	82.80%	5.66%	0.58%	0.95%	0.44%	1.99%	6.75%	0.21%	0.33%
GOM Winter	0.05%	87.21%	6.53%	0.00%	2.91%	0.09%	1.36%	1.77%	0.05%	0.02%
GB Winter	0.15%	88.35%	1.32%	1.76%	0.00%	0.67%	1.57%	6.05%	0.11%	0.02%
SNEMA Winter	3.20%	64.04%	3.04%	0.21%	0.25%	5.99%	9.01%	13.99%	0.19%	0.06%
CCGOM YT	0.09%	85.88%	4.63%	0.32%	4.19%	0.07%	1.38%	3.40%	0.01%	0.03%
GB YT	0.50%	61.42%	2.22%	6.30%	0.00%	2.15%	5.73%	20.25%	1.27%	0.16%
SNEMA YT	3.32%	31.62%	4.83%	1.73%	0.00%	8.78%	18.93%	29.45%	1.10%	0.23%
GOM Haddock	0.10%	56.97%	34.67%	0.00%	4.87%	0.83%	0.20%	0.48%	0.00%	1.88%
GB Haddock	0.17%	72.39%	10.64%	1.35%	0.06%	0.40%	3.69%	10.64%	0.10%	0.56%
Witch	0.21%	61.22%	24.23%	0.67%	2.60%	1.33%	1.49%	7.30%	0.08%	0.87%
Plaice	0.32%	54.26%	31.72%	0.81%	2.73%	1.74%	1.44%	6.15%	0.12%	0.71%
Pollock	0.10%	52.63%	32.57%	0.02%	10.72%	0.41%	0.37%	1.32%	0.00%	1.85%
Redfish	0.18%	59.49%	30.30%	0.00%	3.34%	0.62%	0.79%	2.32%	0.00%	2.95%
White Hake	0.11%	42.98%	45.69%	0.00%	6.45%	0.74%	0.46%	1.94%	0.00%	1.63%

Table 32 - Option 2 Contribution Shares by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	0.56%	61.27%	22.24%	0.03%	11.27%	0.95%	1.25%	1.81%	0.02%	0.58%
GB Cod	0.78%	71.73%	10.22%	0.97%	1.84%	1.76%	3.41%	8.36%	0.34%	0.58%
GOM Winter	0.30%	75.85%	14.36%	0.12%	4.96%	0.69%	1.28%	1.97%	0.04%	0.43%
GB Winter	0.55%	76.47%	6.25%	1.98%	0.19%	1.49%	2.86%	9.30%	0.36%	0.54%
SNEMA Winter	2.24%	63.37%	6.76%	0.86%	1.00%	4.90%	7.53%	12.51%	0.35%	0.49%
CCGOM YT	0.34%	75.44%	10.85%	0.66%	4.75%	0.64%	1.98%	4.80%	0.21%	0.34%
GB YT	0.72%	62.30%	7.05%	4.23%	0.14%	2.42%	4.89%	16.55%	0.95%	0.76%
SNEMA YT	2.63%	43.80%	5.08%	1.93%	0.42%	7.15%	14.05%	23.66%	0.95%	0.34%
GOM Haddock	0.39%	59.20%	29.29%	0.00%	6.08%	0.95%	1.01%	1.76%	0.00%	1.32%
GB Haddock	0.59%	67.49%	12.93%	1.42%	1.30%	1.27%	3.78%	10.21%	0.26%	0.75%
Witch	0.66%	59.10%	20.94%	0.97%	3.84%	2.49%	2.96%	8.00%	0.24%	0.81%
Plaice	0.75%	56.46%	24.88%	1.01%	3.97%	2.15%	2.39%	7.41%	0.25%	0.74%
Pollock	0.62%	55.85%	24.90%	0.53%	7.90%	1.64%	2.08%	4.99%	0.20%	1.29%
Redfish	0.50%	57.92%	25.35%	0.20%	4.55%	1.50%	2.36%	5.62%	0.19%	1.79%
White Hake	0.63%	50.66%	31.75%	0.41%	5.79%	1.72%	2.32%	5.41%	0.12%	1.19%

Table 33 - Option 3 Contribution Shares by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	0.86%	58.61%	19.39%	0.60%	10.41%	2.14%	2.55%	4.65%	0.20%	0.58%
GB Cod	0.75%	70.32%	11.34%	0.89%	2.93%	1.99%	3.27%	7.68%	0.30%	0.52%
GOM Winter	0.63%	72.53%	11.78%	0.60%	3.91%	1.82%	2.95%	5.19%	0.22%	0.36%
GB Winter	0.68%	73.09%	9.17%	1.48%	2.45%	2.10%	3.06%	7.34%	0.25%	0.36%
SNEMA Winter	2.20%	60.94%	10.03%	0.71%	2.58%	4.77%	6.78%	11.31%	0.30%	0.39%
CCGOM YT	0.65%	71.86%	10.83%	0.76%	4.55%	1.81%	2.97%	6.01%	0.20%	0.37%
GB YT	0.85%	59.63%	9.63%	3.75%	2.45%	2.85%	5.14%	14.43%	0.83%	0.43%
SNEMA YT	2.26%	44.73%	10.93%	1.47%	2.45%	6.16%	11.74%	19.03%	0.75%	0.47%
GOM Haddock	0.65%	57.40%	25.85%	0.60%	4.89%	2.18%	2.37%	4.55%	0.20%	1.29%
GB Haddock	0.69%	65.12%	13.83%	1.27%	2.48%	1.97%	4.12%	9.63%	0.25%	0.63%
Witch	0.71%	59.53%	20.63%	0.94%	3.76%	2.44%	3.02%	7.96%	0.24%	0.79%
Plaice	0.76%	56.05%	24.37%	1.01%	3.82%	2.64%	2.99%	7.39%	0.26%	0.71%
Pollock	0.65%	55.23%	24.80%	0.61%	7.81%	1.98%	2.46%	4.97%	0.20%	1.28%
Redfish	0.69%	58.67%	23.67%	0.60%	4.12%	2.08%	2.67%	5.47%	0.20%	1.83%
White Hake	0.66%	50.41%	31.36%	0.60%	5.68%	2.14%	2.50%	5.28%	0.20%	1.17%

Table 34 - Option 4 Contribution Shares by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	0.87%	58.61%	19.76%	0.51%	11.15%	2.01%	2.39%	4.06%	0.18%	0.47%
GB Cod	0.76%	70.32%	11.71%	0.80%	3.67%	1.86%	3.10%	7.09%	0.28%	0.40%
GOM Winter	0.64%	72.53%	12.15%	0.51%	4.65%	1.68%	2.79%	4.60%	0.20%	0.25%
GB Winter	0.69%	73.09%	9.54%	1.39%	3.20%	1.97%	2.90%	6.74%	0.23%	0.25%
SNEMA Winter	2.22%	60.94%	10.40%	0.62%	3.32%	4.63%	6.62%	10.71%	0.27%	0.27%
CCGOM YT	0.66%	71.86%	11.20%	0.67%	5.29%	1.67%	2.80%	5.42%	0.18%	0.25%
GB YT	0.87%	59.63%	9.99%	3.66%	3.20%	2.71%	4.97%	13.84%	0.81%	0.32%
SNEMA YT	2.28%	44.73%	11.30%	1.37%	3.20%	6.03%	11.57%	18.44%	0.72%	0.35%
GOM Haddock	0.67%	57.40%	26.22%	0.51%	5.63%	2.05%	2.21%	3.96%	0.17%	1.18%
GB Haddock	0.70%	65.11%	14.20%	1.18%	3.22%	1.84%	3.96%	9.04%	0.23%	0.52%
Witch	0.72%	59.53%	21.00%	0.85%	4.50%	2.30%	2.85%	7.37%	0.21%	0.68%
Plaice	0.78%	56.05%	24.74%	0.91%	4.56%	2.51%	2.83%	6.79%	0.23%	0.59%
Pollock	0.67%	55.23%	25.17%	0.52%	8.56%	1.84%	2.29%	4.38%	0.18%	1.17%
Redfish	0.71%	58.66%	24.03%	0.51%	4.86%	1.95%	2.50%	4.88%	0.17%	1.71%
White Hake	0.67%	50.41%	31.73%	0.51%	6.42%	2.01%	2.34%	4.69%	0.17%	1.05%

Table 35 - No Action Alternative ACE Allocations (metric tons) by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
Number of Vessels	17.0	634.0	161.0	20.0	75.0	65.0	99.0	97.0	8.0	7.0
GOM Cod	5.9	4935.6	1587.6	0.0	1423.0	4.9	42.5	23.4	0.1	24.9
GB Cod	9.0	3258.8	222.5	25.4	18.1	10.3	114.9	375.7	0.7	16.6
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	3.3	1646.3	19.4	34.7	0.0	11.2	39.8	160.1	1.0	0.2
SNEMA Winter	94.6	1542.8	34.6	4.9	2.3	208.5	227.9	502.4	3.0	0.0
CCGOM YT	0.2	517.9	16.2	1.5	23.7	0.4	12.7	23.4	0.0	0.0
GB YT	8.8	853.4	11.9	101.7	0.0	27.8	84.4	289.5	3.4	2.1
SNEMA YT	17.3	51.0	11.2	4.4	0.0	14.7	45.6	121.3	1.5	0.0
GOM Haddock	0.1	612.0	190.1	0.0	61.2	0.4	2.5	4.3	0.0	10.3
GB Haddock	61.1	33016.7	4381.6	611.7	5.3	182.1	1814.2	5370.1	0.8	76.3
Witch	6.7	2209.6	764.2	28.4	113.0	37.4	50.1	247.3	0.8	29.4
Plaice	6.1	1885.5	1149.4	45.4	80.0	32.4	59.6	250.4	0.5	32.7
Pollock	4.1	2869.7	1765.7	1.9	612.6	1.4	16.6	61.5	0.0	78.6
Redfish	4.8	1401.7	615.9	0.0	56.7	1.3	12.6	35.1	0.0	37.9
White Hake	0.3	169.8	207.4	0.0	26.2	0.6	1.7	6.6	0.0	6.6
Total	222.1	54970.8	10977.5	860.0	2422.2	533.4	2525.2	7471.1	12.0	315.7

Table 36 – Option 1 ACE Allocations (metric tons) by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	41.5	4779.1	1750.1	0.0	1281.0	59.9	44.6	54.3	0.7	36.8
GB Cod	11.7	3355.1	229.4	23.7	38.3	18.0	80.7	273.4	8.4	13.4
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	3.0	1692.7	25.2	33.7	0.0	12.8	30.2	116.0	2.1	0.4
SNEMA Winter	83.9	1678.6	79.6	5.5	6.6	157.1	236.3	366.8	5.1	1.6
CCGOM YT	0.5	511.8	27.6	1.9	25.0	0.4	8.2	20.3	0.0	0.2
GB YT	6.9	849.5	30.7	87.2	0.0	29.7	79.2	280.0	17.5	2.2
SNEMA YT	8.9	84.4	12.9	4.6	0.0	23.5	50.5	78.6	2.9	0.6
GOM Haddock	0.9	501.9	305.5	0.0	42.9	7.3	1.8	4.2	0.0	16.5
GB Haddock	79.5	32951.3	4844.0	612.3	26.6	180.1	1680.4	4843.3	46.6	255.8
Witch	7.2	2134.8	844.9	23.4	90.8	46.4	51.9	254.4	2.8	30.5
Plaice	11.4	1921.9	1123.4	28.6	96.6	61.8	50.8	217.9	4.3	25.2
Pollock	5.7	2848.2	1762.6	1.1	580.2	22.3	20.0	71.3	0.3	100.3
Redfish	4.0	1288.6	656.4	0.1	72.3	13.5	17.0	50.3	0.0	63.9
White Hake	0.5	180.1	191.5	0.0	27.0	3.1	1.9	8.1	0.0	6.8
Total	265.5	54778.0	11883.7	822.2	2287.4	635.6	2353.6	6638.9	90.8	554.3

Table 37 – Option 2 ACE Allocations (metric tons) by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	45.4	4931.2	1789.9	2.6	907.4	76.9	100.9	146.0	1.3	46.5
GB Cod	31.8	2906.5	414.3	39.5	74.6	71.4	138.1	338.8	13.7	23.4
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	10.6	1465.2	119.7	37.9	3.6	28.6	54.9	178.3	6.8	10.4
SNEMA Winter	58.8	1660.9	177.2	22.5	26.2	128.4	197.3	327.9	9.0	12.8
CCGOM YT	2.1	449.6	64.6	3.9	28.3	3.8	11.8	28.6	1.3	2.0
GB YT	9.9	861.6	97.5	58.5	1.9	33.5	67.7	228.8	13.1	10.5
SNEMA YT	7.0	117.0	13.6	5.2	1.1	19.1	37.5	63.2	2.5	0.9
GOM Haddock	3.4	521.5	258.1	0.0	53.6	8.4	8.9	15.5	0.0	11.7
GB Haddock	269.7	30722.1	5887.1	645.2	591.7	577.2	1720.9	4647.7	116.3	341.9
Witch	23.0	2060.9	730.1	33.7	133.9	86.8	103.1	278.8	8.4	28.2
Plaice	26.5	1999.7	881.2	35.7	140.7	76.2	84.5	262.6	8.8	26.1
Pollock	33.5	3022.5	1347.5	28.9	427.5	89.0	112.6	269.9	10.7	70.0
Redfish	10.8	1254.6	549.1	4.4	98.6	32.6	51.0	121.8	4.2	38.7
White Hake	2.7	212.3	133.0	1.7	24.2	7.2	9.7	22.7	0.5	5.0
Total	535.2	52185.7	12462.9	919.6	2513.5	1238.9	2699.0	6930.6	196.6	628.0

Table 38 – Option 3 ACE Allocations (metric tons) by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	69.2	4717.1	1560.2	48.4	838.0	172.4	205.4	373.9	16.5	46.9
GB Cod	30.2	2849.4	459.7	36.2	118.6	80.7	132.5	311.3	12.3	21.0
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	13.0	1400.5	175.7	28.4	47.0	40.3	58.7	140.5	4.9	7.0
SNEMA Winter	57.8	1597.3	262.9	18.5	67.6	124.9	177.7	296.3	7.8	10.1
CCGOM YT	3.8	428.3	64.5	4.5	27.1	10.8	17.7	35.8	1.2	2.2
GB YT	11.8	824.7	133.1	51.9	33.9	39.4	71.1	199.6	11.5	6.0
SNEMA YT	6.0	119.4	29.2	3.9	6.6	16.5	31.3	50.8	2.0	1.3
GOM Haddock	5.7	505.7	227.7	5.3	43.1	19.2	20.9	40.1	1.8	11.4
GB Haddock	313.9	29640.6	6297.5	579.8	1130.2	895.8	1875.6	4383.0	114.6	288.9
Witch	24.6	2075.9	719.3	32.6	131.0	84.9	105.3	277.4	8.4	27.6
Plaice	27.0	1985.4	863.3	35.6	135.2	93.6	106.0	261.6	9.2	25.1
Pollock	35.4	2989.3	1342.1	33.1	422.9	106.9	133.1	268.9	11.0	69.3
Redfish	15.0	1270.7	512.6	13.0	89.3	45.1	57.8	118.5	4.3	39.6
White Hake	2.8	211.2	131.4	2.5	23.8	9.0	10.5	22.1	0.8	4.9
Total	616.5	50615.6	12779.3	894.0	3114.2	1739.4	3003.6	6779.9	206.3	561.2

