



SEP 15 2011

To All Interested Government Agencies and Public Groups:

Under the National Environmental Policy Act (NEPA), an environmental review has been performed on the following action.

TITLE: Framework 7 to the Monkfish Fishery Management Plan, RIN 0648-BA46

LOCATION: Exclusive economic zone off the East Coast of the United States

SUMMARY: Framework 7 will specify the Northern Fishery Management Area annual catch target and corresponding management measures for the 2011 fishing year. This action also adopts revised biomass reference points for the Northern and Southern Fishery Management Areas based on the newly available scientific information to comply with the National Standard 1 Guidelines. In nearly all cases, this action is expected to have a neutral or positive impact on the human environment. The only exceptions are some potentially negative impacts on non-target species, protected species, and habitat resulting from the increased days-at-sea allocations and trip limits resulting from the increased catch targets. These adverse impacts, however, are not likely to be substantial. Thus, there are no significant social or economic impacts, nor are there any significant natural or physical environmental effects expected to result from this action.

RESPONSIBLE

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The environmental review process led us to conclude that this action will not have a significant impact on the environment. Therefore, an environmental impact statement was not prepared. A copy of the finding of no significant impact (FONSI), including the environmental assessment (EA), is enclosed for your information.

Although NOAA is not soliciting comments on this completed EA/FONSI we will consider any comments submitted that would assist us in preparing future NEPA documents. Please submit any written comments to the Responsible Official named above.

Sincerely,

Paul N. Doremus, Ph. D.
NEPA Coordinator

Enclosure



Monkfish Fishery Management Plan
Framework Adjustment 7

Incorporating
Stock Assessment and Fishery Evaluation (SAFE) Report
for the 2009 Fishing Year
and the
Environmental Assessment

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

in consultation with
NOAA National Marine Fisheries Service

May 3, 2011
Revised July 27, 2011

Acronyms and Abbreviations

ABC	Acceptable Biological Catch
ACL	Annual Catch Limit
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
APA	Administrative Procedures Act
ASMFC	Atlantic States Marine Fisheries Commission
CPUE	catch per unit of effort
DAM	Dynamic Area Management
DAS	days-at-sea
DPS	Distinct Population Segments
DPWG	Data Poor Working Group
DSEIS	Draft Supplemental Environmental Impact Statement
EA	Environmental Assessment
EEZ	exclusive economic zone
EFH	essential fish habitat
EIS	Environmental Impact Statement
ESA	Endangered Species Act
F	Fishing mortality rate
FEIS	Final Environmental Impact Statement
FMP	fishery management plan
FW	framework
FY	fishing year
GB	Georges Bank
GOM	Gulf of Maine
HAPC	habitat area of particular concern
HPTRP	Harbor Porpoise Take Reduction Plan
IFQ	individual fishing quota
ITQ	individual transferable quota
IVR	interactive voice response reporting system
LOA	letter of authorization
MA	Mid-Atlantic
MAFAC	Marine Fisheries Advisory Committee
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MPA	marine protected area
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
MSRA	Magnuson-Stevens Reauthorization Act of 2007
MSY	maximum sustainable yield
NEFMC	New England Fishery Management Council

NEFSC	Northeast Fisheries Science Center
NEPA	National Environmental Policy Act
NERO	Northeast Regional Office
NMA	Northern Management Area (Monkfish)
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OLE	Office for Law Enforcement (NMFS)
OY	optimum yield
PBR	Potential Biological Removal
PDT	Plan Development Team
PRA	Paperwork Reduction Act
PREE	Preliminary Regulatory Economic Evaluation
RFA	Regulatory Flexibility Act
RMA	Regulated Mesh Area
RPA	Reasonable and Prudent Alternatives
SA	Statistical Area
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
SIA	Social Impact Assessment
SMA	Southern Management Area (monkfish)
SNE	southern New England
SSB	spawning stock biomass
SSC	Social Science Committee
TAC	total allowable catch
TED	turtle excluder device
TTAC	Target Total Allowable Catch
TTAL	Target Total Allowable Landings
USCG	United States Coast Guard
USFWS	United States Fish and Wildlife Service
VEC	Valued Ecosystem Component
VMS	vessel monitoring system
VPA	virtual population analysis
VTR	vessel trip report
WGOM	Western Gulf of Maine
WO	weighout
YPR	yield per recruit

1.0 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 (NMA) covering the Gulf of Maine and northern part of Georges Bank, and the Southern Fishery Management Area (SMA) extending from the southern flank of Georges Bank through the Mid-Atlantic Bight to North Carolina (see Figure 1).

The Councils adopted the Monkfish Fishery Management Plan (FMP) in 1999. Initially, the fishery was in a rebuilding plan since the stocks were considered overfished (below the biomass target). In 2007, the Northeast Data Poor Stocks Working Group (DPWG) completed a monkfish stock assessment and recommended revisions to the biomass reference points which the Councils adopted in December 2007, and which resulted in revisions to the stock status in both areas. Based on the new assessment and reference points, overfishing was not occurring and the stocks were rebuilt (above the biomass target). The assessment report, however, contained strong cautionary statements, due to the fact that this was the first use of a new assessment model and to uncertainty in the input data and overall knowledge of monkfish life history and population dynamics.

Also in 2007, the Magnuson-Stevens Fishery Conservation and Management Act was reauthorized (MSRA), and revised to include, among other things, the requirement that all FMPs establish Annual Catch Limits (ACLs) and measures to ensure accountability (AMs). For stocks not subject to overfishing, such as monkfish, the Act set a deadline of 2011 for the implementation of ACLs and AMs. In 2009, NMFS published revised National Standard 1 Guidelines which the Councils have used to develop ACLs and AMs for all FMPs. The Councils submitted proposed ACLs and AMs for the monkfish fishery in Amendment 5 which is expected to be implemented by May 1, 2011.

In June 2010, another stock assessment, SARC 50, concluded that both stock components are above their respective biomass thresholds, indicating they are not overfished, and that fishing mortality is below $F_{threshold}$, indicating that overfishing is not occurring. The SARC 50 Report also emphasized the continuing high degree of uncertainty in the assessment. SARC 50 recommended revising the approach to setting the biomass reference points to be more consistent with the MSRA and National Standards 1 and 3. The revision, which the Councils are proposing to adopt in the framework action, bases the biomass reference point on the estimate of the biomass that would result from long-term fishing at a rate which produces maximum sustainable yield (MSY).

As a result of SARC 50, the NEFMC's Scientific and Statistical Committee (SSC) revised the estimate of ACLs for both stocks. The revised ACL for the NMA is below the proactive AM catch target for that area proposed in Amendment 5. In this framework action, the Councils propose reducing the annual catch target (ACT) for the NMA below the proposed ACL. This change also requires a revision to the specification of days at sea (DAS) and trip limits based on the ACT.

The following table summarizes the measures comprising the **proposed action**:

Biomass Reference Points Control Rules and Current Values	B_{target}	Long-term projected biomass at Fmax N: 52,930 mt S: 74,490 mt
	B_{threshold}	0.5* B_{target} N: 26,465 mt S: 37,245 mt

NMA ACT	6,567 mt, or 86.5% of the ACL proposed in Amendment 5
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Specification of NMA DAS and Trip Limits	DAS	Trip limit (tail wt. lbs./DAS)	
		Permit A & C	Permit B & D
	40	1,250	600

The following table summarizes the **No Action Alternatives** to the proposed action:

Biological and Management Reference Points Control Rules	B_{target}	Average of total biomass 1980 - 2009 N: 61,991 mt S: 121,313 mt
	B_{threshold}	Lowest value of total biomass 1980 - 2009 N: 41,238 mt S: 99,181 mt

NMA ACT	No ACT	The current plan does not specify an ACT and is, therefore, not compliant with the MSRA. The current plan sets the target total allowable landings at 5,000 mt, which would remain in effect if no action is taken. Amendment 5 proposes an NMA ACT that is above the ACL, and is, therefore, not compliant with the NS1 Guidelines.
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Specification of NMA DAS and Trip Limits		DAS	Trip limit (tail wt. lbs./DAS)	
			Permit A & C	Permit B,D, &H
	NMA	31	1,250	470

Summary of Environmental Consequences of the Proposed Action

As detailed in Section 5.0, Environmental Consequences, the impacts of the proposed actions on the human environment are, in nearly all cases, expected to be neutral or positive compared to taking no action. The only exceptions are with respect to potentially negative impacts on non-target species and protected species resulting from the increased DAS and trip limits. These adverse impacts, however, are not likely to be substantial. The assessment of impacts on habitat concluded that there would be no impact from the proposed action.

As noted in the EA for Amendment 5, the adoption of ACLs and AMs will provide robust controls on fishing effort and prevent overfishing. This framework action will adopt an appropriate proactive AM for the NMA using the best, and most recent scientific information available that was not available at the time the Councils took final action on Amendment 5. These controls on fishing effort will not only have a positive effect on the monkfish resource, but may also have a long-term positive effect on non-target species, protected species, habitat and communities.

Similarly, the specification of DAS and trip limits at an increased level (compared to the no action alternative), but one that is expected to prevent catches from exceeding the ACL, will have a positive effect on the monkfish resource and dependent communities. This increase is either neutral or potentially negative for some non-target species caught incidentally when fishing for monkfish. The impacts on protected species are also expected to be neutral, or potentially negative if actual effort increases, and those increases occur in times and areas where interactions with protected species are likely to occur. The impact on EFH is expected to be neutral, since the impacts are evaluated against the historical baseline of 40 DAS, which the proposed action does not exceed.

With regard to Atlantic sturgeon, the proposed action is not expected to result in negative impacts to this species that is proposed for listing under the Endangered Species Act (ESA). This action would only affect fishing effort levels in the NFMA where interactions between the monkfish trawl and gillnet fisheries are not known to occur based upon recent observer data and known distribution of monkfish fishing effort in this region. Further, NMFS prepared an addendum to the Amendment 5 EA that includes a Monitoring and Action Plan intended to ensure that the cumulative impacts of the monkfish fishery on Atlantic sturgeon do not rise to the level of significance during the 2011 through 2013 fishing years.

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2.0 Background, Purpose and Need

2.1 Background

2.1.1 History of the Fishery Management Plan

The Federal monkfish fishery is jointly managed under the Monkfish Fishery Management Plan (FMP) by the New England and Mid-Atlantic Fishery Management Councils (Councils). The initial Monkfish FMP was implemented in 1999, and has been amended several times, most recently in 2010 with Amendment 5 which approved by the Mid-Atlantic Fishery Management Council (MAFMC) in April 2010, and the New England Fishery Management Council (NEFMC) in June 2010. Amendment 5 is currently undergoing review by the National Marine Fisheries Service (NMFS) on behalf of the Secretary of Commerce (Secretary), and is expected to be implemented on May 1, 2011. The documents pertaining to previous management actions are available on the NEFMC website, www.nefmc.org. A synoptic discussion, focusing on the science and management aspects of the FMP up to Framework 4 (2007) is also contained in an article “*The monkfish fishery and its management in the Northeastern USA*”, (Haring and Maguire, ICES Journal of Marine Science, vol. 65, 2008) which is available on the Council website. Below is a summary of recent management actions beginning with Framework 4, which established the current landings targets and specifications.

For management purposes, the monkfish fishery is divided into two areas, the Northern and Southern Management Areas (NMA and SMA, respectively), Figure 1. While scientific evidence for two biological stocks is uncertain, and additional research, including archival tagging, is ongoing, fisheries in the two areas are clearly distinct. Stock assessments are done on the two areas separately to be able to support the management plan. The NMA monkfish fishery is closely integrated with the multispecies fishery, and is primarily a trawl fishery, while the SMA fishery is primarily a gillnet fishery targeting monkfish almost exclusively. These differences have resulted in some differences in management measures, such as trip limits and days-at-sea (DAS) allocations, between the two areas.

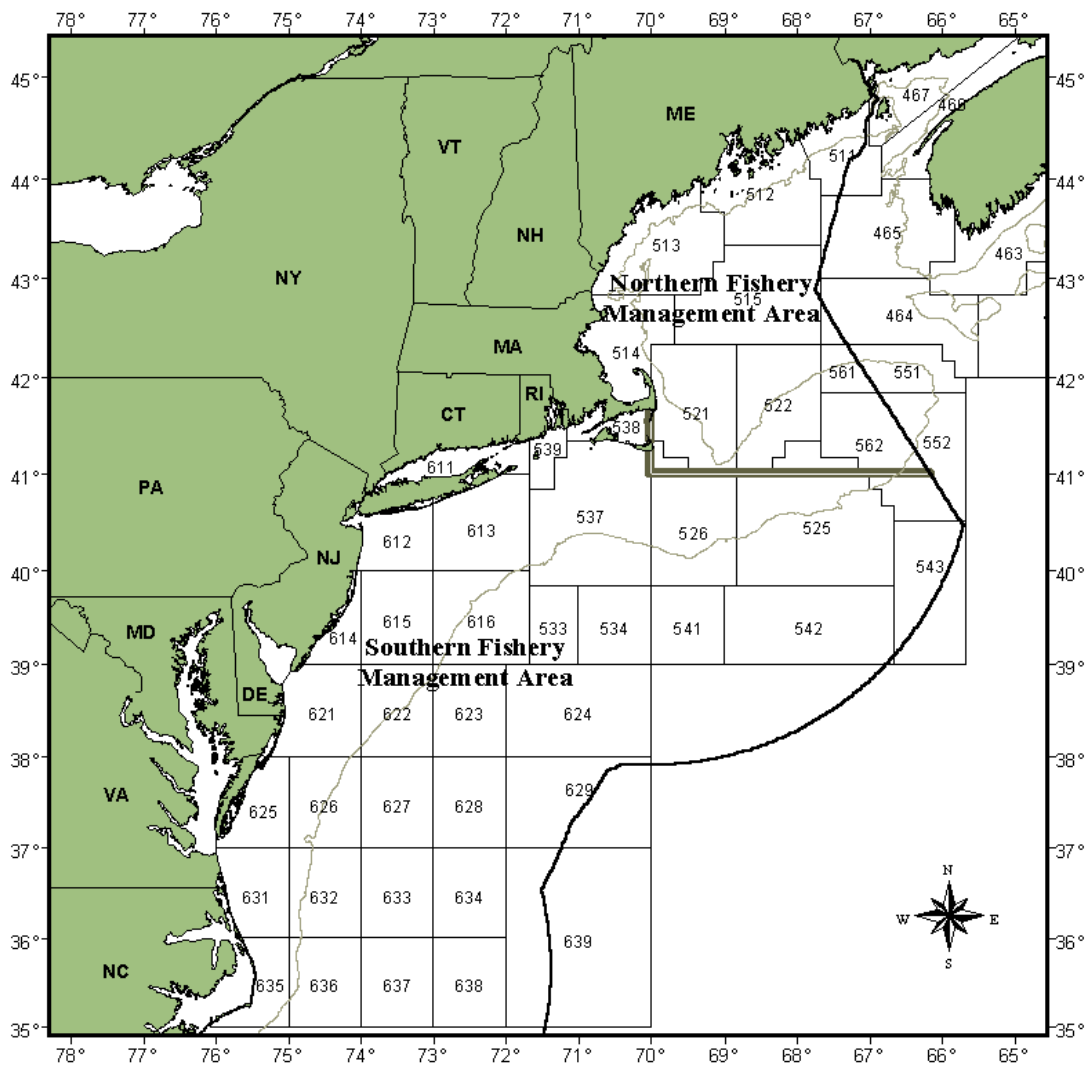


Figure 1 Monkfish fishery management areas and statistical areas.

2.1.1.1 Monkfish Framework 4

The fishing year (FY) 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 Northeast Fisheries Science Center (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 their minimum biomass thresholds, indicating both stocks were overfished, 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, target total allowable catch levels (TTACs) were set at 5,000 mt and 5,100 mt for the NMA and SMA, 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 NMA on a multispecies DAS, and exceeding the monkfish incidental catch limit, to declare a

monkfish DAS, which could be done by Vessel Monitoring Systems (VMS) any time prior to returning to port. Vessels in the SMA were already required to declare a monkfish DAS when exceeding the incidental limit. Framework 4 also reduced the monkfish incidental limit in the NMA 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. SMA 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 SMA out of the total allocation. In the NMA, 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 FY 2009, with extension into FY 2010 in absence of any regulatory change, unless the TTAC was exceeded in an area during the 2007 fishing year. In that case, the TTAC overage backstop provision established in Framework 4 would have taken effect and could result in a recalculation of the DAS allocations based on catch and effort data from the 2007 fishing year to keep landings below the TTAC. The backstop provision would have made no adjustment if the TTAC overage was 10% or less, and would have closed the directed fishery in a management area if the overage exceeded 30%, resulting in zero monkfish DAS being allocated, and the application of monkfish incidental limits to all vessels. Other measures adopted under Framework 4 included 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 SMA vessels (retaining the 12 DAS from the prior year), and prohibited the use of carryover DAS. The 2007 Northeast Data Poor Stocks Working Group (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 strong 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).

2.1.1.2 Monkfish Framework 5

As a result of the 2007 DPWG assessment, 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

implemented revisions to other measures to ensure that the management program succeeds in keeping landings within the TTAC levels. Framework 5, which was implemented prior to the start of the 2008 fishing year (73 *Federal Register* 22831, April 28, 2008), reduced the number of unused DAS that could be carried over to the next fishing year from 10 to 4; revised 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, revised 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 modified the Monkfish LOA requirement for vessels fishing under the less restrictive measures for the NMA such that vessels using a VMS would no longer be required to obtain the LOA, but could make the declaration via the VMS.

