

NEW ENGLAND FISHERY MANAGEMENT COUNCIL

Monkfish Committee

I. STATUS

- A. Meetings: The Monkfish Committee has not met since the last Council meeting, but is schedule to hold a meeting at the end of the first day of this Council meeting.

- B. Framework 6. This will be the final meeting to vote on Framework 6 to the Monkfish Fishery Management Plan. The NEFMC initiated Framework 6 at the November, 2007 meeting to address the 2007 target total allowable catch (TTAC) overage backstop provision adopted in Framework 4. The Mid-Atlantic Council also voted to initiate this framework. Based on the results of the Northeast Data Poor Stocks Working Group assessment, indicating that both monkfish stocks are rebuilt, the members of both Councils have stated they think that it is no longer appropriate to maintain a potential closure of the fishery or make adjustment to DAS for TTAC overages in 2007. They also stated that measures adopted in Framework 5 will reduce the likelihood that overages will occur in future years. The MAFMC is scheduled to vote on Framework 6 at their April 9 meeting.

- C. Framework 5. At the September meeting, the Council initiated a framework adjustment to implement revised management reference points based on the recommendations of the Northeast Data Poor Stocks Working Group, and to address other issues, including days-at-sea carryover allowances, landing restrictions under the 3-hour gillnet rule, monkfish incidental catch limits on vessels fishing with large mesh and not on a day-at-sea, and the requirement to hold a Letter of Authorization to fish for monkfish in the northern area. The NEFMC approved final measures for Framework 5 at its November meeting, and the MAFMC did the same in December. The staff submitted the final document on January 16, and NMFS published a proposed rule on March 4. The target implementation date is May 1, 2008.

II. COUNCIL ACTION

- A. Take final action on approval of Framework 6.

III. INFORMATION

- 1. Correspondence
- 2. Draft Framework 6 document (*will be emailed next week and will be distributed at the Council meeting*)

Monkfish Fishery Management Plan
Framework Adjustment 6

Incorporating
Environmental Assessment and
Regulatory Impact Review

Prepared by
New England Fishery Management Council
and Mid-Atlantic Fishery Management Council

in consultation with
NOAA Fisheries Service

MAFMC DRAFT
[4/10/08]

Important - this document is an interim draft and will be replaced with a final version upon submission.

TABLE OF ACRONYMS

A	Adult life stage
A13	Amendment 13 to the Multispecies FMP
ALWTRP	Atlantic Large Whale Take Reduction Plan
APA	Administrative Procedures Act
ASMFC	Atlantic States Marine Fisheries Commission
CA I	Closed Area I under the Multispecies FMP
CA II	Closed Area II under the Multispecies FMP
DAM	Dynamic Area Management
DAS	days-at-sea
DMF	Division of Marine Fisheries (Massachusetts)
DMR	Department of Marine Resources (Maine)
DPWG	Northeast Data Poor Stocks Working Group (Assessment)
DSEIS	Draft Supplemental Environmental Impact Statement
E	Egg life stage
EA	Environmental Assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FMP	fishery management plan
FVTR	Fishing vessel trip report
FW	Framework
FW 13	Framework 13 to the Scallop FMP
FY	fishing year
GB	Georges Bank
GOM	Gulf of Maine
GRT	gross registered tons/tonnage
HAPC	habitat area of particular concern
HCA	Habitat Closed Area
HPTRP	Harbor Porpoise Take Reduction Plan
IFQ	individual fishing quota
IWC	International Whaling Commission
J	Juvenile life stage
LOA	letter of authorization
MA	Mid-Atlantic
MAFMC	Mid-Atlantic Fishery Management Council
MMC	Monkfish Monitoring Committee
MMPA	Marine Mammal Protection Act
MPA	marine protected area
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSMC	Multispecies Monitoring Committee
MSY	maximum sustainable yield

NAAA	Northwest Atlantic Analysis Area
NEFMC	New England Fishery Management Council
NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NERO	Northeast Regional Office
NFMA	Northern Fishery Management Area
NLCA	Nantucket Lightship Closed Area
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OY	optimum yield
PBR	Potential Biological Removal
PRA	Paperwork Reduction Act
PREE	Preliminary Regulatory Economic Evaluation
RFA	Regulatory Flexibility Act
RMA	Regulated Mesh Area
RPA	Reasonable and Prudent Alternatives
SAFE	Stock Assessment and Fishery Evaluation
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SBNMS	Stellwagen Bank National Marine Sanctuary
SEIS	Supplemental Environmental Impact Statement
SFA	Sustainable Fisheries Act
SFMA	Southern Fishery Management Area
SIA	Social Impact Assessment
SMAST	U. Mass. Dartmouth School of Marine Science and Technology
SNE	southern New England
SNE/MA	southern New England-Mid-Atlantic
SSB	spawning stock biomass
TTAC	target total allowable catch
TED	turtle excluder device
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMS	vessel monitoring system
VPA	virtual population analysis
VTR	vessel trip report
YPR	yield per recruit

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1.0 Introduction

1.1 Executive Summary

The monkfish fishery is jointly managed by the New England Fishery Management Council (NEFMC) and the Mid-Atlantic Fishery Management Council (MAFMC), with the NEFMC having the administrative lead. The fishery extends from Maine to North Carolina out to the continental margin. The Councils manage the fishery as two stocks, with the Northern Fishery Management Area (NFMA) covering the Gulf of Maine and northern part of Georges Bank, and the Southern Fishery Management Area (SFMA) extending from the southern flank of Georges Bank through the Mid-Atlantic Bight to North Carolina (see Figure 1).

The Councils initiated a rebuilding plan for monkfish in 1999 with the adoption of the Monkfish Fishery Management Plan (FMP). The original FMP was modified and amended to include an annual measure of the status of the stocks and adjustment to management measures as needed to maintain a 10-year rebuilding schedule, principally with the implementation of Framework Adjustment 2 in 2003. Following several years of increases in the biomass index for both stocks, by the fall of 2006, the indices had returned to levels below the minimum biomass threshold and approximately 50% below their annual biomass index targets (i.e., both stocks were “overfished”). As a result, the Councils proposed, in Framework 4 to revise the management program so that the goals of the rebuilding plan could be met within the 10-year rebuilding schedule, by 2009.

Framework 4 included, among other measures, a “backstop” provision that would adjust, and potentially close, the directed monkfish fishery in 2009 if the landings in Fishing Year (FY) 2007 exceeded the target total allowable catch (TTAC). The National Marine Fisheries Service (NMFS) deferred implementing Framework 4 and called for a stock assessment for July 2007. The Northeast Data Poor Stocks Working Group (DPWG) completed and accepted the new assessment which recommended revising the biological reference points. Under the revised reference points, both monkfish stocks would be considered “rebuilt” and “overfishing is not occurring”. The assessment report emphasizes, however, that in addition to the fact that this assessment was the first to use a new analytical model, there is a high degree of uncertainty in the analyses due to the dependence on assumptions about natural mortality, growth rates and other model inputs. Nevertheless, the change in stock status, from overfished to rebuilt, obviated the need to impose further restrictions on the industry to meet rebuilding objectives. The Councils have submitted Framework 5 to NMFS to adopt the revised reference points recommended by the DPWG, and to implement other measures that will reduce the likelihood of TTAC overages in FY2008 and beyond.

This framework adjustment, if adopted, would eliminate the backstop provision adopted in Framework 4. Given the most recent information on the status of the monkfish stocks, and the expected minimal biological impact of a 30% TTAC overage on stock status, the backstop provision is no longer necessary, and would result in some negative economic and social impacts. The Environmental Assessment (EA) in this document presents the analysis of impacts of the proposed adjustment to the monkfish fishery management measures proposed compared to taking no action.

[Draft text for final document]:In terms of compliance with other applicable laws, the proposed actions in this framework are consistent with the National Standards and other required provisions of the Sustainable Fisheries Act, and are deemed to be not significant under the National Environmental Policy Act and Executive Order 12866 (Regulatory Impact Review), based on the respective evaluation criteria. The proposed actions are consistent with the Marine Mammal Protection Act, and do not alter existing protections for marine mammals inhabiting the management area of the monkfish fishery. The Councils have concluded that the proposed action is not likely to result in jeopardy to any Endangered Species Act (ESA) listed species under NOAA Fisheries Service jurisdiction, or alter or modify any critical habitat. The Councils are seeking concurrence from affected states that the proposed actions are consistent with the coastal zone management programs of coastal states from Maine to North Carolina, in compliance with the Coastal Zone Management Act. A complete discussion of the consistency of the proposed action with all applicable laws and executive orders is provided in Section 6.0

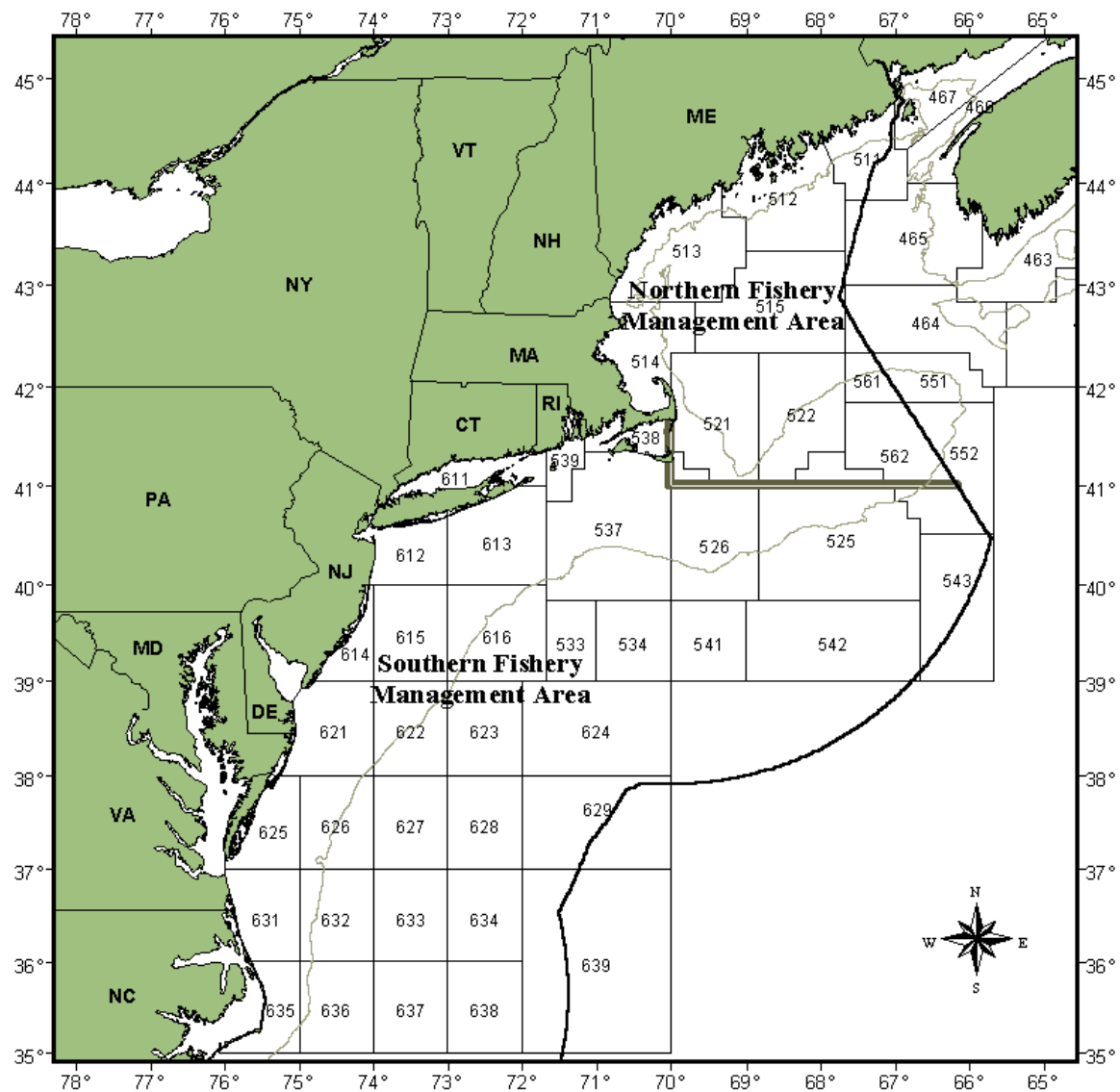


Figure 1 Monkfish management areas and three-digit statistical areas

1.2 Background

1.2.1 Actions under the Monkfish FMP

The following section summarizes previous regulatory action under the Monkfish FMP that pertain to the measure being considered in this framework adjustment, namely, Frameworks 4 and 5. Other actions under the Monkfish FMP are discussed in previous framework documents and plan amendments, through Amendment 2, and are available on the NEFMC website, www.nefmc.org, with the most recent being Framework 5, February, 2008. To the extent these actions have a cumulative effect on the environment, they are also discussed in the Cumulative Effects section of this document (Section 5.6).