Table 39 – Option 4 ACE Allocations (metric tons) by Home Port State

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	70.4	4716.9	1589.9	41.1	897.7	161.7	192.1	326.4	14.4	37.6
GB Cod	30.8	2849.3	474.6	32.5	148.7	75.3	125.8	287.3	11.3	16.4
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	13.3	1400.4	182.8	26.6	61.2	37.8	55.5	129.2	4.4	4.8
SNEMA Winter	58.1	1597.2	272.6	16.1	87.1	121.5	173.4	280.8	7.1	7.1
CCGOM YT	3.9	428.3	66.7	4.0	31.5	10.0	16.7	32.3	1.1	1.5
GB YT	12.0	824.7	138.2	50.7	44.2	37.5	68.8	191.4	11.2	4.4
SNEMA YT	6.1	119.4	30.2	3.7	8.5	16.1	30.9	49.2	1.9	0.9
GOM Haddock	5.9	505.7	231.0	4.5	49.6	18.1	19.5	34.9	1.5	10.4
GB Haddock	320.4	29639.2	6465.2	538.4	1467.9	835.6	1800.3	4113.9	102.6	236.4
Witch	25.1	2075.8	732.2	29.5	156.8	80.3	99.5	256.8	7.5	23.5
Plaice	27.6	1985.3	876.3	32.4	161.5	88.9	100.1	240.6	8.3	21.0
Pollock	36.2	2989.1	1362.0	28.2	463.0	99.8	124.1	236.8	9.6	63.1
Redfish	15.4	1270.7	520.6	11.1	105.4	42.2	54.2	105.7	3.8	37.1
White Hake	2.8	211.2	132.9	2.1	26.9	8.4	9.8	19.6	0.7	4.4
Total	627.9	50613.2	13075.2	820.8	3709.9	1633.2	2870.8	6305.0	185.3	468.5

Table 40 – No Action ACE value by homeport state

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
Number of Vessels	17	634	161	20	75	65	99	97	8	7
GOM Cod	\$20,833	\$17,300,844	\$5,565,169	\$0	\$4,987,998	\$17,062	\$148,947	\$82,155	\$381	\$87,378
GB Cod	\$62,750	\$22,843,665	\$1,559,642	\$177,957	\$126,881	\$72,175	\$805,630	\$2,633,221	\$5,205	\$116,434
GOM Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB Winter	\$14,963	\$7,513,100	\$88,377	\$158,509	\$0	\$51,265	\$181,660	\$730,480	\$4,484	\$871
SNEMA Winter	\$431,661	\$7,040,677	\$157,770	\$22,405	\$10,449	\$951,438	\$1,040,222	\$2,292,610	\$13,604	\$157
CCGOM YT	\$853	\$2,123,667	\$66,497	\$6,094	\$97,099	\$1,622	\$51,896	\$96,111	\$79	\$12
GB YT	\$36,064	\$3,499,410	\$48,618	\$416,956	\$0	\$114,122	\$346,260	\$1,187,133	\$14,067	\$8,439
SNEMA YT	\$70,919	\$209,296	\$45,735	\$17,964	\$0	\$60,121	\$187,048	\$497,529	\$6,237	\$0
GOM Haddock	\$474	\$2,064,467	\$641,077	\$0	\$206,399	\$1,349	\$8,577	\$14,653	\$8	\$34,643
GB Haddock	\$206,102	\$111,366,507	\$14,779,280	\$2,063,196	\$18,019	\$614,385	\$6,119,465	\$18,113,484	\$2,825	\$257,426
Witch	\$35,391	\$11,690,915	\$4,043,454	\$150,364	\$598,109	\$198,142	\$265,344	\$1,308,383	\$4,334	\$155,419
Plaice	\$21,566	\$6,692,423	\$4,079,602	\$161,283	\$283,906	\$114,843	\$211,455	\$888,841	\$1,876	\$116,202
Pollock	\$4,112	\$2,910,162	\$1,790,600	\$1,895	\$621,292	\$1,460	\$16,791	\$62,372	\$28	\$79,683
Redfish	\$5,987	\$1,761,380	\$773,956	\$56	\$71,249	\$1,614	\$15,889	\$44,067	\$0	\$47,646
White Hake	\$652	\$430,428	\$525,707	\$6	\$66,415	\$1,396	\$4,185	\$16,656	\$2	\$16,839
Total	\$912,327	\$197,446,940	\$34,165,483	\$3,176,685	\$7,087,815	\$2,200,994	\$9,403,370	\$27,967,696	\$53,129	\$921,150

5B Environmental Impacts of the Management Alternatives
 29B Economic Impacts

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Table 41 – Option 1 ACE value by homeport state

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	\$145,511	\$16,752,091	\$6,134,577	\$14	\$4,490,285	\$209,798	\$156,504	\$190,485	\$2,485	\$129,015
GB Cod	\$81,885	\$23,518,454	\$1,607,798	\$166,066	\$268,790	\$125,850	\$565,436	\$1,916,151	\$59,114	\$94,017
GOM Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB Winter	\$13,473	\$7,724,785	\$115,007	\$153,910	\$25	\$58,304	\$137,687	\$529,238	\$9,537	\$1,742
SNEMA										
Winter	\$383,004	\$7,660,102	\$363,029	\$25,269	\$30,235	\$716,836	\$1,078,173	\$1,673,742	\$23,078	\$7,523
CCGOM YT	\$2,093	\$2,098,830	\$113,219	\$7,853	\$102,318	\$1,747	\$33,797	\$83,181	\$168	\$725
GB YT	\$28,217	\$3,483,246	\$126,088	\$357,552	\$0	\$121,952	\$324,873	\$1,148,290	\$71,852	\$8,998
SNEMA YT	\$36,353	\$346,209	\$52,897	\$18,935	\$23	\$96,173	\$207,225	\$322,445	\$12,041	\$2,547
GOM										
Haddock	\$2,957	\$1,692,856	\$1,030,397	\$0	\$144,817	\$24,578	\$5,926	\$14,291	\$4	\$55,820
GB Haddock	\$268,301	\$111,146,030	\$16,339,060	\$2,065,326	\$89,788	\$607,389	\$5,668,061	\$16,336,578	\$157,332	\$862,825
Witch	\$38,052	\$11,295,335	\$4,470,443	\$123,601	\$480,503	\$245,375	\$274,615	\$1,346,022	\$14,714	\$161,197
Plaice	\$40,573	\$6,821,746	\$3,987,392	\$101,575	\$342,853	\$219,248	\$180,440	\$773,485	\$15,190	\$89,493
Pollock	\$5,758	\$2,888,390	\$1,787,497	\$1,164	\$588,374	\$22,595	\$20,272	\$72,316	\$264	\$101,765
Redfish	\$5,022	\$1,619,301	\$824,820	\$64	\$90,825	\$16,940	\$21,422	\$63,197	\$13	\$80,239
White Hake	\$1,194	\$456,538	\$485,400	\$21	\$68,507	\$7,840	\$4,871	\$20,578	\$8	\$17,331
Total	\$1,052,392	\$197,503,914	\$37,437,624	\$3,021,350	\$6,697,344	\$2,474,626	\$8,679,303	\$24,489,998	\$365,803	\$1,613,235

Table 42 – Option 2 ACE value by homeport state

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	\$159,071	\$17,285,383	\$6,274,180	\$9,056	\$3,180,602	\$269,399	\$353,827	\$511,899	\$4,451	\$162,900
GB Cod	\$222,834	\$20,374,061	\$2,903,966	\$276,711	\$523,049	\$500,219	\$968,306	\$2,374,966	\$95,698	\$163,750
GOM Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB Winter	\$48,477	\$6,686,295	\$546,432	\$173,071	\$16,366	\$130,461	\$250,487	\$813,550	\$31,139	\$47,430
SNEMA										
Winter	\$268,355	\$7,579,375	\$808,451	\$102,501	\$119,780	\$586,054	\$900,376	\$1,496,282	\$41,273	\$58,544
CCGOM YT	\$8,410	\$1,843,736	\$265,068	\$16,166	\$116,024	\$15,525	\$48,369	\$117,296	\$5,144	\$8,192
GB YT	\$40,559	\$3,533,033	\$399,738	\$239,685	\$7,968	\$137,330	\$277,544	\$938,370	\$53,898	\$42,945
SNEMA YT	\$28,825	\$479,564	\$55,583	\$21,121	\$4,645	\$78,228	\$153,777	\$259,014	\$10,347	\$3,745
GOM										
Haddock	\$11,467	\$1,759,187	\$870,445	\$0	\$180,663	\$28,181	\$30,088	\$52,318	\$2	\$39,296
GB Haddock	\$909,645	\$103,626,922	\$19,857,546	\$2,176,318	\$1,995,985	\$1,946,980	\$5,804,776	\$15,676,799	\$392,437	\$1,153,282
Witch	\$121,932	\$10,904,412	\$3,862,976	\$178,204	\$708,672	\$459,271	\$545,558	\$1,475,171	\$44,577	\$149,084
Plaice	\$94,035	\$7,097,890	\$3,127,594	\$126,749	\$499,366	\$270,414	\$300,038	\$932,102	\$31,115	\$92,693
Pollock	\$34,008	\$3,065,182	\$1,366,487	\$29,275	\$433,547	\$90,248	\$114,148	\$273,668	\$10,856	\$70,974
Redfish	\$13,631	\$1,576,614	\$690,050	\$5,566	\$123,961	\$40,912	\$64,109	\$153,092	\$5,248	\$48,660
White Hake	\$6,735	\$538,144	\$337,315	\$4,382	\$61,476	\$18,258	\$24,601	\$57,444	\$1,293	\$12,638
Total	\$1,967,986	\$186,349,796	\$41,365,831	\$3,358,805	\$7,972,104	\$4,571,481	\$9,836,003	\$25,131,971	\$727,478	\$2,054,133

5B Environmental Impacts of the Management Alternatives
 29B Economic Impacts

Table 43 – Option 3 ACE value by homeport state

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	\$242,673	\$16,534,950	\$5,469,089	\$169,625	\$2,937,324	\$604,258	\$719,959	\$1,310,804	\$57,782	\$164,302
GB Cod	\$212,021	\$19,973,889	\$3,222,113	\$253,810	\$831,307	\$565,696	\$928,811	\$2,181,944	\$86,483	\$147,485
GOM										
Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB Winter	\$59,401	\$6,391,181	\$801,923	\$129,527	\$214,549	\$183,925	\$267,736	\$641,373	\$22,293	\$31,801
SNEMA										
Winter	\$263,545	\$7,289,318	\$1,199,846	\$84,550	\$308,594	\$570,140	\$811,162	\$1,352,253	\$35,511	\$46,073
CCGOM YT	\$15,766	\$1,756,230	\$264,680	\$18,621	\$111,124	\$44,133	\$72,491	\$146,896	\$4,982	\$9,008
GB YT	\$48,266	\$3,381,766	\$545,866	\$212,873	\$139,146	\$161,360	\$291,436	\$818,503	\$47,292	\$24,560
SNEMA YT	\$24,771	\$489,748	\$119,662	\$16,050	\$26,875	\$67,467	\$128,517	\$208,398	\$8,215	\$5,146
GOM										
Haddock	\$19,377	\$1,705,865	\$768,198	\$17,867	\$145,321	\$64,890	\$70,559	\$135,190	\$5,957	\$38,422
GB										
Haddock	\$1,058,949	\$99,978,890	\$21,241,636	\$1,955,830	\$3,812,179	\$3,021,518	\$6,326,605	\$14,784,138	\$386,389	\$974,556
Witch	\$130,152	\$10,983,595	\$3,806,000	\$172,731	\$692,939	\$449,268	\$556,984	\$1,467,989	\$44,334	\$145,864
Plaice	\$96,009	\$7,046,851	\$3,064,047	\$126,377	\$479,894	\$332,161	\$376,194	\$928,452	\$32,792	\$89,219
Pollock	\$35,936	\$3,031,507	\$1,361,018	\$33,581	\$428,851	\$108,448	\$134,980	\$272,645	\$11,132	\$70,297
Redfish	\$18,905	\$1,596,841	\$644,141	\$16,397	\$112,196	\$56,649	\$72,625	\$148,879	\$5,462	\$49,748
White Hake	\$6,995	\$535,496	\$333,140	\$6,398	\$60,318	\$22,723	\$26,599	\$56,061	\$2,133	\$12,423
Total	\$2,232,769	\$180,696,129	\$42,841,361	\$3,214,236	\$10,300,615	\$6,252,636	\$10,784,657	\$24,453,525	\$750,756	\$1,808,905

Table 44 – Option 4 ACE value by homeport state

Stock	CT	MA	ME	NC	NH	NJ	NY	RI	VA	Other
GOM Cod	\$246,685	\$16,534,104	\$5,573,047	\$143,944	\$3,146,595	\$566,972	\$673,298	\$1,143,989	\$50,403	\$131,731
GB Cod	\$216,060	\$19,973,038	\$3,326,782	\$227,953	\$1,042,008	\$528,155	\$881,830	\$2,013,989	\$79,053	\$114,691
GOM										
Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB Winter	\$60,644	\$6,390,919	\$834,144	\$121,567	\$279,411	\$172,368	\$253,273	\$589,670	\$20,005	\$21,706
SNEMA										
Winter	\$265,245	\$7,288,959	\$1,243,923	\$73,662	\$397,322	\$554,331	\$791,378	\$1,281,525	\$32,382	\$32,263
CCGOM YT	\$16,114	\$1,756,157	\$273,686	\$16,396	\$129,253	\$40,903	\$68,448	\$132,444	\$4,343	\$6,186
GB YT	\$49,072	\$3,381,596	\$566,764	\$207,711	\$181,215	\$153,864	\$282,056	\$784,969	\$45,808	\$18,013
SNEMA YT	\$24,927	\$489,715	\$123,696	\$15,054	\$34,996	\$66,019	\$126,706	\$201,924	\$7,929	\$3,882
GOM										
Haddock	\$19,800	\$1,705,776	\$779,149	\$15,162	\$167,365	\$60,963	\$65,644	\$117,618	\$5,180	\$34,991
GB										
Haddock	\$1,080,782	\$99,974,287	\$21,807,442	\$1,816,057	\$4,951,165	\$2,818,582	\$6,072,643	\$13,876,224	\$346,224	\$797,282
Witch	\$132,776	\$10,983,042	\$3,873,989	\$155,935	\$829,802	\$424,883	\$526,468	\$1,358,891	\$39,508	\$124,562
Plaice	\$97,797	\$7,046,474	\$3,110,376	\$114,933	\$573,155	\$315,544	\$355,399	\$854,111	\$29,503	\$74,704
Pollock	\$36,717	\$3,031,343	\$1,381,243	\$28,585	\$469,565	\$101,194	\$125,902	\$240,191	\$9,696	\$63,961
Redfish	\$19,292	\$1,596,760	\$654,172	\$13,919	\$132,387	\$53,052	\$68,123	\$132,784	\$4,750	\$46,605
White Hake	\$7,146	\$535,464	\$337,055	\$5,431	\$68,198	\$21,319	\$24,842	\$49,780	\$1,855	\$11,197
Total	\$2,273,057	\$180,687,635	\$43,885,468	\$2,956,308	\$12,402,437	\$5,878,149	\$10,316,010	\$22,778,111	\$676,639	\$1,481,774