2.1.1.3 Monkfish Framework 6

One of the elements of the FMP adopted in Framework 4 was a backstop provision that would have adjusted, and possibly closed the directed monkfish fishery in a management area if the landings in FY2009 exceeded the TTAC by more than 30 percent. With the adoption of new biological reference points and revised stock status as a result of the DPWG assessment, as well as the measures adopted in Framework 5 designed to reduce the likelihood of TTAC overages, the Councils concluded that the backstop provision was no longer necessary. They submitted the regulatory change in Framework 6 in April 2008, and the final rule became effective on October 10, 2008, approximately seven months before the start of FY2009 (73 *Federal Register* 52635, September 10, 2008). This was the only action taken in Framework 6.

2.1.1.4 Summary of FY2000-2010 TTACs, DAS and trip limits

Since the implementation of the FMP, the applicable trip limits and allocated DAS have been adjusted several times. The TTAC and the method for calculating DAS and trip limits have also undergone several changes. The TTACs, allocated DAS and applicable trip limits since adoption of the FMP are summarized in Figure 2, which also shows landings and landings as a percentage of the TTAC. Several factors have contributed to the overage/underage of landings, including availability of monkfish, restrictions or lack thereof on vessels, and “loopholes” in the regulations that enabled vessels to exceed the intended level of effort while operating within the rules applicable at the time. Since the FMP was implemented, the Councils have addressed many of those factors through various amendments and framework adjustments, and they will continue to make improvements as issues are identified and new information becomes available.

Target TACs, trip limits, DAS restrictions, and landings (FY 2000 - FY 2010) for NMA							
			Trip Limits*	Trip Limits*			
Fishing Year	Target TAC (lbs)	Target TAC (mt)	Cat. A & C	Cat. B & D	DAS Restrictions**	Landings (lbs)	Percent of TAC
2000	12,507,000	5,673	n/a	n/a	40	26,145,000	209%
2001	12,507,000	5,673	n/a	n/a	40	32,745,000	262%
2002	25,737,000	11,674	n/a	n/a	40	31,947,000	124%
2003	39,039,000	17,708	n/a	n/a	40	31,207,000	80%
2004	37,408,000	16,968	n/a	n/a	40	25,905,000	69%
2005	29,012,839	13,160	n/a	n/a	39	21,016,671	72%
2006	17,057,168	7,737	n/a	n/a	39	14,720,268	86%
2007	11,023,100	5,000	1,250	470	30	11,133,346	101%
2008	11,023,100	5,000	1,250	470	30	7,777,910	71%
2009	11,023,100	5,000	1,250	470	30	7,372,259	67%
2010	11,023,100	5,000	1,250	470	30		
* Trip limits in pounds tail weight per DAS							
** Excluding up to 10 DAS carryover, became 4 DAS carryover in FY2007							

Target TACs, trip limits, DAS restrictions, and landings (FY 2000 - FY 2010) for SMA							
			Trip Limits*	Trip Limits*			
Fishing Year	Target TAC (lbs)	Target TAC (mt)	Cat. A & C	Cat. B, D, & H	DAS Restrictions**	Landings (lbs)	Percent of TAC
2000	13,281,000	6,024	1,500	1,000	40	17,549,000	132%
2001	13,281,000	6,024	1,500	1,000	40	24,404,000	184%
2002	17,463,000	7,921	550	450	40	16,487,000	94%
2003	22,511,000	10,211	1,250	1,000	40	26,891,000	119%
2004	14,929,707	6,772	550	450	28	13,719,000	92%
2005	21,325,318	9,673	700	600	39	21,287,811	100%
2006	8,084,353	3,667	550	450	12	13,027,100	161%
2007	11,243,562	5,100	550	450	23	15,829,172	141%
2008	11,243,562	5,100	550	450	23	14,883,410	132%
2009	11,243,562	5,100	550	450	23	10,582,190	94%
2010	11,243,562	5,100	550	450	23		

* Trip limits in pounds tail weight per DAS

** Excluding up to 10 DAS carryover, became 4 DAS carryover in FY2007

Figure 2 Target TACs, trip limits, DAS restrictions, and landings (FY 2000 - FY 2010)

2.1.1.5 Amendment 5

The Councils submitted Amendment 5 on September 23, 2010, with a target implementation date of May 1, 2010. The Councils developed Amendment 5 primarily to bring the Monkfish FMP into compliance with the requirements of the reauthorized Magnuson-Stevens Fishery Conservation and Management Act (MSA) which contains several new requirements including the requirement that all fisheries adopt annual catch limits (ACLs) to prevent overfishing by either 2010 (if subject to overfishing) or 2011 (if not subject to overfishing), and measures to ensure accountability. Since neither monkfish stock is currently subject to overfishing, the FMP is not required to have ACLs and accountability measures (AMs) in place until the start of the 2011 fishing year.

Amendment 5 was also developed to bring the Monkfish FMP into compliance with recently revised National Standard 1 (NS1) Guidelines (74 FR 3178; January 16, 2009) which not only establishes a process for setting ACLs and guidance for establishing AMs, it provides updated guidelines for establishing reference points and control rules (i.e., maximum sustainable yield (MSY), optimum yield (OY), overfishing limits (OFL), acceptable biological catch (ABC), ACLs, and annual catch targets (ACTs)) and clarifies the relationship between them. Amendment 5 establishes biological and management reference points to be consistent with NS1 guidelines utilizing the most recent scientific information available at the time it was developed, from the 2007 DPWG assessment.

As noted above, a more recent assessment of the monkfish resource was conducted in June 2010 (SARC 50). Given the timing of SARC 50 and the Councils' final action on Amendment 5 in June 2010, Amendment 5 did not update the biomass reference points in the FMP as recommended by SARC 50. One of the outcomes of the assessment was that the values associated with the ABC control rule adopted in Amendment 5 were recalculated by the SSC, and, in the case of the NMA, were reduced to a level below the ACT proposed in Amendment 5, hence the Councils have undertaken this framework adjustment to address this issue.

Third, Amendment 5 contains new specifications of DAS and trip limits associated with the new catch targets, to replace those adopted in Framework 4. The specifications are to be in effect for the 2011-2013 fishing years unless modified by some future management action. Additionally, if no action is taken for the years after 2013, the current plan states that the specifications will remain in place until modified. In the case of the NMA, the need to revise the ACT also requires revision to the specifications, as proposed in this framework.

2.1.2 Standardized Bycatch Reporting Methodology (SBRM) Omnibus Amendment (Amendment 3)

In 2005, the Councils initiated a joint omnibus amendment to all their FMPs to address the requirements of the MSA to include, in all FMPs, a standardized bycatch reporting methodology (SBRM). SBRM is the combination of sampling design, data collection procedures, and analyses used to estimate bycatch and to determine the most appropriate allocation of observers across the relevant fishery modes. The measures include: bycatch reporting and monitoring mechanisms; analytical techniques and allocation of at-sea fisheries observers; and SBRM performance standard; a review and reporting process; framework adjustment and annual specifications

provisions; a prioritization process; and provisions for industry-funded observers and observer set-aside programs. The SBRM amendment is Amendment 3 to the Monkfish FMP, and became effective on February 27, 2008 (73 *Federal Register* 4736, January 28, 2008).

2.1.3 Essential Fish Habitat Omnibus Amendment (Amendment 4)

The Council initiated Phase 1 of the Essential Fish Habitat (EFH) Omnibus Amendment in 2004, which is Amendment 4 to the Monkfish FMP. The primary purpose of Phase 1 was to review EFH designations, consider Habitat Areas of Particular Concern (HAPC) alternatives, describe prey species, and evaluate non-fishing impacts. This action is an amendment to all FMPs in this region. The Council approved the DSEIS for Phase 1 at the February 2007 Council meeting, which then was submitted to NMFS in March 2007. The Council made final decisions on Phase 1 topics at their June 2007 meeting. Phase 2 of the EFH Amendment began in September 2007 to consider the effects of fishing gear on EFH and move to minimize, mitigate or avoid those impacts that are more than minimal and temporary in nature. Phase 2 will also reconsider measures in place to protect EFH in the Northeast region. The entire amendment (Phase 1 and Phase 2) is expected to be submitted in 2011. On October 5, 2009, NMFS published a Notice of Intent to prepare an EIS (74 *Federal Register* 51126) covering both phases of the EFH Omnibus Amendment.

2.1.4 Other Fishery Management Plans Affecting the Monkfish Fishery

Approximately 97% of monkfish limited access vessels also hold limited access permits in either the Northeast Multispecies or Atlantic Sea Scallop fisheries. Both of those fisheries have undergone, and continue to undergo changes in their respective management programs which have direct and indirect effects on the monkfish fishery. In large part due to the success of the scallop FMP and the profitability of the fishery, scallop vessels that also have monkfish limited access permits elect to use their allocated effort to target scallops rather than monkfish, since they would be required to use a scallop DAS to target monkfish, and be prohibited from using a dredge on those trips. As a result, a substantial portion of the allocated monkfish effort (DAS) is not used. In contrast, while some multispecies stocks have responded positively to management (e.g., haddock and redfish) others remain overfished and in need of rebuilding. Consequently, the Multispecies FMP continues to constrain fishing effort and recently underwent major changes, most notably the adoption of catch shares through the allocation of quota to sectors.

2.1.4.1 Multispecies FMP

Groundfish stocks have been managed under the MSA beginning with the adoption of a management plan for cod, haddock, and yellowtail flounder in 1977, called the “FMP for Atlantic Groundfish”. This plan relied on hard quotas (total allowable catches, or TACs), and proved unworkable. The quota system was rejected in 1982 with the adoption of the Interim Groundfish Plan, which relied on minimum fish sizes and codend mesh regulations for the Gulf of Maine and Georges Bank to control fishing mortality. The interim plan was replaced by the Northeast Multispecies FMP in 1986, which established biological targets in terms of maximum spawning potential and continued to rely on gear restrictions, including minimum mesh size to control fishing mortality. A more detailed discussion of the history of this management plan up to 1994 can be found in Amendment 5 to the Northeast (NE) Multispecies FMP (NEFMC 1994).

Amendment 5 was a major revision to the NE Multispecies FMP. Adopted in 1994, it implemented a moratorium on new permits (limited access), established effort controls in the form of days-at-sea, or DAS for some fleet sectors and adopted year-round closures to control mortality. Amendment 5 also increased the minimum mesh size, set limits on vessel upgrading, and implemented a mandatory landings reporting requirement. Amendment 7 (NEFMC 1996), adopted in 1996, expanded the DAS program and accelerated the reduction in fishing effort (i.e., DAS) first adopted in Amendment 5. Since the implementation of Amendment 7, there were a series of amendments and smaller changes (framework adjustments) that are detailed in Amendment 13 to the NE Multispecies FMP (NEFMC 2003).

Amendment 13 was developed over a four-year period to meet the MSA requirement to adopt rebuilding programs for stocks that are overfished and to end overfishing. Amendment 13 also brought the FMP into compliance with other provisions of the MSA. Subsequent to the implementation of Amendment 13, FW 40A provided opportunities to target healthy stocks, FW 40B improved the effectiveness of the effort control program, and FW 41 expanded the vessels eligible to participate in a Special Access Program (SAP) that targets GB haddock. FW 42 included measures to implement a biennial adjustment to the FMP, as well as a Georges Bank yellowtail flounder rebuilding strategy, several changes to the Category B (regular) DAS Program and two Special Access Programs, an extension of the DAS leasing program, and introduced the differential DAS system. FW 43 adopted haddock catch caps for the herring fishery and was implemented August 15, 2006.

Amendment 16 implemented major changes to the NE Multispecies FMP. Notably, it greatly expanded the sector program and implemented ACLs and AMs in compliance with 2006 revisions to the MSA. The amendment also included a host of mortality reduction measures for “common pool” (i.e. non-sector) vessels and the recreational component of the fishery. Amendment 16 became effective on May 1, 2010.

2.1.4.2 Atlantic Sea Scallops

The Council established the Scallop FMP in 1982. A number of Amendments and Framework Adjustments have been implemented since that time to adjust the original plan. Amendment 4 was implemented in 1994 and introduced major changes in scallop management, including a limited access program, a DAS reduction plan to reduce mortality and prevent recruitment overfishing, new gear regulations to improve size selection and reduce bycatch, and a VMS requirement to track a vessel’s fishing effort. Amendment 4 also created the general category scallop permit for vessels that did not qualify for a limited access permit. Although originally created for an incidental catch of scallops in other fisheries, and for small-scale directed fisheries, the general category fishery and fleet has evolved since its creation in 1994.

In 1998, the Council developed Amendment 7 to the Scallop FMP which established two new scallop closed areas (Hudson Canyon and VA/NC Areas) in the Mid-Atlantic to protect concentrations of small scallops until they reached a larger size and reduced DAS allocations. In 1999, Framework Adjustment 11 allowed the first scallop fishing within portions of the Georges Bank groundfish closed areas since 1994. Scallop resource surveys and experimental fishing activities had identified areas where scallop biomass was very high due to no fishing in the intervening years. These surveys and experimental fisheries provided more precise estimates of

total biomass, as well as the distribution and amount of finfish bycatch, and allowed the Council to open the southern part of Closed Area II to scallop fishing. In 2000, Framework Adjustment 13 expanded the closed area access program.

In 2004, Amendment 10 introduced rotational area management and changed the way that the Atlantic Sea Scallop FMP allocates fishing effort for limited access scallop vessels. Instead of allocating an annual pool of DAS for limited vessels to fish in any area, vessels had to use a portion of their total DAS allocation in the controlled access areas defined by the plan, or exchange them with another vessel to fish in a different controlled access area. Vessels could fish their open area DAS in any area that was not designated a controlled access area. Subsequent actions have focused on controlling fishing mortality, and have made annual adjustments to the rotational area management program and DAS allocations, as well as other provisions, such as bycatch reduction measures, improved catch monitoring and habitat protections. Notably, Amendment 11, which became effective on June 1, 2008 was designed to control capacity and mortality in the general category scallop fishery. Since 1999, there has been considerable growth in fishing effort and landings by vessels with general category permits, primarily as a result of resource recovery and higher scallop prices. Among other provisions, Amendment 11 implemented a limited entry program for the previously open-access general category fishery. Vessels that qualified are under an ITQ program that has been allocated 5% of the total projected scallop catch.

The most recent scallop actions which may impact interaction with the monkfish fishery are Amendment 15, which will be in place for the 2011 fishing year, Framework 21, which became effective on June 28, 2010, and Framework 22 which is near submission to NMFS. There are three goals of Amendment 15: 1) Bring the Scallop FMP in compliance with new requirements of the MSA (such as ACLs and AMs); 2) address excess capacity in the limited access scallop fishery through potential permit stacking and leasing alternatives; and 3) consider measures to adjust several aspects of the overall program to make the scallop management plan more effective. Potentially, if scallop catch exceeds the ACL, then scallop DAS in open areas would be reduced in the subsequent year. Framework 21 set specifications and area access programs for FY 2010, which will roll over to FY 2011, until Framework 22 is implemented, probably in June. The proposed action in Framework 22 includes a specific ABC level as required by the MSA, 31,279 mt in 2011 and 33,234 mt in 2012, which includes non-yield fishing mortality (discards and incidental mortality), fishery specifications for 2011, 2012 and 2013, as well as access areas available to the fishery. This action also includes specific measures to comply with reasonable and prudent measures developed by NMFS in a recent biological opinion on this fishery regarding impacts on sea turtles.

2.1.4.3 Skate FMP Amendment 3

The final rule for Amendment 3 to the Northeast Skate Complex FMP was published on June 16, 2010. This amendment establishes ACLs, AMs, seasonal bait fishery quotas, and skate wing, bait, and incidental skate possession limits to address the following issues:

- Overfished status of thorny skates
- Overfishing of thorny skate
- Implementation of ACLs and AMs, as mandated by the reauthorized MSA, and

- A baseline review process that has become obsolete and less meaningful.

The final action established an incidental skate possession limit of 500 lbs. of wing weight (1135 lbs. whole weight), established a 20,000 lbs. whole weight possession limit for vessels with a Skate Bait Letter of Authorization, reduced the skate wing possession limit to 5,000 lbs. wing weight (11,350 lbs. whole weight), and adopted a three-season annual quota system for the skate bait fishery. In-season AMs will reduce allowable skate trip landings to the incidental limit (500 lbs. of skate wing weight, 1135 lbs. whole weight) when landings approach 80-90% of allowable levels.

An annual monitoring report and a bi-annual specification process replaced the obsolete baseline review procedures. The report will describe the expected impacts of recent regulations and pending management alternatives in other fisheries that impact the skate resource. The first annual monitoring report was published in June 2010 and is available at http://www.nefmc.org/skates/annual_reviews/2010%20Annual%20Monitoring%20Report%20Final.pdf.

2.1.5 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 (BO) dated October 29, 2010.

A previous BO for the Monkfish FMP, dated June 14, 2001, concluded that continued authorization of the fishery was likely to jeopardize the continued existence of ESA-listed right whales as a result of entanglement in gillnet gear used in the fishery. A Reasonable and Prudent Alternative (RPA) was provided to remove the likelihood of jeopardy. The RPA included, in part, implementation of a Seasonal Area Management (SAM) program and a Dynamic Area Management (DAM) program to reduce the likelihood of right whale interactions with gillnet gear used in the monkfish fishery. The RPA measures were implemented as part of the Atlantic Large Whale Take Reduction Plan (ALWTRP). On October 5, 2007, NMFS published a final rule in the *Federal Register* (72 FR 57104) that made many changes to the ALWTRP affecting the use of fixed gillnet gear in the monkfish fishery, amongst others. These changes included elimination of the DAM program as of April 7, 2008, and elimination of the SAM program as of October 6, 2008. The changes to the ALWTRP, therefore, modified the monkfish fishery in a manner that causes an effect to listed species not considered in the June 14, 2001 Opinion for the fishery. NMFS reinitiated formal consultation on the monkfish fishery on April 2, 2008, in accordance with the regulations at 50 CFR 402.16 to reconsider the effects of the continued authorization of the monkfish fishery on ESA-listed cetaceans and sea turtles.