1.2.1.1 Monkfish Framework 4

The fishing year 2006 was Year 7 of the 10-year rebuilding plan implemented under the original FMP in 1999. The goal of the rebuilding plan was to achieve the biomass target reference points in 2009, as measured by the NEFSC autumn trawl survey three-year average biomass indices. Following several years of increases in the biomass indices for both stocks, the indices lagged behind the rebuilding schedule, and in 2006 were both below the minimum biomass threshold and approximately 50% below their biomass index targets. As a result, the Councils revised the management program so that the goals of the 10-year rebuilding program can be met in 2009 with Framework 4, which they submitted to NMFS in February 2007.

In Framework 4, TTACs were set at 5,000 mt and 5,100 mt for the NFMA and SFMA, respectively. These TTACs are the basis for calculating the monkfish trip limits and days-at-sea (DAS) allocations for vessels targeting monkfish. Framework 4 also established the requirement for vessels fishing in the NFMA on a multispecies DAS, and exceeding the monkfish incidental catch limit, to call in a monkfish DAS, which could be done by Vessel Monitoring Systems (VMS) any time prior to returning to port. Vessels in the SFMA were already required to call in a monkfish DAS when exceeding the incidental limit. Framework 4 also reduced the monkfish incidental limit in the NFMA from 400 lbs. per DAS (tail wt.) or 50% of the weight of fish on board, whichever is less, to 300 lbs. per DAS or 25% of the total weight of fish on board, whichever is less. The Councils had increased the incidental limit under Framework 2, when the northern stock appeared to be nearly rebuilt, but restored the original incidental limit because the stock status had returned to being overfished in 2006.

Framework 4 retained the 550 lbs. and 450 lbs. SFMA monkfish trip limit (tail wt. per DAS) for permit categories ACG and BDH, respectively. Vessels were allocated 31 monkfish DAS, but vessels were limited to an allowance of 23 DAS in the SFMA out of the total allocation. In the NFMA, trip limits were set at 1,250 lbs. and 470 lbs. (tail wt. per DAS) for permit category AC and BD, respectively. Framework 4 established that the DAS allocations will remain in effect through 2009 unless the TTAC is exceeded in an area during the 2007 fishing year. In that case, the proposed TTAC overage backstop provision would take effect and could result in a recalculation of the DAS allocations that are expected to keep landings below the TTAC based on catch and effort data from the 2007 fishing year. The backstop provision would make no adjustment if the TTAC overage was 10% or less, and would close the directed fishery in a

management area if the overage exceeded 30%, resulting in zero DAS and the application of monkfish incidental limits to all vessels.

Other measures adopted under Framework 4 include a change in the northern boundary of the Category H fishery from 38°20'N Lat to 38°40'N Lat, and a change to the monkfish incidental limit on limited access scallop vessels fishing in the closed area access programs.

On April 27, 2007, NMFS published a temporary rule implementing interim measures, while deferring a decision on Framework 4 pending the results of a stock assessment scheduled for July (*72 Federal Register* 20952, April 27, 2007). The interim rule implemented the TTACs and most measures proposed in Framework 4, except the 23 DAS allowance for SFMA vessels (retaining the 12 DAS from the prior year), and prohibited the use of carryover DAS. The DPWG completed an assessment of monkfish which included estimates of absolute biomass and recommended revisions to existing biomass reference points from a survey index basis to an absolute biomass basis. Based on that assessment, both stocks are above the recommended biomass targets, and are, therefore, “rebuilt”. The assessment report also emphasized the uncertainty in the model and results, and contained a number cautionary statements.

As a result of the assessment, NMFS approved Framework 4 and published an interim final rule with an effectiveness date of October 22 (*72 Federal Register* 53942, September 21, 2007).

1.2.1.2 Monkfish Framework 5

As a result of the aforementioned DPWG assessment in 2007, the Councils initiated Framework 5 primarily to adopt the recommended biomass reference points, as well as to address the concerns of the Regional Administrator about the effect of carryover DAS on the management program’s ability to constrain landings to the TTAC. In addition, the Councils used the opportunity of this adjustment to implement revisions to some other measures to ensure that the management program succeeds in keeping landings within the TTAC levels. Framework 5, which is currently in the proposed rule phase (*73 Federal Register* 11606, March 4, 2008), would reduce the number of unused DAS that could be carried over to the next fishing year from 10 to 4; would revise the DAS accounting method for gillnet vessels such that all trips less than 15 hours would be counted as 15 hours, eliminating the provision that trips less than 3 hours would be counted as time used; and, would revise the monkfish incidental catch allowance applicable to vessels in the Southern New England Regulated Mesh Area (SNE RMA) fishing with large mesh but not on a monkfish, scallop or multispecies DAS, from 5% of the total weight of fish on board (with no landings cap) to 5% of total weight of fish on board not to exceed 50 lbs. per day, up to 150 lbs. maximum, and also applied this revision to all vessels fishing under a Skate Bait Letter of Authorization (LOA) east of 74°00'W. In addition, Framework 5 will modify the Monkfish LOA requirement for vessels fishing under the less restrictive measures for the NFMA such that vessels using a VMS would no longer be required to obtain the LOA, but could make the declaration via the VMS. The proposed rule comment period ended March 25, and the final rule is expected to be published prior to the start of FY2008 on May 1.

In the context of this framework adjustment (Framework 6) which proposes to eliminate the TTAC overage backstop provision, the Councils anticipate that Framework 5 will reduce the likelihood of TTAC overages that are occurring in the current fishing year, at least in the SFMA

as of this writing, in future years. If successful, Framework 5, in combination with the revised stock status, further obviates the need for the backstop provision.

1.2.2 Other actions affecting the monkfish fishery

1.2.2.1 Other FMP actions

Both Northeast (NE) Multispecies and Sea Scallop fisheries have undergone a series of major actions since 1994 to reduce fishing effort and rebuild overfished stocks. NE Multispecies Amendment 13, and Frameworks 40A, 40B, 41 and 42 resulted in substantial reductions in overall multispecies effort, including effort on those multispecies vessels targeting monkfish. As noted in the discussion of other actions under the Monkfish FMP discussed in the previous section, these actions, to the extent they pertain the management of the monkfish fishery, are discussed in earlier Monkfish FMP framework and amendment documents, and are discussed in the Cumulative Effects section of this document (Section 5.6).

1.2.2.2 Actions to Minimize Interactions with Protected Species

Many of the factors that serve to mitigate the impacts of the monkfish 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 Monkfish FMP has undergone repeated consultations pursuant to Section 7 of the Endangered Species Act (ESA), with the most recent Biological Opinion dated April 14, 2003. The conclusion in that Opinion states that the monkfish fishery is not likely to jeopardize the continued existence of Northern right whales, provided that the fishery is complying with the ALWTRP. A previous Biological Opinion for the Monkfish FMP, dated June 14, 2001, concluded that the continued implementation of the monkfish fishery was likely to jeopardize the continued existence of Northern right whales as a result of mortality from entanglements in gillnet gear. NMFS implemented a set of Reasonable and Prudent Alternatives (RPAs) to remedy the jeopardy finding. These RPAs were implemented as revisions to the ALWTRP. As described below, the regulatory measures of the ALWTRP and the HPTRP must be adhered to by any vessel fishing for monkfish with gillnet gear.

1.2.2.2.1 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 developing options to reduce takes.

1.2.2.2.2 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.

1.2.2.2.3 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 Western North Atlantic stocks of pilot whales, common dolphins, and white-sided dolphins were designated as non-strategic in the 2005 Marine Mammal Stock Assessment Report. Therefore, the charge to the ATGTRT is to develop a take reduction plan within 11 months that, once implemented, will achieve the long-term goal of the Marine Mammal Protection Act of reducing serious injury and mortality of affected stocks to a level approaching a zero mortality rate goal (ZMRG) (which is 10% of the Potential Biological Removal (PBR) of each stock).

1.2.2.2.4 Final Rule to minimize monkfish gillnet interaction with sea turtles

On December 3, 2002, the agency published a final rule (67 *Federal Register* 71895) establishing seasonally adjusted gear restrictions by closing portions of the mid-Atlantic EEZ waters to fishing with large-mesh (>8") to protect migrating sea turtles, following an interim final rule published March 21 that year. The basis of this rule was that sea turtles migrate northward as water temperatures warmed. At the time the interim and final rules were published, there was no evidence that the primary fishery involved – monkfish – was being prosecuted in state waters. In 2002, when most monkfish fishermen were not permitted under the FMP to fish in the EEZ and the rest were faced with the sea turtle closures, the proportion of North Carolina

monkfish landings from state waters increased five-fold to 92%, posing an unforeseen risk to migrating sea turtles since they were not protected in state waters. In response, NMFS published a final rule on April 26, 2006 (71 *Federal Register* 24776) that included modifications to the large-mesh gillnet restrictions. Specifically, the new final rule revises the gillnet restrictions to apply to gillnets having 7-inch stretched mesh or greater, versus the 8-inch stretched mesh defined in the 2002 final rule, but did not apply this new rule in state waters as considered in the proposed rule. State waters, and Federal waters north of Chincoteague, VA remain unaffected by the large-mesh gillnet restrictions.

2.0 Purpose and Need

2.1 Need to take action

This action is needed to address whether the backstop provision adopted in Framework 4 is necessary in light of the recent, and positive, change in monkfish stock status resulting from the 2007 DPWG assessment. The 10-year stock rebuilding plan adopted in the original FMP in 1999 was approaching the final years in 2006, with the distinct possibility that it would not meet its objectives. As a result, the Councils adopted, in Framework 4, a backstop provision that would close the directed fishery (allocate zero monkfish DAS) in FY2009 if the landings in a management area exceeded its TTAC in FY2007 by more than 30%. If landings exceeded the TTAC by 10%-30% in FY2007, the Framework 4 measure called for a recalculation of available DAS for FY2009 based on updated catch and effort data from FY2007. There would be no change in DAS if the overage was 10% or less. After the Councils submitted Framework 4, the DPWG assessment found that monkfish was rebuilt (above the recommended biomass target). In addition, the DPWG estimated current fishing mortality, and projected future fishing mortality under the TTACs contained in Framework 4, to be well below the overfishing threshold. Based upon this recent information, the Councils are reconsidering the need to adjust DAS in FY2009, including closure of the directed fishery, even if landings exceed the TTAC. Furthermore, under the mandate of the reauthorized MSA, the Councils are obligated to adopt accountability measures by 2011, which it is planning to do through an amendment to the Monkfish FMP when NMFS' guidelines for such accountability measures have been issued.

2.2 Purpose of Action

The purpose of this action, therefore, is to consider the elimination of the backstop provision adopted in Framework 4.

3.0 Alternatives including no-action

The following describes the alternatives under consideration by the Councils, including taking no action.

3.1 Eliminate the TTAC overage backstop measure

This alternative would remove from the FMP and associated regulations the mechanism for adjusting monkfish DAS allocations in FY2009 based on any FY2007 overages in landings compared to the FY2007 TTACs. If the existing backstop provision is not removed and FY2007 landings exceeded the TTAC by 10% to 30%, DAS would be adjusted based on catch and effort information from FY2007 using the same (unadjusted) TTAC. If landings exceed the TTAC by more than 30%, the existing backstop provision would require that DAS available in the

respective management area be reduced to zero (no directed fishery). The Monkfish Plan Development Team recommends this alternative. The MAFMC voted on April 9 to recommend this alternative.

3.2 Retain the TTAC overage backstop measure (no action)

This alternative would retain the existing mechanism for adjusting monkfish DAS allocations in FY2009 based on any FY2007 overages in landings compared to the FY2007 TTACs.