Table 45 – No Action ACE allocation (metric tons) by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA /GOM	SNEMA /GB	GOM/GB/ SNEMA	Unit Stocks Only
Number of Vessels	253	109	40	135	11	149	452	34
GOM Cod	2475.4	0.0	0.0	1430.2	138.8	0.0	4003.6	0.0
GB Cod	0.0	124.0	0.0	233.2	0.0	323.5	7422.3	0.0
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	0.0	2.7	0.0	1.8	0.0	67.3	1844.2	0.0
SNEMA Winter	0.0	0.0	106.5	0.0	0.5	731.8	1782.2	0.0
CCGOM YT	60.3	0.0	0.0	18.1	5.7	0.0	511.9	0.0
GB YT	0.0	5.8	0.0	0.9	0.0	92.4	1283.9	0.0
SNEMA YT	0.0	0.0	1.5	0.0	0.1	145.1	120.4	0.0
GOM Haddock	150.9	0.0	0.0	177.3	6.4	0.0	546.5	0.0
GB Haddock	0.0	232.6	0.0	568.4	0.0	1917.6	42801.5	0.0
Witch	334.2	1.9	13.4	445.0	14.9	83.8	2593.5	0.3
Plaice	380.5	3.9	0.0	757.3	12.1	80.5	2307.6	0.0
Pollock	693.1	11.0	0.0	1351.8	72.5	21.1	3257.4	5.1
Redfish	98.4	0.9	0.0	369.3	5.2	4.6	1687.3	0.4
White Hake	41.1	0.2	0.0	156.3	1.2	1.6	218.1	0.5
Total	4233.7	383.2	121.3	5509.5	257.3	3469.3	70380.3	6.3

Table 46 – Option 1 ACE allocation (metric tons) by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/ GOM	SNEMA/ GB	GOM/GB/ SNEMA	Unit Stocks Only
GOM Cod	2190.7	0.0	0.0	1665.3	133.8	0.0	4058.3	0.0
GB Cod	0.0	219.6	0.0	400.3	0.0	390.4	7092.7	0.0
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	0.0	3.5	0.0	1.1	0.0	52.2	1859.2	0.0
SNEMA Winter	0.0	0.0	70.2	0.0	0.5	630.7	1919.7	0.0
CCGOM YT	62.9	0.0	0.0	18.0	3.6	0.0	511.6	0.0
GB YT	0.0	5.6	0.0	0.6	0.0	100.5	1276.3	0.0
SNEMA YT	0.0	0.0	8.8	0.0	0.0	116.1	142.2	0.0
GOM Haddock	101.8	0.0	0.0	211.1	8.9	0.0	559.1	0.0
GB Haddock	0.0	164.8	0.0	652.8	0.0	1530.8	43171.6	0.0
Witch	337.2	3.8	8.0	552.2	16.1	84.9	2483.0	1.8
Plaice	462.1	3.2	0.0	762.5	24.3	62.3	2225.5	2.0
Pollock	537.6	13.9	2.8	1540.4	59.8	24.0	3225.3	8.2
Redfish	88.2	0.6	0.7	403.7	10.1	12.1	1649.4	1.2
White Hake	37.7	0.3	0.9	154.4	1.7	2.0	221.3	0.7
Total	3818.1	415.3	91.3	6362.5	258.7	3006.0	70395.1	14.0

Table 47 – Option 2 ACE allocation (metric tons) by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNE/MA /GOM	SNEMA/ GB	GOM/GB/ SNEMA	Unit Stocks Only
GOM Cod	1777.5	0.0	0.0	1496.7	106.4	0.0	4667.5	0.0
GB Cod	0.0	188.9	0.0	762.0	0.0	658.4	6493.6	0.0
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	0.0	5.5	0.0	23.4	0.0	104.6	1782.5	0.0
SNEMA Winter	0.0	0.0	49.5	0.0	9.3	485.8	2076.3	0.0
CCGOM YT	65.1	0.0	0.0	39.7	4.3	0.0	486.9	0.0
GB YT	0.0	6.4	0.0	34.0	0.0	108.8	1233.8	0.0
SNEMA YT	0.0	0.0	6.4	0.0	1.1	84.7	174.8	0.0
GOM Haddock	127.7	0.0	0.0	179.4	8.7	0.0	565.3	0.0
GB Haddock	0.0	410.9	0.0	3287.6	0.0	2589.4	39232.1	0.0
Witch	373.8	9.5	16.3	475.1	20.9	214.8	2374.4	2.2
Plaice	450.3	11.9	2.4	588.3	25.6	164.2	2297.2	2.1
Pollock	602.6	50.7	10.5	1103.1	49.6	238.0	3349.8	7.7
Redfish	188.3	9.6	1.8	352.1	14.1	76.2	1522.4	1.6
White Hake	44.6	1.6	1.0	102.2	2.4	20.4	246.2	0.6
Total	3629.8	695.0	87.9	8443.5	242.4	4745.3	66502.8	14.3

Table 48 – Option 3 ACE allocation (metric tons) by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/G OM	SNEMA/G B	GOM/GB/ SNEMA	Unit Stocks Only
GOM Cod	1585.4	67.7	32.2	1313.0	95.3	400.9	4548.5	5.2
GB Cod	493.4	177.9	32.4	683.7	28.6	598.8	6083.0	5.2
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	116.7	17.9	7.7	114.9	6.8	121.5	1529.4	1.2
SNEMA Winter	159.6	22.0	45.6	156.4	9.5	445.9	1780.3	1.7
CCGOM YT	67.7	5.0	2.4	44.6	3.9	29.7	442.4	0.4
GB YT	84.2	14.4	5.5	82.8	4.9	119.1	1071.1	0.9
SNEMA YT	16.3	2.2	5.5	15.9	0.9	71.3	154.7	0.2
GOM Haddock	104.5	7.4	3.5	158.1	7.6	43.9	555.4	0.6
GB Haddock	2771.8	465.1	182.2	3043.1	160.5	3032.6	35835.5	29.3
Witch	380.9	31.2	17.9	484.2	20.3	216.1	2333.1	3.2
Plaice	446.7	31.4	14.2	592.7	24.6	207.6	2221.6	3.3
Pollock	598.3	52.5	23.1	1093.2	49.0	281.6	3306.8	7.6
Redfish	176.0	18.5	9.0	331.1	12.7	113.9	1502.7	2.0
White Hake	44.4	3.7	2.1	102.2	2.3	21.9	241.8	0.6
Total	7045.9	916.8	383.3	8216.1	426.7	5704.8	61606.1	61.3

Table 49 – Option 4 ACE allocation (metric tons) by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/G OM	SNEMA/G B	GOM/GB/ SNEMA	Unit Stocks Only
GOM Cod	1769.9	91.6	32.8	1390.0	103.3	383.0	4271.6	5.8
GB Cod	679.2	202.0	33.0	761.3	36.7	580.8	5804.1	5.8
GOM Winter	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
GB Winter	160.6	23.6	7.8	133.2	8.7	117.3	1463.4	1.4
SNEMA Winter	219.7	29.8	45.8	181.5	12.1	440.1	1690.1	1.9
CCGOM YT	81.4	6.8	2.4	50.3	4.5	28.4	421.8	0.4
GB YT	115.9	18.5	5.6	96.1	6.3	116.1	1023.5	1.0
SNEMA YT	22.4	3.0	5.5	18.5	1.2	70.7	145.5	0.2
GOM Haddock	124.7	10.0	3.6	166.6	8.5	41.9	525.0	0.6
GB Haddock	3815.6	600.4	185.6	3478.8	206.1	2931.8	34269.2	32.6
Witch	460.9	41.6	18.2	517.6	23.8	208.4	2213.1	3.4
Plaice	527.9	41.9	14.4	626.6	28.2	199.7	2099.7	3.5
Pollock	722.4	68.5	23.5	1145.0	54.4	269.6	3120.6	8.0
Redfish	225.6	24.9	9.2	351.9	14.9	109.1	1428.2	2.2
White Hake	54.0	4.9	2.2	106.2	2.7	20.9	227.4	0.7
	8980.4	1167.6	389.6	9023.5	511.2	5517.9	58703.4	67.4

Table 50 – No Action estimated ACE value by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/GOM	SNEMA/GB	GOM/GB/SNEMA	Unit Stocks Only
Number of Vessels								
GOM Cod	\$8,676,943	\$0	\$0	\$5,013,270	\$486,618	\$0	\$14,033,936	\$0
GB Cod	\$0	\$434,806	\$0	\$817,317	\$0	\$1,134,055	\$26,017,382	\$0
GOM	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
Winter								
GB Winter	\$0	\$12,455	\$0	\$8,371	\$0	\$307,055	\$8,415,827	\$0
SNEMA	\$0	\$0	\$485,856	\$0	\$2,136	\$3,339,710	\$8,133,289	\$0
Winter								
CCGOM	\$247,066	\$0	\$0	\$74,318	\$23,350	\$0	\$2,099,198	\$0
YT								
GB YT	\$0	\$23,969	\$0	\$3,673	\$0	\$378,788	\$5,264,639	\$0
SNEMA YT	\$0	\$0	\$6,078	\$0	\$242	\$595,027	\$493,502	\$0
GOM	\$508,841	\$0	\$0	\$597,918	\$21,450	\$0	\$1,843,438	\$0
Haddock								
GB	\$0	\$784,488	\$0	\$1,917,068	\$0	\$6,468,190	\$144,370,944	\$0
Haddock								
Witch	\$1,768,065	\$10,188	\$70,640	\$2,354,534	\$78,614	\$443,601	\$13,722,433	\$1,781
Plaice	\$1,350,671	\$13,965	\$0	\$2,687,831	\$43,013	\$285,817	\$8,190,567	\$132
Pollock	\$702,891	\$11,157	\$12	\$1,370,840	\$73,535	\$21,374	\$3,303,401	\$5,186
Redfish	\$123,641	\$1,145	\$0	\$464,087	\$6,488	\$5,737	\$2,120,295	\$451
White Hake	\$104,106	\$589	\$51	\$396,354	\$3,132	\$3,937	\$552,844	\$1,272
Total	\$13,482,225	\$1,292,762	\$562,637	\$15,705,581	\$738,578	\$12,983,290	\$238,561,694	\$8,822

Table 51 – Option 1 estimated ACE value by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/GOM	SNEMA/GB	GOM/GB/SNEMA	Unit Stocks Only
GOM Cod	\$7,678,926	\$0	\$0	\$5,837,283	\$468,920	\$0	\$14,225,638	\$0
GB Cod	\$0	\$769,726	\$0	\$1,403,123	\$0	\$1,368,409	\$24,862,300	\$0
GOM Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB Winter	\$0	\$16,097	\$0	\$4,947	\$0	\$238,318	\$8,484,347	\$0
SNEMA Winter	\$0	\$0	\$320,155	\$0	\$2,200	\$2,878,089	\$8,760,547	\$0
CCGOM								
YT	\$257,776	\$0	\$0	\$73,775	\$14,681	\$0	\$2,097,700	\$0
GB YT	\$0	\$23,063	\$0	\$2,370	\$0	\$411,987	\$5,233,649	\$0
SNEMA YT	\$0	\$0	\$35,954	\$0	\$47	\$475,908	\$582,940	\$0
GOM Haddock	\$343,388	\$0	\$0	\$712,173	\$30,101	\$0	\$1,885,984	\$0
GB Haddock	\$0	\$555,922	\$0	\$2,201,850	\$0	\$5,163,412	\$145,619,506	\$0
Witch	\$1,784,217	\$19,887	\$42,163	\$2,921,866	\$85,176	\$449,164	\$13,137,662	\$9,721
Plaice	\$1,640,176	\$11,490	\$74	\$2,706,528	\$86,117	\$221,296	\$7,899,298	\$7,017
Pollock	\$545,143	\$14,111	\$2,823	\$1,562,162	\$60,648	\$24,376	\$3,270,783	\$8,350
Redfish	\$110,777	\$722	\$884	\$507,358	\$12,690	\$15,221	\$2,072,645	\$1,546
White Hake	\$95,622	\$696	\$2,377	\$391,497	\$4,185	\$5,111	\$560,985	\$1,811
Total	\$12,456,025	\$1,411,715	\$404,430	\$18,324,933	\$764,766	\$11,251,290	\$238,693,984	\$28,445

5B Environmental Impacts of the Management Alternatives
 29B Economic Impacts

Table 52 – Option 2 estimated ACE value by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/GOM	SNEMA/GB	GOM/GB/SNEMA	Unit Stocks Only
GOM								
Cod	\$6,230,594	\$0	\$0	\$5,246,278	\$372,882	\$0	\$16,361,013	\$0
GB Cod	\$0	\$662,280	\$0	\$2,671,164	\$0	\$2,308,073	\$22,762,042	\$0
GOM								
Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB								
Winter	\$0	\$25,249	\$0	\$106,601	\$0	\$477,536	\$8,134,322	\$0
SNEMA								
Winter	\$0	\$0	\$225,959	\$0	\$42,468	\$2,217,114	\$9,475,450	\$0
CCGOM								
YT	\$266,948	\$0	\$0	\$162,988	\$17,451	\$0	\$1,996,544	\$0
GB YT	\$0	\$26,297	\$0	\$139,359	\$0	\$446,047	\$5,059,366	\$0
SNEMA								
YT	\$0	\$0	\$26,381	\$0	\$4,643	\$347,214	\$716,611	\$0
GOM								
Haddock	\$430,665	\$0	\$0	\$604,958	\$29,359	\$0	\$1,906,664	\$0
GB								
Haddock	\$0	\$1,385,934	\$0	\$11,089,183	\$0	\$8,734,076	\$132,331,497	\$0
Witch	\$1,977,645	\$50,249	\$86,145	\$2,513,874	\$110,833	\$1,136,282	\$12,563,085	\$11,744
Plaice	\$1,598,138	\$42,210	\$8,502	\$2,088,114	\$90,836	\$582,767	\$8,153,850	\$7,579
Pollock	\$611,138	\$51,394	\$10,637	\$1,118,656	\$50,345	\$241,339	\$3,397,058	\$7,829
Redfish	\$236,644	\$12,010	\$2,214	\$442,490	\$17,656	\$95,728	\$1,913,115	\$1,985
White								
Hake	\$112,984	\$4,091	\$2,528	\$259,022	\$6,051	\$51,732	\$624,250	\$1,628
Total	\$11,464,755	\$2,259,714	\$362,366	\$26,442,689	\$742,523	\$16,637,910	\$225,394,867	\$30,765