As noted above, a BO was issued for the monkfish fishery on October 29, 2010. After reviewing the current status of right, humpback, fin, and sei whales as well as loggerhead, leatherback, Kemp's ridley, and green sea turtles, the environmental baseline and cumulative effects in the action area, the effects of the continued operation of the Monkfish FMP, in

compliance with the requirements of the ALWTRP, this Opinion concludes that the proposed activity is likely to adversely affect, but not jeopardize the continued existence of these species. As a result, an incidental take statement was prepared for the monkfish fishery. The incidental take statement anticipates for loggerhead sea turtles (a) the annual take of up to 171 individuals over a 5-year average in gillnet gear, of which up to 69 per year may be lethal and (b) the annual take of up to two (2) individual over a 5-year average in trawl gear, of which up to one (1) per year may be lethal; for leatherback sea turtles, the annual lethal or non-lethal take of up to four (4) individuals in trawl gear and gillnet gear combined; for Kemp's ridley sea turtles, the annual lethal or non-lethal take of up to four (4) individual in trawl gear and gillnet gear combined; and for green sea turtles, the annual lethal or non-lethal take of up to five (5) individuals in trawl gear gillnet gear combined. Furthermore, reasonable and prudent measures (RPMs) were established as a means of minimizing sea turtle interactions with the monkfish fishery now and to generate the information necessary in the future to continue to minimize incidental takes. These RPMs are non-discretionary and must be implemented by NMFS, and are as follows:

1. NMFS must seek to ensure that any sea turtles incidentally taken in monkfish fishing gear are handled in such a way as to minimize stress to the animal and increase its survival rate.
2. NMFS must seek to ensure that monitoring and reporting of any sea turtles encountered in monkfish fishing gear: (1) detects any adverse effects such as injury or mortality; (2) assesses the realized level of incidental take in comparison with the anticipated incidental take documented in this Opinion; (3) detects whether the anticipated level of take has occurred or been exceeded; and (4) collects data from individual encounters.
3. NMFS must continue to investigate and implement, within a reasonable time frame following sound research, gear modifications for gear used in the monkfish fishery to reduce incidental takes of sea turtles and/or the severity of the interactions that occur.

Additionally, NMFS must comply with the terms and conditions specified in the Opinion, which are established to implement the above RPMs. Finally, the following conservation recommendation that addresses large whales is included in this Opinion.

“NMFS should continue to monitor and evaluate the effectiveness of the ALWTRP, particularly the impacts of the broad based gear requirements implemented in 2008 and 2009, as well as the implementation of the vertical line strategy. As part of the monitoring plan for the ALWTRP, NMFS' goal should be to detect a change in the frequency of entanglements and/or serious injuries and mortalities associated with entanglements. Metrics to consider in detecting this change could include: observed time lapses between detected large whale entanglements, known large whale serious injuries and mortalities due to entanglement, and analysis of whale scarring data.”

A copy of this BO can be obtained from the Northeast Regional Office's website at:

http://www.nero.noaa.gov/prot_res/section7/NMFS-signedBOs/MONKFISH%20BIOP%202010.pdf

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.

2.1.5.1 Harbor Porpoise Take Reduction Plan

NMFS published the rule implementing the Harbor Porpoise Take Reduction Plan (HPTRP) on December 1, 1998. The HPTRP includes measures for gear modifications and area closures, based on area, time of year, and gillnet mesh size. In general, the Gulf of Maine component of the HPTRP includes time and area closures, some of which are complete closures; others are closures to gillnet fishing unless pingers (acoustic deterrent devices) are used in the prescribed manner. The Mid-Atlantic component includes time and area closures in which gillnet fishing is prohibited regardless of the gear specifications. Based on an increase in harbor porpoise takes in the overall sink gillnet fishery in recent years, the Harbor Porpoise Take Reduction Team has developed options to reduce takes, and NMFS published a proposed rule on July 21, 2009 (74 *Federal Register* 36058) with four alternatives, including no action. The comment period ended on August 20, 2009.

NMFS published the final rule for the HPTRP on February 19, 2010 (75 *Federal Register* 7383). The changes contained in the new rule address the two primary causes of a recent increase harbor porpoise bycatch in gillnets: increased bycatch in places where measures to prevent it are not currently required, and gaps in compliance with current management measures, such as improper use of pingers. To address these problems, the measures expand when and where “pingers” are required on gillnets off New England, add new seasonal management measures off New Jersey, and define areas off New England that will close to gillnetters (“consequence closures”) if harbor porpoise bycatch exceeds the target rate for each area for two consecutive seasons. In the Mid-Atlantic, a new management area is being created off the coast of New Jersey, encompassing waters where high bycatch has been observed recently. The area will be closed to gillnetting from February 1 to March 15, and gear modified to reduce the risk of bycatch will be required to fish there between January 1 and April 30 every year when gillnet fishing is allowed.

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

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

On June 21, 2005, NMFS published a proposed rule (70 *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.

2.1.5.3 Atlantic Trawl Gear Take Reduction Strategy (ATGTRS)

In September 2006, the NMFS convened the Atlantic Trawl Gear Take Reduction Team (ATGTRT) under the Marine Mammal Protection Act (MMPA). The ATGTRT was convened to address incidental mortality and serious injury of long-finned pilot whales (*Globicephala melas*), short-finned pilot whales (*Globicephala macrorhynchus*), common dolphins (*Delphinus delphis*), and Atlantic white-sided dolphins (*Lagenorhynchus acutus*) in several trawl gear fisheries operating in the Atlantic Ocean. These marine mammal species are known to interact with the Mid-Atlantic Mid-Water Trawl, the Mid-Atlantic Bottom Trawl, Northeast Mid-Water Trawl and the Northeast Bottom Trawl fisheries.

Because none of the marine mammal stocks of concern to the ATGTRT are classified as a “strategic stock” nor do they currently interact with a Category I fishery it was determined that development of a take reduction plan (TRP) was currently not necessary.

In lieu of a TRP, the ATGTRT agreed to develop an Atlantic Trawl Gear Take Reduction Strategy (ATGTRS). The ATGTRS identifies informational and research tasks as well as education and outreach needs the ATGTRT believes are necessary to provide the basis for achieving the ultimate MMPA goal of achieving the zero mortality rate goal (ZMRG). The ATGTRS also identifies several potential voluntary measures that can be adopted by certain trawl fishing sectors to potentially reduce the incidental capture of marine mammals. These voluntary measures are as follows:

- Reducing the numbers of turns made by the fishing vessel and tow times while fishing at night; and
- Increasing radio communications between vessels about the presence and/or incidental capture of a marine mammal to alert other fishermen of the potential for additional interactions in the area.

2.1.5.4 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 of that year. The basis of this rule was that sea turtles migrate northward as water temperatures warm. 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.

2.2 Purpose and Need

The ACT for the NMA proposed in Amendment 5 is above the ACL that was recently updated as a result of revised scientific information and recommendations of the SSC made subsequent to submission of the amendment to NMFS. Thus, the primary need for this action is to address this inconsistency since NS1 Guidelines state that an ACT cannot exceed the ACL established for a stock. The action is also needed to revise the biomass reference points in the FMP for both management areas in consideration of updated scientific advice. In Amendment 5, which was approved by NMFS on behalf of the Secretary of Commerce on April 28, 2011, the Councils recommended a self-adjusting control rule for establishing the ABC based on the best available science, and also recommended that the ACLs for the two management areas be set equal to their ABCs. Thus, the method recommended in Amendment 5 for setting the ABCs and ACLs is non-discretionary, and updates the values associated with these reference points automatically as new scientific information becomes available. The current ABCs/ACLs are 7,592 mt for the NFMA, and 12,316 mt for the SFMA based upon the results of SARC 50. The Councils also proposed setting ACTs as proactive accountability measures, and that those ACTs be set sufficiently below the ACL to prevent catch from exceeding the limit considering management uncertainty.

The Councils proposed ACLs in Amendment 5 based on the results of the DPWG assessment in 2007, which was the most recent available scientific information during the development of the amendment. In June 2010, however, SARC 50 provided updated stock status and recommendations for revisions to the biomass reference points in the FMP. The current biomass reference points are not based on estimates of MSY or its proxy, and are, thus, not fully compliant with NS1 Guidelines.

Following publication of the SARC 50 report, SSC reviewed the new assessment results and recommended revisions to the ABC/ACLs proposed in Amendment 5. These revisions resulted in a reduction in the NMA ACL to a level below the proposed ACT, requiring the Councils to take action. The purpose of this action is, therefore, to set the NMA ACT below the ACL, re-specify the DAS and trip limits associated with the new ACT, and to adopt new biomass reference points for both management areas. Table 1 is a summary of the needs for, and purposes of this action.

Need	Purpose	Section
NS1 Guidelines Compliance	Adopt biomass reference points and control rules consistent with updated NS1 Guidelines	3.1
ACT is above revised ACL	1 – Adopt updated ACT for the NMA	3.2
	2 – Adopt appropriate DAS and trip limits under revised ACT	3.3

Table 1 Summary of purposes and needs identified for Amendment 5

2.3 Goals and Objectives

The original FMP specified the following management objectives:

1. To end and prevent overfishing; rebuilding and maintaining a healthy spawning stock;
2. To optimize yield and maximize economic benefits to the various fishing sectors;
3. To prevent increased fishing on immature fish;
4. To allow the traditional incidental catch of monkfish to occur.

The goals and objectives for this framework supplement the basic FMP objectives. As discussed in the Purpose and Need Section above, this framework is primarily intended to update reference points and management measures to be consistent with recent scientific advice, which is consistent with these FMP goals.

3.0 Alternatives under Consideration

The following section describes the alternatives under consideration for Framework 7.

3.1 Biological Reference Points

3.1.1 Alternative 1 – No Action

Current biological and management reference points are used to determine stock status with respect to being rebuilt (biomass targets, B_{target}), being in an overfished condition (biomass thresholds, $B_{\text{threshold}}$), and when overfishing is occurring (fishing mortality thresholds, $F_{\text{threshold}}$). Framework 5 adopted revised biomass reference points on the recommendation of the 2007 DPWG and set B_{target} at the average biomass in the time series, and $B_{\text{threshold}}$ as the lowest observed biomass. SARC 50 updated the values associated with the current, no action control rule for the biomass reference points, as shown in Table 2.

In 2003, Framework 2 adopted revised $F_{\text{threshold}}$ reference points on the recommendation of SAW/SARC 34, and set them equal to F_{max} . Framework 2 also stated that if a future assessment re-estimated the value associated with F_{max} , then the corresponding value of the $F_{\text{threshold}}$ reference point would change automatically. The values associated with F_{max} at that time were $F=0.2$, and those were revised in 2007 by the DPWG and again by SARC 50 to the values shown in Table 2. Action alternatives under consideration in this framework do not propose changing the $F_{\text{threshold}}$ control rule, but the updated values are presented to inform the public.

	B_{target} (mt)	$B_{\text{threshold}}$ (mt)	$F_{\text{threshold}}$
NMA	61,991	41,238	0.43
SMA	121,313	99,181	0.46

B_{target} = average of total biomass 1980 - 2009

$B_{\text{threshold}}$ = lowest value of total biomass 1980 - 2009

$F_{\text{threshold}} = F_{\text{max}}$

Table 2 Current biological reference points for northern (NMA) and southern (SMA) monkfish management areas as updated by SARC 50.

3.1.2 Alternative 2 – Preferred Alternative – biomass reference points control rules

This alternative would adopt biomass reference point control rules as recommended by SARC 50. This approach would set biomass target reference points based on the long-term projected biomass corresponding to F_{msy} or its proxy, which for monkfish is F_{max} (see Table 2 above). This approach is more consistent with NS1 Guidelines. Likewise, setting biomass threshold reference points at one-half of the targets is also consistent with NS1 Guidelines. The preferred alternative would set the reference points, as calculated by SARC 50 shown below:

	B_{target} (mt)	$B_{\text{threshold}}$ (mt)	$F_{\text{threshold}}$
NMA	52,930	26,465	0.43
SMA	74,490	37,245	0.46

B_{target} = long-term projected biomass at F_{max}

$B_{\text{threshold}} = 0.5 * B_{\text{target}}$

$F_{\text{threshold}} = F_{\text{max}}$

Table 3 Proposed biological reference points for northern (NMA) and southern (SMA) monkfish management areas as calculated by SARC 50.

3.2 Northern Management Area ACT

This section describes the range of alternatives, including no action, for the NMA ACT. It should be noted that both Alternative 1 (no action) and Alternative 2 are inconsistent with MSRA and NS1 Guidelines for different reasons. Alternative 1 is not an AM designed to keep catch below the ACL, while Alternative 2 would set the ACT above the revised ABC of 7,592 mt.

3.2.1 NMA ACT Alternative 1 – No Action

The current FMP does not specify an ACL, nor does it have measures that have been identified as those intended to ensure accountability (AMs). Rather, the FMP has specified a TTAC to set management measures at a level that will prevent overfishing and achieve optimum yield. In actuality, the TTAC is a target total allowable landings level, since the current FMP does not account for discards in setting the target. Discards are considered in the stock assessments, however, and in the analyses that determine whether overfishing is occurring. The no action alternative, therefore, with respect to ACLs and AMs, would be to continue the current approach of setting target total allowable landings at a level that is expected to prevent overfishing. This approach does not comply with the MSA and NS1 Guidelines.

For the purpose of this action, the no action alternative is defined as those measures currently in effect, and which would remain in effect if no further action were taken. Under this definition, there would be no ACT, and the TTAC would remain at the current level of 5,000 mt for the NMA.

3.2.2 NMA ACT Alternative 2 – Non-preferred Alternative

The Councils proposed in Amendment 5 to adopt an ACT for the NMA of 10,750 mt. Subsequent to their decision, the SSC revised its recommendation for the ABC based on the results of the 2010 stock assessment (SARC 50). Their revision sets the ABC at 7,592 mt, which is 3,158 mt below the proposed NMA ACT. Since the ACL is to be set equal to ABC, it is inconsistent with NS1 Guidelines to have an ACT that is above the ACL. This alternative would retain the ACT proposed in Amendment 5.

3.2.3 NMA ACT Alternative 3 –Preferred Alternative

The Councils are considering three options for setting the NMA ACT at a level below the revised ACL. These options would set the ACT at 73%, 80%, and 86.5 % of ABC, or 5,550 mt, 6,074 mt, and 6,567 mt, respectively. The first option is the status quo landings target of 5,000 mt plus

discards (since the ACT includes both landings and discards). Option 2 was included based on the NEFMC's earlier consideration (in developing Amendment 5) of setting the ACT at 80% of ABC in consideration of the stock's rebuilt status. In Option 3, which the NEFMC has identified as its preferred option, the ACT is midway between Option 1 and the ABC. The Councils identified this as the preferred option because it allows for the greatest yield from the resource while still providing a reasonable buffer between the ACT and the ABC.

	Metric Tons	Percent of ABC
ACT Option 1	5,550	73%
ACT Option 2	6,074	80%
<i>ACT Option 3 (preferred)</i>	<i>6,567</i>	<i>86.5%</i>

Table 4 NMA ACT options under the preferred alternative, the preferred option is italicized.

3.3 Specification of NMA DAS and Trip Limits Alternatives

This section describes the alternatives under consideration for adjustments to DAS allocations and trip limit to achieve the ACT options for the NMA. As discussed above, both Alternatives 1 and 2 are inconsistent with NS1 Guidelines.

3.3.1 Specifications Alternative 1 - No action

If the Councils do not adjust the DAS and trip limits, current effort levels would remain in effect under the terms of the specifications adopted in Framework 4. These are:

	DAS	Trip limit (tail wt. lbs./DAS)	
		Permit A & C	Permit B & D
NMA	31	1,250	470

3.3.2 Specifications Alternative 2 – Non-preferred Alternative – Amendment 5 DAS and trip limits

In Amendment 5, the Councils have proposed DAS and trip limits based on their recommended NMA ACT alternative, which as discussed above, is inconsistent with NS1 Guidelines. These specifications are as follows:

	DAS	Trip limit (tail wt. lbs./DAS)	
		Permit A & C	Permit B & D
NMA	40	1,250	800

3.3.3 Specifications Alternative 3 - Preferred Alternative

The Councils considered a range of three trip limit and DAS options for each ACT option (Specifications A, B, and C) within their preferred ACT alternative, described above based on the PDT analysis contained in Appendix 1 of this document. The Specification A trip limit/DAS allocation options keep monkfish DAS allocations at status quo (FY2007-FY2010) levels and adjusts daily landing limits to achieve the ACT. The Specification B trip limit/DAS allocation options keep monkfish daily landing limits at status quo levels (FY2007-FY2010) and adjusts DAS to gauge the effect of an ACT increase on DAS allocation. The Specification C sets either

daily landing limits or DAS allocations at a specified historic level (either 40 DAS or 31 DAS) to determine the appropriate corresponding DAS or trip limit level.

These options are provided in the table below. **The Councils' preferred option, within their preferred ACT Option 3, is Specifications Option 3C.** The trip limit for permit category B and D vessels (600 lbs.) is rounded up from the value analyzed by the PDT (556. lbs.) for convenience. It should be noted, however, that in recent years vessels have not been constrained by lower trip limits, and, this adjustment is not likely to cause a problem with regard to total annual catch exceeding the target.

ACT	Specification Option	AC daily landing limit	BD daily landing limit	DAS
Option 1 (5,550 mt)	1A	1250	586	31
	1B	1250	470	39
	1C	1250	465	40
Option 2 (6,074 mt)	2A	1250	636	31
	2B	1250	470	42
	2C	1250	510	40
Option 3 (6,567 mt)	3A	1250	686	31
	3B	1250	470	45
	3C	1250	600	40

Table 5 NMA Specifications options for trip limits and DAS associated with each of the ACT options. Option 3C is the preferred option.