4.0 Affected Environment

A map showing the area covered by the monkfish FMP, including the NFMA and SFMA boundary and three-digit statistical areas is provided in Figure 1 for reference. The Council prepares annually a Stock Assessment and Fishery Evaluation (SAFE) Report that contains updated information on the resource status and human environment. The most recent SAFE Report was prepared for Framework 5, in February, 2008, and the following only contains updated information that is pertinent to the analysis of impacts of the proposed action, specifically landings data, and summary information on affected protected species and habitat. FY2007 is not yet over, and, therefore, the SAFE Report for FY2007 cannot be completed at this time.

4.1 Biological Environment

This section supplements and updates the biological environment described in the FSEIS for Amendment 2.

4.1.1 Monkfish stock status

4.1.1.1 Stock Assessment (SAW 40)

The Northeast Fisheries Science Center (NEFSC) held a monkfish stock assessment in the fall of 2004 (SAW 40). The data used in the 2004 assessment included NEFSC research survey data, data from the 2001 and 2004 Cooperative Monkfish Surveys, commercial fishery data from vessel trip reports, dealer landings records, and observer data. In summary, the Stock Assessment Review Committee concluded:

Based on existing reference points, the resource is not overfished in either stock management area (north or south). Fishing mortality rates (F) estimated from NEFSC and Cooperative survey data are currently not sufficiently reliable for evaluation of F with respect to the reference points.

With respect to recruitment, the report noted evidence of increased recruitment in the NFMA during the 1990s, particularly for the 1999 year class. Conversely, the SAW 40 report noted that in the SFMA, recruitment appears to have fluctuated without trend during the 1990s. However, there are some indications that the 2002 year class in the SFMA may be above average.

4.1.1.2 Northeast Data Poor Stocks Working Group Assessment 2007

In July, 2007, the Northeast Data Poor Stocks Working Group (DPWG) completed an assessment of monkfish. The Summary Assessment Report is attached as Appendix I. The DPWG concluded that based on existing biomass reference points, the resource would be

considered overfished in both northern and southern areas. The DPWG developed and recommended new biomass reference points based on a revised yield-per-recruit analysis (using a revised value of natural mortality, M), and results of a length-tuned model that incorporates multiple survey indices and catch data. Based on these new reference points and estimates of current biomass, monkfish in both management areas are above the biomass target (i.e., are “rebuilt”), Table 1. In addition, estimates of current fishing mortality indicate that overfishing is not occurring ($F_{2006}=0.09$ and 0.12 , in the NFMA and SFMA, respectively, compared to $F_{\text{threshold}}=F_{\text{max}}=0.31$ and 0.40 , north and south).

	B₂₀₀₆ (mt)	B_{target} (mt)	B_{threshold} (mt)
NFMA	118,700	92,200	65,200
SFMA	135,500	122,500	96,400
B_{target} = average of total biomass 1980 – 2006			
B_{threshold} = lowest value of total biomass 1980 – 2006			

Table 1 DPWG estimates of 2006 biomass and recommended biomass reference points

The assessment report cautions, however, that while the development of a new analytic model is a significant advance, there is substantial uncertainty in the assessment, and the results need to be viewed with caution. Reservations stem from: (a) input uncertainties, including unknown or under-reported catch data, particularly early in the period, and incomplete understanding of key biological parameters such as age and growth, longevity, natural mortality and stock structure; (b) the shorter assessment time frame, starting in 1980 rather than 1963, as in prior assessments; and (c) the relatively recent development of the assessment model. A complete report on the DPWG 2007 assessment is provided in Appendix I of Framework 5 (available on the www.nefmc.org website).

4.1.2 Marine Mammals and Protected Species

The following protected species are found in the environment utilized by the monkfish 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). Two right whale critical habitat designations are located in the area in which the monkfish fishery is prosecuted. The information provided here is summary of the full descriptions provided in the Amendment 2 FSEIS. Actions taken to minimize the interaction of the fishery with protected species are described in Section 1.2.2.2 of this document.

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.)

Status

Endangered
Endangered
Endangered
Endangered
Endangered
Endangered
Protected
Protected

Spotted dolphin (<i>Stenella frontalis</i>)	Protected
Risso's dolphin (<i>Grampus griseus</i>)	Protected
White-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected
Common dolphin (<i>Delphinus delphis</i>)	Protected
Bottlenose dolphin: coastal stocks (<i>Tursiops truncatus</i>)	Protected
Harbor porpoise (<i>Phocoena phocoena</i>)	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>Cystophora 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

Critical Habitat Designations

Right whale Cape Cod Bay
Great South Channel

**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 Monkfish 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 monkfish fishery. Similarly, there is no evidence to suggest that operation of the monkfish fishery has any adverse effects on the habitat features (e.g., copepod abundance) in the specific areas designated as right whale critical habitat. Therefore, operation of the monkfish fishery is not expected to have effects on critical habitat for right whales that has been designated for Cape Cod Bay and the Great South Channel.

It is expected that all of the remaining species identified have the potential to be affected by the operation of the monkfish 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 Monkfish FMP as well as the known interactions of gear used in the monkfish 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 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 monkfish fishery. The following table, Table 2, provides the most recent information on observed turtle interactions with the monkfish fishery for the period 2003 – Nov. 2007. The data have not been analyzed with respect to trends or impact of effort controls and/or sea turtle closures relative to monkfish fishery. Gillnet gear is the most prevalent gear used in the SFMA monkfish fishery.

Year	Month	Species	Statistical Area	Gear Type
2003	August	Unknown	537	Sink gillnet
2003	August	Unknown	537	Sink gillnet
2003	August	Unknown	537	Sink gillnet
2004	May	Loggerhead	621	Sink gillnet
2004	June	Loggerhead	612	Sink gillnet
2004	October	Leatherback	615	Sink gillnet
2004	November	Leatherback	613	Sink gillnet
2006	December	Leatherback	537	Sink gillnet

Table 2 Turtle Interactions in Gillnet Gear Targeting Monkfish, 2003-Nov. 2007.

Source: NEFSC Observer Data

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.* 2006). 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.* 2006). 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).

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.* 2006). However, it is often not possible to attribute the gear to a specific fishery.

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.* (2006). Small cetaceans are known to be captured in gillnet and trawl gear (Waring *et al.* 2006).

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

Porpoise TRP 2007). The Harbor Porpoise Take Reduction Team is currently developing options to reduce takes.

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.* 2006). 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.* 2006). 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.* 2006). All four species of seals are known to be captured in gillnet and/or trawl gear (Waring *et al.* 2006).

4.1.3 Status of bycatch species

Information about the absolute level of bycatch species in the directed monkfish fishery is not available, according to the EIS for Amendment 2. Nevertheless, Amendment 2 stated that winter skates and dogfish are the predominant species discarded in the NFMA monkfish fisheries, while winter and thorny skates, as well as dogfish are discarded in the SFMA. The status of these three species is summarized below:

- **Winter skate** – overfished, overfishing is not occurring
- **Thorny skate** – overfished, overfishing is not occurring,
- **Spiny dogfish** – no biomass target adopted in the FMP. but there is an approved minimum biomass threshold under which the stock would be considered not overfished, and overfishing is not occurring.

4.2 Physical Environment

The following sections summarize the physical environment of the monkfish fishery. A full description of the physical environment is provided in Section 5.2 of the FSEIS prepared for Amendment 2 to the FMP. The NFMA comprises the Gulf of Maine and most of Georges Bank, while the SFMA extends from the southern edge of Georges Bank through the Mid-Atlantic Bight (see Figure 1). As noted in the following discussion, the NFMA has a diverse physical geography consisting of shoal areas on Georges Bank and numerous rocky banks and basins of the Gulf of Maine, reflecting the influence of glaciation and post-glacial rise of sea level. The SFMA is characterized by the predominantly sandy continental shelf, and 12 deep-water canyons along the edge of the shelf.

4.2.1 Gulf of Maine

The Gulf of Maine (GOM) is characterized by a system of deep basins, moraines and rocky protrusions with limited access to the open ocean. The GOM is topographically unlike any other part of the continental border along the U.S. Atlantic coast. The GOM's geologic features, when coupled with the vertical variation in water properties, result in a great diversity of habitat types. It contains twenty-one distinct basins separated by ridges, banks, and swells.

Bedrock is the predominant substrate along the western edge of the GOM north of Cape Cod in a narrow band out to a depth of about 60 m. Rocky areas become less common with increasing depth, but some rock outcrops poke through the mud covering the deeper sea floor. Mud is the second most common substrate on the inner continental shelf. Mud predominates in coastal valleys and basins that often abruptly border rocky substrates. Many of these basins extend without interruption into deeper water. Gravel, often mixed with shell, is common adjacent to bedrock outcrops and in fractures in the rock. Large expanses of gravel are not common, but do occur near reworked glacial moraines and in areas where the seabed has been scoured by bottom currents. Gravel is most abundant at depths of 20 - 40 m, except in eastern Maine where a gravel-covered plain exists to depths of at least 100 m. Bottom currents are stronger in eastern Maine where the mean tidal range exceeds 5 m. Sandy areas are relatively rare along the inner shelf of the western GOM, but are more common south of Casco Bay, especially offshore of sandy beaches.

An intense seasonal cycle of winter cooling and turnover, springtime freshwater runoff, and summer warming influences oceanographic and biologic processes in the GOM. The Gulf has a general counterclockwise nontidal surface current that flows around its coastal margin that is primarily driven by fresh, cold Scotian Shelf water that enters over the Scotian Shelf and through the Northeast Channel, and freshwater river runoff, which is particularly important in the spring. GOM circulation and water properties can vary significantly from year to year. Notable episodic events include shelf-slope interactions such as the entrainment of shelf water by Gulf Stream rings and strong winds that can create currents as high as 1.1 m/s over Georges Bank. Warm core Gulf Stream rings can also influence upwelling and nutrient exchange on the Scotian shelf, and affect the water masses entering the GOM.

4.2.2 Georges Bank

Georges Bank is a shallow (3 - 150 m depth), elongate (161 km wide by 322 km long) extension of the continental shelf that is characterized by a steep slope on its northern edge and a broad, flat, gently sloping southern flank. The Great South Channel lies to the west. Bottom topography on eastern Georges Bank is characterized by linear ridges in the western shoal areas; a relatively smooth, gently dipping sea floor on the deeper, easternmost part; a highly energetic peak in the north with sand ridges up to 30 m high and extensive gravel pavement; and steeper and smoother topography incised by submarine canyons on the southeastern margin. The central region of the Bank is shallow, and the bottom is characterized by shoals and troughs, with sand dunes superimposed upon them. The area west of the Great South Channel, known as Nantucket Shoals, is similar in nature to the central region of the Bank. The Great South Channel separates the main part of Georges Bank from Nantucket Shoals. Sediments in this region include gravel pavement and mounds, some scattered boulders, sand with storm generated ripples, and scattered shell and mussel beds.

Oceanographic frontal systems separate water masses of the GOM and Georges Bank from oceanic waters south of the Bank. These water masses differ in temperature, salinity, nutrient concentration, and planktonic communities, which influence productivity and may influence fish abundance and distribution. Currents on Georges Bank include a weak, persistent clockwise gyre around the Bank, a strong semidiurnal tidal flow predominantly northwest and southeast,

and very strong, intermittent storm induced currents, which all can occur simultaneously. Tidal currents over the shallow top of Georges Bank can be very strong, and keep the waters over the Bank well mixed vertically.

4.2.3 Mid-Atlantic Bight

The Mid-Atlantic Bight includes the shelf and slope waters from Georges Bank south to Cape Hatteras, and east to the Gulf Stream. In this region, the shelf slopes gently from shore out to between 100 and 200 km offshore where it transforms to the slope (100 - 200 m water depth) at the shelf break. In both the Mid-Atlantic and on Georges Bank, numerous canyons incise the slope, and some cut up onto the shelf itself. The primary morphological features of the shelf include shelf valleys and channels, shoal massifs, scarps, and sand ridges and swales. The sediment type covering most of the shelf in the Mid-Atlantic Bight is sand, with some relatively small, localized areas of sand-shell and sand-gravel. On the slope, silty sand, silt, and clay predominate.

Sediments are uniformly distributed over the shelf in this region. A sheet of sand and gravel varying in thickness from 0 - 10 m covers most of the shelf. The sands are mostly medium to coarse grains, with finer sand in the Hudson Shelf Valley and on the outer shelf. Mud is rare over most of the shelf, but is common in the Hudson Shelf Valley. Occasionally relic estuarine mud deposits are re-exposed in the swales between sand ridges. Fine sediment content increases rapidly at the shelf break, which is sometimes called the “mud line,” and sediments are 70 - 100% fines on the slope.