Table 53 – Option 3 estimated ACE value by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/GOM	SNEMA/GB	GOM/GB/SNEMA	Unit Stocks Only
GOM								
Cod	\$5,557,249	\$237,144	\$112,919	\$4,602,317	\$333,902	\$1,405,109	\$15,943,978	\$18,148
GB Cod	\$1,729,525	\$623,628	\$113,691	\$2,396,743	\$100,122	\$2,098,916	\$21,322,662	\$18,272
GOM								
Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB								
Winter	\$532,414	\$81,549	\$34,998	\$524,316	\$30,821	\$554,662	\$6,979,323	\$5,625
SNEMA								
Winter	\$728,318	\$100,546	\$207,953	\$713,856	\$43,262	\$2,034,792	\$8,124,568	\$7,695
CCGOM								
YT	\$277,702	\$20,544	\$9,782	\$182,746	\$15,955	\$121,726	\$1,813,903	\$1,572
GB YT	\$345,318	\$59,203	\$22,700	\$339,646	\$19,990	\$488,455	\$4,392,108	\$3,648
SNEMA								
YT	\$66,667	\$9,203	\$22,360	\$65,343	\$3,883	\$292,485	\$634,204	\$704
GOM								
Haddock	\$352,641	\$24,980	\$11,895	\$533,440	\$25,526	\$148,010	\$1,873,243	\$1,912
GB								
Haddock	\$9,349,268	\$1,568,649	\$614,575	\$10,264,543	\$541,228	\$10,229,192	\$120,874,462	\$98,774
Witch	\$2,015,541	\$165,036	\$94,930	\$2,562,058	\$107,624	\$1,143,524	\$12,344,414	\$16,729
Plaice	\$1,585,611	\$111,427	\$50,359	\$2,103,586	\$87,375	\$736,828	\$7,885,214	\$11,596
Pollock	\$606,766	\$53,192	\$23,380	\$1,108,639	\$49,671	\$285,551	\$3,353,491	\$7,706
Redfish	\$221,125	\$23,241	\$11,337	\$416,124	\$15,939	\$143,179	\$1,888,374	\$2,524
White								
Hake	\$112,495	\$9,278	\$5,441	\$259,148	\$5,837	\$55,466	\$613,033	\$1,589
Total	\$23,480,640	\$3,087,622	\$1,336,318	\$26,072,506	\$1,381,136	\$19,737,897	\$208,042,976	\$196,494

Table 54 – Option 4 estimated ACE value by stock area history

	GOM Only	GB Only	SNEMA Only	GOM/GB	SNEMA/ GOM	SNEMA/GB	GOM/GB/ SNEMA	Unit Stocks Only
GOM								
Cod	\$6,204,167	\$321,004	\$114,998	\$4,872,337	\$362,167	\$1,342,608	\$14,973,298	\$20,188
GB Cod	\$2,380,865	\$708,061	\$115,784	\$2,668,608	\$128,580	\$2,035,988	\$20,345,348	\$20,326
GOM								
Winter	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
GB								
Winter	\$732,922	\$107,541	\$35,643	\$608,006	\$39,582	\$535,290	\$6,678,468	\$6,257
SNEMA								
Winter	\$1,002,603	\$136,101	\$208,835	\$828,341	\$55,246	\$2,008,293	\$7,713,013	\$8,559
CCGOM								
YT	\$333,745	\$27,809	\$9,962	\$206,138	\$18,404	\$116,312	\$1,729,812	\$1,749
GB YT	\$475,365	\$76,061	\$23,117	\$393,927	\$25,672	\$475,891	\$4,196,977	\$4,058
SNEMA								
YT	\$91,773	\$12,458	\$22,440	\$75,822	\$4,980	\$290,060	\$596,532	\$783
GOM								
Haddock	\$420,785	\$33,814	\$12,114	\$561,884	\$28,503	\$141,427	\$1,770,994	\$2,127
GB								
Haddock	\$12,870,205	\$2,025,066	\$625,890	\$11,734,159	\$695,061	\$9,889,022	\$115,591,411	\$109,876
Witch	\$2,438,627	\$219,880	\$96,290	\$2,738,651	\$126,109	\$1,102,648	\$11,709,588	\$18,064
Plaice	\$1,873,907	\$148,799	\$51,285	\$2,223,919	\$99,971	\$708,975	\$7,452,635	\$12,505
Pollock	\$732,624	\$69,507	\$23,784	\$1,161,172	\$55,169	\$273,392	\$3,164,645	\$8,102
Redfish	\$283,541	\$31,332	\$11,537	\$442,176	\$18,666	\$137,148	\$1,794,720	\$2,721
White								
Hake	\$136,855	\$12,436	\$5,519	\$269,316	\$6,902	\$53,112	\$576,482	\$1,666
Total	\$29,977,984	\$3,929,869	\$1,357,198	\$28,784,455	\$1,665,011	\$19,110,166	\$198,293,924	\$216,982

Table 55 – No Action estimated ACE allocation by sector membership

Stock	FGS	HOOK	Multiple	MV	NSC	Port Clyde	Sustainable Harvest	Tri-State	Common Pool
GOM Cod	13	11	183	3	5,416	259	673	94	1,396
GB Cod	797	231	56	1	4,709	3	1,212	42	1,054
GOM Winter	0	0	0	0	0	0	0	0	0
GB Winter	0	0	2	0	1,574	0	135	0	205
SNEMA Winter	20	0	0	0	0	0	0	0	0
CCGOM YT	0	0	3	3	463	6	26	17	77
GB YT	0	0	3	9	1,060	0	91	0	220
SNEMA YT	1	0	2	3	173	2	11	0	74
GOM Haddock	0	22	28	0	475	13	150	8	184
GB Haddock	1,860	1,745	332	1	26,099	0	11,585	39	3,857
Witch	8	0	74	2	1,855	106	689	62	691
Plaice	5	1	56	0	1,392	201	960	42	885
Pollock	165	12	164	0	2,400	183	1,603	3	883
Redfish	27	4	85	0	815	51	834	0	350
White Hake	2	1	12	0	115	14	156	0	120

Table 56 – Option 1 estimated ACE allocation by sector membership

Stock	FGS	HOOK	Multiple	MV	NSC	Port Clyde	Sustainable Harvest	Tri-State	Common Pool
GOM Cod	26	6	171	2	4,974	241	899	71	1,659
GB Cod	1,224	582	54	1	3,996	4	1,165	40	1,037
GOM Winter	0	0	0	0	0	0	0	0	0
GB Winter	0	0	3	1	1,590	0	122	0	200
SNEMA Winter	0	0	0	0	0	0	0	0	0
CCGOM YT	1	0	6	2	425	4	42	22	95
GB YT	0	0	4	11	1,069	0	80	0	219
SNEMA YT	3	0	2	0	178	1	39	1	43
GOM Haddock	1	10	37	0	374	10	232	5	211
GB Haddock	1,669	1,202	449	1	25,653	7	11,678	31	4,831
Witch	134	10	89	0	1,512	109	977	2	655
Plaice	36	5	112	0	1,336	63	1,312	0	680
Pollock	13	0	103	4	2,673	195	1,141	74	1,209
Redfish	6	0	33	0	858	105	503	25	635
White Hake	3	0	10	0	131	14	140	0	121

Table 57 – Option 2 estimated ACE allocation by sector membership

Stock	FGS	HOOK	Multiple	MV	NSC	Port Clyde	Sustainable Harvest	Tri-State	Common Pool
GOM Cod	93	41	153	7	4,426	237	1,143	95	1,855
GB Cod	730	362	85	5	4,107	38	1,185	61	1,529
GOM Winter	0	0	0	0	0	0	0	0	0
GB Winter	33	8	12	2	1,334	3	239	3	282
SNEMA Winter	0	0	0	0	0	0	0	0	0
CCGOM YT	9	2	7	2	377	7	67	15	111
GB YT	17	3	10	7	919	2	180	2	244
SNEMA YT	3	0	2	1	171	2	22	1	66
GOM Haddock	6	8	27	1	404	17	196	9	213
GB Haddock	1,558	1,012	582	33	24,851	171	9,514	224	7,577
Witch	49	13	58	3	1,773	100	612	42	836
Plaice	50	18	51	2	1,625	127	664	40	964
Pollock	177	50	108	3	2,571	144	1,126	31	1,201
Redfish	44	17	52	1	935	47	578	9	483
White Hake	7	3	8	0	175	12	100	2	113

Table 58 – Option 3 estimated ACE allocation by sector membership

Stock	FGS	HOOK	Multiple	MV	NSC	Port Clyde	Sustainable Harvest	Tri-State	Common Pool
GOM Cod	120	64	141	5	4,542	206	986	78	1,904
GB Cod	720	352	83	5	4,068	89	1,123	63	1,601
GOM Winter	0	0	0	0	0	0	0	0	0
GB Winter	26	14	16	9	1,230	21	183	10	407
SNEMA Winter	0	0	0	0	0	0	0	0	0
CCGOM YT	9	4	7	1	345	12	49	23	146
GB YT	19	10	11	1	927	15	136	7	257
SNEMA YT	5	2	3	0	157	3	37	2	57
GOM Haddock	12	12	24	1	412	14	175	7	223
GB Haddock	1,442	943	542	25	24,453	490	8,874	256	8,495
Witch	64	28	79	2	1,548	68	878	19	801
Plaice	52	27	59	3	1,779	102	610	43	869
Pollock	79	41	79	3	2,454	189	990	60	1,516
Redfish	36	17	41	1	892	59	507	12	601
White Hake	14	4	8	0	198	11	87	2	95

Table 59 – Option 4 estimated ACE allocation by sector membership

Stock	FGS	HOOK	Multiple	MV	NSC	Port Clyde	Sustainable Harvest	Tri-State	Common Pool
GOM Cod	153	92	147	5	4,483	235	849	86	1,997
GB Cod	753	381	89	5	4,008	117	985	71	1,694
GOM Winter	0	0	0	0	0	0	0	0	0
GB Winter	34	21	16	1	1,270	27	156	12	378
SNEMA Winter	0	0	0	0	0	0	0	0	0
CCGOM YT	11	7	8	1	360	10	51	15	134
GB YT	24	15	13	6	878	20	108	9	310
SNEMA YT	5	3	3	1	153	5	22	2	74
GOM Haddock	16	15	25	1	406	18	160	8	233
GB Haddock	1,627	1,105	574	25	24,118	652	8,099	301	9,019
Witch	65	39	60	3	1,726	113	541	46	895
Plaice	66	39	54	2	1,580	136	587	43	1,033
Pollock	198	68	110	3	2,516	162	1,026	35	1,293
Redfish	49	25	51	1	946	50	509	14	522
White Hake	9	5	8	0	169	13	91	3	121

6.4.5 Possession of a limited access multispecies permit and a limited access scallop permit by the same vessel

Both scallops and groundfish vessels are regulated by DAS. As allocated DAS have contracted in both fisheries vessel owners find themselves with idle capacity. This alternative would enable vessels owners to make more efficient use of existing capital by allowing limited access scallop permit holders to acquire a limited access multispecies permit. From the perspective of the individual scallop permit holder acquisition of a multispecies permit would afford greater flexibility in the use of their vessel which should result in higher profitability. This alternative would also provide opportunities to shed redundant fishing capital resulting in a reduction in fishing capacity and the economic costs of an overcapitalized fishing fleet.

These economic gains would accrue to the Northeast region fishing fleet as a whole. However, some distributive effects may be anticipated. That is, this alternative could change the distribution of groundfish activity as well as the competitive position of groundfish vessels. The scallop fishery and the vessels engaged in the fishery are predominately located in Southern New England and Mid-Atlantic ports. As these vessels acquire groundfish permits it seems likely that groundfish fishing activity would not stray too far from their existing base of operations suggesting a probable concentration of effort on Georges Bank and Southern New England stocks. The extent of any change in the distribution of effort would depend on whether the scallop permit holders acquire groundfish permits that had historically fished in these areas or had fished in the Gulf of Maine.

Compared to the groundfish fishery the scallop fishery has experienced substantial increases in gross revenues. Even as fuel costs have increased for both fleets the difference in revenue generation in the scallop fishery suggests that the scallop fishery is more profitable than the groundfish fishery. This means that scallop permit holders are likely to have greater access to capital enabling them to out-compete groundfish permit holders that may also be looking to acquire additional vessels. Greater access to capital may also have some effects on the DAS leasing market as scallop permit holders would be better able to subsidize their groundfish fishing effort with scallop revenues.

There is a widespread belief that that vessel replacement restrictions will limit the number of limited access scallop permits that can be combined with limited access multispecies permits. Vessel replacement restrictions require that replacement vessels must be of a similar size, or smaller, than the baseline characteristics of the permit. The replacement vessel length, gross tonnage (GRT), and net tonnage (NT) must not be more than ten percent larger than the baseline characteristics, and the vessel horsepower (VHP) must not be more than twenty percent larger. There is a widespread belief that that vessel replacement restrictions will limit the number of limited access scallop permits that can be combined with limited access multispecies permits. This hypothesis was examined.

First, using multispecies and scallop limited access permits for FY 2006, the number of scallop permits that were a match for each multispecies permit were determined. This was done without regard to whether an individual scallop permit matches with more than one multispecies permit. The results can be viewed as an indication of how broad the market is for each multispecies permit, without regard to whether the permit holder is willing or able to acquire the scallop permit. A similar analysis was done in the opposite direction – the number of multispecies permits that are a match for each scallop permit were determined. In order to summarize the

results, the permits were placed into quintiles of vessel horsepower groups. The analysis described did not use permits in the confirmation of permit history category.

For multispecies vessels, the results are shown in Table 60. For multispecies vessels in the four lower horsepower quintiles, each vessel has at least 50 possible scallop permit matches. It is only the highest horsepower quintile that only eight vessels do not match with any scallop permit. Scallop vessel results are shown in Table 61. Scallop permits in the two lowest quintiles match with at least 25 groundfish permits. As scallop vessels increase in horsepower, the number of matches declines, but there are only two scallop permits that does not appear to match with any groundfish permits.

These results suggest that almost all scallop and multispecies permits could meet the vessel replacement criteria in order to acquire a permit in the other fishery. As n

Table 60 – Number of scallop permits that match multispecies permits of a given horsepower group

Number of Matching Scallop Permits	Number of Multispecies Permits in VHP Groups				
	0 - 251	251- 350	351 - 440	441 to 670	Over 671
0	0	0	0	0	8
> 0 - 5	0	0	0	0	7
> 5 - 10	0	0	0	0	3
> 10 - 30	0	0	0	0	25
> 30 - 50	0	0	0	2	13
> 50 - 100	0	0	1	12	49
> 100 - 150	0	0	4	37	43
> 150 - 200	0	3	29	109	11
> 200 - 250	1	13	239	73	0
> 250 - 300	458	374	68	0	0
Over 300	0	0	0	0	0
Total	459	390	341	233	159

Table 61 - Number of multispecies permits that match scallop permits of a given horsepower group

Number of Matching Mults Permits	Number of Scallop Permits in VHP Groups				
	0 - 524	524 - 735	735 - 900	900 - 1180	1180 and over
0	0	0	1	0	1
> 0 to 5	0	0	0	0	11
> 5 to 10	0	0	1	2	8
> 10 to 25	0	0	3	21	10
> 25 to 50	0	2	20	12	0
> 50 to 100	2	12	42	9	0
> 100 to 200	24	40	6	0	0
> 200 to 300	31	8	0	0	0
> 300 to 400	20	0	0	0	0
> 400 to 500	4	0	0	0	0
Over 500	6	0	0	0	0
Total	87	62	73	44	30

These results suggest that almost all scallop and multispecies permits could meet the vessel replacement criteria in order to acquire a permit in the other fishery. As noted before, this does not take into account that some of these matches may represent permits that match up with the

same permit. In addition, there may be some permits that only match with a few specific permits – if those permits have already been acquired by other permits, the number of matches of possible matches shown here may overstate the actual liquidity if the permit market. In order to examine this issue, a simple simulation model was developed for a permit market. In this model, scallop and multispecies permits were placed in a random order. Each scallop permit was consecutively matched with multispecies permits until a match was found. As matches were found, the multispecies permit was removed from the pool of possible permits and the next scallop permit was compared to multispecies permits. Since order matters, after all scallop permits were examined the results were summarized, permit order was randomized, and the same process was repeated fifty times. Each iteration thus represents one specific order of matching scallop permits to multispecies permits. The only criteria for determining whether a match existed were vessel characteristics – there was no attempt to incorporate financial considerations. Results were summarized not only to determine the number of matches (again, by scallop vessel horsepower group), but to examine how permit might move between principal port states. There were a total of 284 scallop permits in the model; confirmation of permit history permits and twelve permit with missing characteristic information were not included.