4.0 Affected Environment (SAFE Report for 2009)

4.1 Biological Environment and Stock Status

4.1.1 Monkfish Life History

Information about monkfish life history is incomplete, although ongoing cooperative research projects continue to improve the understanding of the species biology and population dynamics. In a recent paper by Richards, et al., 2008, "Population Biology of Monkfish *Lophius americanus*" (see References), using data from resource surveys spanning the period 1948-2007, the authors noted that "monkfish exhibited seasonal onshore-offshore shifts in distribution, migrated out of the southern Mid-Atlantic Bight (MAB) in mid-spring, and re-appeared there in autumn". This observation is reflected in the seasonal pattern of fishing activity, particularly in the SMA. The authors also observed that "sex ratios at length for fish 40-65 cm long were skewed toward males in the southern Mid-Atlantic Bight (MAB), but approximated unity elsewhere, suggesting that a portion of the population resides outside sampled areas. Growth was linear at 9.9 cm per year, and did not differ by region or sex. Maximum observed size was 138 cm for females and 85 cm for males. Length at 50% maturity for males was 35.6 cm (4.1 yrs. old) in the north and 37.9 cm (4.3 yrs. old) in the south; for females, 38.8 cm (4.6 yrs. old) in the

north and 43.8 cm (4.9 yrs. old) in the south. Ripe females were found in shallow (<50 m.) and deep (>200 m) water in the south, and in shallow (<50 m) in the north.”

4.1.2 Stock Status

Monkfish were most recently assessed within the SARC 50 during the summer of 2010, with the terminal year of the assessment being 2009. The Summary Report of SARC 50 is contained in Appendix 2. SARC 50 concluded that both stock components are above their respective biomass thresholds, including the newly recommended biomass thresholds that have not yet been adopted into the FMP, indicating they are not overfished. The stocks are also above the current and recommended biomass targets, and are, therefore, rebuilt. Additionally, SARC 50 determined that fishing mortality is below $F_{threshold}$, indicating that overfishing is not occurring. The full assessment report is available online at <http://www.nefsc.noaa.gov/nefsc/publications/crd/crd0713/>.

	North	South	Comment
$F_{threshold}$	0.43	0.46	F_{MSY} proxy based on F_{max}
$F_{current}$ (2009)	0.09	0.12	
B_{target}	61,991 mt	121,313 mt	Current proxy reference point , time series average
B_{target} (rec.)	52,930 mt	74,490 mt	Recommended revised B_{msy} proxy
$B_{current}$ (2009)	66,062 mt	131,213 mt	Not updated for 2007, 2008
$B_{threshold}$	41,238 mt	99,181 mt	Current proxy reference point, time series low
$B_{threshold}$ (rec.)	26,465 mt	37,245 mt	Recommended, $0.5*B_{target}$

Table 6 Monkfish reference points and status (2009) based on SARC 50 assessment. Shown are both existing (no action) and recommended (preferred alternative, in *italics*) biomass reference points.

The SARC 50 Report also emphasized the high degree of uncertainty in the assessment. The Report states: “The assessment results continue to be uncertain due to cumulative effects of under-reported landings, unknown discards during the 1980’s, uncertainty in survey indices, and incomplete understanding of key biological parameters such as age and growth, longevity, natural mortality and stock structure contributing to retrospective patterns primarily in the northern management area.”

4.1.3 Bycatch of non-target species in the fishery

The analysis done in Amendment 2 is the most recent evaluation of non-target species bycatch in the directed monkfish fishery, but this analysis is still applicable since the fishery has essentially remained the same in terms of the spatial and temporal distribution of fishing effort. That analysis concluded that winter skates and dogfish are the predominant species discarded in the NMA monkfish fisheries, while winter and thorny skates, as well as dogfish are discarded in the SMA. While there is no new information about changes in the types of bycatch, the status of these three species has changed, and the updated information is summarized below:

- **Winter skate** – not 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.

4.1.4 Marine Mammals and Protected Species

There are numerous protected species that inhabit the environment within the Monkfish FMP management unit. These species are afforded protection under the Endangered Species Act of 1973 (ESA; i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act of 1972 (MMPA), and are under NMFS' jurisdiction. Thirteen of these species are classified as endangered or threatened under the ESA, while the remainder are protected by the provisions of the MMPA. Actions taken to minimize the interaction of the fishery with protected species are described in Sections 2.1.5 of this document.

At this time, only Atlantic sturgeon has been proposed for listing under the ESA. A status review for Atlantic sturgeon was completed in 2007. NMFS has concluded that the U.S. Atlantic sturgeon spawning populations comprise five Distinct Population Segments (DPSs) (ASSRT, 2007). The Gulf of Maine DPS of Atlantic sturgeon is proposed to be listed as threatened, and the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs of Atlantic sturgeon are proposed as endangered. On October 6, 2010 (75 FR 61872 and 75 FR 61904), NMFS proposed listing five populations of Atlantic sturgeon along the U.S. East Coast as either threatened or endangered species. A final listing rule is expected by October 6, 2011.

Comprehensive information on current abundance of Atlantic sturgeon is lacking for all of the spawning rivers (ASSRT, 2007). Based on data through 1998, an estimate of 870 spawning adults per year was developed for the Hudson River (Kahnle *et al.*, 2007), and an estimate of 343 spawning adults per year is available for the Altamaha River, GA, based on data collected in 2004-2005 (Schueller and Peterson, 2006). Data collected from the Hudson River and Altamaha River studies cannot be used to estimate the total number of adults in either subpopulation, since mature Atlantic sturgeon may not spawn every year, and it is unclear to what extent mature fish in a non-spawning condition occur on the spawning grounds. Nevertheless, since the Hudson and Altamaha Rivers are presumed to have the healthiest Atlantic sturgeon subpopulations within the United States, other U.S. subpopulations are predicted to have fewer spawning adults than either the Hudson or the Altamaha (ASSRT, 2007). It is also important to note that the estimates above represent only a fraction of the total population size as spawning adults comprise only a portion of the total population (e.g., this estimate does not include sub-adults and early life stages).

Atlantic sturgeon from any of the five populations could occur in areas where the monkfish fishery operates, and the species has been captured in gear targeting monkfish (Stein *et al.* 2004a, ASMFC 2007). The proposed action to modify the monkfish fishery is expected to be completed before the anticipated date of a final listing determination for Atlantic sturgeon. However, the conference provisions of the ESA apply to actions proposed to be taken by federal agencies once a species is proposed for listing (50 CFR 402.10). Therefore, this EA includes information on the anticipated effects of the action on Atlantic sturgeon.

Candidate species receive no substantive or procedural protection under the ESA; however, NMFS recommends that project proponents consider implementing conservation actions to limit the potential for adverse effects on candidate species from any proposed project. NMFS has initiated review of recent stock assessments, bycatch information, and other information for these candidate and proposed species. The results of those efforts are needed to accurately characterize recent interactions between fisheries and the candidate/proposed species in the context of stock sizes. Final determinations on the proposed listings are expected by October 6, 2011. Any conservation measures deemed appropriate for these species will follow the information reviews. Please note that once a species is proposed for listing the conference provisions of the ESA apply (see 50 CFR 402.10). The impact of the proposed action is being considered in this document under NEPA provisions because proposed listing indicates bycatch may be a threat to the species.

4.1.4.1 Species Present in the Area

The following species that may occur in the operations area of the monkfish fishery are protected under the Endangered Species Act and/or Marine Mammal Protection Act. This list also includes two candidate fish species and one proposed fish species (species being considered for listing as an endangered or threatened species), as identified under the ESA.

Cetaceans

<u>Species</u>	<u>Status</u>
North Atlantic right whale (<i>Eubalaena glacialis</i>)	Endangered
Humpback whale (<i>Megaptera novaeangliae</i>)	Endangered
Fin whale (<i>Balaenoptera physalus</i>)	Endangered
Sei whale (<i>Balaenoptera borealis</i>)	Endangered
Blue whale (<i>Balaenoptera musculus</i>)	Endangered
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected
Risso's dolphin (<i>Grampus griseus</i>)	Protected
Pilot whale (<i>Globicephala spp.</i>)	Protected
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected
Common dolphin (<i>Delphinus delphis</i>)	Protected
Bottlenose dolphin (<i>Tursiops truncatus</i>) ^a	Protected
Harbor porpoise (<i>Phocoena phocoena</i>)	Protected
Spotted dolphin (<i>Stenella frontalis</i>)	Protected
Striped dolphin (<i>Stenella coeruleoalba</i>)*	Protected
Northern bottlenose whale (<i>Hyperoodon ampullatus</i>)*	Protected
Beaked whale (<i>Ziphius and Mesoplodon spp.</i>)*	Protected
Pygmy or dwarf sperm whale (<i>Kogia spp.</i>)*	Protected
False killer whale (<i>Pseudorca crassidens</i>)*	Protected
Melonheaded whale (<i>Peponocephala electra</i>)*	Protected
Rough-toothed dolphin (<i>Steno bredanensis</i>)*	Protected
White-beaked dolphin (<i>Lagenorhynchus albirostris</i>)*	Protected

Pinnipeds

<u>Species</u>	<u>Status</u>
Harbor seal (<i>Phoca vitulina</i>)	Protected
Gray seal (<i>Halichoerus grypus</i>)	Protected
Hooded seal (<i>Cystophora cristata</i>)	Protected
Harp seal (<i>Phoca groenlandicus</i>)	Protected

Sea Turtles

<u>Species</u>	<u>Status</u>
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>) ^b	Endangered
Hawksbill sea turtle (<i>Eretmochelys imbricata</i>)	Endangered
Loggerhead sea turtle (<i>Caretta caretta</i>)	Threatened

Fish

<u>Species</u>	<u>Status</u>
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered
Atlantic salmon (<i>Salmo salar</i>) ^c	Endangered
Cusk (<i>Brosme brosme</i>)	Candidate
Atlantic sturgeon (<i>Acipenser oxyrinchus</i>)	Proposed
Atlantic Bluefin Tuna (<i>Thunnus thynnus</i>)	Candidate

Note:

- a Bottlenose dolphin (*Tursiops truncatus*), Western North Atlantic coastal stock is listed as depleted.
- b Green turtles in U.S. waters are listed as threatened except for the Florida breeding population which is listed as endangered. Due to the inability to distinguish between these populations away from the nesting beach, green turtles are considered endangered wherever they occur in U.S. waters.
- c Gulf of Maine distinct population segment (DPS)
- * Non ESA-listed species protected by the MMPA that utilize this environment and have no documented interaction with the type of gear used by the monkfish fishery.

4.1.4.2 Species Not Likely to be Affected

Interactions between gear and a given species occur when fishing gear overlaps both spatially and trophically with the species' niche. Spatial interactions are more "passive" and involve unintentional interactions with fishing gear. Trophic interactions are more "active" and occur when protected species attempt to consume prey caught in fishing gear and become entangled in the process. Spatial and trophic interactions can occur with various types of fishing gear used by the monkfish fishery through the year. Large and small cetaceans and sea turtles are more prevalent within the operations area during the spring and summer, relatively abundant during the fall, and some are still present in winter. The potential for entanglements to occur is assumed to be higher in areas where more gear is set and in areas with higher concentrations of protected species.

NMFS has determined that the action being considered in the EA (i.e., approval of the Framework 7) is not likely to adversely affect shortnose sturgeon, the Gulf of Maine DPS of Atlantic salmon, hawksbill sea turtles, blue whales, or sperm whales, all of which are listed as endangered species under the ESA. NOAA Fisheries has also determined that the action being

considered is not expected to adversely affect critical habitat that has been designated for North Atlantic right whales and the Gulf of Maine DPS of Atlantic salmon, which occur within the action area. Shortnose sturgeon and salmon belonging to the Gulf of Maine DPS of Atlantic salmon occur within the general geographical areas fished by the monkfish fishery, but they are unlikely to occur in the area where the fishery would operate given their numbers and distribution. Therefore, none of these species are likely to be affected by the monkfish fishery. The following discussion provides the rationale for these determinations. Additional non-ESA listed species that may occur in the operations area that are not known to interact with the specific gear types that would be used by the monkfish fishery will not be discussed in this assessment.

North Atlantic right whales Critical Habitat

Critical habitat for right whales has been designated for Cape Cod Bay, Great South Channel, and coastal Florida and Georgia (outside of the action area for this Opinion). Cape Cod Bay and Great South Channel were designated critical habitat for right whales due to their importance as spring/summer foraging grounds for this species. Although the physical and biological processes shaping acceptable right whale habitat are poorly understood, there is no evidence to suggest that operation of the monkfish fishery adversely affects the value of critical habitat designated for the right whale.

Atlantic Salmon Critical Habitat

Coincident with the June 19, 2009 endangered listing, NMFS designated critical habitat for the GOM DPS of Atlantic salmon (74 FR 29300; June 19, 2009). Designation of critical habitat is focused on the known primary constituent elements (PCEs) within the occupied areas of a listed species that are deemed essential to the conservation of the species. Within the GOM DPS, the PCEs for Atlantic salmon are 1) sites for spawning and rearing and 2) sites for migration (excluding marine migration; although successful marine migration is essential to Atlantic salmon, NMFS was not able to identify the essential features of marine migration and feeding habitat or their specific locations at the time critical habitat was designated. Because there is no history or likelihood of future monkfish fishing activity to occur within estuaries corresponding to the GOM DPS of Atlantic Salmon, the associated fishing activities are not expected to alter attributes of Atlantic salmon critical habitat.

Shortnose sturgeon are benthic fish that mainly occupy the deep channel sections of large rivers. They can be found in rivers along the western Atlantic coast from St. Johns River, Florida (although the species is possibly extirpated from this system), to the Saint John River in New Brunswick, Canada. The species is anadromous in the southern portion of its range (i.e., south of Chesapeake Bay), while some northern populations are amphidromous (NMFS 1998). Since the monkfish fishery would not operate in or near the rivers where concentrations of shortnose sturgeon are most likely found, it is highly unlikely that the monkfish fishery would affect shortnose sturgeon.

The wild populations of Atlantic salmon whose freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast

to the Dennys River are listed as endangered under the ESA. Juvenile salmon in New England rivers typically migrate to sea in May after a two to three year period of development in freshwater streams, and remain at sea for two winters before returning to their U.S. natal rivers to spawn (Reddin 2006). Results from a 2001-2003 post-smolt trawl survey in the nearshore waters of the Gulf of Maine indicate that Atlantic salmon post-smolts are prevalent in the upper water column throughout this area in mid to late May (Lacroix and Knox 2005). Therefore, commercial fisheries deploying small mesh active gear (pelagic trawls and purse seines within 10-m of the surface) in nearshore waters of the Gulf of Maine may have the potential to incidentally take smolts. However, it is highly unlikely that the action being considered in this assessment will affect the Gulf of Maine DPS of Atlantic salmon given that operation of the monkfish fishery does not occur in or near the rivers where concentrations of Atlantic salmon are likely to be found and monkfish gear operates in the ocean at or near the bottom rather than near the surface. Thus, this species will not be considered further in this EA.

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

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

Unlike blue whales, sperm whales do regularly occur in waters of the EEZ. However, the distribution of the sperm whales in the EEZ occurs on the continental shelf edge, over the continental slope, and into mid-ocean regions (Waring et al. 2007). Typically, sperm whale distribution is concentrated east-northeast of Cape Hatteras in winter and shifts northward in spring when whales are found throughout the Mid-Atlantic Bight (Waring et al. 2007). In summer, distribution extends further northward to areas east and north of Georges Bank and the Northeast Channel region, as well as the continental shelf south of New England. Distribution moves south of New England in fall, back to the Mid-Atlantic Bight (Waring et al. 2007).

In contrast, the monkfish fishery would operate in continental shelf waters. The average depth over which sperm whale sightings occurred during the CeTAP surveys was 1,792 m (CeTAP 1982). Female sperm whales and young males almost always inhabit open ocean, deep water habitat with bottom depths greater than 1,000 m and at latitudes less than 40° N (Whitehead 2002). Sperm whales feed on large squid and fish that inhabit the deeper ocean regions (Perrin et al. 2002). There has been no observed fishery-related mortalities or serious injuries to sperm whales during 2001-2005 (Waring et al., 2007). Given that sperm whales are unlikely to occur in areas (based on water depth) where the monkfish fishery would operate, and would not affect the availability of sperm whale prey or areas where calving and nursing of young occurs, the Proposed Action would not be likely to adversely affect sperm whales.

Although large whales and marine turtles may be potentially affected through interactions with fishing gear, NMFS has determined that the continued authorization of the monkfish fishery would not have any adverse effects on the availability of prey for these species. Right whales and sei whales feed on copepods (Horwood 2002, Kenney 2002). The monkfish fishery will not affect the availability of copepods for foraging right and sei whales because copepods are very small organisms that will pass through monkfish fishing gear rather than being captured in it. Humpback whales and fin whales also feed on krill as well as small schooling fish (e.g., sand lance, herring, mackerel) (Aguilar 2002, Clapham 2002). Monkfish fishing gear operates on or very near the bottom. Fish species caught in monkfish gear are species that live in benthic habitat (on or very near the bottom) such as flounders versus schooling fish such as herring and mackerel that occur within the water column. Therefore, the continued authorization of the monkfish fishery will not affect the availability of prey for foraging humpback or fin whales. Moreover, none of the turtle species are known to feed upon groundfish.

4.1.4.3 Species Potentially Affected

It is expected that the sea turtle, cetacean, and pinniped species discussed below have the potential to be affected by the operation of the monkfish fishery. Background information on the range-wide status of sea turtle and marine mammal species that occur in the area and are known or suspected of interacting with fishing gear (demersal gear including trawls, gillnets, and longline types) can be found in a number of published documents. These include sea turtle status reviews and biological reports (NMFS and USFWS 1995; Marine Turtle Expert Working Group (TEWG) 1998, 2000; NMFS and USFWS 2007a, 2007b; Leatherback TEWG 2007), recovery plans for ESA-listed cetaceans and sea turtles (NMFS 1991, 2005; NMFS and USFWS 1991a, 1991b; NMFS and USFWS 1992), the marine mammal stock assessment reports (e.g., Waring et al. 2006; 2007), and other publications (e.g., Clapham et al. 1999, Perry et al. 1999, Best et al. 2001, Perrin et al. 2002).