The northern portion of the Mid-Atlantic Bight is sometimes referred to as southern New England. Most of this area was discussed under Georges Bank; however, one other formation of this region deserves note. The mud patch is located just southwest of Nantucket Shoals and southeast of Long Island and Rhode Island. Tidal currents in this area slow significantly, which allows silts and clays to settle out. The mud is mixed with sand, and is occasionally re-suspended by large storms. This habitat is an anomaly of the outer continental shelf.

Shelf and slope waters of the Mid-Atlantic Bight have a slow southwestward flow that is occasionally interrupted by warm core rings or meanders from the Gulf Stream. On average, shelf water moves parallel to bathymetry isobars at speeds of 5 - 10 cm/s at the surface and 2 cm/s or less at the bottom. Storm events can cause much more energetic variations in flow. Tidal currents on the inner shelf have a higher flow rate of 20 cm/s that increases to 100 cm/s near inlets.

Slope water tends to be warmer than shelf water because of its proximity to the Gulf Stream, and tends to be more saline. The abrupt gradient where these two water masses meet is called the shelf-slope front. The position of the front is highly variable, and can be influenced by many physical factors. Vertical structure of temperature and salinity within the front can develop complex patterns because of the interleaving of shelf and slope waters; e.g., cold shelf waters can protrude offshore, or warmer slope water can intrude up onto the shelf.

The seasonal effects of warming and cooling increase in shallower, nearshore waters. Stratification of the water column occurs over the shelf and the top layer of slope water during

the spring-summer and is usually established by early June. Fall mixing results in homogenous shelf and upper slope waters by October in most years. A permanent thermocline exists in slope waters from 200 - 600 m deep where temperatures decrease at the rate of about 0.02°C per meter and remain relatively constant except for occasional incursions of Gulf stream eddies or meanders. A warm, mixed layer approximately 40 m thick resides above the permanent thermocline.

4.3 Habitat Requirements and Gear Effects Evaluation

4.3.1 Monkfish Habitat Requirements and Essential Fish Habitat

Section 5.1 of the FSEIS to Amendment 2 described benthic habitats that exist within the range of the monkfish fishery biological characteristics of regional systems, and assemblages of fish and benthic organisms. It also included a description of canyon habitats on the edge of the continental shelf. The EFH text descriptions and map designations for the various life stages of monkfish were defined in the Habitat Omnibus Amendment (1998). The following paragraphs and maps, excerpted from the Habitat Omnibus Amendment, describe the environmental needs and natural distribution of Monkfish. For more information on Monkfish EFH refer the Habitat Omnibus Amendment (1998). Note that figures 4.1 and 4.2 (EFH for eggs and larvae) referenced in the following excerpt are not shown, and an additional figure is added, showing combined adult and juvenile monkfish EFH designations. Figure 2 shows the areas designated as EFH for juvenile monkfish (corresponding to Figure 4.3 in the excerpt), Figure 3 shows EFH designated for adult monkfish (Figure 4.4 in the excerpt), and Figure 4 shows the combined areas designated as monkfish EFH.

*Essential Fish Habitat Description
Monkfish (*Lophius americanus*)*

In its Report to Congress: Status of the Fisheries of the United States (September 1997), NMFS determined monkfish is currently overfished. This determination is based on an assessment of stock size. Essential Fish Habitat for monkfish is described as those areas of the coastal and offshore waters (out to the offshore U.S. boundary of the exclusive economic zone) that are designated on Figures 4.1 - 4.4 and meet the following conditions:

Eggs: *Surface waters of the Gulf of Maine, Georges Bank, southern New England, and the middle Atlantic south to Cape Hatteras, North Carolina as depicted in Figure 4.1. Generally, the following conditions exist where monkfish egg veils are found: sea surface temperatures below 18° C and water depths from 15 - 1000 meters. Monkfish egg veils are most often observed during the months from March to September.*

Larvae: *Pelagic waters of the Gulf of Maine, Georges Bank, southern New England and the middle Atlantic south to Cape Hatteras, North Carolina as depicted in Figure 4.2. Generally, the following conditions exist where monkfish larvae are found: water temperatures 15° C and water depths from 25 - 1000 meters. Monkfish larvae are most often observed during the months from March to September.*

Juveniles: *Bottom habitats with substrates of a sand-shell mix, algae covered rocks, hard sand, pebbly gravel, or mud along the outer continental shelf in the middle Atlantic, the mid-shelf off southern New England, and all areas of the Gulf of Maine as depicted in Figure 4.3. Generally, the following conditions exist where monkfish juveniles are found: water temperatures below 13° C, depths from 25 - 200 meters, and a salinity range from 29.9 - 36.7‰.*

Adults: *Bottom habitats with substrates of a sand-shell mix, algae covered rocks, hard sand, pebbly gravel, or mud along the outer continental shelf in the middle Atlantic, the mid-shelf off southern New England, along the outer perimeter of Georges Bank and all areas of the Gulf of Maine as depicted in Figure 4.4. Generally, the following conditions exist where monkfish adults are found: water temperatures below 15° C, depths from 25 - 200 meters, and a salinity range from 29.9 - 36.7‰.*

Spawning Adults: *Bottom habitats with substrates of a sand-shell mix, algae covered rocks, hard sand, pebbly gravel, or mud along the outer continental shelf in the middle Atlantic, the mid-shelf off southern New England, along the outer perimeter of Georges Bank and all areas of the Gulf of Maine as depicted in Figure 4.4. Generally, the following conditions exist where spawning monkfish adults are found: water temperatures below 13° C, depths from 25 - 200 meters, and a salinity range from 29.9 - 36.7‰. Monkfish are observed spawning most often during the months from February to August.*

The Council acknowledges potential seasonal and spatial variability of the conditions generally associated with this species.

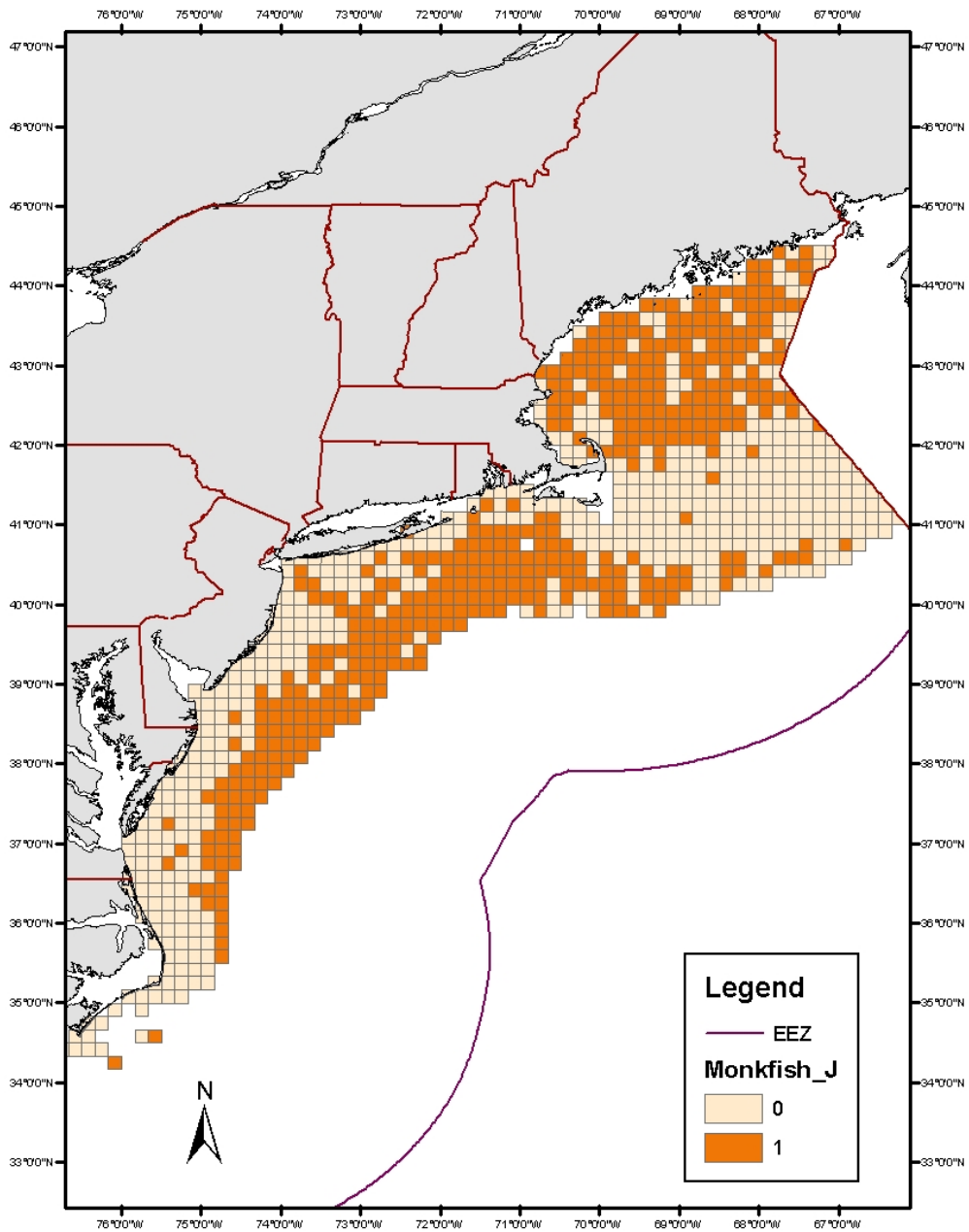


Figure 2 – EFH Designation for Juvenile Monkfish is highlighted in the shaded ten-minute squares

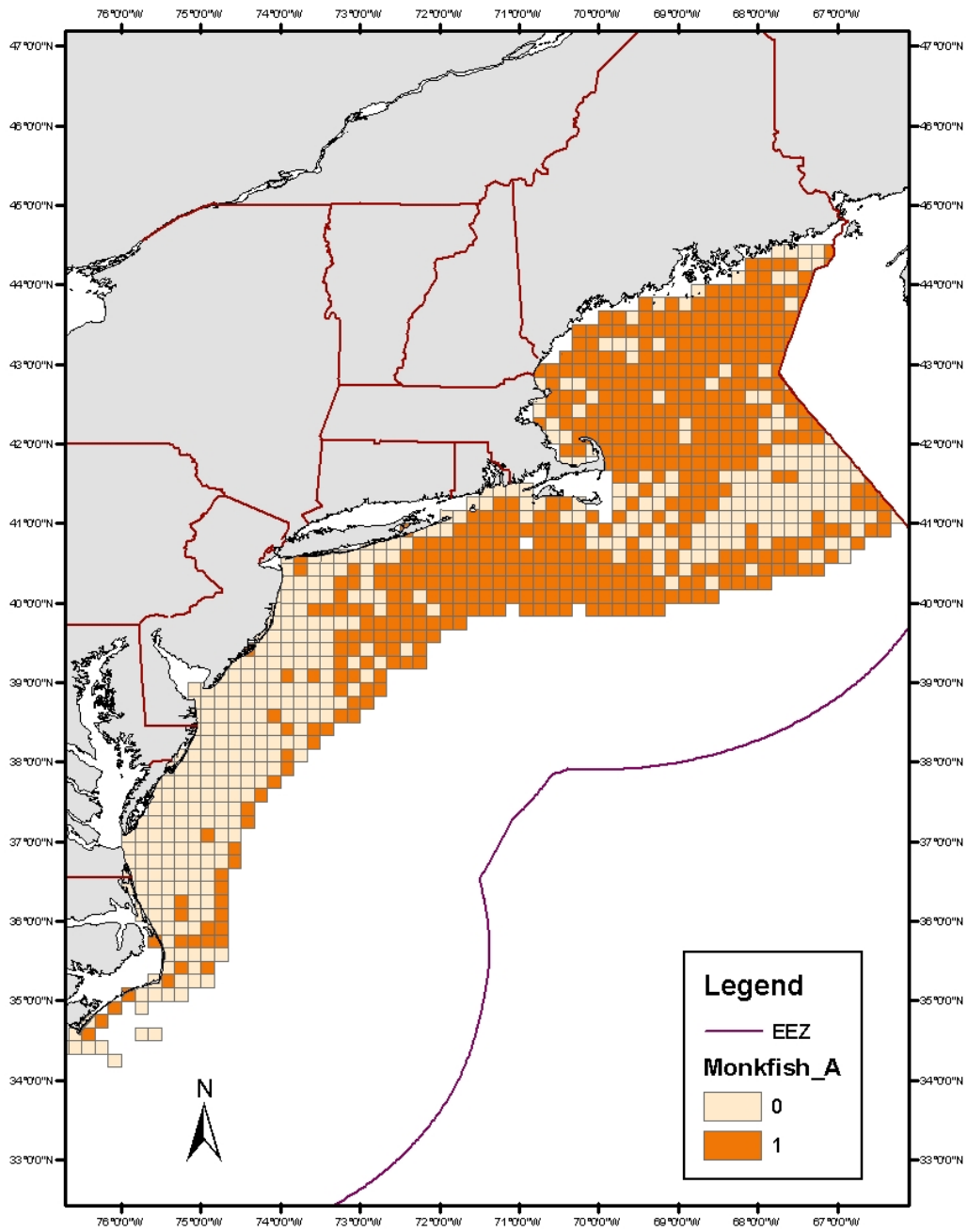


Figure 3 – EFH Designations for Adult Monkfish is highlighted in the shaded ten-minute squares