For the fifty iterations, the average number of scallop permits that successfully matched with a multispecies permit was 224 permits. Table 62 shows that for the three smallest scallop horsepower groups it is probable that all the scallop permits will be able to match with a multispecies permit. More than half the permits in the second largest group should be able to match with a groundfish permit. Only in the largest group is it likely that half or less of the permits will be able to match with a suitable groundfish permit.

Table 62 – Results of simulation matching scallop permits to multispecies permits based on permit baseline characteristics

Number of Matches	Number of Iterations by Scallop HP Group				
	0 - 524	524 - 735	735 - 900	900 - 1180	1180 and over
0	0	0	0	0	0
> 0 - 5	0	0	0	0	0
> 5 - 10	0	0	0	0	0
> 10 - 15	0	0	0	0	0
> 15 - 20	0	0	0	0	3
> 20 - 25	0	0	0	0	35
> 25 - 30	0	0	0	0	12
> 30 - 35	0	0	0	0	0
> 35 - 40	0	0	0	0	0
> 40 - 45	0	0	0	1	0
> 45 - 50	50	50	39	10	0
More	0	0	11	39	0
Total Permits in VHP Category	50	49	53	70	62

Based on principal port state, the simulation suggests that the major groundfish principal port states – Maine, New Hampshire, Massachusetts, and Rhode Island – are likely to experience a net loss in the number of groundfish permits through these exchanges, as will New York. Connecticut, New Jersey, and Virginia could see a net increase in the number of groundfish permits (Table 63).

Table 63 – Simulation model results for changes in the number of multispecies permits by principal port state

Principal Port State	Mults. Lost	Mults. Gained	Average Net Change
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ME	25	3	-23
NH	2	0	-2
MA	63	40	-23
RI	31	3	-29
CT	4	5	1
NY	14	0	-14
NJ	16	56	40
VA		41	41

6.4.6 Setting annual catch limits

The proposed process would involve setting of an overfishing level (OFL), and allowable biological catch (ABC) and an annual catch limit (ACL). The proposed action has two parts facets that will have somewhat different economic consequences. These parts are the setting of the limits themselves and the setting of ACL sub-components.

The administrative process of setting an OFL, ABC, and ACL alone will introduce a substantial increase in the transactions costs of managing the groundfish resource. These costs include a more involved administrative process, and an increase in cost of the monitoring multiple sub-components of ACL. In addition to these costs proposed guidance suggests that setting the ACL in particular take into account both biological and management uncertainties. Taking these uncertainties into account suggest a process whereby deductions from what may be the ABC to arrive at a final ACL. These deductions represent an opportunity cost in the form of potential foregone fishery yield where the magnitude of the opportunity cost would be greater as uncertainty over stock assessments and the effectiveness of the management program increases. Note that this opportunity cost may also be viewed as a measure of the benefits of research to reduce biological uncertainty as well as management opportunities such as improved monitoring. Conceptually, as these uncertainties are reduced the ACL would set closer and closer to the ABC. The proposed setting of ACL sub-components would include an explicit allocation to components for which accountability measures would be specified and other components for which accountability measures would not be. The latter includes an allocation to a number of fishing activities for which groundfish is a small bycatch. These fisheries are so diverse and levels of bycatch so small that the cost of monitoring a separate ACL for each of the 19 groundfish stocks in each fishery would likely be prohibitively large. Setting accountability measures for each of these fisheries would also administratively costly and problematic since vessels engaged in these fisheries may not possess a groundfish permit and may not be regulated through the groundfish plan. However, the absence of an accountability measure for these groundfish bycatch fisheries means that an overage in the total ACL from this sub-component may need to be made up by the component of the groundfish fishery that is subject at accountability measures. Although the likelihood of such an event occurring may be small, in effect, the groundfish fishery would be put in the position of being the residual claimant to the groundfish resource.

6.4.7 Changes to the DAS Transfer and DAS Leasing Programs

The proposed action would change or eliminate the conservation tax in the DAS transfer program either on a permanent basis or through a window of opportunity. The proposed action would also

implement a conservation tax on leased DAS at a rate equivalent to the conservation tax in the DAS transfer program.

To date, relatively few vessels have participated in the DAS transfer program even though the conservation tax on transfers was reduced in Framework 40B while other provisions of the DAS transfer program were further modified in Framework 42 to make the transfer program more attractive. Neither of these actions has been successful in promoting the desired effect of increased consolidation in the groundfish fishery. The reasons for the lack of participation in the DAS transfer program are uncertain, but they may be tied into the design of the leasing program. Even with the changes in the transfer program vessel owners may still be better off by purchasing an additional vessel with a groundfish permit outright rather than going through the DAS transfer program. Under existing circumstances the vessel owner would be able to lease the acquired vessel's DAS to him/herself and would have the added advantage of retaining all permits on each vessel. Under the DAS transfer program the vessel owner would have to pay the DAS transfer tax and would at least have to surrender any redundant permits. Changing or eliminating the conservation tax for DAS transfer would improve the financial gain to the owner, but may not be sufficient to offset the financial loss associated with having to give up permits. Note that this financial loss may be in terms of business equity rather than a loss in current fishing income or profitability since the value of retaining two vessels with a suite of permits may be larger than the value of a single vessel with the same number of DAS but fewer permits.

6.4.8 Reporting Requirements

This alternative would require daily reporting of any vessel that declares into more than one of four designated areas on a given trip. The designation must be made at the beginning of a trip. Vessels that declare only one area would not have to file a daily landing report, but would lose the flexibility to fish elsewhere if the conditions warranted. Vessels declaring into more than one area would be able to fish in any area but would have the added burden of daily reporting. With the exception of reporting area 2 (the inshore Georges Bank corresponding to statistical area 521) the reporting areas are large. This means that many vessels will not be subject to daily reporting. Most affected would be vessels that typically fish in statistical area 521 or in close proximity to it.

6.4.9 Special Access Programs

The proposed action would revise the conditions for operating in the Closed Area I Hook Gear Haddock SAP and the closed Area II Yellowtail Flounder SAP. The proposed action would reauthorize the Eastern U.S./Canada Haddock SAP without making any changes. The changes to Closed Area I hook gear SAP would afford participating vessels greater fishing opportunities subject to the overall TAC for the SAP. The SAP season would be extended and the authorized area would be significantly increased. Additionally, the provision dividing the season and the TAC between sector and non-sector vessels would be removed. These changes would provide greater access to the SAP among sector and non-sector vessels alike. The overall TAC would still limit the total economic gain and potential removals from the SAP but since the TAC had not been reached in the past these changes increase the likelihood that the full benefit from the SAP will be realized.

The revisions to the Closed Area II Yellowtail SAP would provide additional opportunities to target haddock provided the Eastern GB Haddock TAC has not been reached. In order to

participate in the revised SAP vessels must use specified gears designed to reduce bycatch of yellowtail flounder. Given its distance from shore vessels able to take advantage of this economic opportunity will be limited to larger vessels.

6.4.10 Haddock Minimum Size

Lowering the haddock minimum size would increase the number of haddock that would be allowed to be retained. Recent reductions in haddock growth rates mean that it has been taking longer for recruits to grow into a legal size. In the meantime these under-sized fish are subject to natural mortality as well as discard mortality that would otherwise have been marketable fish.

6.4.11 Measure to Meet Mortality Objectives

At this time there is considerable uncertainty regarding the current status of groundfish stocks and the changes to the management program that will be need to achieve rebuilding objectives. For purposes of analysis, four management alternatives were developed based on the assumption that the reductions needed would approximate that estimated for rebuilding according to the Amendment 13 rebuilding schedule. These four alternatives were designed to illustrate the reductions needed based on emphasizing a particular management approach. In each case the alternatives were designed to achieve, or nearly so, the objectives for all stocks. Due to the magnitude of the reductions needed to stocks like white hake and in the Southern New England stock area all alternatives resulted in substantial sacrifices in economic yield to meet these biological requirements. While differences are likely among components of the groundfish fleet all alternatives may be expected to result in significant reductions in revenues and profitability to the groundfish fleet. The economic impact of each alternative has not been quantified at this time. However, there are important differences in economic effects across alternatives that a qualitative analysis may highlight some of these considerations.

Option 1 relies primarily on a large DAS reduction to achieve biological objectives. However, this alternative removed all trip limits and would implement the fewest area closures. From an economic perspective this alternative would allow vessels maximum flexibility to use available allocated DAS in the most profitable manner possible. However, groundfish vessels typically earn substantial fishing income from non-groundfish species even when fishing on a groundfish DAS. This means that the large DAS reductions embedded in Option 1 may have larger economic impacts on total fishing income even though it does provide greater opportunities to maximize profitability on each available DAS.

Option 2 combined a differential DAS strategy with a DAS reduction that was less than that of Option 1. In comparative terms each vessel may have more DAS available than they would under Option 1 but the distributive impacts may be expected to be larger as vessels with less flexibility in choosing fishing locations would be subject to a greater effective cut in DAS. This is similar to the effects experienced through Framework 42 in which some vessels may have no viable means to avoid the high differential DAS areas.

Option 3 would implement a 24-hour clock and a year-round closure to fishing in the off-shore Gulf of Maine. This option would also implement a set of gear restricted areas where only specified gear would be allowed. These gear restricted areas would provide additional economic opportunity to fish for other stocks. In the absence of this opportunity the area would be closed to all fishing on a groundfish DAS.

6.5 Social Impacts

6.6 Cumulative Effects Analysis

6.6.1 Introduction

A cumulative effects assessment (CEA) is a required part of an EIS according to the Council on Environmental Quality (CEQ) (40 CFR part 1508.7). The purpose of the CEA is to integrate into the impact analyses, the combined effects of many actions over time that would be missed if each action were evaluated separately. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective but rather, the intent is to focus on those effects that are truly meaningful. This section serves to examine the potential direct and indirect effects of the alternatives in Amendment 16 together with past, present, and reasonably foreseeable future actions that affect the groundfish environment. It should also be noted that the predictions of potential synergistic effects from multiple actions, past, present and/or future will generally be qualitative in nature.

Valued Ecosystem Components (VEC)

As noted in section 5.0 (Description of the Affected Human Environment), the VECs that exist within the groundfish fishery are identified and the basis for their selection is established. Those VECs were identified as follows:

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 (includes economic and social effects on the fishery and fishing communities).

Temporal Scope of the VECs

While the effects of historical fisheries are considered, the temporal scope of past and present actions for regulated groundfish stocks, non-groundfish species, habitat and the human environment is primarily focused on actions that have taken place since implementation of the initial NE Multispecies FMP in 1977. An assessment using this timeframe demonstrates the changes to resources and the human environment that have resulted through management under the Council process and through U.S. prosecution of the fishery, rather than foreign fleets. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ. In terms of future actions, this analysis examines the period between implementation of this amendment (May 1, 2009) and the anticipated rebuilding of the fishery in 2014. This date was chosen because after the fishery is rebuilt, changes to the management of groundfish that are not possible to predict at this time are likely.

Geographic Scope of the VECs

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 Human Environment section of the document (section 5.0). However, the analyses of impacts presented in this amendment focuses primarily on actions related to the harvest of the managed resources. The result is a more limited geographic area used to define the core geographic scope within which the majority of harvest effort for the managed resources occurs. For endangered and protected species, the geographic range is the total range of each species (section 5.0).

Because the potential exists for far-reaching sociological or economic impacts on U.S. citizens who may not be directly involved in fishing for the managed resources, the overall geographic scope for human communities is defined as all U.S. human communities. Limitations on the availability of information needed to measure sociological and economic impacts at such a broad level necessitate the delineation of core boundaries for the human communities. Therefore, the geographic range for the human environment is defined as those primary and secondary ports bordering the range of the groundfish fishery (section 5.0) from the U.S.-Canada border to, and including North Carolina.

Analysis of Total Cumulative Effects

A cumulative effects assessment ideally makes effect determinations based on the culmination of the following: (1) impacts from past, present and reasonably foreseeable future actions; PLUS (2) the baseline condition for resources and human communities (note – the baseline condition consists of the present condition of the VECs plus the combined effects of past, present and reasonably foreseeable future actions); PLUS (3) impacts from the proposed action and alternatives.

Although a full description of past, present and reasonably foreseeable future actions is presented immediately below in Table 64 and in [Appendix XX](#), it is not possible at the DEIS stage of this document to provide equally thorough summaries of the baseline conditions of the groundfish fishery ([Section XX Affected Human Environment](#)) or impacts from the proposed action and alternatives ([Section 6.0 Environmental Consequences](#)). This is primarily the result of data limitations that exist because GARM III results will not be available until September 2008. However, despite this limitation, the following sections provide general conclusions regarding the baseline conditions for resources and the human environment and the impacts of the alternatives.

6.6.2 Past, Present and Reasonably Foreseeable Future Actions

Table 64 summarizes the combined effects of other past, present and reasonably foreseeable future actions that affect the VECs, i.e., actions other than those alternatives under development in this document (a summary of the primary past, present and reasonably foreseeable future actions effecting this amendment can be found in [Appendix XX](#)).

Note that most of the actions effecting this amendment and considered in Table 64 come from fishery-related activities (e.g., Federal fishery management actions). As expected, these activities have fairly straight-forward effects on environmental conditions, and were, are, or will be taken, in large part, to improve those conditions. The reason for this is the statutory basis for Federal fisheries management - the re-authorized Magnuson-Stevens Act. That legislation was enacted to promote long-term positive impacts on the environment in the context of fisheries activities. More specifically, the act stipulates that management comply with a set of National Standards

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

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

Table 64 - Summary effects of past, present and reasonably foreseeable future actions on the VECs identified for Amendment 16 (based on actions listed in [Appendix XX](#)).

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

Impact Definitions:

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

6.6.3 Baseline Conditions for Resources and the Human Environment

While groundfish stock status information will not be available until the results of GARM III are released, it is assumed that the status of some groundfish species will have improved as a result of more stringent regulations implemented in recent years. However, despite improvements, the fishery must be managed to rebuild stocks that remain overfished or where overfishing is occurring. Therefore, this action anticipates that further effort reductions will be necessary to rebuild the fishery and maintain sustainable stocks. This results in mixed baseline conditions for groundfish species where the short-term status for some species is negative while rebuilding is ongoing and positive in the long-term once rebuilding is attained. For other stocks that are not overfished or where overfishing is not occurring, the short and long-term baseline condition is positive.