4.1.4.3.1 Sea Turtles

Loggerhead, leatherback, Kemp's ridley, and green sea turtles occur seasonally in southern New England and Mid-Atlantic continental shelf waters north of Cape Hatteras, North Carolina. In general, turtles move up the coast from southern wintering areas as water temperatures warm in the spring (James et al. 2005, Morreale and Standora 2005, Braun-McNeill and Epperly 2004, Morreale and Standora 1998, Musick and Limpus 1997, Shoop and Kenney 1992, Keinath et al. 1987). The trend is reversed in the fall as water temperatures cool. By December, turtles have passed Cape Hatteras, returning to more southern waters for the winter (James et al. 2005,

Morreale and Standora 2005, Braun-McNeill and Epperly 2004, Morreale and Standora 1998, Musick and Limpus 1997, Shoop and Kenney 1992, Keinath et al. 1987). Hard-shelled species are typically observed as far north as Cape Cod whereas the more cold-tolerant leatherbacks are observed in more northern Gulf of Maine waters in the summer and fall (Shoop and Kenney 1992, STSSN database <http://www.sefsc.noaa.gov/seaturtleSTSSN.jsp>).

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

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 7, provides recent information on observed turtle interactions with the monkfish fishery for the period 2003 – Dec. 2008. Gillnet gear is the most prevalent gear used in the SMA 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 7 Turtle Interactions in Gillnet Gear Targeting Monkfish, 2003-Dec. 2008.

Source: NEFSC Observer Data

The loggerhead sea turtle is listed as threatened throughout its worldwide range. On July 12, 2007, NMFS and USFWS (Services) received a petition from Center for Biological Diversity and Turtle Island Restoration Network to list the “North Pacific populations of loggerhead sea turtle” as an endangered species under the ESA. In addition, on November 15, 2007, the Services received a petition from Center for Biological Diversity and Oceana to list the “Western North Atlantic populations of loggerhead sea turtle” as an endangered species under the ESA. NMFS published notices in the *Federal Register*, concluding that the petitions presented substantial scientific information indicating that the petitioned actions may be warranted (72 FR 64585, November 16, 2007; 73 FR 11849; March 5, 2008). In 2008, a Biological Review Team (BRT) was established to assess the global population structure to determine whether DPSs exist and, if so, the status of each DPS. The BRT identified nine loggerhead DPSs, distributed globally (Conant et al. 2009). On March 16, 2010, the Services announced 12-month findings on the petitions to list the North Pacific populations and the Northwest Atlantic populations of the loggerhead sea turtle as DPSs with endangered status and

published a proposed rule to designate nine loggerhead DPSs worldwide, seven as endangered (North Pacific Ocean DPS, South Pacific Ocean DPS, Northwest Atlantic Ocean DPS, Northeast Atlantic Ocean DPS, Mediterranean Sea DPS, North Indian Ocean DPS, and Southeast Indo-Pacific Ocean DPS) and two as threatened (Southwest Indian Ocean DPS and South Atlantic Ocean DPS). On March 22, 2011, the timeline for the final determination was extended for six months until September 16, 2011 (76 FR 15932).”

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

4.1.4.3.2 Large Cetaceans

The most recent Marine Mammal Stock Assessment Report (SAR) (Waring et al. 2009) reviewed the current population trend for each of these large cetacean species within U.S. EEZ waters, as well as providing information on the estimated annual human-caused mortality and serious injury, and a description of the commercial fisheries that interact with each stock in the U.S. Atlantic. Information from the SAR is summarized below.

The western North Atlantic baleen whale species (North Atlantic right, humpback, fin, sei, and minke) follow a general annual pattern of migration from high latitude summer foraging grounds, including the Gulf and 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. 2009). 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).

For North Atlantic right whales, the available information suggests that the population is increasing at a rate of 1.8 percent per year between 1990 and 2003, and the total number of North Atlantic right whales is estimated to be at least 323 animals in 2003 (Waring et al. 2009). The minimum rate of annual human-caused mortality and serious injury to right whales averaged 3.8 per year during 2002 to 2006 (Waring et al. 2009). Of these, an average of 1.4 per year resulted from fishery interactions. Recent mortalities included six female right whales, including three that were pregnant at the time of death (Waring et al. 2009).

The North Atlantic population of humpback whales is estimated to be 11,570, although the estimate is considered to be low (Waring et al. 2009). The best estimate for the Gulf of Maine stock of humpback whales is 847 whales (Waring et al. 2009). The population trend was

considered positive for the Gulf of Maine population, but there are insufficient data to estimate the trend for the larger North Atlantic population. Based on data available for selected areas and time periods, the minimum population estimates for other western north Atlantic whale stocks are 2,269 fin whales, 207 sei whales, 4,804 sperm whales, and 3,312 minke whales (Waring et al. 2009). No recent estimates are available for blue whale abundance. Insufficient data exist to determine trends for any other large whale species.

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. 2009). However, it is often not possible to attribute the gear to a specific fishery. Bottom trawl gear is also known to pose a risk of entanglement causing injury or death to large whales. The draft 2011 marine mammal stock assessment report (SAR) documents the mortality of two Minke whales from fisheries observers in 2008.

The ALWTRP was recently revised with publication of a new final rule (72 FR 57104, October 5, 2007) that is intended to continue to address entanglement risk of large whales (right, humpback, fin, and and acknowledges benefits to minke whales) in commercial fishing gear and to reduce the risk of death and serious injury from entanglements that do occur.

4.1.4.3.3 Small Cetaceans

Numerous small cetacean species (dolphins; pilot whales; and harbor porpoise) occur within [the area from Cape Hatteras through the Gulf of Maine], that are known to interact with monkfish fishing gear. Seasonal abundance and distribution of each species in Mid-Atlantic, Georges Bank, and/or Gulf of Maine, Georges Bank, and southern New England/Mid-Atlantic 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 dolphin). Information on the western North Atlantic stocks of each species is summarized in Waring et al. (2009). Small cetaceans are known to interact with gillnet and trawl gear (Waring *et al.* 2009).

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 developed options to reduce takes, and NMFS published a proposed rule on July 21, 2009 (74 *Federal Register* 36058) with four alternatives including no action. The comment period on this rule ended on August 20, 2009 and the final rule was published on February 19, 2010 (75 *Federal Register* 7383).

The following changes were implemented in the 2010 amendments to the HPTRP:

New England

- Expand the size of the Massachusetts Bay Management Area, as well as pinger use to include November;
- Establish the Stellwagen Bank Management Area and require pingers from November 1 through May 31;
- Establish the Southern New England Management Area where pingers are required from December 1 through May 31; and
- Establish the Cape Cod South Expansion Consequence Closure Area and Coastal Gulf of Maine Consequence Closure Area. These areas would be closed to gillnetting for two to three months if harbor porpoise bycatch levels are too high.

Mid-Atlantic

- Establish the Mudhole South Management Area, with a seasonal closure and gear modifications for large and small mesh gear;
- Modify the northern boundary of the waters off New Jersey Management Area to intersect with the southern shoreline of Long Island, NY at 72° 30' W longitude; and
- Modify tie-down spacing requirement for large mesh gillnets in all Mid-Atlantic management areas (waters off New Jersey, Mudhole North and South, and Southern Mid-Atlantic Management Areas).

The Atlantic Trawl Gear Take Reduction Team (ATGTRT) was organized in 2006 to implement a plan to address the incidental mortality and serious injury of long-finned pilot whales, short-finned pilot whales, common dolphins, and Atlantic white-sided dolphins in several trawl gear fisheries. In lieu of a TRP, the ATGTRT agreed to develop an Atlantic Trawl Gear Take Reduction Strategy (ATGTRS). The ATGTRS identifies informational and research tasks as well as education and outreach needs the ATGTRT believes are necessary to provide the basis for achieving the ultimate MMPA goal of achieving ZMRG. The ATGTRS also identifies several potential voluntary measures that can be adopted by certain trawl fishing sectors to potentially reduce the incidental capture of marine mammals. These voluntary measures are as follows:

- Reducing the numbers of turns made by the fishing vessel and tow times while fishing at night; and
- Increasing radio communications between vessels about the presence and/or incidental capture of a marine mammal to alert other fishermen of the potential for additional interactions in the area.

4.1.4.3.4 Pinnipeds

Of the four species of seals expected to occur in the area, harbor seals have the most extensive distribution with sightings occurring as far south as 30° N (Katona et al. 1993, Waring et al. 2009). Gray seals are the second most common seal species in U.S. EEZ waters, occurring primarily off New England (Katona et al. 1993; Waring et al. 2009). Pupping for both species occurs in both U.S. and Canadian waters of the western north Atlantic with the majority of harbor seal pupping likely occurring in U.S. waters and the majority of gray seal pupping in Canadian waters, although there are at least three gray seal pupping colonies in U.S. waters as well. Harp and hooded seals are less commonly observed in U.S. EEZ waters. Both species

form aggregations for pupping and breeding off eastern Canada in the late winter/early spring, and then travel to more northern latitudes for molting and summer feeding (Waring *et al.* 2009). Both species have a seasonal presence in U.S. waters from Maine to New Jersey, based on sightings, stranding, and fishery bycatch (Waring *et al.* 2009). All four species of seals are known to interact with gillnet and/or trawl gear (Waring *et al.* 2009).

Although harbor seals may be more likely to occur in the operations area between fall and spring, harbor and gray seals are year-round residents; therefore, interactions could occur year-round. The uncommon occurrences of hooded and harp seals in the operations area are more likely to occur during the winter and spring, allowing for an increased potential for interactions during the winter.

4.1.4.3.5 Atlantic Sturgeon DPSs

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

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

variation in the bycatch rate of sturgeon in sink gillnet gear with lowest rates occurring off of Maine and highest rates off of North Carolina for all months of the year."

In an updated analysis, the Northeast Fishery Science Center (NEFSC) was able to use data from the NEFOP database to provide updated estimates for the 2006 to 2010 timeframe. Data were limited by observer coverage to waters outside the coastal boundary (fzone>0) and north of Cape Hatteras, NC. Sturgeon included in the data set were those identified by Federal observers as Atlantic sturgeon, as well as those categorized as unknown sturgeon. The frequency of encounters on observed trips were expanded by total landings recorded in vessel trip reports (VTR) rather than dealer data, since the dealer data does not include information on mesh sizes. Generally the VTR data represents greater than 90 percent of total landings. Originally the data were to be evaluated by year, month, 3-digit statistical area, gear type and mesh size. Unfortunately the level of observer coverage did not support that degree of partitioning in the data. Therefore, data were combined into division (identified as the first 2 digits in area codes), quarter, gear type (otter trawl, fish and sink gillnet) and mesh categories. Mesh sizes were categorized for otter trawl as small (<5.5") or large (greater than or equal to 5.5") and small (<5.5"), large (between 5.5" and 8") and extra large (>8") in sink gillnets.

Monkfish are primarily harvested using large mesh bottom otter trawl gear and extra large mesh sink gillnet gear. The majority of the monkfish trawl fishery occurs in conjunction with the Northeast multispecies fishery in the Northern Fishery Management Area (NMA), which is comprised mostly of the Gulf of Maine and Georges Bank. Conversely, the monkfish fishery is primarily a gillnet fishery in the Southern Fishery Management Area (SMA), which is comprised mainly of Southern New England and the Mid-Atlantic regions. (See Section 4.5.1.2 of Amendment 5 for information on landings and revenue by gear type and management area.)

Although based upon 1999 and 2001 VTR data, Figures 69 and 70 in Amendment 2 to the Monkfish FMP graphically display how directed monkfish otter trawl and gillnet effort are distributed. Given that monkfish regulations have not changed dramatically since the implementation of the FMP in November 1999, it is unlikely that this effort pattern has changed. However, it should be noted that directed monkfish trawl effort has declined in the SMA in recent years (see Section 4.5.1.2 of Amendment 5). As indicated in Figure 69 of Amendment 2, the majority of monkfish otter trawl effort in the Southern New England region occurs in Northeast statistical area 537, and tends to occur in deeper waters further offshore. Conversely, directed monkfish gillnet effort in the Southern New England region occurs primarily in the inshore waters of NE statistical areas 537, 612, 613, 614, and 621. Given that nearly all observed takes of Atlantic sturgeon in large mesh otter trawl gear during the 2006-2010 time period occurred in NE statistical areas 612 and 621 (Table 8), it is highly unlikely that these vessels were targeting monkfish. Observed takes associated with extra large mesh sink gillnet gear during this time period were distributed across several inshore statistical areas across Southern New England and the Mid-Atlantic regions (Table 9). Thus, it is highly likely that the majority of these observed takes occurred in sink gillnet gear targeting monkfish. As a result, the analysis contained in the Addendum to Amendment 5 focused on the impacts to Atlantic sturgeon associated with extra large sink gillnet gear in the SMA since recent NEFOP data indicate that no interactions have occurred between the gear used in the monkfish fishery and Atlantic sturgeon in the NMA in recent years.

Large mesh otter trawl

area	month											
	1	2	3	4	5	6	7	8	9	10	11	12
464	0		0		0					0	0	
465	0		0	0		0	0				0	0
511	0		0	0								0
512	0		0	0	0	0	0	0	0	0	0	0
513	0	0	0	0	0	0	0	0	0	0	0	0
514	3	0	0	0	0	0	0	0	0	0	0	0
515	0	0	0	0	0	0	0	0	0	0	0	0
521	0	0	0	0	0	0	0	0	0	0	0	0
522	0	0			0			0	0	0	0	
525				0	0			0				
526	0	0	0	0	0	0	0	0	0	0	0	0
537	0	0	0	0	0	0	0	0	0	0	0	0
538				0	0	0	0	0	0	0	0	
539	0	0	0	0	0	0	0	0	0	0	0	0
562					0			0				
611	0	0	0	0	0	0	0	0	0	0	0	0
612		1		0	25	5	5	0	33	1	0	0
613	0	0	0	1	0	0		0	0	0	0	0
614				1	0	0	0		0			
615	0		0		0	0	0	0	0		0	0
616	0	0	0	0						0	0	0
621	0	0	0		0	2	0	0	18	0	0	0
622	0	0	0	0							0	0
623			0	0								
625							0			0	0	0
626	0	0	0	0							0	0
627				0								
631	0	2										0
632		0										
635	0											0

Table 8 Sturgeon encounters in observed large mesh otter trawl trips, 2006-2010.

X-large sink gillnet

area	month											
	1	2	3	4	5	6	7	8	9	10	11	12
464												0
512										0		
513				0		0	0	0	0	0	0	0
514	0	0	0		0	0	0	0	1	0	0	0
515					0		0		0	0	0	0
521	1			0	0	0	1	0	1	1	2	1
522				0			0					0
526		0	0	0	0							
537	1	0	1	1	5	0	0	0	0	1	0	1
538					0							
539	0	0		0	4	0	0		0	0	0	0
611					0	1						
612	5	0	0	0	1	3	0			0	0	1
613	0	0		0	2	1		0	0	0	7	0
614	0			0	5	0					0	
615	0	0	0	0	2	2	0			0	0	1
616	0		0	0	0	0				0	0	0
621		0	0	0	2						0	
622					0							
625		2	2	2	4	0					1	3
626	0	0	0	1	5						0	0
631	2	6	1	5						0	0	2
635	0		58	69								

Table 9 Sturgeon encounters in observed extra large mesh sink gillnet trawl trips, 2006-2010.

The information presented in Table 10 shows that the number of estimated annual takes of Atlantic sturgeon in extra large mesh sink gillnet gear range from 132 to 628 sturgeon annually, with an average of 350 individuals. As such, these data indicate that monkfish gillnet gear is likely to interact with Atlantic sturgeon during the time period covered by this action; fishing years 2011 through 2013. Based upon this information, it appears that the majority of Atlantic sturgeon (over half) die as a result of an encounter with extra-large mesh sink gillnet gear, most likely due to the length of time this gear is soaked and the bagging effect associated with this type of gear, the latter of which would make it unlikely that a sturgeon could free itself once entangled. However, in recent years, the percentage of takes resulting in death has declined dramatically, to 36 percent in 2009 and 5 percent in 2010. This could be in part due to incomplete observer data for 2010, or other factors affecting fishing behavior such as weather, water temperature or abundance of bycatch species such as skate and dogfish. For example, fishermen have recently reported the need to move their gillnet gear to other areas in order to reduce skate bycatch. There were no changes to monkfish fishery regulations between 2008 and 2010 that would have resulted in a direct impact on fishing effort.

	Total Encounters	Dead Encounters	% Dead
2006	299	180	60%
2007	493	273	55%
2008	200	131	66%
2009	628	226	36%
2010	132	6	5%

Table 10 2006-2010 Estimated Atlantic Sturgeon Encounters in Extra Large Mesh Gillnet Gear based upon NEFOP Data.

As noted above, there are no total population size estimates for any of the five Atlantic sturgeon DPSs at this time. However, there are two estimates of spawning adults per year for two river systems (e.g., 870 spawning adults per year for the Hudson River, and 343 spawning adults per year for the Altamaha River). These estimates represent only a fraction of the total population size as Atlantic sturgeon do not appear to spawn every year and additionally, these estimates do not include sub-adults or early life stages. Between 2006 and 2009, an average of 202 Atlantic sturgeon mortalities occurred in all extra large mesh sink gillnet gear. This includes mortalities in all areas. The terminal year of 2010 was excluded from this average due to the fact that the low mortality rate for this year likely represents incomplete data. Based on the available information, it is not possible at this time to attribute these mortalities to the DPSs from which these fish originated. However, given the migratory nature of sub-adult and adult Atlantic sturgeon, it is expected that these mortalities represent takes from multiple DPSs. This conclusion is supported by preliminary genetic mixed stock analyses undertaken by Dr. Isaac Wirgin from New York University and Dr. Tim King from the U.S. Geological Survey. These additional data support the conclusion from the earlier bycatch estimate that the monkfish fishery may interact with Atlantic sturgeon from now until the time a final listing determination is made for the species. Thus, while the operations of this fishery over the five months between May 1 and early October 2011 will most likely result in adverse impacts to Atlantic sturgeon, the magnitude of that interaction (e.g., up to 202 fish from multiple DPSs) during this short timeframe of interest is not likely to result in jeopardy to the species, thereby obviating the need for a conference as required under Section 7(a)(4) of the ESA.