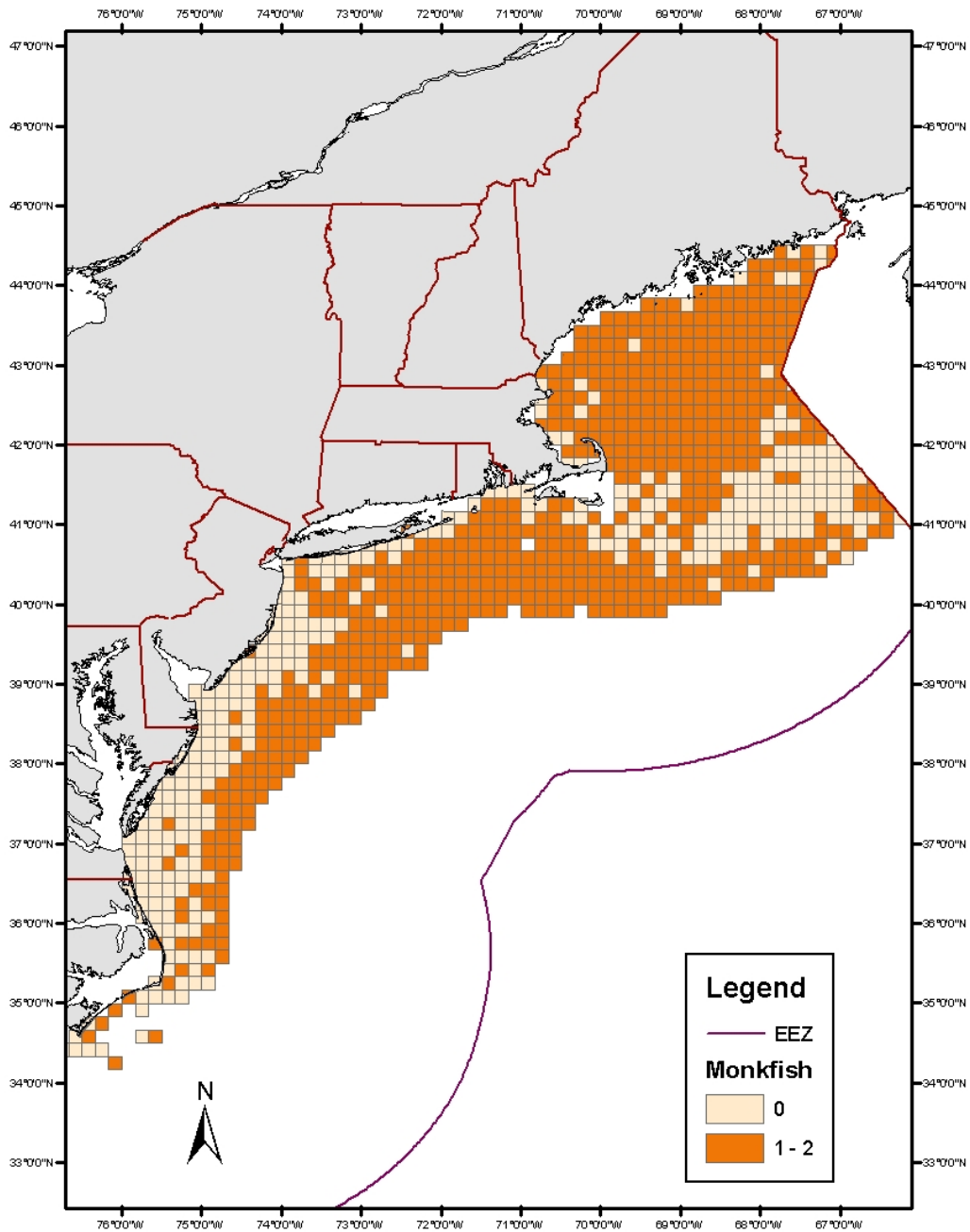


Figure 4 – EFH Designation for both Juvenile and Adult Monkfish combined is highlighted in the shaded ten-minute squares

4.3.2 Effects of fishing gear on monkfish Essential Fish Habitat (EFH)

Section 5.4 of the FSEIS to Amendment 2 evaluated the potential adverse effects of gears used in the directed monkfish fishery on EFH for monkfish and other federally-managed species and the effects of fishing activities regulated under other federal FMPs on monkfish EFH. The evaluation considered the effects of each activity on each type of habitat found within EFH. The two gears used in the directed monkfish fishery are bottom trawls and bottom gill nets which are described in detail in Section 1.2.1 of Appendix 2 to Amendment 2 to the Monkfish FMP. Generally, otter trawls are towed at speeds of 2-3 knots over the bottom and the trawl doors and footrope contact the benthic environment. Conversely, while sink gill nets are deployed on the ocean bottom, they are stationary or static, anchored at each end and left in place for varying periods of time.

Monkfish EFH has been determined to only be minimally vulnerable to bottom-tending mobile gear (bottom trawls and dredges) and bottom gillnets (see Appendix II of Amendment 2 FSEIS). Therefore, the effects of the monkfish fishery and other fisheries on monkfish EFH do not require any management action. However, the monkfish trawl fishery does have more than a minimal and temporary impact on EFH for a number of other demersal species in the region. Adverse impacts that were more than minimal and not temporary in nature were identified for the following species and life stages, based on an evaluation of species life history and habitat requirements and the spatial distributions and impacts of bottom otter trawls in the region (Stevenson *et al.*, in press):

Species and life stages with EFH more than minimally vulnerable to otter trawl gear (42):

American plaice (Juvenile (J), Adult (A)), Atlantic cod (J, A), Atlantic halibut (J, A), haddock (J, A), pollock (A), ocean pout (E, 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), 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).

There are no species or life stages for which EFH is more than minimally vulnerable to bottom gill nets (Stevenson *et al.*, 2004).

In Amendment 13 to the Multispecies FMP and Amendment 10 to the Scallop FMP, the New England Council implemented a range of measures to minimize the impacts of bottom trawling in the Gulf of Maine, George's Bank and Southern New England. In addition to the significant reductions in DAS and some gear modifications, in Amendment 13 the Council closed 2,811 square nautical miles to bottom-tending mobile fishing gear (known as Habitat Closed Areas). Because the monkfish fishery overlaps significantly with the groundfish fishery in the NFMA and the habitat closed areas extend into the SFMA, 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 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 fishery. 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. These two canyon areas are outside the range of the multispecies and scallop fisheries, but could be areas in which, or adjacent to where deep-water monkfish fisheries occur.

4.4 Human Environment, Vessels, Ports and Communities

This section updates landings information contained in the annual SAFE Report for the Monkfish FMP which was provided in Section 4.4 of Framework 5 for FY2006, the most recent complete fishing year. The other information presented in the SAFE Report is unchanged and is not repeated here.

4.4.1 Landings

In response to concerns of industry and Council members regarding the backstop provision being addressed in this framework adjustment, NMFS initiated a program in the fall of 2007 to monitor monkfish landings on a more near-real-time basis than previously. Prior to this program, landings data were available following the auditing and pro-rating of data (using from Vessel Trip Reports (VTRs) to assign dealer-reported landings to the appropriate management area), which resulted in a two-month lag, more or less. Under the new procedure, landings have been allocated to the northern and southern fishery management areas using the proportion of monkfish landed by month and area from VTRs for the current year, when available, and using prior years' distribution when not. For the months of May-January, proportions from FY2007 have been used. Due to the reporting requirements associated with VTRs, proportions to allocate landings to fishery management areas for February-March have been calculated using VTRs from the appropriate months in FY2005 and FY2006. As a result, landings by management area are subject to change due to updates in dealer reports and/or annual changes in landings patterns. The FY2007 Total Allowable Landing allowances are 5,000 mt for the NFMA, and 5,100 mt for the SFMA. Total landings shown in Table 3 and Figure 5 show coastwide dealer-reported landings through **March 29, 2008**.

Month	Total landings (live lbs)	NFMA landings (Prorated estimate of live lbs)	SFMA landings (Prorated estimate of live lbs)	NFMA landings (Prorated estimate of mt)	SFMA landings (Prorated estimate of mt)
May-07	3,140,434	513,041	2,627,393	233	1,192
June-07	2,750,038	921,240	1,828,798	418	830
July-07	2,065,688	1,174,607	891,081	533	404
August-07	1,734,674	1,051,521	683,153	477	310
September-07	1,533,434	1,014,935	518,499	460	235
October-07	2,059,517	1,111,345	948,172	504	430
November-07	2,618,573	761,030	1,857,543	345	843
December-07	2,905,131	856,272	2,048,859	388	929
January-08	2,429,748	996,018	1,433,730	452	650
February-08	1,984,516	1,211,058	773,458	549	351
March-08	1,266,417	788,217	478,200	358	217
Totals (prorated estimate)	24,488,170	10,399,284	14,088,886	4,717	6,391
Area TAL		11,023,115	11,243,577	5,000	5,100
Percent of quota		94%	125%	94%	125%

Table 3 Monkfish landings, by area, FY2007 through March 29, 2008

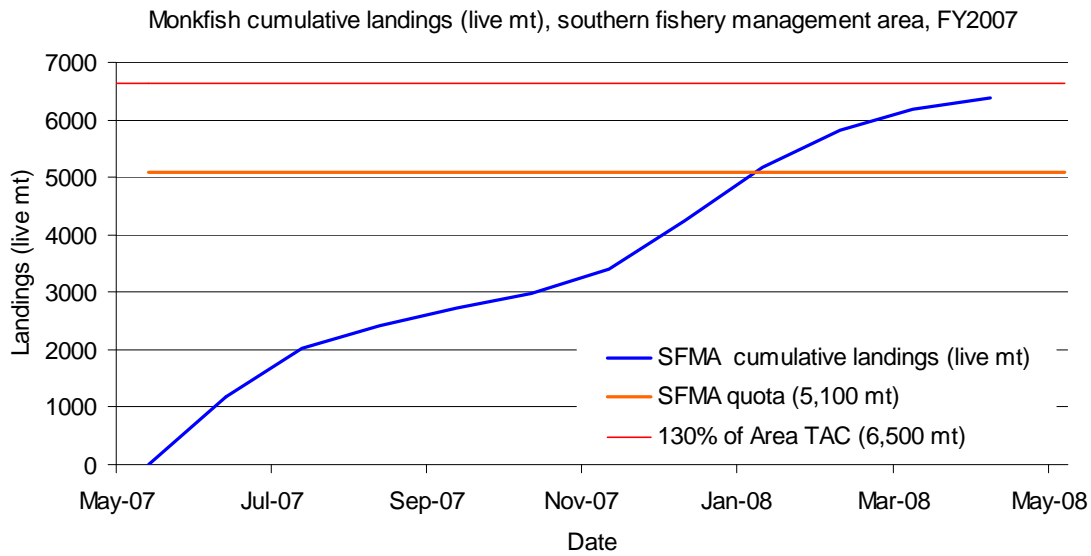
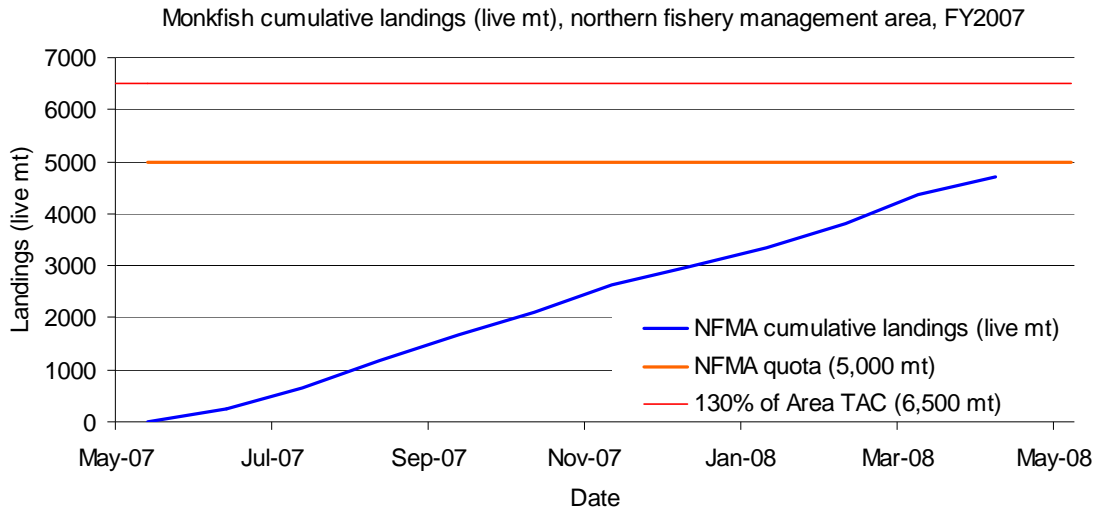