Regarding baseline conditions for non-groundfish species, endangered and other protected species and habitat, conditions are generally positive. Management of the groundfish fishery has led to reductions in bycatch, interactions with protected species and interactions with habitat. In the long-term, the regulatory atmosphere of fisheries will likely continue to restrict access to resources however, as stock status improves, greater effort is likely and may lead to higher resource and habitat interactions.

The condition of human communities is more variable and has grown increasingly negative as effort controls have been strengthened. While the current status is likely negative due to fewer opportunities to fish and other non-fishing impacts such as rising fuel and food costs, the long-term outlook is good as groundfish and other fisheries under rebuilding improve and become sustainable.

6.6.4 Effects of Amendment 16 Actions

The focus of the alternatives contained in Amendment 16 can be divided into the following broad categories: (1) Updates to stock status determination criteria and formal rebuilding programs; (2) fishery program administration such as sector provisions, permitting requirements, commercial and recreational allocations, reporting requirements, procedures for implementing ACLs and SAP modifications; and (3) measures to meet mortality objectives including effort control alternatives (for sector and non-sector vessels), implementation of additional sectors and accountability measures.

Actions taken under number one above would potentially revise the status of groundfish stocks and modify rebuilding targets which in turn impact the alternatives in number three regarding the level of effort control measures needed to meet the mortality objectives of the FMP. As a whole, effort control measures have the greatest impact on the fishery. Additional reductions would continue stocks on their rebuilding strategy and have a positive impact on biological resources. However, as with other past effort reductions, the human community would likely incur substantial short-term negative impacts as a result of lost fishing revenue. In the long-term, impacts on the directed fishery and human communities would likely be positive as stocks reach sustainable levels and effort controls are relaxed, while fewer controls may lead to an increased bycatch of non-groundfish species and possibly greater impacts to habitat and protected species.

Regarding impacts from the measures mentioned in number two, many of these alternatives focus on sector administration. Because sectors would likely be allocated a hard TAC for almost all regulated groundfish stocks, impacts to the directed fishery would be controlled. However, impacts to the other four VECs are not as clear. Depending on the sectors that are formed, the number of participants in each sector and the area where the sector is conducted, impacts could vary. For example, if sectors are permitted to transfer their ACE, a trawl sector could transfer TAC to a gillnet sector. If the gillnet sector's effort then increases in an area where protected species are present, it could increase protected species interactions. Likewise the opposite could occur, thereby decreasing protected species interactions. Regarding impacts to human communities, the overall impact of sector management should be positive because sectors are created to provide maximum profits to their participants while also allowing members to have some control over their own management measures. However, depending on sector administrative procedures (e.g., period of time chosen for landings history) there will likely be individuals that fair better than others. Overall, while it is difficult to predict the various outcomes that could occur under sector administration, it is important to note that individual sectors will be required to submit an annual operations plan that contains an environmental analysis of the direct, indirect and cumulative impacts of that sector's operations.

Other measures mentioned under number two (permitting requirements, commercial and recreational allocations, reporting requirements, procedures for implementing ACLs and SAP modifications) would have impacts less substantial than effort reductions. Alternatives for implementing ACL procedures and new reporting requirements to facilitate better catch monitoring are primarily administrative, particularly the ACL procedures which would not be implemented until FY 2010 or 2011. Likewise, allocating shares of groundfish to the commercial and recreational fisheries would primarily be for the purpose of helping design better management measures to reduce effort on the party responsible should mortality targets be exceeded. Permitting requirements would entail allowing a vessel that possesses a multispecies limited access permit to also possess a limited access scallop permit and modifications to the conservation tax regulations for DAS leases and transfers. With the exception of one measure that would add a conservation tax for leased DAS, the remainder of these alternatives would provide increased flexibility to the industry and could encourage consolidation which decreases administrative burden for both NMFS and the industry. Finally, changes to the haddock SAPs would extend the time and area of the CA I SAP, providing greater opportunities to harvest healthy stocks and allow the U.S./Canada SAP to continue unless closed for the season. Both of these alternatives would encourage only slight effort increases and in doing so would focus on GB haddock, a healthy stock. By shifting effort away from stocks in need of greater protection, these changes could have a positive biological impact on groundfish species and to human communities. Impacts to protected species, habitat and non-groundfish species would likely be minor.

6.6.5 Cumulative Effects Summary

As previously noted, given the data limitations due to the lack of the GARM III results, it is not possible to conduct a measure-by-measure cumulative effects assessment for the DEIS, though a more detailed assessment will be included as part of the FEIS after GARM III information becomes available. However, despite data limitations, based on past experience involving similar groundfish actions (e.g., Amendment 13 and Framework 42 to the FMP) and the types of alternatives contained in this document, particularly effort controls, some general conclusions can be made.

The regulatory atmosphere within which Federal fishery management operates requires that management actions be taken in a manner that will optimize the conditions of resources, habitat, and human communities. Consistent with NEPA, the SFA requires that management actions be taken only after consideration of impacts to the biological, physical, economic, and social dimensions of the human environment. Given this regulatory environment, and because fishery management actions must strive to create and maintain sustainable resources, impacts on all five VECs from past, present and reasonably foreseeable future actions, when combined with baseline conditions, have generally been positive and are expected to continue in that manner for the foreseeable future. This is not to say that some aspects of the various VECs are not experiencing negative impacts, but rather that when taken as a whole and compared to the level of unsustainable effort that existed prior to and just after the fishery came under management control, the overall long-term trend is positive.

When considering this long-term positive trend in combination with further effort control measures designed to maintain or achieve sustainable stocks, the cumulative impact of this action would be positive. While the short-term impacts, particularly to the human communities VEC, continue to be negative primarily due to economic losses, in the future as the status of the fishery improves and stocks recover, the industry and communities that rely on fisheries will incur positive benefits.

7.0 APPLICABLE LAW

7.1 Magnuson-Stevens Fishery Conservation and Management Act

7.1.1 Consistency with National Standards

Section 301 of the Magnuson-Stevens Act requires that regulations implementing any fishery management plan or amendment be consistent with the ten national standards listed below.

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.
Amendment 13 to the Northeast Multispecies FMP adopted formal rebuilding plans and measures to end overfishing on this complex. Amendment 13 included a schedule for periodic adjustments to management measures in order to ensure that mortality objectives are met.

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

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.

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.

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.

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

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

Conservation and management measures shall, consistent with the conservation requirements of this Act (including the prevention of overfishing and rebuilding of overfished stocks), take into

account the importance of fishery resources to fishing communities in order to (A) provide for the sustained participation of such communities, and (B) to the extent practicable, minimize adverse impacts on such communities.

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.

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

7.1.2 Other M-SFCMA requirements

Section 303 (a) of FCMA contains 14 required provisions for FMPs. These are discussed below. It should be emphasized that the requirement is imposed on the FMP. In some cases noted below, the M-S Act requirements are met by information in the Northeast Multispecies FMP, as amended. Any fishery management plan that is prepared by any Council, or by the Secretary, with respect to any fishery, shall—

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

Foreign fishing is not allowed under this management plan or this action and so specific measures are not included that specify and control allowable foreign catch. The measures in this management plan, as adopted by Amendment 13 and subsequently modified by FW 40A, 40B, 41, 42 and this action, are designed to prevent overfishing and rebuild overfished stocks. There are not international agreements or recommendations by international organizations that are germane to multispecies management.

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

Amendment 13 (NEFMC 2003) included a thorough description of the multispecies fishery from 1994 through 2001, including the gears used, number of vessels, landings and revenues, and effort used in the fishery. FW 42 updates this information for the period 2001 through 2004. Information on the commercial harvesting sector can be found in section XXX. Information on the recreational harvesting sector can be found in section XXX. Short overviews of the gear used in the fishery, and the impacts of those gear on habitat, are in section XXX.

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

The present biological status of the fishery is described in section XXX. Likely future conditions of the resource are described in section XXX. The maximum sustainable yield and optimum yield for the fishery are described in Amendment 13, section 3.1, and are not changed by this action.

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

U.S. fishing vessels are capable of, and expected to, harvest the optimum yield from this fishery as specified in Amendment 13, section 3.1 U.S. processors are also expected to process the harvest of U.S. fishing vessels. None of the optimum yield from this fishery can be made available to foreign fishing.

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

Current reporting requirements for this fishery have been in effect since 1994. The requirements include Vessel Trip Reports (VTRs) that are submitted by each fishing vessel. Dealers are also required to submit reports on the purchases of regulated groundfish from permitted vessels. Current reporting requirements are detailed in 50 CFR 648.7.

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

(7) describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;

Essential fish habitat was defined in an earlier action. This action does not change those designations. The Council may review those designations in an omnibus EFH amendment that is currently in development.

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

Scientific needs were identified in Amendment 13 (NEFMC 2004), section 6.0, and are not revised by this action.

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

Impacts of this framework action fishing communities directly affected by this action can be found in sections xx and xx. Possible impacts on fisheries conducted in adjacent areas are described in sectionxx.

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

Objective and measurable criteria for determining when the fishery is overfished, including an analysis of how the criteria were determined, are included in section 0.

(11) establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority--

(A) minimize bycatch; and

(B) minimize the mortality of bycatch which cannot be avoided;

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

This management plan does not include a catch and release recreational fishery management program and thus does not address this requirement.

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

As noted above, the description of the commercial, recreational, and charter fishing sectors was updated in Amendment 13 (NEFMC 2004), sections 9.2 and 9.3. This information is updated in this document, sections XXX and XXX.

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

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

(16) The EFH Provisions of the SFA (50 CFR Part 600.815) require the inclusion of the following components of FMPs. The Council has fully met these obligations as detailed below each mandatory component.

(A) Identify and description of EFH

(B) Fishing activities that adversely affect EFH

(i) Evaluation of potential adverse effects

(ii) Minimizing adverse effects

(C) Identification of non-Magnuson-Stevens Act fishing activities that may adversely affect EFH

(D) Identification of non-fishing related activities that may adversely effect EFH.

(E) Cumulative impacts analysis

(F) Identification of conservation and enhancement actions.

(G) List the major prey species and discussion the location of the prey species' habitat

(H) Identification of habitat areas of particular concern

(I) Recommendations for research and information needs

(J) Review and revision of EFH components of FMPs.

7.1.3 EFH Assessment

7.1.4 Skate Baseline Review

7.2 National Environmental Policy Act (NEPA)

NEPA provides a mechanism for identifying and evaluating the full spectrum of 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 M-S Act and NEPA. The Council on Environmental Quality (CEQ) has issued regulations specifying the requirements for NEPA documents (40 CFR 1500 – 1508). All of those requirements are addressed in this document, as referenced below.

The required elements of an Environmental Impact Statement Assessment (EIS) are specified in 40 CFR 1508.9(b). They are included in this document as follows:

- The need for this action is described in section 3.2;
- The alternatives that were considered are described in sections 4.0);
- The environmental impacts of the Proposed Action are described in section 6.0;
- The agencies and persons consulted on this action are listed in section XXX.

While not required for the preparation of an EA, this document includes the following additional sections that are based on requirements for an Environmental Impact Statement (EIS).

- An Executive Summary can be found in section 1.0.
- A table of contents can be found in section 2.1.
- Background and purpose are described in section 0.
- A summary of the document can be found in section XX.
- A brief description of the affected environment is in section 5.0.
- Cumulative impacts of the Proposed Action are described in section XX.
- A list of preparers is in section XX.
- The index is in section XX.

7.3 Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies conducting, authorizing or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The NEFMC has concluded, at this writing, that the proposed framework adjustment and the prosecution of the multispecies fishery is not likely to jeopardize any ESA-listed species or alter or modify any critical habitat, based on the discussion of impacts in this document and on the assessment of impacts in the Amendment 13 Final Supplemental Environmental Impact Statement. NMFS has already concurred on that action.

The Council does acknowledge that endangered and threatened species may be affected by the measures proposed, but impacts should be minimal especially when compared to the prosecution of the fishery prior to implementation of Amendment 13. The NEFMC is now seeking the concurrence of the National Marine Fisheries Service with respect to Framework Adjustment 42.

For further information on the potential impacts of the fishery and the proposed management action on listed species, see section 6.2.6 of this document.

7.4 Marine Mammal Protection Act

The NEFMC has reviewed the impacts of the Proposed Action on marine mammals and has concluded that the management actions proposed are consistent with the provisions of the MMPA. Although they are likely to affect species inhabiting the multispecies management unit, the measures will not alter the effectiveness of existing MMPA measures, such as take reduction plans, to protect those species based on overall reductions in fishing effort that have been implemented through the FMP

For further information on the potential impacts of the fishery and the proposed management action on marine mammals, see section 6.2.6 of this document.

7.5 Coastal Zone Management Act

Section 307(c)(1) of the Federal CZMA of 1972 requires that all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. Pursuant to the CZMA regulations at 15 CFR 930.35, a negative determination may be made if there are no coastal effects and the subject action: (1) Is identified by a state agency on its list, as described in § 930.34(b), or through case-by-case monitoring of unlisted activities; or (2) which is the same as or is similar to activities for which consistency determinations have been prepared in the past; or (3) for which the Federal agency undertook a thorough consistency assessment and developed initial findings on the coastal effects of the activity. Accordingly, the Council has determined that this action would have no effect on any coastal use or resources of any state. Letters documenting the Council's negative determination, along with this document, will be sent to the coastal zone management program offices of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Maryland, Virginia, and North Carolina. A list of the specific state contacts and a copy of the letters are available upon request.

7.6 Administrative Procedure Act

This action was developed in compliance with the requirements of the Administrative Procedures Act, and these requirements will continue to be followed when the proposed regulation is published. Section 553 of the Administrative Procedure Act establishes procedural requirements applicable to informal rulemaking by Federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process, and to give the public adequate notice and opportunity for comment. At this time, the Council is not requesting any abridgement of the rulemaking process for this action.

7.7 Data Quality Act

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

7.7.1 Utility of Information Product

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

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

This document is available in several formats, including printed publication, CD-ROM, and online through the Council's web page in PDF format. The Federal Register notice that announces the proposed rule and the final rule and implementing regulations will be made available in printed publication, on the website for the Northeast Regional Office, and through the Regulations.gov website. The Federal Register documents will provide metric conversions for all measurements.

7.7.2 Integrity of Information Product

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

7.7.3 Objectivity of Information Product

For purposes of the Pre-Dissemination Review, this document is considered to be a "Natural Resource Plan." Accordingly, the document adheres to the published standards of the Magnuson-Stevens Act; the Operational Guidelines, Fishery Management Plan Process; the Essential Fish Habitat Guidelines; the National Standard Guidelines; and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act.