4.2 Physical and Biological Environment

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

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

Pertinent physical and biological characteristics of each of these sub-regions are described in the Physical and Biological Environment section of Amendment 5 (Section 4.2), along with a short description of the physical features of coastal environments. Monkfish habitats are described in Section 4.4.1 of Amendment 5 and summarized below. Information on the affected physical and biological environments included in Amendment 5 was extracted from Stevenson et al. (2004).

4.3 Fishing Effects on EFH

A detailed discussion of the effects of monkfish fishing on EFH is contained in the Affected Environment Section of Amendment 5. Since monkfish EFH has been determined to not be vulnerable to any fishing gear (Stevenson, et al. 2004, NEFMC 2004), the discussion focuses on gears used in the directed monkfish fishery (trawls and gillnets) that potentially could impact EFH of other fisheries. The discussion in Amendment 5 cites several important peer-reviewed studies in describing the potential biological and physical effects of fishing on various substrates (mud, sand, gravel and rocky substrates). With regard to the gears used in the monkfish fishery, the discussion focuses on trawling, since gillnets are stationary or static, and have been determined to not have an adverse effect on EFH (NEFMC, 2004). Since vessels are prohibited from using a dredge while on a monkfish DAS, discussion of the effects of dredges is not pertinent. Generally, trawling reduces habitat complexity and productivity by removing or altering physical (boulders, sand waves or cobble piles) and biological (structure forming invertebrates) habitat components and mixing sediments (ICES 2000). These impacts are more discernable with repeated trawl use and in low energy environments (NRC 2002).

4.4 Essential Fish Habitat

Section 4.4 of Amendment 5 contains a detailed description of monkfish EFH, EFH of other species vulnerable to bottom trawl gear, the effect of the monkfish fishery on EFH (monkfish and other species, all life stages), and measures to minimize adverse effects of the monkfish fishery on EFH. The document describes habitat protection measures taken in the monkfish FMP, as well as the Atlantic Sea Scallop and NE Multispecies FMPs (namely habitat closed areas).

In summary, the discussion notes that monkfish EFH has been determined to only be minimally vulnerable to bottom-tending mobile gear (bottom trawls and dredges) and bottom gillnets. 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.*, 2004):

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 gillnets (Stevenson *et al.*, 2004). The following table identifies the species, life stages and geographic area of their EFH, for those species whose EFH is vulnerable to bottom trawling:

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
American plaice	juvenile	GOME and estuaries from Passamaquoddy Bay to Saco Bay, ME and from Mass. Bay to Cape Cod Bay, MA	45 - 150	Bottom habitats with fine grained sediments or a substrate of sand or gravel
American plaice	adult	GOME and estuaries from Passamaquoddy Bay to Saco Bay, ME and from Mass. Bay to Cape Cod Bay, MA	45 - 175	Bottom habitats with fine grained sediments or a substrate of sand or gravel
Atlantic cod	juvenile	GOME, GB, eastern portion of continental shelf off southern NE and following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	25 - 75	Bottom habitats with a substrate of cobble or gravel
Atlantic cod	adult	GOME, GB, eastern portion of continental shelf off southern NE and following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, Boston Harbor, Cape Cod Bay, Buzzards Bay	10 - 150	Bottom habitats with a substrate of rocks, pebbles, or gravel
Atlantic halibut	juvenile	GOME, GB	20 - 60	Bottom habitats with a substrate of sand, gravel, or clay
Atlantic halibut	adult	GOME, GB	100 - 700	Bottom habitats with a substrate of sand, gravel, or clay
Atlantic herring	eggs	GOME, GB and following estuaries: Englishman/Machias Bay, Casco Bay, and Cape Cod Bay	20 – 80	Bottom habitats attached to gravel, sand, cobble or shell fragments, also on macrophytes
Atlantic sea scallop	juvenile	GOME, GB, southern NE and middle Atlantic south to Virginia-North Carolina border and following estuaries: Passamaquoddy Bay to Sheepscot R.; Casco Bay, Great Bay, Mass Bay, and Cape Cod Bay	18 - 110	Bottom habitats with a substrate of cobble, shells, and silt
Atlantic sea scallop	adult	GOME, GB, southern NE and middle Atlantic south to Virginia-North Carolina border and following estuaries: Passamaquoddy Bay to Sheepscot R.; Casco Bay, Great Bay, Mass Bay, and Cape Cod Bay	18 - 110	Bottom habitats with a substrate of cobble, shells, coarse/gravelly sand, and sand
Haddock	juvenile	GB, GOME, middle Atlantic south to Delaware Bay	35 - 100	Bottom habitats with a substrate of pebble and gravel
Haddock	adult	GB and eastern side of Nantucket Shoals, throughout GOME, *additional area of Nantucket Shoals, and Great South Channel	40 - 150	Bottom habitats with a substrate of broken ground, pebbles, smooth hard sand, and smooth areas between rocky patches

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Monkfish	juvenile	Outer continental shelf in the middle Atlantic, mid-shelf off southern NE, all areas of GOME	25 - 200	Bottom habitats with substrates of a sandshell mix, algae covered rocks, hard sand, pebbly gravel, or mud
Monkfish	adult	Outer continental shelf in the middle Atlantic, mid-shelf off southern NE, outer perimeter of GB, all areas of GOME	25 - 200	Bottom habitats with substrates of a sandshell mix, algae covered rocks, hard sand, pebbly gravel, or mud
Ocean pout	eggs	GOME, GB, southern NE, and middle Atlantic south to Delaware Bay, and the following estuaries: Passamaquoddy Bay to Saco Bay, Massachusetts and Cape Cod Bay	<50	Bottom habitats, generally in hard bottom sheltered nests, holes, or crevices
Ocean pout	juvenile	GOME, GB, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, and Cape Cod Bay	< 50	Bottom habitats in close proximity to hard bottom nesting areas
Ocean pout	adult	GOME, GB, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Saco Bay; Mass. Bay, Boston Harbor, and Cape Cod Bay	< 80	Bottom habitats, often smooth bottom near rocks or algae
Offshore hake	juvenile	Outer continental shelf of GB and southern NE south to Cape Hatteras, NC	170 - 350	Bottom habitats
Offshore hake	adult	Outer continental shelf of GB and southern NE south to Cape Hatteras, NC	150 - 380	Bottom habitats
Pollock	juvenile	GOME, GB, and the following estuaries: Passamaquoddy Bay to Saco Bay; Great Bay to Waquoit Bay; Long Island Sound, Great South Bay	0 – 250	Bottom habitats with aquatic vegetation or a substrate of sand, mud, or rocks
Pollock	adult	GOME, GB, southern NE, and middle Atlantic south to New Jersey and the following estuaries: Passamaquoddy Bay, Damariscotta R., Mass Bay, Cape Cod Bay, Long Island Sound	15 – 365	Hard bottom habitats including artificial reefs
Red hake	juvenile	GOME, GB, continental shelf off southern NE, and middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Saco Bay; Great Bay, Mass. Bay to Cape Cod Bay; Buzzards Bay to Conn. R.; Hudson R./ Raritan Bay, and Chesapeake Bay	< 100	Bottom habitats with substrate of shell fragments, including areas with an abundance of live scallops
Red hake	adult	GOME, GB, continental shelf off southern NE, and middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Saco Bay; Great Bay, Mass. Bay to Cape Cod Bay; Buzzards Bay to Conn. R.; Hudson R./ Raritan Bay, Delaware Bay, and Chesapeake Bay	10 - 130	Bottom habitats in depressions with a substrate of sand and mud

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Redfish	juvenile	GOME, southern edge of GB	25 - 400	Bottom habitats with a substrate of silt, mud, or hard bottom
Redfish	adult	GOME, southern edge of GB	50 - 350	Bottom habitats with a substrate of silt, mud, or hard bottom
Silver hake	juvenile	GOME, GB, continental shelf off southern NE, middle Atlantic south to Cape Hatteras and the following estuaries: Passamaquoddy Bay to Casco Bay, Mass. Bay to Cape Cod Bay	20 - 270	Bottom habitats of all substrate types
Winter flounder	adult	GB, inshore areas of GOME, southern NE, middle Atlantic south to Delaware Bay and the following estuaries: Passamaquoddy Bay to Chincoteague Bay	1 - 100	Bottom habitats including estuaries with substrates of mud, sand and gravel
Witch flounder	juvenile	GOME, outer continental shelf from GB south to Cape Hatteras	50 - 450 to 1500	Bottom habitats with fine grained substrate
Witch flounder	adult	GOME, outer continental shelf from GB south to Chesapeake Bay	25 - 300	Bottom habitats with fine grained substrate
Yellowtail flounder	adult	GB, GOME, southern NE continental shelf south to Delaware Bay and the following estuaries: Sheepscot R., Casco Bay, Mass. Bay to Cape Cod Bay	20 - 50	Bottom habitats with substrate of sand or sand and mud
Black sea bass	juvenile	Demersal waters over continental shelf from GOME to Cape Hatteras, NC, also includes estuaries from Buzzards Bay to Long Island Sound; Gardiners Bay, Barnegat Bay to Chesapeake Bay; Tangier/ Pocomoke Sound, and James River	1 - 38	Rough bottom, shellfish and eelgrass beds, manmade structures in sandy-shelly areas, offshore clam beds, and shell patches may be used during wintering
Black sea bass	adult	Demersal waters over continental shelf from GOME to Cape Hatteras, NC, also includes estuaries: Buzzards Bay, Narragansett Bay, Gardiners Bay, Great South Bay, Barnegat Bay to Chesapeake Bay; Tangier/ Pocomoke Sound, and James River	20 - 50	Structured habitats (natural and manmade), sand and shell substrates preferred
Scup	juvenile	Continental shelf from GOME to Cape Hatteras, NC includes the following estuaries: Mass. Bay, Cape Cod Bay to Long Island Sound; Gardiners Bay to Delaware Inland Bays; and Chesapeake Bay	(0 - 38)	Demersal waters north of Cape Hatteras and inshore on various sands, mud, mussel, and eelgrass bed type substrates
Tilefish	juvenile	US/Canadian boundary to VA/NC boundary (shelf break, submarine canyon walls, and flanks: GB to Cape Hatteras)	76 - 365	Rough bottom, small burrows, and sheltered areas; substrate rocky, stiff clay, human debris
Tilefish	adult	US/Canadian boundary to VA/NC boundary (shelf break, submarine canyon walls, and flanks: GB to Cape Hatteras)	76 - 365	Rough bottom, small burrows, and sheltered areas; substrate rocky, stiff clay, human debris

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Barndoor skate	juvenile	Eastern GOME, GB, Southern NE, Mid-Atlantic Bight to Hudson Canyon	10 - 750, mostly < 150	Bottom habitats with mud, gravel, and sand substrates
Barndoor skate	adult	Eastern GOME, GB, Southern NE, Mid-Atlantic Bight to Hudson Canyon	10 - 750, mostly < 150	Bottom habitats with mud, gravel, and sand substrates
Clearnose skate	juvenile	GOME, along shelf to Cape Hatteras, NC; includes the estuaries from Hudson River/Raritan Bay south to the Chesapeake Bay mainstem	0 – 500, mostly < 111	Bottom habitats with substrate of soft bottom along continental shelf and rocky or gravelly bottom
Clearnose skate	adult	GOME, along shelf to Cape Hatteras, NC; includes the estuaries from Hudson River/Raritan Bay south to the Chesapeake Bay mainstem	0 – 500, mostly < 111	Bottom habitats with substrate of soft bottom along continental shelf and rocky or gravelly bottom
Little skate	juvenile	GB through Mid-Atlantic Bight to Cape Hatteras, NC; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 137, mostly 73 - 91	Bottom habitats with sandy or gravelly substrate or mud
Little skate	adult	GB through Mid-Atlantic Bight to Cape Hatteras, NC; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 137, mostly 73 - 91	Bottom habitats with sandy or gravelly substrate or mud
Rosette skate	juvenile	Nantucket shoals and southern edge of GB to Cape Hatteras, NC	33 - 530, mostly 74 - 274	Bottom habitats with soft substrate, including sand/mud bottoms, mud with echinoid and ophiuroid fragments, and shell and pteropod ooze
Rosette skate	adult	Nantucket shoals and southern edge of GB to Cape Hatteras, NC	33 - 530, mostly 74 - 274	Bottom habitats with soft substrate, including sand/mud bottoms, mud with echinoid and ophiuroid fragments, and shell and pteropod ooze
Smooth skate	juvenile	Offshore banks of GOME	31 – 874, mostly 110 - 457	Bottom habitats with a substrate of soft mud (silt and clay), sand, broken shells, gravel and pebbles
Smooth skate	adult	Offshore banks of GOME	31 – 874, mostly 110 - 457	Bottom habitats with a substrate of soft mud (silt and clay), sand, broken shells, gravel and pebbles
Thorny skate	juvenile	GOME and GB	18 - 2000, mostly 111 - 366	Bottom habitats with a substrate of sand, gravel, broken shell, pebbles, and soft mud
Thorny skate	adult	GOME and GB	18 - 2000, mostly 111 - 366	Bottom habitats with a substrate of sand, gravel, broken shell, pebbles, and soft mud

Species	Life Stage	Geographic Area of EFH	Depth (meters)	EFH Description
Winter skate	juvenile	Cape Cod Bay, GB, southern NE shelf through Mid-Atlantic Bight to North Carolina; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 371, mostly < 111	Bottom habitats with substrate of sand and gravel or mud
Winter skate	adult	Cape Cod Bay, GB southern NE shelf through Mid-Atlantic Bight to North Carolina; includes the estuaries from Buzzards Bay south to the Chesapeake Bay mainstem	0 - 371, mostly < 111	Bottom habitats with substrate of sand and gravel or mud
White hake	juvenile	GOME, southern edge of GB, southern NE to middle Atlantic and the following estuaries: Passamaquoddy Bay to Great Bay; Mass. Bay to Cape Cod Bay	5 - 225	Pelagic stage - pelagic waters; demersal stage - bottom habitat with seagrass beds or substrate of mud or fine grained sand

Table 11 EFH descriptions for all benthic life stages of federally-managed species in the U.S. Northeast Shelf Ecosystem with EFH vulnerable to bottom tending gear (see Stevenson et al. 2004)

4.5 Human Environment, Vessels, Ports and Communities

This section updates information provided in the annual SAFE Report for the Monkfish FMP, adding data for FY2009.

4.5.1 Vessels and Fishery Sectors

The following sections show the distribution of effort and landings by permit category, area and gear type.

4.5.1.1 Permits

In 2009, there were 758 monkfish limited access permits, of which 340 were Category C permits holding limited access permits in either a Multispecies (60%) or Scallop (48%) fisheries, and 351 were Category D permits, primarily (99%) holding limited access Multispecies permits. With the implementation of Amendment 11 to the Atlantic Sea Scallop FMP in March 2010, 329 limited access monkfish vessels were issued Limited Access General Category Scallop permits (Table 12). Overall, 73% of monkfish limited access permit holders also hold multispecies limited access permits. Vessels in all monkfish permit categories also hold limited access permits in a number of New England and Mid-Atlantic fisheries. Since Amendment 2, there are an additional seven Category H limited access permits issued for vessels fishing off the North Carolina/Virginia coast.

MONKFISH PERMIT CATEGORY	NUMBER OF MONKFISH PERMITS	NUMBER OF MONKFISH VESSELS ALSO ISSUED A LIMITED ACCESS PERMIT FOR:											
		BLACK SEA BASS	SUMMER FLOUNDER	HERRING	LAGC IFQ SCALLOP	LOBSTER	MULTI-SPECIES	OCEAN QUAHOG	RED CRAB	SCALLOP	SCUP	SQUID/ MACKEREL/ BUTTERFISH	TILEFISH
A	21	12	6	1	3	13	2				10	1	1
B	39	21	6		3	16	3				11	1	3
C	340	129	260	20	174	286	205			163	145	114	1
D	351	123	207	28	148	321	346			18	153	103	6
H	7	2			1								
TOTAL	758	287	479	49	329	636	556	0	0	181	319	219	11

MONKFISH PERMIT CATEGORY	NUMBER OF MONKFISH PERMITS	PERCENT OF MONKFISH VESSELS ALSO ISSUED A LIMITED ACCESS PERMIT FOR:											
		BLACK SEA BASS	SUMMER FLOUNDER	HERRING	LAGC IFQ SCALLOP	LOBSTER	MULTI-SPECIES	OCEAN QUAHOG	RED CRAB	SCALLOP	SCUP	SQUID/ MACKEREL/ BUTTERFISH	TILEFISH
A	21	57%	29%	5%	14%	62%	10%	0%	0%	0%	48%	5%	5%
B	39	54%	15%	0%	8%	41%	8%	0%	0%	0%	28%	3%	8%
C	340	38%	76%	6%	51%	84%	60%	0%	0%	48%	43%	34%	0%
D	351	35%	59%	8%	42%	91%	99%	0%	0%	5%	44%	29%	2%
H	7	29%	0%	0%	14%	0%	0%	0%	0%	0%	0%	0%	0%
TOTAL	758	38%	63%	6%	43%	84%	73%	0%	0%	24%	42%	29%	1%

Table 12 Number and Percent of monkfish limited access vessels also issued a limited access permit in other fisheries in 2009, by permit category

The FMP also provides an open-access permit (Category E) for vessels that did not qualify for a limited access permit so those vessels can land monkfish caught incidentally in other fisheries. Table 13 shows that the number of category E permits increased rapidly during the first few years of the FMP, but has declined steadily since 2005, from 2,379 permits to 2,066 permits in 2009.