Figure 5 Cumulative monkfish landings by area, FY2007 through March 29, 2008, showing TTAC and 130% of TTAC (where the Framework 4 backstop provision would call for a closure in FY2009).

5.0 Environmental Consequences of Proposed Action

5.1 Biological Impacts

5.1.1 Impact on monkfish and non-target species

To evaluate the impact of the proposed action, compared to no action, the PDT used the same model that was used by the DPWG to evaluate the effect of landings for 2007-2009 being equivalent to the proposed TTACs on stock growth, but applied a higher level of catch. The PDT applied the SCALE model adopted by the DPWG (NEFSC 2007) to estimate for 2007-2009 the influence of an assumed catch of 7,236 mt (6,500 mt landings, 485mt discards, 251mt foreign) in the NFMA and 8,529mt (6,630 landings, 1899mt discards) in the SFMA. These levels represent a 30% overage of the annual TTAC in each area (TTAC=5,000mt NFMA, 5,100mt SFMA). The PDT believes this is a reasonable estimate of full year SFMA FY2007 landings, given that fishing year landings (year starting May 1, 2007) for the area estimated by NMFS through March 29 are approximately 6,391 mt, and that April traditionally accounts for 5-7% of the annual total. The assumed catch for the NFMA is likely a high estimate, given that landings through March 29 are estimated to be about 4,717 mt. Thus, the projection for the NFMA would represent a “worst case” scenario. The discards for 2007-2009 were estimated using average discard to kept ratios for each area for 2004-2006 and the foreign landings for 2007-2009 were estimated as the average of the most recent 3 years (2001-2003). It should be noted that the analysis was performed using the higher catch for all three years, and that measures were adopted in Framework 5 to take effect in FY2008 that are intended to ensure that the landings do not exceed the TTAC.

As shown in Figure 6, total biomass continues to increase under these catch levels, though at a slower rate than projected if TTACs were met (NEFSC 2007). In the north, the total biomass increases approximately 18% from 2006 to 2009, compared to 21% if TTACS were met. This represents a ~15% decline in the rate of increase. In the south, the total biomass increases approximately 14% from 2006 to 2009, compared to 17% if TTACS were met. This represents a ~19% decline in the rate of increase. In both regions, the projected total biomass remains above target biomass levels (Figure 7).

In terms of biological impacts on non-target species, compared to the no action alternative, the proposed action is not expected to have significant impacts, and may have slightly positive impacts since it would defer any potential redirection of effort to other fisheries that otherwise would occur if the backstop restrictions, including a possible closure of the directed fishery, were imposed. Earlier analyses of incidental catch of other non-target species in the monkfish fishery, suggests that bycatch is relatively low due to the large mesh used, particularly in the gillnet component in the SFMA. Thus, maintaining the directed fishery in FY2009 (under the proposed action) will not likely cause any increase in incidental catch of non-target species over levels already anticipated and discussed in Framework 4 and other prior analyses.

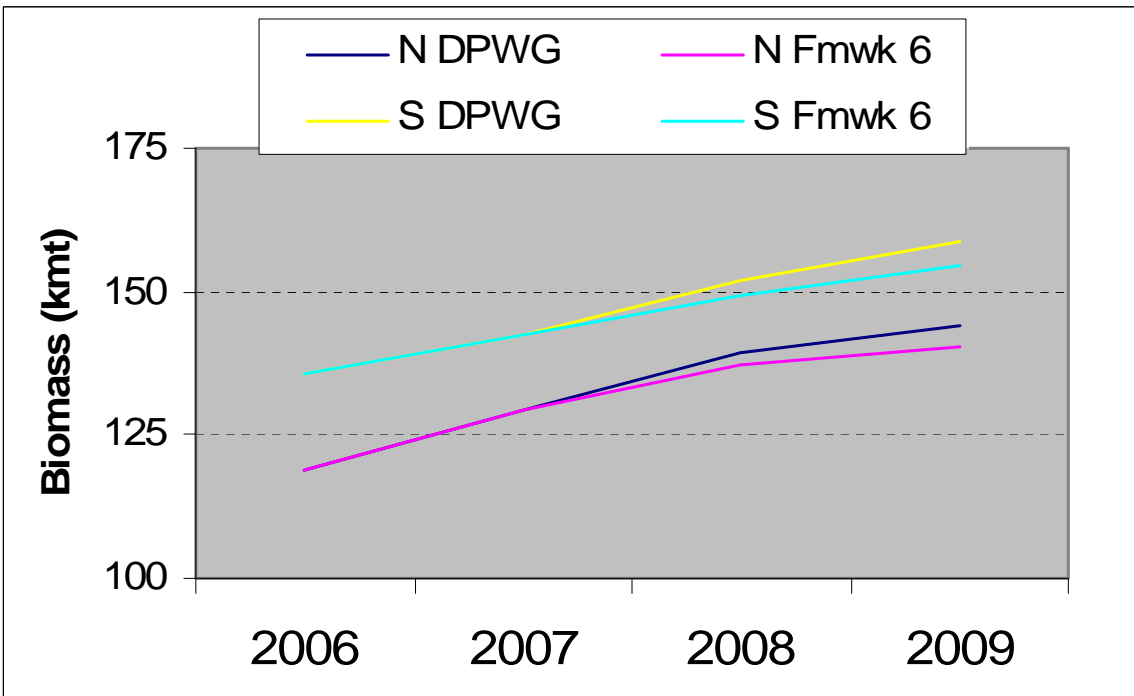
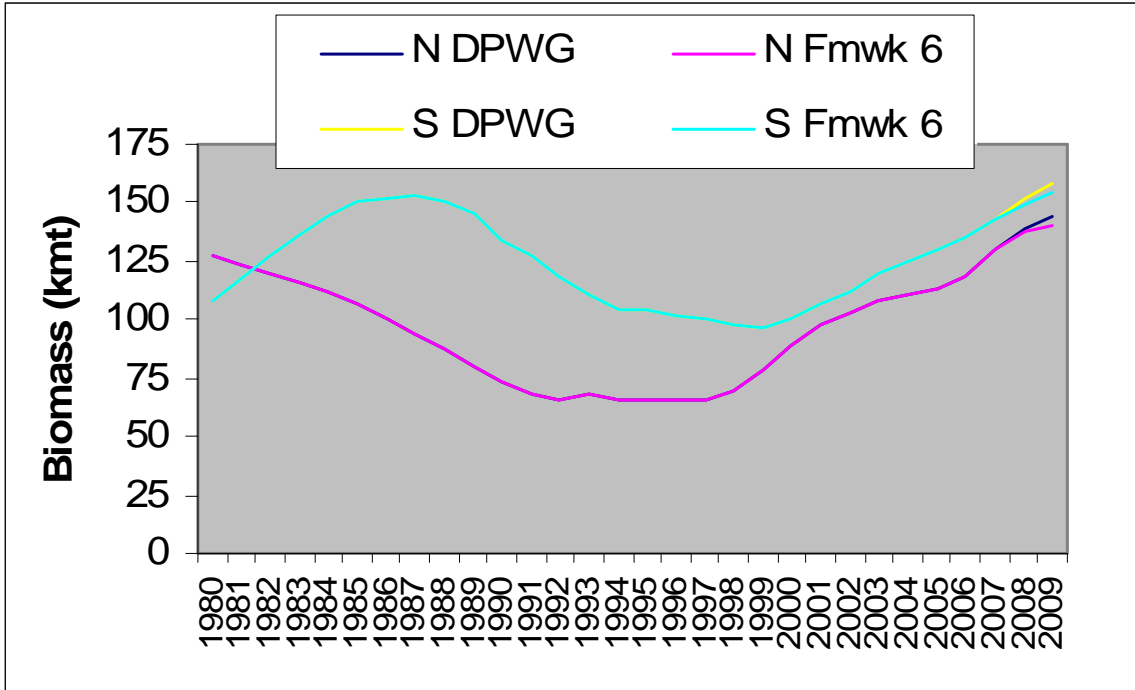


Figure 6 Monkfish trends in total biomass projected to 2009 under TTACs (DPWG) and under 30% overages to the TTACS (Fmwk 6). N=northern management area, S=southern management area.