This information product uses information of known quality from sources acceptable to the relevant scientific and technical communities. Stock status (including estimates of biomass and fishing mortality) reported in this product are based on either assessments subject to peer-review through the Stock Assessment Review Committee or on updates of those assessments prepared by scientists of the Northeast Fisheries Science Center. These update assessments were reviewed by the Groundfish Assessment Review Meeting II (GARM II; NEFSC 2005) and included participation by independent stock assessment scientists. Landing and revenue information is based on information collected through the Vessel Trip Report and Commercial Dealer databases. Information on catch composition, by tow, is based on reports collected by the NOAA Fisheries Service observer program and incorporated into the sea sampling or observer database systems. These reports are developed using an approved, scientifically valid sampling process. In addition to these sources, additional information is presented that has been accepted and published in peer-reviewed journals or by scientific organizations. Original analyses in this document were prepared using data from accepted sources, and the analyses have been reviewed by members of the Groundfish Plan Development Team/Monitoring Committee.

Despite current data limitations, the conservation and management measures proposed for this action were selected based upon the best scientific information available. The analyses conducted in support of the Proposed Action were conducted using information from the most recent complete calendar years, through 2004, and in some cases includes information that was collected during the first nine months of calendar year 2005. Complete data were not available for calendar year 2005. The data used in the analyses provide the best available information on the number of

harvesters in the fishery, the catch (including landings and discards) by those harvesters, the sales and revenue of those landings to dealers, the type of permits held by vessels, the number of DAS used by those vessels, the catch of recreational fishermen and the location of those catches, and the catches and revenues from various special management programs. Specialists (including professional members of plan development teams, technical teams, committees, and Council staff) who worked with these data are familiar with the most current analytical techniques and with the available data and information relevant to the groundfish fishery.

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

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

7.8 Executive Order 13132 (Federalism)

This E.O. established nine fundamental federalism principles for Federal agencies to follow when developing and implementing actions with federalism implications. The E.O. also lists a series of policy making criteria to which Federal agencies must adhere when formulating and implementing policies that have federalism implications. However, no federalism issues or implications have been identified relative to the measures proposed in Amendment 16. This action does not contain policies with federalism implications sufficient to warrant preparation of an assessment under E.O. 13132. The affected states have been closely involved in the development of the proposed management measures through their representation on the Council (all affected states are represented as voting members of at least one Regional Fishery Management Council). No comments were received from any state officials relative to any federalism implications that may be associated with this action.

7.9 Executive Order 13158 (Marine Protected Areas)

The Executive Order on Marine Protected Areas requires each federal agency whose actions affect the natural or cultural resources that are protected by an MPA to identify such actions, and, to the extent permitted by law and to the maximum extent practicable, in taking such actions, avoid harm to the natural and cultural resources that are protected by an MPA. The E.O. directs federal agencies to refer to the MPAs identified in a list of MPAs that meet the definition of MPA for the purposes of the Order. The E.O. requires that the Departments of Commerce and the Interior jointly publish and maintain such a list of MPAs. As of the date of submission of this

FMP, the list of MPA sites has not been developed by the departments. No further guidance related to this Executive Order is available at this time.

7.10 Paperwork Reduction Act

The purpose of the PRA is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. The authority to manage information and recordkeeping requirements is vested with the Director of the Office of Management and Budget (OMB). This authority encompasses establishment of guidelines and policies, approval of information collection requests, and reduction of paperwork burdens and duplications.

Amendment 16 may contain collection of information requirements subject to the PRA, including:

- Reporting requirements for SAPs and the Category B (regular) DAS Program
- Changes to possession limits, which will change the requirements to notify NMFS of plans to fish in certain areas
- Differential DAS counting areas, which will require advance notice to NMFS Of areas that will be fished
- Sector monitoring provisions
- Provisions for reporting area fished, in order to facilitate assignment of catch to stock areas

The PRA package prepared in support of this action and the information collection identified above, including the required forms and supporting statements, has been submitted under separate cover.

7.11 Preliminary Regulatory Economic Evaluation

7.11.1 Executive Order 12866

The purpose of E.O 12866 is to enhance planning and coordination with respect to new and existing regulations. This E.O. requires the Office of Management and Budget (OMB) to review regulatory programs that are considered to be “significant.” Section 8.11.2 of this document represents the RIR, which includes an assessment of the costs and benefits of the Proposed Action, in accordance with the guidelines established by E.O. 12866. The analysis included in the RIR shows that this action is a not “significant regulatory action” because it will not affect in a material way the economy or a sector of the economy.

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 any regulatory action that may

- Have an annual effect on the economy of \$100 million or more, or adversely affect in a material way the economy, a sector of the economy, productivity, 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 the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, of the principles set forth in the Executive Order.

{To be completed}

8.0 *References*

8.1 Glossary

8.2 Index

Appendices

Appendix I

Summary of Past, Present, or Reasonably Foreseeable Future Actions

APPENDIX XX

The actions summarized in the table below are presented in chronological order, and codes indicate whether an action relates to the past (P), present (Pr), or reasonably foreseeable future (RFF). When any of these abbreviations occur together, it indicates that some past actions are still relevant to the present and/or future. A brief explanation of the rationale for concluding what effect each action has (or will have) had on each of the VECs is provided in the table and is not repeated here.

Table XX. Impacts of Past, Present and Reasonably Foreseeable Future Actions on the five VECs. These actions do not include those which were considered to have little impact on the fishery or actions under consideration in this Amendment.

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS						
^P Prosecution of the groundfish fisheries by foreign fleets in the area that would become the U.S. EEZ (prior to implementation of the MSA)	Foreign fishing pressure peaked in the 1960s and slowly declined until passage of the MSA in 1974 and implementation of the Multispecies FMP	Direct High Negative Foreign fishing depleted many groundfish stocks	Potentially Direct High Negative Limited information on discarding, but fishing effort was very high and there were no gear requirements to reduce bycatch	Potentially Direct High Negative Limited information on protected resources encounters, but fishing effort was very high	Potentially Direct High Negative Limited information on habitat, but fishing effort was very high	Potentially Indirect Negative Revenue from fishing was split between foreign and domestic communities, rather than just domestic communities
^P Original FMP implemented in 1977	Established management of cod, haddock and yellowtail via catch quotas, quota allocations by vessel class and catch limits	Direct Positive Provided slight effort reductions and regulatory tools available to rebuild and manage stocks	Indirect Positive Reduced directed fishing effort on cod, haddock and yellowtail which resulted in discard/bycatch reductions	Indirect Positive Reduced fishing effort, thus reduced interactions with protected species	Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat	Indirect Positive Increased probability of long term sustainability

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
<p>^P Interim Plan (1982)</p>	<p>Implemented GB seasonal closed areas, minimum fish size requirements in GB and GOM and permit requirements</p>	<p>Direct Positive Reduced directed fishing effort</p>	<p>Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions</p>	<p>Indirect Positive Reduced fishing effort, thus reduced interactions with protected species</p>	<p>Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat</p>	<p>Indirect Positive Increased probability of long term sustainability</p>
<p>^P Multispecies Plan (1986)</p>	<p>Revised FMP to include pollock, redfish, winter flounder, American plaice, witch flounder, windowpane flounder and white hake. Allowed additional minimum fish size restrictions, extended GB spawning area closures and a SNE closure to protect yellowtail flounder</p>	<p>Direct Positive Reduced directed fishing effort and provided the opportunity to manage additional groundfish species</p>	<p>Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions</p>	<p>Indirect Positive Reduced fishing effort, thus reduced interactions with protected species</p>	<p>Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat</p>	<p>Indirect Positive Increased probability of long term sustainability</p>

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
<p>^P Amendments 1-4 to the Multispecies FMP (1987-1991)</p>	<p>Implemented closure in SNE/MA to protect yellowtail, extended GB RMA, added minimum mesh size requirements to SNE, excluded scallop dredge vessels from SNE closure, incorporated silver hake, red hake and ocean pout into the FMP</p>	<p>Direct Positive Reduced directed fishing effort and provided the opportunity to manage additional groundfish species</p>	<p>Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions</p>	<p>Indirect Positive Reduced fishing effort, thus reduced interactions with protected species</p>	<p>Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat</p>	<p>Indirect Positive Increased probability of long term sustainability</p>
<p>^P Multispecies Emergency Action (1994)</p>	<p>Implemented 500-lb haddock trip limit, expanded CA II closure time and area, prohibited scallop dredge vessels from possessing haddock from Jan-Jun and prohibited pair-trawling for multispecies</p>	<p>Direct Positive Reduced directed fishing effort</p>	<p>Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions</p>	<p>Indirect Positive Reduced fishing effort, thus reduced interactions with protected species</p>	<p>Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat</p>	<p>Indirect Positive Increased probability of long term sustainability</p>

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr Amendment 5 to the FMP (1994)	Made the above Emergency Action measures permanent, enacted a moratorium on new participants in the fishery, reduced DAS for most vessels by 50% over a 5-7 year period, implemented mandatory reporting and observer requirements, etc.	Direct High Positive Reduced directed fishing effort and capped the number of participants allowed to direct on the fishery	Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Positive Reduced fishing effort, thus reduced interactions with protected species	Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat	Mixed Increased probability of long term sustainability by limiting the number of participants in the directed fishery. However, there was a negative impact for fishermen and communities where participation was reduced
,Pr Emergency Action (1994)	Implemented additional closed areas, prohibited scallop vessels from fishing in the closed areas, disallowed any fishery using mesh smaller than minimum mesh requirements, prohibited retaining regulated species with small mesh, etc.	Direct High Positive Reduced directed fishing effort	Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Positive Reduced fishing effort, thus reduced interactions with protected species	Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat	Mixed Increased probability of long term sustainability but effort reductions result in short term lost revenues for fishermen and communities

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr Framework 9 (1985)	Made the above Emergency Action measures permanent	Direct High Positive Reduced directed fishing effort	Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Positive Reduced fishing effort, thus reduced interactions with protected species	Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat	Mixed Increased probability of long term sustainability but effort reductions result in short term lost revenues for fishermen and communities
P, Pr Amendment 7 to the Multispecies FMP (1996)	Accelerated Amendment 5 DAS reduction schedule, implemented seasonal GOM closures, implemented 1,000 lb haddock trip limit, expanded the 5% bycatch rule, etc.	Direct High Positive Reduced directed fishing effort	Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Positive Reduced fishing effort, thus reduced interactions with protected species	Indirect Positive Reduced fishing effort, thus reduced gear interactions with habitat	Mixed Increased probability of long term sustainability but effort reductions result in short term lost revenues for fishermen and communities

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr Framework 20 (1997)	Implemented GOM cod daily trip limit of 1,000 lb, increased the haddock daily trip limit to 1,000 lb and added gillnet effort-reduction measures such as net limits	Mixed Reduced directed fishing effort but allowed for an increase in haddock landings	Mixed Gillnet restrictions and reduced effort on cod helped reduce discards/bycatch but this may have been offset by increased effort on haddock	Indirect Positive Although the haddock daily trip limit increased, gillnet restrictions provide an overall positive impact	Mixed Reduced cod daily trip limit would be offset by increase haddock daily landing limit	Mixed Reduced revenues from a smaller cod daily trip limit could be offset by the increased haddock daily landing limit but gillnet effort reductions also have negative eco/soc impacts
P, Pr Framework 24 (1998)	Implemented an adjustment to GOM cod daily trip limit by requiring vessels to remain in port and run their DAS clock for a cod overage and implemented the DAS carryover provisions	Direct Low Positive Implemented minor effort reductions	Indirect Low Positive Implemented minor effort reductions which resulted in minor discard/bycatch reductions	Indirect Low Positive Slightly reduced fishing effort, thus reduced interactions with protected species	Indirect Low Positive Reduced fishing effort, thus reduced gear interactions with habitat	Mixed Vessels must remain in port with their clock running for a cod overage which has a negative impact but vessels may carryover DAS from one fishing year into the next.
P, Pr Framework 25 (1998)	Implemented GOM inshore closure areas, the year-round WGOM closure, the CLCA and reduced the GOM cod daily trip limit to 700 lb	Direct Low Positive Implemented effort reductions via reduced cod trip limit and closure areas	Indirect Low Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Positive Effort controls result in reduced interactions with protected species	Indirect High Positive Closure areas and effort controls reduce gear interactions with habitat	Mixed Increased probability of long term sustainability but short term negative eco/soc impacts

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr Framework 26 (1999)	Expansion of April GOM inshore closure area and, additional seasonal inshore GOM and GB area closures	Direct Low Positive Implemented effort reductions via closure areas	Indirect Low Positive Reduced directed fishing effort which resulted in discard bycatch reductions	Indirect Positive Effort controls result in reduced interactions with protected species	Indirect High Positive Closure areas and effort controls reduce gear interactions with habitat	Mixed Increased probability of long term sustainability but short term negative eco/soc impacts
P, Pr, RFF Amendment 11 (1998)	Designated EFH for all species in the multispecies FMP and required Federal agencies to consult with NMFS on actions that may adversely effect EFH	Indirect Low Positive A consultation with NFMS that leads to the protection of multispecies EFH is beneficial to multispecies stocks	Indirect Low Positive A consultation with NFMS that leads to the protection of multispecies EFH is beneficial to other stocks that share the same EFH as multispecies stocks	Indirect Low Positive Consultation with NFMS that leads to the protection of multispecies EFH is beneficial to protected resources that share a need for the same habitat that multispecies stocks require	Direct High Positive Consultation with NMFS on activities that may adversely effect habitat provides NMFS the opportunity to mitigate or even prevent EFH impacts	Indirect Low Positive For instances where NMFS consults on projects impacting multispecies EFH, the overall health of the stocks should improve which would lead to long term sustainability

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr Framework 27 (1999)	Established large GOM rolling closures, modified CLCA, decreased GOM daily trip limit to 200 lb with subsequent reduction to 30 lb, increased haddock trip limit to 2,000 lb and increased minimum mesh size	Mixed Reduced directed fishing effort while also allowing the haddock trip limit to increase	Mixed A reduction in directed effort helped minimize bycatch and discards but increased haddock trip limit was somewhat offsetting	Mixed Reduced directed effort helps minimize protected species encounters but this was somewhat offset by the increased haddock trip limit	Indirect Positive Reduced directed effort and closed areas help improve habitat, this may be slightly offset by the increased haddock trip limit	Mixed Short term negative from closed areas and the reduced cod trip limit which were not offset by the increased haddock trip limit. Long term positive because of increased probability of sustainable stocks
P Interim Rule (1999)	Revised GOM cod trip limit to 100 lb/day up to 500 lb max and revised the DAS running clock to allow a 1-day overage only	Direct Positive Reduced directed fishing effort	Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Low Positive Effort controls result in reduced interactions with protected species	Indirect Low Positive Effort controls result in reduced habitat interactions	Mixed Increased probability of long term sustainability but short term negative eco/soc impacts
P, Pr, RFF Amendment 9 (1999)	Prohibited used of brush sweep trawl gear, added halibut to the FMP with a 1-fish per trip possession limit	Direct Positive Reduced directed fishing effort	Indirect Positive Reduced directed fishing effort which resulted in discard/bycatch reductions	Indirect Low Positive Effort controls result in reduced interactions with protected species	Indirect High Positive Effort controls result in reduced habitat interactions	Mixed Increased probability of long term sustainability but short term negative eco/soc impacts