Fishing Year	Number of permits
1999	1466
2000	1882
2001	1991
2002	2142
2003	2120
2004	2256
2005	2379
2006	2310
2007	2265
2008	2163
2009	2066
TOTAL	4329

Table 13 Monkfish open-access (Category E) permits issued each year since implementation of the FMP in 1999.

The “total” is the number of unique Category E permits issued since inception of the plan.

4.5.1.2 Landings and Revenues

Table 14 shows monthly landings for FY2009 by area and gear, as well as total monthly landings since FY2002. Table 15 shows annual landings by management area and gear for FY1999-FY2009. Landings in both areas combined have declined each year since FY2005, and are approximately 40% of what they were at the peak in FY2003, and were at the lowest level since the inception of the FMP in 1999 (Figure 3). Monkfish landings increased between FY2002 and FY2003, principally due to the increase trip limits in the SMA but declined in FY2004 as trip limits and DAS allocations were reduced in that area. In FY2005 total landings increased by 1,272 mt, or about 7% due to an increase in SMA landings as a result of increased trip limits and

DAS allocations, and in spite of a decline of 20% in NMA landings from the previous year. NMA landings have declined each year since FY2001, although trip limits were only established in FY2007, and in FY2008 were about 24% of what they were at the peak.

Table 16 shows monthly landings by gear from the dealer reports for FY2009, both as reported (landed weight) and converted to live weight. The lower landed weights reflect the fact that monkfish are landed as tails only, and as whole, gutted fish. The lower ratio of landed weight to live weight for otter trawls (0.38), compared to gillnets (0.74), is the result of a greater proportion of tails being landed by otter trawls, while gillnet vessels land mostly whole fish. Readers should note that Table 16 includes all landings in the dealer database, while other tables reporting landed weights are filtered by permit category, and, therefore, may not include some dealer landings for which there is no permit number associated.

Figure 4 shows the long-term trend in landings (live weight equivalent) and revenues based on a calendar year. While landings have declined over 69% since the pre-FMP peak in 1997, nominal revenues have only declined by 44% since that time. Table 17, which is based on fishing year and landed weights, not calendar year and live weights as in Figure 4, shows a similar trend in revenues, but a long-term trend of higher nominal prices as reflected in the revenue per landed wt. trend.

Figure 5 illustrates the seasonal pattern of monkfish landings in FY2009, and the distinct difference between NMA and SMA fisheries, not only in terms of seasonality, but also in terms of the predominant gear. In the NMA, trawl gear is the primary gear landing monkfish, with gillnet gear landings making up a small proportion during the winter months, but a much larger proportion during the summer months. In the SMA, on the other hand, gillnet gear accounts for the majority of monkfish landings, with a peak in the late spring/early summer months when fish are migrating from deeper water, and showing less of a winter effect. Figure 6 shows the annual distribution of landings by gear for each area since FY1999. While the NMA pattern is fairly consistent over that period in terms of the proportion landed by gear type, the proportion of landings accounted for by trawl vessels has declined in the SMA, although it nearly doubled in FY2005 from the previous year.

	MAY - 2009	JUN - 2009	JUL - 2009	AUG - 2009	SEP - 2009	OCT - 2009	NOV - 2009	DEC - 2009	JAN - 2010	FEB - 2010	MAR - 2010	APR - 2010	MAY 2009 - APRIL 2010		2009*		2008*		Fishing Year* Landings
	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Metric Tons	Percent of Area	May09-Apr10 as a % of Target TAC	Target TAC Metric Tons	May08-Apr09 as a % of Target TAC	Target TAC Metric Tons	Metric Tons
NORTHERN	127	280	330	250	239	266	231	168	336	435	449	232	3,343	41%	67%	5,000	71%	5,000	
OTTER TRAWL	100	189	177	108	147	215	178	131	328	434	448	229	2,683	33%	54%		56%		
GILLNET	25	87	152	134	81	51	50	36	8	1	1	3	629	8%	13%		14%		
HOOK	0	0	0	0	0	0	0	0	0	0	0	0	1	0%	0%		0%		
OTHER GEARS	2	4	2	9	11	0	2	1	0	0	0	0	30	0%	1%		1%		
SOUTHERN	1,125	903	317	145	92	213	324	250	417	261	195	563	4,805	59%	94%	5,100	132%	5,100	
OTTER TRAWL	49	41	11	17	32	48	54	113	82	88	82	92	709	9%	14%		28%		
GILLNET	978	670	162	37	19	149	240	119	295	150	91	414	3,325	41%	65%		87%		
HOOK	0	0	0	0	0	0	0	0	0	0	0	0	0	0%	0%		0%		
OTHER GEARS	98	191	143	91	41	16	30	17	41	23	23	57	771	9%	15%		18%		
ALL AREAS	1,253	1,182	647	396	331	479	554	418	753	696	644	795	8,148	100%					
OTTER TRAWL	149	230	188	125	179	264	232	244	410	522	530	321	3,393	42%					
GILLNET	1,003	757	314	170	100	200	290	156	303	151	92	418	3,954	49%					
HOOK	0	0	0	0	0	0	0	0	0	0	0	0	1	0%					
OTHER GEARS	100	196	145	100	51	16	32	18	41	23	23	57	801	10%					
LANDINGS - ALL AREAS																			
Fishing Year 2009	1,253	1,182	647	396	331	479	554	418	753	696	644	795	8,148						8,148
Fishing Year 2008	1,641	1,359	674	537	539	665	808	812	1,084	703	634	824	10,279						10,279
Fishing Year 2007	1,413	1,206	917	776	695	934	1,163	1,314	1,088	897	737	1,090	12,230						12,230
Fishing Year 2006	1,314	1,490	1,181	909	880	1,104	1,140	1,130	967	671	951	848	12,586						12,586
Fishing Year 2005	2,040	3,040	1,862	1,487	1,343	1,100	1,616	1,413	1,523	1,143	1,309	1,313	19,189						19,189
Fishing Year 2004	1,806	1,979	1,581	1,380	1,304	1,243	1,803	1,681	1,264	1,173	1,235	1,478	17,927						17,927
Fishing Year 2003	2,681	3,199	1,913	1,746	1,420	2,253	2,823	1,907	1,976	2,386	2,172	1,797	26,273						26,273
Fishing Year 2002	1,574	2,093	1,489	1,382	1,524	1,643	1,937	2,203	2,015	1,762	2,631	1,553	21,807						21,807

1. The three digit statistical areas defined below are for statistical and management purposes and may not be consistent with stock area delineation used for biological assessment (see the attached statistical chart).

Monkfish Stock Areas: Northern: 464-465, 467, 511-515, 521-522, 561-562
Southern: 525-526, 533-534, 537-539, 541-543, 611-639

2. Landings in live weight.
3. Gear data are based on vessel trip reports.
* Fishing Year is May 1 through April 30.

Table 14 Monkfish landings by area, gear and month for FY2009 (converted to live weight).

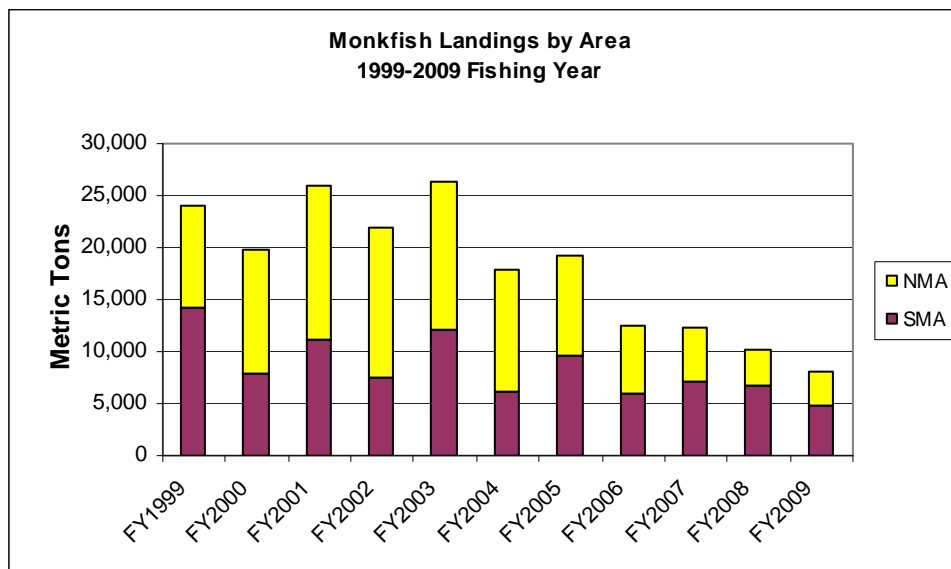


Figure 3 Monkfish landings by management area, FY1999 – 2009

Metric tons	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
NORTHERN	9,720	11,859	14,853	14,491	14,155	11,750	9,533	6677	5,050	3,528	3,343
OTTER TRAWL	7,568	8,608	11,132	11,247	10,972	8,290	7,104	4808	3,786	2,798	2,683
GILLNET	1,651	2,947	3,416	3,152	3,031	3,410	2,364	1738	1,065	702	629
HOOK	0	0	1	0	0	2	3	2	0	0	1
OTHER GEARS	501	304	303	92	151	49	63	130	199	28	30
	0	0	0	0	0	0					
SOUTHERN	14,311	7,960	11,069	7,478	12,197	6,193	9,656	5909	7,180	6,751	4,805
OTTER TRAWL	5,382	3,359	2,628	1,114	1,633	1,458	2,673	1734	1,454	1,410	709
GILLNET	6,953	3,155	6,799	5,359	9,325	3,959	6,133	3365	4,514	4,428	3,325
HOOK	1	1	0	1	0	2	0	0	0	0	0
OTHER GEARS	1,975	1,445	1,643	1,005	1,238	776	850	810	1,212	912	771
	0	0	0	0	0	0					
ALL AREAS	24,031	19,819	25,922	21,969	26,352	17,943	19,189	12586	12,230	10,279	8,148
OTTER TRAWL	12,950	11,967	13,760	12,361	12,605	9,748	9,777	6542	5,240	4,208	3,393
GILLNET	8,604	6,102	10,214	8,510	12,356	7,369	8,497	5103	5,579	5,130	3,954
HOOK	1	2	1	1	1	4	3	2	0	0	1
OTHER GEARS	2,475	1,749	1,946	1,097	1,389	825	913	940	1,411	941	801

Table 15 Monkfish landings by management area and gear, FY1999 – 2009

LIVE WEIGHT for FY 2009

Month	Otter Trawl	Scallop Dredge	Gillnet	Hook	Other	Total Pounds
May	363,008	54,589	1,943,985	4,048	303,949	2,669,579
June	466,674	162,408	1,380,479	5,512	502,359	2,517,432
July	267,203	140,494	550,588	12,397	421,155	1,391,837
August	245,300	87,208	313,408	6,235	200,860	853,011
September	351,427	56,640	177,424	6,440	136,889	728,820
October	467,948	29,135	351,723	5,709	166,882	1,021,397
November	432,787	22,276	468,772	4,955	208,492	1,137,282
December	489,505	18,896	277,029	3,125	99,218	887,773
January	754,539	47,498	584,675	465	254,139	1,641,316
February	808,480	37,912	325,433	283	345,983	1,518,091
March	899,617	32,553	204,883	39	279,124	1,416,216
April	643,496	88,707	770,189	955	200,045	1,703,392
TOTAL	6,189,984	778,316	7,348,588	50,163	3,119,095	17,486,146

Source: NMFS Statistics Office, dealer weighout database

LANDED WEIGHT for FY 2009

Month	Otter Trawl	Scallop Dredge	Gillnet	Hook	Other	Total Pounds
May	129,374	20,667	1,635,429	3,896	150,929	1,940,295
June	154,754	54,324	1,127,073	2,088	199,697	1,537,936
July	88,076	45,680	374,058	4,049	158,745	670,608
August	80,501	26,781	182,769	2,019	69,376	361,446
September	115,077	17,222	89,224	2,368	45,095	268,986
October	157,899	8,814	262,813	1,824	81,105	512,455
November	150,991	8,102	355,254	2,383	104,521	621,251
December	171,469	6,831	194,399	2,339	43,936	418,974
January	277,386	15,632	524,124	354	85,627	903,123
February	275,855	12,211	300,878	225	113,071	702,240
March	311,141	10,734	184,387	12	94,831	601,105
April	232,953	28,705	689,074	830	69,002	1,020,564
TOTAL	2,145,476	255,703	5,919,482	22,387	1,215,935	9,558,983

Table 16 FY2009 monkfish landings from dealer reports, showing live weight (top) and landed weights (bottom).

Note: does not include landings in the dealer database for which there is no permit number associated, while other tables reporting landed weights are not filtered by permit category, and, therefore, include all dealer landings

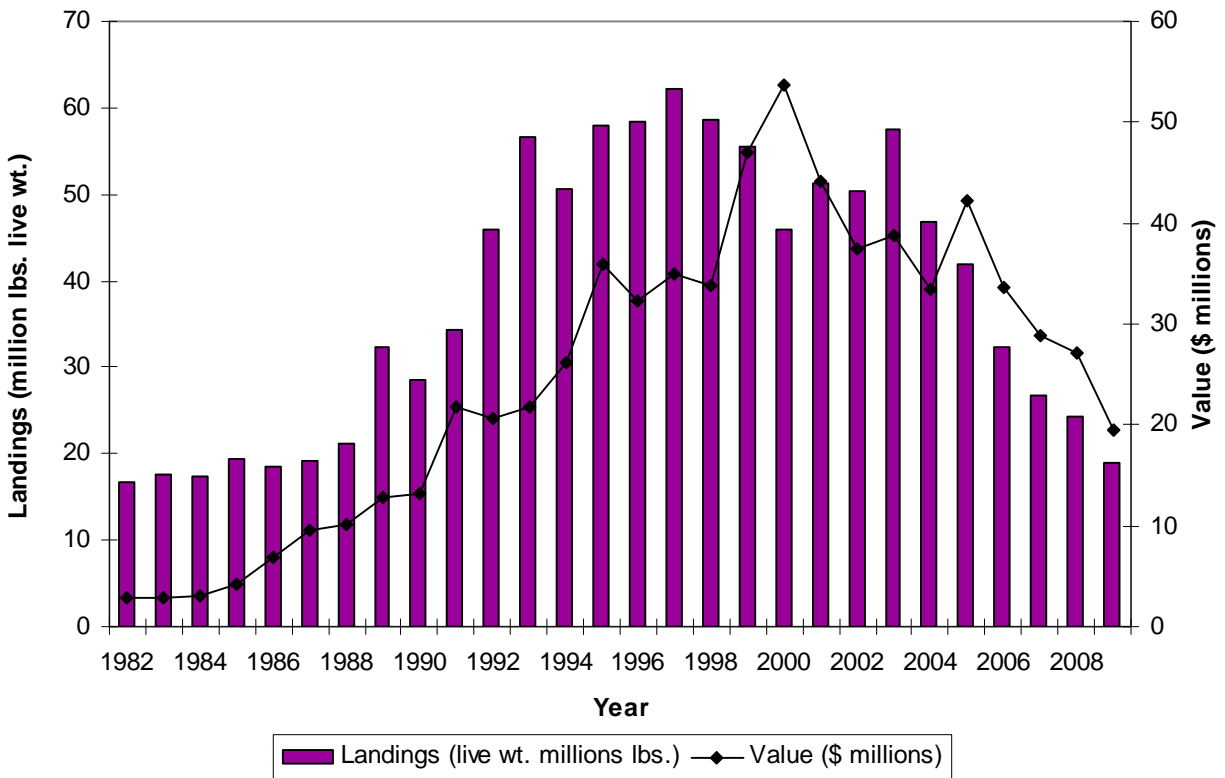


Figure 4 Calendar year monkfish landings and revenues, 1982-2009.