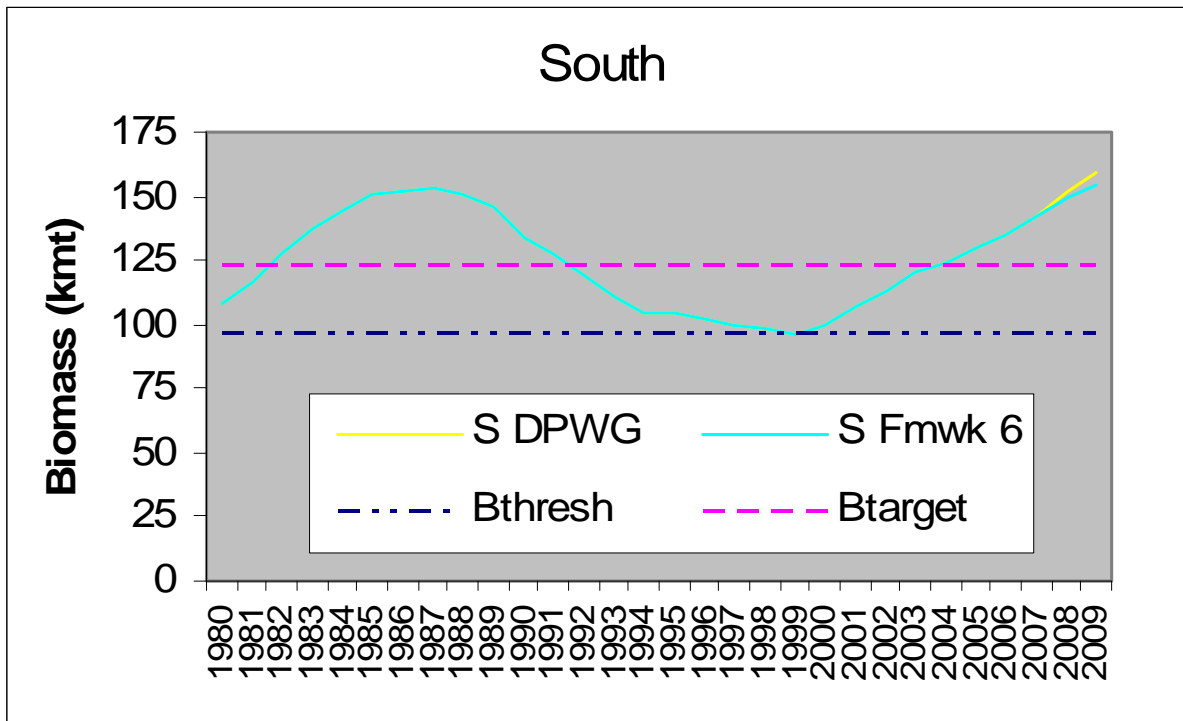
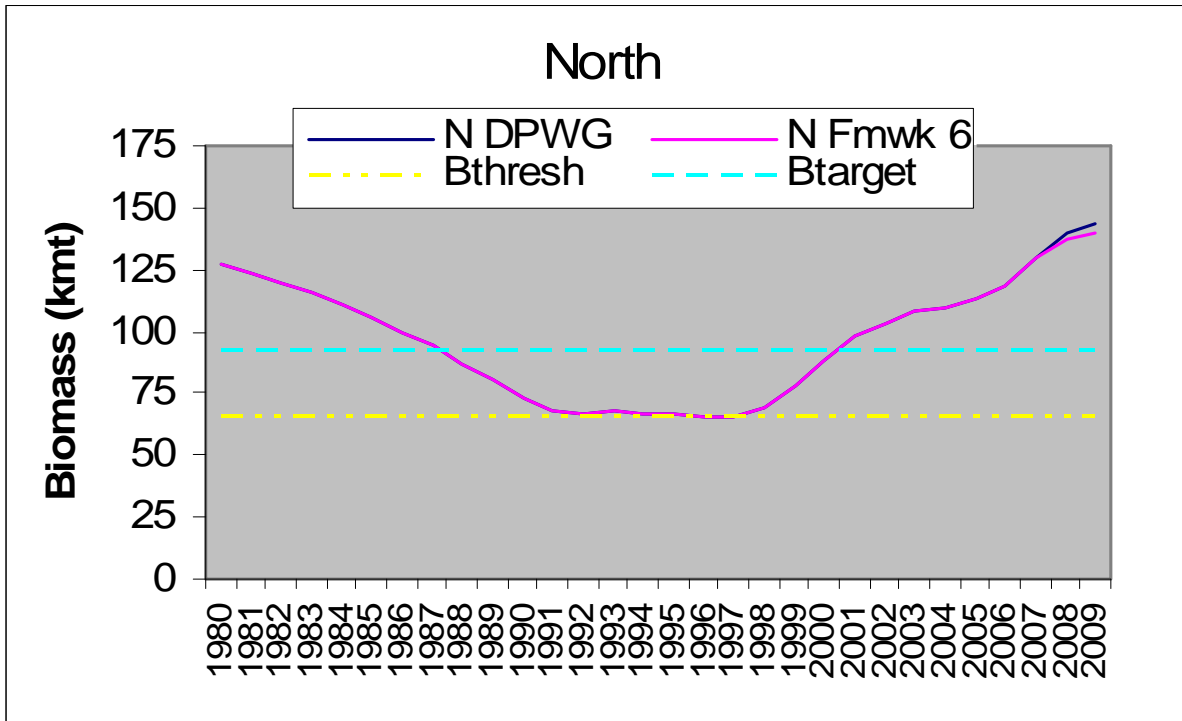


Figure 7 Monkfish trends in total biomass projected to 2009 under TTACs (DPWG) and under 30% overages to the TTACS (Fmwk 6) compared to biomass reference levels for NFMA and SFMA. N=northern management area, S=southern management area.

5.1.2 Impact on Protected Species

NMFS previously considered the effects of implementation of Framework 2 on ESA-listed cetaceans, sea turtles, shortnose sturgeon, and Atlantic salmon during Section 7 consultation on the fishery, which was completed on April 14, 2003. The Biological Opinion for that consultation concluded that the proposed action was not likely to result in jeopardy to any ESA-listed species inhabiting the management unit. A revised Incidental Take Statement was provided for the anticipated taking of loggerhead, leatherback, green, and Kemp's ridley sea turtles in the fishery. Reasonable and prudent measures to reduce the likelihood of takes were also provided to address the possible entanglement of sea turtles in the fishery.

5.1.2.1 Impact of proposed action

The proposed action, to eliminate the backstop provision that would likely result in a one-year closure of the directed monkfish fishery in the SFMA in FY2009, will not change the overall effect of the fishery on protected species because it would not change the effort that was already analyzed and discussed in Framework 4. Furthermore, measures implemented under Framework 5 may reduce effort marginally as part of the program to ensure that landings do not exceed the TTAC, specifically eliminating the 3-hour rule and reducing carryover DAS.

5.1.2.2 Impact of no action

The no action alternative will likely result in a one-year closure of the directed fishery in the SFMA in FY2009 based on landings to date. Despite the fact that the predominant gear that would be affected by the closure is sink gillnet gear, vessels that are displaced by the closure are not prevented from deploying gillnets in other fisheries, and, from an economic point of view, have a motivation to do so to maintain a revenue stream over the course of the year. Furthermore, since this is only a one-year closure, any benefit to protected species that might result, would be short-term.

5.2 Habitat Impacts

In general, the activity described by this proposed action, fishing for monkfish, occurs off the New England and Mid-Atlantic coasts within the U.S. EEZ. Thus, the range of this activity occurs across the designated EFH of all Council-managed species. Information on EFH in the northeast region can be found at www.nero.noaa.gov/hcd/index.html#efh. EFH designated for species managed under the Secretarial Highly Migratory Species FMPs are not affected by this action, nor is any EFH designated for species managed by the South Atlantic Council as all of the relevant species are pelagic and not directly affected by benthic habitat impacts.

5.2.1 Impact of the proposed action

The alternative under consideration in this action will not increase monkfish effort in either management area over the baseline level already discussed and analyzed in Framework 4, which set the DAS allocations for FY2007-2009. Specifically, the alternative under consideration would eliminate the backstop provision that would reduce or eliminate monkfish DAS in either management area in FY2009 if the TTAC in FY2007 is exceeded. The overall effect of the fishery on EFH was discussed and mitigated for in Amendment 2, and in NE Multispecies Amendment 13. There have been no significant changes in the fishery that would adversely impact EFH since 2004 when the habitat effects of this fishery were evaluated. The fishery must continue to respect the 2,811 square nautical miles of habitat closed areas established by NE

Multispecies Amendment 13 as well as the Oceanographer and Lydonia Canyon closures adopted in Monkfish Amendment 2. Monkfish fishing effort will continue to occur in areas that are already open to bottom tending mobile gears or by gears that have been determined to not adversely impact EFH in a manner that is more than minimal and not temporary in nature (i.e., gillnet gear). Therefore, the alternatives under consideration will not have an adverse impact on EFH.

5.2.2 Impact of no action

The no action alternative would retain the TTAC backstop provision implemented in Framework 4. Based on landings data to date, the backstop provision will not likely be invoked in the NFMA, and will likely result in a closure of the directed fishery in the SFMA in FY2009. Given that the predominant gear used in the SFMA is gillnets, and that the closure would only be in effect for one year, the proposed action is not likely to have any effect of EFH of monkfish or other managed species. This is because there are no species or life stages for which EFH is more than minimally vulnerable to bottom gillnets (Stevenson *et al.*, 2004).

In summary, for the reasons stated above, the action proposed in this framework adjustment would not have an adverse impact on EFH for any federally managed species in the region. Because the EFH Final Rule (50 CFR 600.920 (e)(1-5)) states that “federal agencies are not required to provide NMFS with assessments regarding actions that they have determined would not adversely affect EFH”, no EFH Assessment is provided for this action.

5.3 Economic Impacts of the Alternatives

The proposed management change is a single measure that could have a short-term positive impact, relative to the status quo, on limited access vessels participating in the monkfish fishery in FY2009. The following section provides a discussion of potential impacts from this measure; where possible a quantitative analysis is provide with an estimate of the number of affected vessels, however some of the discussion remains qualitative due to data and model limitations.

The overall framework for economic analysis is change in benefits and costs, and ultimately net national benefits. While an alternative may result in immediate costs or benefits to a particular group of vessels, this must be compared to the future net benefits to the nation of a well-functioning plan. The anticipation is that should the plan achieve its objectives, future net benefits would be at higher sustained levels. Actions that delay the achievement of plan objectives reduce net national benefits by delaying the achievement of higher future benefits. Actions that have an immediate cost or benefit without delaying the expected net benefits from the plan can be considered from a short-term perspective. Biological modeling indicates that the longer-term trajectory of the stock would not be affected by harvest levels anticipated under the proposed measure, and thus, the proposed action is not anticipated to have an impact on longer-term net benefits anticipated from the overall plan.

5.3.1 Removal of FW4 Backstop Measure

The proposed measure would remove the TTAC overage backstop measure created under Framework 4. The backstop measure defines effort reduction measures for FY2009 based on the level of TTAC overage in FY2007. Specifically, if FY2007 landings in an area (NFMA or SFMA) exceed the TTAC by 10% or less, no action is necessary. If FY2007 landings for an area

exceeded the TTAC by more than 10% and up to 30% of the TTAC, the FY2009 DAS allocation for that area would be recalculated using FY2007 data to bring landings within the TTAC. If FY2007 landings for an area were more than 30% above the TTAC, the directed fishery for that area would close for FY2009 only. The proposed measure would remove the backstop provision so that no matter the level by which the fishery exceeds the TTAC in FY2007 there would be no repercussions in FY2009. This measure is proposed under the premise that monkfish is not overfished and overfishing is not occurring as indicated by the DPWG assessment in August 2007, and as defined by the Biological Reference Points (BRP) adopted in Framework 5.

5.3.1.1 Methods and Assumptions

For the proposed measure, the near-term impacts are measured as costs avoided which can be considered benefits relative to the status quo. Under the status quo (backstop) there would be costs to fishers from a reduction in effort in FY2009, should FY2007 landings trigger the backstop provision. Given that FY2007 is not yet complete, it is uncertain which backstop actions would be most appropriate to model the status quo. However, we can determine which are most likely, given monkfish landings to date. Based on data to March 29, 2008 landings from the NFMA were 94% of the FY2007 TTAC while landings from the SFMA were 125% of the TTAC. Historically, approximately 5-7% of the monkfish landings have occurred in the last month of the fishing year (April). Assuming a similar pattern for the remainder of FY2007, this would result in landings for the NFMA at 100% of the TTAC; thus, the NFMA is unlikely to trigger the backstop. Should the pattern hold for the SFMA, landings in the SFMA would reach 130% of the TTAC; thus, the SFMA is likely to trigger the higher level of the backstop (i.e. closure of directed fishery). Based on the above information, the status quo for FY2009 is defined as no action for the NFMA, and a closure of the directed fishery in the SFMA in FY2009.¹ Under a closure in the directed fishery, DAS and trip limits are set to zero, with only incidental landings allowed.

To estimate the impact of the proposed measure, the (economic) trip model was used, which was also used in Framework 4 and previous annual adjustments. Impacts are measured relative to the baseline scenario and are reported as percentage changes rather than as dollar values. The trip model estimates average changes in per-trip vessel returns net of operating costs and crew payments, as well as changes in monkfish revenue. The analysis uses data from observed trips to simulate outcomes under alternative trip limits and DAS allocations. The trip data is compiled from FY 2006 vessel trip reports and dealer weighout slips, with the former providing catch and location data and the latter providing average monthly prices, which are used to calculate revenue estimates.

Impacts based on changes in trip limits and DAS allocations are amenable to analysis when moving from higher to lower limits. In FY 2006 trip limits² and DAS are the same or higher than those for FY2009 under either the status quo or proposed action. Therefore, this data can be used to analyze the economic effects of the proposed change. The effect was evaluated based on a

¹ While the intermediate case of changes in trip limits and DAS allocation unlikely, especially for the SFMA, the lack of FY2007 data makes modeling this scenario infeasible. Under Framework 4, there were significant modifications to DAS and trip limits, which came into effect for FY2007. Fishers' behavioral responses to these changes would be a key component to the trip limit modeling efforts to bring FY2009 landings closer to the TAC.

² Trip limits include those for the directed fishery, as well as incidental trip limits.

comparison of the expected return for alternative trip-taking strategies. A vessel may abandon a trip if the trip limit causes earnings to fall below zero, they may continue to fish while discarding any monkfish above the trip limit, or they may fish up to the trip limit and then return to port. Assuming that a trip is taken, vessels may choose to continue fishing while discarding monkfish over the trip limit so long as the revenue earned from other species offsets the costs of fishing. Trips where other species make up a relatively small portion of the trip revenue may lead to trips being discontinued when the trip limit is reached, since the cost of continued fishing would exceed the additional revenue.