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MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr Framework 31 (2000)	Increased GOM Daily limit to 400 lb/day up to 4,000/lb per trip, added Feb GOM inshore closure and extended 1999 Interim Rule running clock measure	Mixed Increased cod directed fishing effort while also reducing effort via closure area and cod running clock measure	Mixed Increased effort on cod could lead to greater discards/bycatch which would be somewhat offset by effort reductions via closure area and cod running clock measure	Mixed Increased cod effort could increase interactions but somewhat offset by effort reductions via closure area and cod running clock measure	Indirect Low Positive Minor positive impacts from inshore closure area	Mixed Short term positive from increased cod trip limit but long-term sustainability of the cod resource was effected
P, Pr Framework 33 (2000)	Added GB seasonal closure area, added conditional GOM closure areas and increase haddock trip limit to 3,000 lb	Mixed Increased haddock directed fishing effort while also reducing effort via closure areas	Mixed Increased effort on haddock could lead to greater discards/bycatch which would be somewhat offset by effort reductions via closure areas	Mixed Increased haddock effort could increase interactions but somewhat offset by effort reductions via closure areas	Indirect Low Positive Minor positive impacts from closure areas	Mixed Short term positive from increased haddock trip limit but negative impacts resulting from closure areas

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MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr, RFF Interim Action (Settlement Agreement; 2002)	Restricted DAS use, modified DAS clock for trip vessels, added year-round closure of CLCA, expanded rolling closures, prohibited front-loading DAS clock, increased GOM trawl and gillnet mesh size, added new limitations on Day gillnets and further restricted charter/party vessels	Direct High Positive Implemented substantial directed fishing reductions	Indirect High Positive Implemented substantial directed fishing reductions which also reduced discards/bycatch	Indirect Positive Fishing reductions and expanded closure areas reduce protected species interactions	Indirect High Positive Fishing reductions and expanded closure areas reduce negative impacts to habitat	Mixed Short term impacts due to restrictions were highly negative but positive regarding the long term sustainability of the fishery

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MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr, RFF Interim Action (Settlement Agreement Continued; 2002)	Continued above interim measures, further reduced DAS allocations, prohibited issuance of additional handgear permits, eliminated GOM Jan and Feb closures, increased SNE trawl and GB/SNE gillnet mesh sizes, further limited day and trip gillnets, added longline gear restrictions, added possession limit and restrictions on yellowtail catch and increased GOM cod daily trip limit to 500/4,000 lb max	Direct High Positive Implemented substantial directed fishing reductions	Indirect High Positive Implemented substantial directed fishing reductions which also reduced discards/bycatch	Indirect Positive Fishing reductions reduce protected species interactions	Indirect Positive Fishing reductions reduce negative impacts to habitat	Mixed Short term impacts due to restrictions were highly negative but improving the long term sustainability of the fishery was positive

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MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
<p>P, Pr, RFF Amendment 13 (2004)</p>	<p>Adopted new rebuilding periods and a new rebuilding program that included periodic adjustments and default DAS reductions to reduce effort over time, allowed DAS to be leased or transferred, created sector allocation and special access programs to allow access to stocks that can support an increase in catch</p>	<p>Direct High Positive Implemented substantial directed fishing reductions</p>	<p>Mixed Implemented substantial directed fishing reductions which also reduced discards/bycatch. However, the more stringent restrictions created pressure to direct on other stocks (e.g., monkfish)</p>	<p>Indirect Positive Fishing reductions reduce protected species interactions</p>	<p>Indirect Positive Fishing reductions reduce negative impacts to habitat</p>	<p>Mixed Short term impacts due to restrictions were highly negative but improving the long term sustainability of the fishery was positive</p>
<p>P, Pr, RFF Framework 40A (2004)</p>	<p>Created additional SAPs to target healthy stocks</p>	<p>Direct Positive Directing effort toward healthy stocks relieved pressure on stocks of concern</p>	<p>Indirect Negative Increased bycatch of monkfish and skates</p>	<p>Negligible Although effort increased slightly, no effort shifts impacting protected species are known to have occurred</p>	<p>Negligible Although effort increased slightly, no effort shifts impacting habitat are known to have occurred</p>	<p>Indirect Positive Provided vessels the opportunity for greater revenue while relieving pressure on stocks of concern</p>

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MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr, RFF Framework 40B (2005)	Relaxed DAS leasing and transfer requirements, created new yellowtail flounder SAP, provided greater opportunity for vessels to participate in the GB Cod Hook Sector, removed the net trip limit for gillnets, etc.	Negligible Mix of alternatives, some of which slightly increased effort and others that slightly decreased effort. Overall, changes did not threaten rebuilding targets established by Amendment 13	Indirect Low Negative Mix of alternatives that primarily had little impact on discards/bycatch with the exception of removing the net trip limit for gillnets which increased monkfish effort	Negligible Slight effort changes did not have measurable impacts to protected species	Negligible Slight effort changes did not have measurable impacts to habitat	Indirect Low Positive Slight changes to the leasing and transfer programs along with greater opportunities to participate in SAPs provides an opportunity for greater revenue
P, Pr, RFF Framework 41 (2005)	Allowed for participation in the Hook Gear Haddock SAP by non-Sector vessels	Direct Low Positive Encouraged effort on haddock, a healthy stock, and thus away from other stocks of concern	Indirect Low Negative Although directed effort shifted to a healthier stock, there was an overall effort increase resulting in a greater opportunity for bycatch/discards	Negligible Slight effort changes did not have measurable impacts to protected species	Negligible Slight effort changes did not have measurable impacts to habitat	Indirect Low Positive Greater opportunity to fish for a healthy stock provides increased revenue
P ^{Emergency} Action (2006)	Implemented differential A DAS of 1.4:1, restricted the B Regular DAS program and US/CA Haddock SAP and reduced	Direct High Positive Implemented effort reductions that anticipated achieving mortality reductions needed to	Mixed Effort reductions lead to reduced discards/bycatch but the B Regular DAS program increased monkfish and skate	Negligible Effort changes did not have measurable impacts to protected species	Negligible Effort changes did not have more than minimal impacts to habitat	Mix Short term effort reductions have a negative impact on revenues but increase long term sustainability of

	trip limits on cod, yellowtail, etc.	keep stocks on track to rebuild	bycatch			stocks
Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
P, Pr, RFF Framework 42 (2006)	Reduced the number of A DAS available, modified differential DAS counting to 2:1 in the GOM and SNE, reduced trip limits for several stocks, increased recreations minimum fish sizes, required use of VMS by all vessels, modified the SAPs, limited the bycatch of monkfish and skates for vessels using a haddock separator trawl, etc.	Direct High Positive Implemented effort reductions that anticipated achieving mortality reductions needed to keep stocks on track to rebuild	Indirect Positive Effort reductions lead to reduced discards/bycatch and measures were implemented to control monkfish and skate bycatch	Indirect Low Positive Overall effort reductions have a positive impact, particularly to protected species in high use areas such as the GOM and SNE where strict differential counting rules are in effect	Indirect Low Positive Overall effort reductions have a positive impact	Mixed Effort reductions have a significant negative impact to vessel owners and communities, primarily due to loss of revenues. Over the long term however, stocks should remain sustainable

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MULTISPECIES FISHERY-RELATED ACTIONS CONTINUED						
<p>P, Pr, RFF Framework 43 (2006)</p>	<p>Established a haddock incidental bycatch limit in the herring fishery on GB</p>	<p>Mixed While the incidental haddock allowance allows some legal catch of haddock which has a negative impact, the area is closed after the bycatch cap is reached which prohibits further harvest (positive impact)</p>	<p>Negligible The herring fishery is fairly clean and the increased haddock bycatch problem arose from strong 2003 and 2004 year classes. Allowing legal retention of haddock bycatch should not alter fishing practices in a manner that would impact species taken as bycatch</p>	<p>Negligible Although attaining the bycatch cap could reduce effort on GB, the extent of this reduction was not expected to have an overall impact on protected species</p>	<p>Negligible Gear used to target herring have been found not to have an impact on habitat</p>	<p>Mixed Allowing herring vessels to continue fishing practices on GB has a positive impact on those vessels and communities. However, the loss of the potential haddock catch has a negative impact on fishermen targeting groundfish</p>
OTHER FISHERY-RELATED ACTIONS						
<p>P, Pr, RFF Atlantic Sea Scallop FMP – a series of amendment and framework actions from the mid-1990s through the present</p>	<p>Implementation of the Atlantic Sea Scallop FMP and continued management of the fishery, primarily through effort controls</p>	<p>Direct Positive Effort reductions taken over time have resulted in a sustainable scallop fishery</p>	<p>Indirect Positive Effort reductions taken over time also reduced bycatch, including gear modifications that improved bycatch escapement</p>	<p>Mixed Effort reductions taken over time reduced interactions with protected species however, turtle interactions remain problematic</p>	<p>Indirect Positive Effort reductions reduced gear contact with habitat and the current rotational access program focuses fishing effort on sandy substrates which are less susceptible to habitat impacts</p>	<p>Indirect Positive Initial negative impacts due to effort reductions have been supplanted by a sustainable, profitable fishery</p>

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OTHER FISHERY-RELATED ACTIONS CONTINUED						
P, Pr, RFF Monkfish FMP – a series of amendment and framework actions from implementation of the FMP in 1999 through the present	Implementation of the monkfish FMP and continued management of the fishery, primarily through effort controls	Direct Positive Effort reductions have resulted in a fishery that is no longer overfished, nor is overfishing occurring	Indirect Positive Effort reductions taken over time also reduced bycatch	Indirect Positive Reducing effort reduced opportunities for interactions with protected species	Indirect Positive Reducing effort reduced opportunities for habitat interactions	Indirect Positive Reducing effort has created a sustainable fishery
Pr, RFF Large Whale Take Reduction Plan Amendment (2008)	Removed the DAM program, will implement sinking ground lines for lobster gear, includes more trap/pot and gillnet fisheries under the protection plan and requires additional markings on gear to improve information regarding where and how entanglements occur	Negligible Changes implemented through the amendment are not expected to have substantial changes on groundfish	Negligible Changes implemented through the amendment are not expected to have substantial changes on non-groundfish species	Direct Positive New regulations implemented to protect large whales are expected to have a positive impact on large whales by reducing incidental takes	Negligible Changes implemented through the amendment are not expected to have substantial changes to habitat	Indirect Negative Changes implemented through the amendment require some gear changes for gillnet fisheries which have minor negative economic impacts

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OTHER FISHERY-RELATED ACTIONS CONTINUED						
REF Harbor Porpoise Take Reduction Plan Amendment (~2008/2009)	Options are currently under development to reduce takes of harbor porpoise toward the long-term zero mortality rate goal	Unknown If current measures such as closure areas and the use of pingers are expanded upon or modified, it could impact groundfish	Unknown If current measures such as closure areas and the use of pingers are expanded upon or modified, it could impact non-groundfish species	Direct Positive Changes to protect harbor porpoise have a positive impact on protected species	Unknown If current measures such as closure areas and the use of pingers are expanded upon or modified, it could impact habitat	Unknown If current measures such as closure areas and the use of pingers are expanded upon or modified, it could impact human communities
REF Essential Fish Habitat Omnibus Amendment (~2009/2010)	This amendment would revised EFH designations for all New England fisheries, possibly establish new HAPCs and consider measures to further protect critical habitat	Unknown If new measures are implemented to protect habitat, they would likely have a positive impact on groundfish	Unknown If new measures are implemented to protect habitat, they could have a positive impact non-groundfish species	Unknown If new measures are implemented to protect habitat, they could potentially impact protected species	Direct Positive New measures implemented to protect habitat would have a positive impact on habitat	Unknown If new measures are implemented to protect habitat, they would likely impact human communities
REF Amendment 3 to the Skate FMP (2009)	This amendment would address rebuilding of winter and thorny skates and reduce mortality on little and smooth skates	Unknown If actions are taken to reduce skate mortality, they could impact groundfish	Unknown If actions are taken to reduce skate mortality, they could impact non-groundfish species	Unknown If actions are taken to reduce skate mortality, they could impact protected species	Unknown If actions are taken to reduce skate mortality, they could impact habitat	Unknown If actions are taken to reduce skate mortality, they could impact human communities

Action	Description	Impacts on Regulated Groundfish Stocks	Impacts on Non-groundfish species	Impacts on Endangered and Other Protected Species	Impacts on Habitat – Including Non-fishing Effects	Impacts on Human Communities
NON FISHERY-RELATED ACTIONS						
P, Pr, RFFA Agriculture runoff	Nutrients applied to agriculture land are introduced into aquatic systems	Indirect Negative Reduced habitat quality in the immediate project area	Indirect Negative Reduced habitat quality in the immediate project area	Direct Negative Reduced habitat quality in the immediate project area	Indirect Negative Reduced habitat quality in the immediate project area	Indirect Negative Reduced habitat quality negatively affects resource viability and can lead to reduced income from fishery resources
P, Pr, RFFA Port maintenance	Dredging of wetlands, coastal, port and harbor areas for port maintenance	Indirect Negative Localized decreases in habitat quality	Indirect Negative Localized decreases in habitat quality	Direct Negative Reduced habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Indirect Negative Reduced habitat quality negatively affects resource viability in the immediate project area
P, Pr, RFFA Offshore disposal of dredged materials	Disposal of dredged materials	Indirect Negative Localized decreases in habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Direct Negative Reduced habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Indirect Negative Reduced habitat quality negatively affects resource viability in the immediate project area

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NON FISHERY-RELATED ACTIONS CONTINUED						
P, Pr, RFFA Beach nourishment	Offshore mining of sand for beaches	Indirect Negative Localized decreases in habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Direct Negative Reduced habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Mixed Positive for mining companies, possibly negative for fisheries
	Placement of sand to nourish beach shorelines	Indirect Negative Localized decreases in habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Direct Negative Reduced habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Positive Improves beaches and can help protect homes along the shore line
P, Pr, RFFA Marine transportation	Expansion of port facilities, vessel operations and recreational marinas	Indirect Negative Localized decreases in habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Direct Negative Reduced habitat quality in the immediate project area	Indirect Negative Localized decreases in habitat quality in the immediate project area	Mixed Positive for some interests, potential displacement for others
P, Pr, RFFA Installation of pipelines, utility lines and cables	Transportation of oil, gas and energy through pipelines, utility lines and cables	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Potentially Direct Negative Initially reduced habitat quality in the immediate project area	Mixed End users benefit from improved pipelines, cables, etc., but reduced habitat quality may impact fisheries and revenues

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NON FISHERY-RELATED ACTIONS CONTINUED						
Pr. RFFA Liquefied Natural Gas (LNG) terminals (w/in 5 years)	Transportation of natural gas via tanker to terminals located offshore and onshore (Several LNG terminals are proposed, including ME, MA, NY, NJ and MD)	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Potentially Direct Negative Localized decreases in habitat quality possible in the immediate project area	Mixed End users benefit from a steady supply of natural gas but reduced habitat quality may impact fisheries and revenues
RFFA Offshore Wind Energy Facilities (w/in 5 years)	Construction of wind turbines to harness electrical power (Several facilities proposed from ME through NC, including off the coast of MA)	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Indirect Negative Initially localized decreases in habitat quality in the immediate project area	Potentially Direct Negative Localized decreases in habitat quality possible in the immediate project area	Potentially Direct Negative Localized decreases in habitat quality possible in the immediate project area	Mixed End users benefit from a clean energy production but reduced habitat quality may impact fisheries and revenues