For the purpose of this analysis, it is assumed that if vessels took trips in both the NFMA and SFMA, these vessels are indifferent between taking a trip in either area. Rather they will choose to take the trip that maximizes net trip revenue. To model this assumption, all trips taken by limited access monkfish permit holders landing monkfish were ordered by descending revenue for each vessel. Each trip is then analyzed as follows. If the total monkfish landed is less than or equal to the incidental trip limit, or the relevant monkfish management area DAS limit has not been reached, then the trip is unchanged. If the DAS limit has been reached, then the monkfish catch is reduced to the relevant incidental catch limit and the appropriate strategy for the vessel (i.e., ending the trip or continuing to fish while discarding any additional monkfish catch) is determined along with the return (in terms of revenue) from the strategy. If the DAS limit has not been reached and the monkfish catch is greater than the incidental limit, then the monkfish catch is reduced to the relevant trip limit and the vessel's revenue maximizing strategy and resulting return is determined. Table 4 illustrates the assumptions regarding incidental landings, trip limits and DAS under the status quo and proposed action alternatives.

	Status Quo	Proposed Action
NFMA		
Incidental limit (per day absent)	300	300
Trip limit AC (tail weight)	1250	1250
Trip limit BD (tail weight)	470	470
DAS	31	31
SFMA		
Incidental limit (per day absent/max per trip)	50/150	50/150
Trip limit ACG (tail weight)	0	550
Trip limit BDH (tail weight)	0	450
DAS	0	23

Table 4 Trip limits and DAS levels used in trip model to estimate impacts.

The relative change in net return to the vessel was estimated by calculating the average per-trip returns to the vessel owner under the two scenarios, based on FY2006 data. These returns take into account operating costs, which were estimated using trip cost data collected on observer logs in FY2006. Trips landing monkfish during FY2006 in the NFMA and SFMA were identified, and the total trip cost was estimated as using a regression of the logarithm of trip cost against the logarithms of days absent, the number of crew, and a dummy variable indicating if the vessel gear type is gillnet. The parameters from this regression were then used to construct estimates of trip cost and cost per day absent for all trips landing monkfish during FY2006. Returns to the vessel were calculated using a standard 60/40 lay system where 40 percent of the gross revenue

goes to the vessel and 60 percent is shared among the crew, who pay for the operating expenses for the trip. Therefore, the net to the crew is the difference between the 60 percent share and the operating costs.

A necessary assumption of the trip limit model is that fishing location decisions are unchanged under alternative rules, thus the analysis of the impacts of the proposed measure is conducted separately for vessels fishing only in the NFMA, vessels fishing only in the SFMA, and vessels fishing in both areas. In reality, this is a simplification and a limitation of the model, since vessels could change their fishing location in order to mitigate some of the negative impacts from regulations.

It should also be noted that the results are presented as the single year relative change from the estimated FY2009 baseline. The absence of the proposed measure would result in impacts in a single year (FY2009), thus the cost avoided due to the proposed action would also be for a single year (FY2009). Cumulative impacts from this action would only be applicable if removal of the backstop would result in changes in the biological trajectory of the monkfish stocks. If the proposed action shifts the fishery to overfished, or allows overfishing to occur, then a single year of impacts could have cumulative impacts that differ from the single year impacts.

5.3.1.2 Results

In the status quo scenario, the SFMA would be closed to direct fishing for monkfish in FY2009, while the NFMA would not trigger backstop measures. Under this scenario, the 153 vessels that fish only in the NFMA would not be affected by the backstop, and thus would not be affected by the proposed measure that would remove the backstop (Table 5). However, vessels that fish only in the SFMA or those that fish in both areas would be affected by the backstop actions, and thus would be impacted (positively) by the proposed measure. The changes, in percentage from the status quo, for average vessel returns, payments to crew and monkfish revenues are shown for the different groups of vessels in Table 5.

	Number	Percentage change from status quo:		
		Average change in vessel return	Average change in net payment to crew	Change in monkfish revenues
Fishing only in NFMA	153	0	0	0
Fishing only in SFMA ¹	228	+9.9	+14.0	+381.4
Fishing in NFMA and SFMA ²	231	-0.5	-1.4	-0.8

¹ One vessel had insufficient information to be included in the analysis.

² Vessels with category F permits are not included in this calculation.

Table 5 Estimated change (%) in average vessel returns, payments to crew and monkfish revenues of proposed alternative compared to no action.

For the 231 vessels that fished in both areas, the impact of removing the backstop is small. The negative change suggests that these vessels would generate larger returns with a closure of the directed fishery in the SFMA. This is largely an artifact of the model, and the small value is unlikely significant. The model results suggest that these vessels could largely offset lost

opportunities from such a closure and thus for these vessels the impact of the proposed action is generally neutral.

For the 228 vessels that fish only in the SFMA, the proposed measure would result in large, positive impacts relative to a closure of the directed fishery in the SFMA (status quo). The very large impact on monkfish revenues is indicative of increases in landings for monkfish by these vessels, suggesting indirect (positive) impacts of monkfish processors.

5.4 Social Impact Assessment for Measures under Consideration

National Standard 8 of the SFA demands that “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 economic impacts on such communities” (16 U.S.C.§1851(2)(8)). The analysis that follows provides a context for understanding possible social impacts to communities resulting from the proposed measures in this framework.

Daily routines, safety, occupational opportunities, and community infrastructure are examples of social impacts that can be affected by changes in management measures. Modifications to daily routines can make long-term planning difficult. New gear requirements such as netting and some equipment must be ordered months in advance resulting in changes to daily routines when these modifications cannot be met in a time and cost efficient manner. Further the cost of making such changes may prove to be a burden for some vessel owners. Changes in management measures that limit access to fishing may increase the likelihood of safety risks. Increased risk can result when fishermen spend longer periods at sea in order to minimize steam time to and from fishing grounds, operate with fewer crew, and fish in poor weather conditions.

Occupational opportunities within the fishing industry in general appear to be largely on the decline with more people leaving the industry than entering it. Management measures that further reduce occupational opportunities may have profound social impacts on the future occupational viability of commercial fishing. The increasing challenge to maintain economically viable fishing operations has resulted in an increasing number of fishermen leaving the fishing industry in search of other occupational pursuits. The tight fit between the unique characteristics of commercial fishing and the personality profile of fishermen has meant that many fishermen transitioning out of the industry have not found similar job satisfaction in replacement career pursuits, resulting in personal and familial stress (Pollnac and Poggie, 1988 and 2006).

While it is the intended objective of fishery management to protect fishery resources and, where practicable, provide for continued participation of communities in fishing over the long term, and minimize negative social impacts (16 U.S.C.§1851(2)(8)), changes in measures which result in long term benefits to stocks can result in short-term negative impacts to fishermen and their families which have longer term consequences (sometimes negative) for the social and cultural fabric of communities. Changes in management measures can affect the size, demographic characteristics, and social structure of communities. Port infrastructure may be also affected by the gradual loss of shore-based services essential to a strong working waterfront. Impacts that

decrease occupational opportunities within fishing communities in turn can affect fishing families and community infrastructure.

5.5 Methods

Qualitative and quantitative methods have been used to assess the relative impact of the proposed management measure outlined in this framework. The directional impact of the proposed measure was determined based on methods and analysis conducted in the economic impact section of this document using FY2006 landings data (VTR and commercial landings). In some cases the number of vessels or landings value affected is too small to constitute a reliable evaluation of community level impacts and, therefore, the discussion may focus on vessel level rather than community level impacts. While some management measures, more than others, tend to engender certain types of social impacts it is not always possible to predict social impacts accurately.

5.5.1 TTAC Overage Backstop Alternatives

The proposed action in this framework would have positive social impacts in the SFMA as it would avert a one-year disruption to fishing practices, compared to the no action alternative. Under the no action alternative, adopted in Framework 4, and based on reported landings to date, the directed monkfish fishery would close for FY2009. In regard to the closure under the no action alternative, while fishermen may have been able to adapt to such management measures in the past by redirecting their effort to other fisheries, there are now far fewer such opportunities that can compensate for losses that may be incurred by closure of the monkfish fishery, thus, putting into question whether or not fishermen, processing facilities, or shore support would be able to survive even temporary losses.

5.5.1.1 Overage Alternative 1 – Proposed Measure

This alternative would remove the TTAC backstop measure implemented through Framework 4 that would go into effect in FY 2009 if the TTAC is exceeded in FY2007. Based on landings to date, it is likely that the backstop would result in a closure of the SFMA directed fishery in FY2009, but would not result in any change in the NFMA. Under the proposed measure, no adjustment to management measures would be made if landings exceed the TTAC in either management area. Compared to the no action alternative, the social impacts in the SFMA would be positive, as there would be no disruption to fishing resulting from the backstop provision. This would allow for continuity in fishing practices and long-term planning. Social impacts would be neutral for vessels fishing both in the NFMA and SFMA and for vessels fishing only in the NFMA, as it is not likely that the backstop will be invoked, based on NFMA landings to date.

5.5.1.2 TTAC Overage Alternative 2 - No Action

This alternative was adopted in Framework 4. The backstop provision is tiered to allow for 3 possible scenarios from no action to closure of the directed monkfish fishery. Should the FY 2007 landings exceed respective TTACs the following actions would be possible: no action would be taken in either management area for landings less than or equal to 10% of TTACs; landings between >10% and 30% above TTACs would result in an adjustment to DAS; and, landings in excess of 30% of the TTAC would result in closure of the directed monkfish fishery.

Landings in the SFMA to date indicate that the TTAC will likely be exceeded by 30% or more, resulting in a closure of the directed fishery in FY2009. Such a closure would cause a one year disruption of fishing practices and long term planning, and lead to a potential loss of market share during the closure that may be difficult to recapture once the fishery is reopened in FY2010. Further, in a general climate of eroding shore based infrastructure, processing capacity at the local level could be lost during the period of closure and may be difficult to recover. Social impacts would be neutral for vessels fishing in both areas because vessels fishing in both the NFMA and SFMA have the flexibility to offset losses in the SFMA by fishing in the NFMA. Since landings to date indicate that no adjustment to DAS or a closure of the directed fishery will be necessary in the NFMA, the no action alternative is not likely to result in any social impacts in that area.

5.6 Cumulative Effects

[This section to be completed for the final submission document]

5.6.1 Introduction

5.6.2 Past, Present, and Reasonably Foreseeable Future Actions

5.6.3 Cumulative Effects on the Monkfish Fishery (target species)

5.6.4 Cumulative Effects on Non-target Species

5.6.5 Cumulative Effects on Protected Species

5.6.6 Cumulative Effects on Habitat

5.6.7 Cumulative Effects on Communities

5.6.8 Summary of Cumulative Effects

6.0 Consistency with Applicable Law

6.1 Magnuson-Stevens Act (MSA)

[This section to be completed for the final submission document]

6.1.1 National Standards

6.1.2 Required Provisions

6.1.3 EFH Assessment

6.2 National Environmental Policy Act (NEPA)

This section evaluates the proposed action in the context of NEPA, for determining the significance of federal actions, in this case the setting of annual monkfish fishery specifications.

This section to be completed for the final submission document

6.2.1 Finding of No Significant Impact (FONSI Statement)

6.3 Regulatory Impact Review and Initial Regulatory Flexibility Analysis (EO 12866 and IRFA)

This section to be completed for the final submission document

6.3.1 Determination of significance under E.O. 12866

6.3.2 Initial Regulatory Flexibility Analysis (IRFA)

The following sections contain analyses of the effect of the proposed action on small entities in accordance with Section 603(b) of the Regulatory Flexibility Act.

6.4 Endangered Species Act (ESA)

6.5 Marine Mammal Protection Act (MMPA)

6.6 Paperwork Reduction Act (PRA)

6.7 Coastal Zone Management Act (CZMA)

6.8 Data Quality Act (DQA)

6.9 Executive Order 13132 (Federalism)

6.10 Executive Order 13158 (Marine Protected Areas)

6.11 Administrative Procedure Act (APA)

7.0 References

The following list of references includes material that is not specifically cited in this framework document, but was referenced in Frameworks 4 and 5, and are provided here as background information.

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