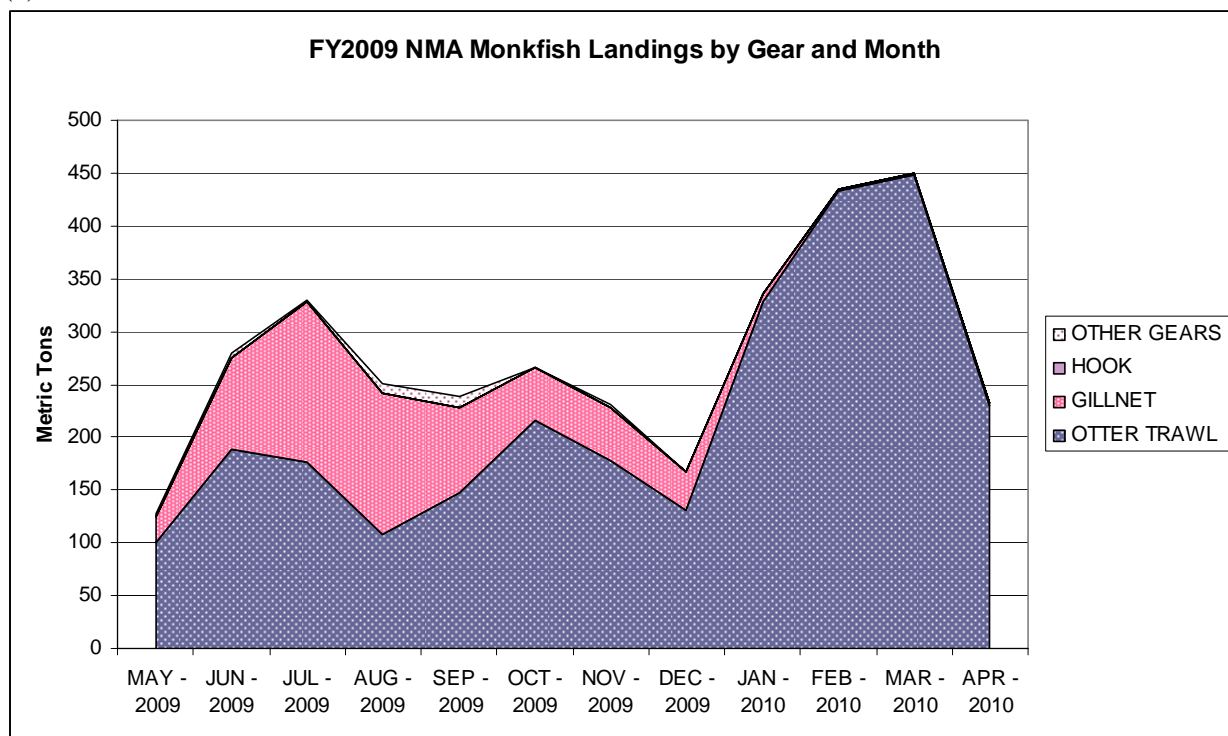
Fishing Year (May 1 - April 30)	Landings* (1,000 lbs. landed wt.)	Revenues* (\$1,000)
1995	18,416	\$24,759
1996	20,733	\$26,188
1997	21,774	\$30,127
1998	24,156	\$34,682
1999	26,077	\$48,714
2000	23,423	\$46,123
2001	30,520	\$42,354
2002	25,312	\$35,256
2003	29,373	\$37,551
2004	18,405	\$30,981
2005	22,806	\$42,646
2006	14,749	\$28,549
2007	14,136	\$29,001
2008	11,610	\$23,144
2009	9,408	\$18,220

* May include data from CT vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 17 Fishing year landings (in landed weights) and revenues, and revenue per landed wt., 1995 – 2009

(a)



(b)

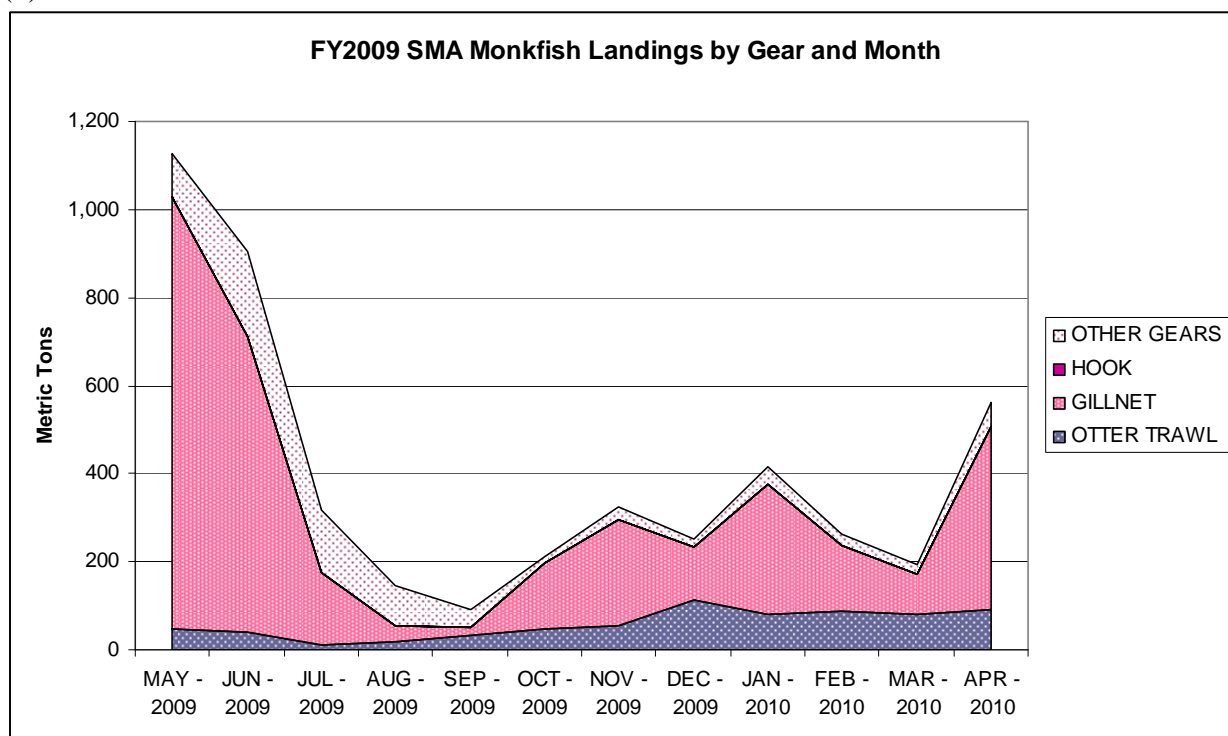
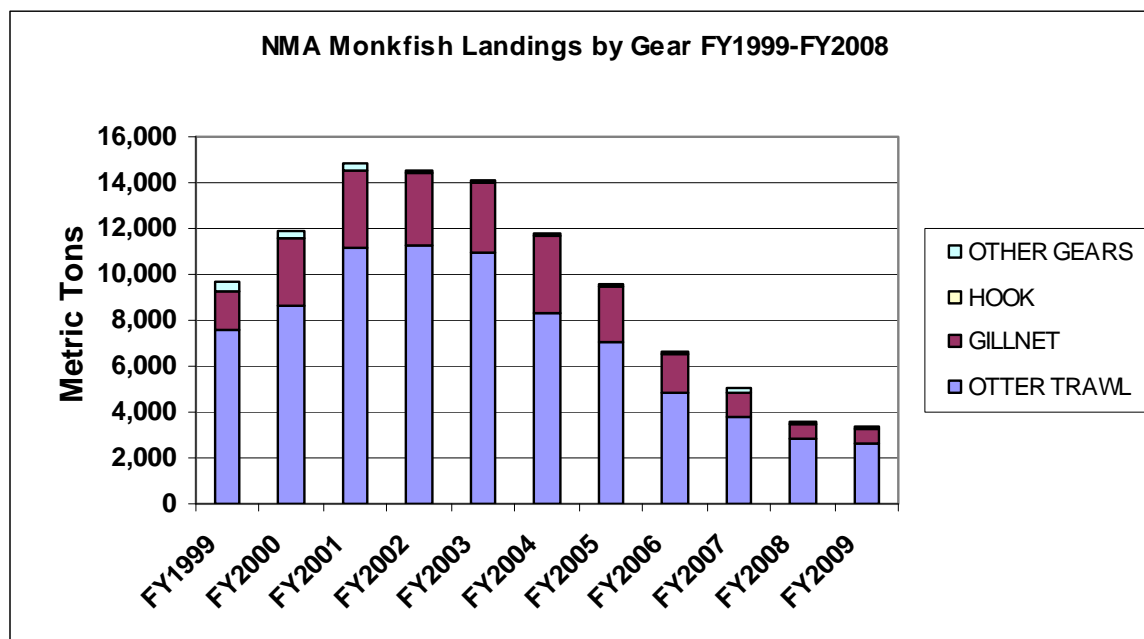


Figure 5 FY2009 NMA (a) and SMA (b) monkfish landings by gear and month

(a)



(b)

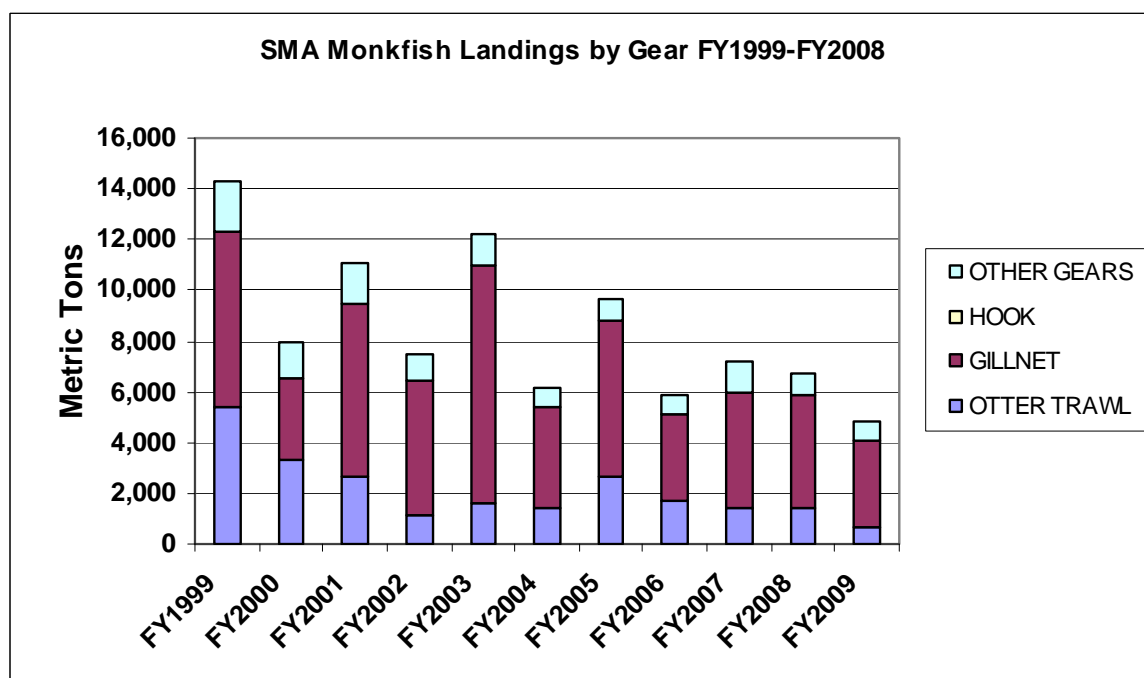


Figure 6 NMA (a) and SMA (b) monkfish landings by gear, FY1999 – 2009

While Massachusetts continues to account for the greatest proportion of all monkfish landings, all states have seen an overall decline in monkfish landings (Table 18) in recent years. The state with the largest decline has been Maine, which used to be among the top two or three, and was in 2009 7th out of 10, leading only Maryland, North Carolina, and New Hampshire. New Hampshire has also shown a marked decline after rising in importance through the early years of the FMP. Landings in Maine and New Hampshire are nearly entirely from the northern stock component, and the recent decline in those states' landings is reflective of the overall decline in landings from the northern stock component.

Table 19 and Table 20, below, show monkfish landings and revenues as a percentage of total landings and revenues by permit categories for FY1995 – 2009. For years prior to 2001, data is based on vessels that held a monkfish permit in 2001. For later years, the data is based on vessels that held a permit in those years. Data for Connecticut is shown separately because there may have been landings by vessels that did not have a Federal permit in 2001 – 2004 due to the way that state's landings are reported to NMFS.

Category A and B vessels continue to show a proportionally higher dependence on monkfish than Category C and D vessels, which also hold limited access permits in either scallops or multispecies. Category C vessels, of which 48% also hold scallop limited access permits, have seen their dependence on monkfish revenues decline steadily as revenues from scallops have increased. In FY2009, these vessels obtained only 3.1% of their total revenues from monkfish compared to approximately 13% prior to the implementation of the FMP and the rebound in the scallop resource.

When viewed by vessel length category (Table 21 and Table 22), a decreased reliance on monkfish is evident for all size classes since peaking in 1999-2001, especially in most recent years.

When viewed in aggregate, vessels that hold a monkfish permit are not significantly reliant on monkfish, as monkfish has accounted for less than 10% of total revenues during FY1995-2003, Table 23 and Table 24, and approximately 4% in FY2006-2009. While prior to FY2004 the proportion of monkfish remained relatively constant (4-5% of landings, 7-11% of revenues), it has declined in recent years. The proportion of most other species remained relatively constant, although the proportion of scallop landings and revenues has increased substantially, reflecting improvements in the scallop fishery in recent years.

STATE	Thousands of Pounds of Monkfish														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
CT*	1,029	733	592	574	557	603	787	455	585	373	420	294	315	305	338
MA	10,023	8,955	9,893	11,353	11,167	10,643	12,298	10,684	12,066	8,655	10,975	7,264	6,125	4,760	4,148
MD	178	524	382	322	341	107	158	38	119	56	140	106	158	132	48
ME	1,815	1,932	2,102	1,986	3,193	3,993	5,012	4,971	3,727	2,950	2,136	987	525	303	178
NC	0	431	445	395	432	166	167	112	187	44	83	97	3	50	0
NH	329	401	523	452	801	1,477	1,928	1,233	920	1,125	825	442	200	157	125
NJ	1,414	2,321	2,680	3,903	4,372	2,825	5,261	3,886	5,349	2,128	3,254	2,523	3,021	2,666	1,601
NY	248	513	654	775	573	435	707	694	1,044	613	1,167	739	1,147	831	796
RI	2,829	4,080	3,732	3,597	3,969	2,720	3,519	2,808	4,618	2,083	2,972	1,833	2,083	1,883	1,673
VA	550	841	773	799	671	455	683	431	758	379	835	463	559	524	500
TOTAL	18,416	20,733	21,774	24,156	26,077	23,423	30,520	25,312	29,373	18,405	22,806	14,749	14,136	11,610	9,408

Source: NMFS Statistics Office, dealer weighout database & permit database

* May include data from CT vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 18 Monkfish landings by state (landed weight), FY1995-2009

Monkfish Permit Category	1,000 pounds, landed weight														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A	453	817	563	1,093	1,277	845	1,152	1,072	1,375	777	1,147	631	932	992	728
% of Total A Landings	49.1%	54.1%	13.4%	10.0%	20.5%	6.5%	6.8%	4.6%	4.9%	6.7%	12.7%	9.6%	8.3%	8.6%	9.0%
B	322	583	479	992	1,474	1,050	2,084	1,594	1,932	819	1,817	1,204	1,617	1,549	1,093
% of Total B Landings	14.0%	18.2%	23.4%	24.1%	36.9%	30.2%	46.4%	40.1%	48.9%	26.4%	42.6%	37.4%	44.3%	47.6%	26.8%
C	11,504	12,322	12,364	12,144	11,876	10,583	12,708	10,360	11,022	6,870	8,528	5,569	4,935	3,738	3,238
% of Total C Landings	10.4%	9.3%	7.5%	8.2%	8.5%	6.9%	6.4%	7.9%	8.5%	5.4%	8.4%	6.2%	5.3%	3.8%	3.3%
D	4,094	5,020	6,139	7,509	8,982	8,905	11,974	10,388	12,969	8,414	9,393	5,831	5,323	4,448	3,637
% of Total D Landings	4.6%	5.3%	5.8%	6.7%	11.1%	9.7%	11.7%	9.9%	12.9%	8.5%	10.9%	8.0%	7.3%	5.7%	4.3%
H											280	242	183	228	208
% of Total H Landings											27.9%	19.4%	24.1%	23.9%	32.7%
E (Open Access)	1,014	1,257	1,637	1,845	1,911	1,459	1,816	1,450	1,492	1,152	1,222	978	882	596	401
% of Total E Landings	0.5%	0.6%	0.5%	0.6%	0.8%	0.6%	0.7%	0.6%	0.4%	0.3%	0.3%	0.3%	0.3%	0.2%	0.1%
CT	1,029	733	592	574	557	580	787	448	583	373	420	294	263	61	102
% of Total CT Landings	5.7%	4.0%	3.3%	3.5%	2.9%	3.3%	4.5%	2.9%	3.8%	2.4%	3.2%	2.8%	3.1%	2.0%	5.7%
TOTAL MONK LANDED	18,416	20,733	21,774	24,156	26,077	23,423	30,520	25,312	29,373	18,405	22,806	14,749	14,136	11,610	9,408

Source: NMFS Statistics Office, dealer weighout database

* May include data from CT vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 19 Monkfish landings as a percent of total landings by permit category, 1995-2009.

Monkfish Permit Category	\$1,000, nominal (not discounted)														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
A	\$582	\$849	\$663	\$1,262	\$2,011	\$1,428	\$1,615	\$1,439	\$1,432	\$946	\$1,870	\$1,006	\$1,296	\$1,405	\$992
% of Total A Revenues	36.9%	41.4%	35.7%	51.2%	63.5%	46.6%	50.6%	42.5%	35.8%	32.5%	50.5%	35.3%	40.0%	33.1%	32.8%
B	\$391	\$583	\$552	\$1,183	\$2,528	\$1,699	\$2,828	\$2,099	\$1,998	\$992	\$2,837	\$1,785	\$2,263	\$2,075	\$1,546
% of Total B Revenues	24.6%	33.5%	38.7%	49.6%	62.2%	48.1%	60.3%	53.3%	54.2%	29.1%	50.1%	41.7%	45.7%	51.6%	35.8%
C	\$16,014	\$16,423	\$18,091	\$18,501	\$23,250	\$22,380	\$17,503	\$14,715	\$15,579	\$13,011	\$16,945	\$11,771	\$12,219	\$8,878	\$7,615
% of Total C Revenues	13.0%	12.0%	13.3%	14.0%	13.5%	11.5%	9.2%	7.4%	7.1%	5.1%	6.1%	4.6%	4.8%	3.7%	3.1%
D	\$4,736	\$5,649	\$7,514	\$10,076	\$16,043	\$16,620	\$16,836	\$14,434	\$15,766	\$13,556	\$17,508	\$11,235	\$10,301	\$8,783	\$6,714
% of Total D Revenues	8.2%	9.3%	11.2%	14.9%	20.4%	19.9%	20.2%	17.3%	18.4%	14.9%	17.6%	12.1%	11.7%	9.8%	8.0%
H											\$398	\$338	\$217	\$251	\$219
% of Total H Revenues											43.8%	38.1%	33.0%	40.1%	39.9%
E (Open Access)	\$1,263	\$1,452	\$2,270	\$2,642	\$3,471	\$2,848	\$2,504	\$1,967	\$2,005	\$1,928	\$2,491	\$2,080	\$2,280	\$1,591	\$1,010
% of Total E Revenues	1.1%	1.2%	1.7%	2.1%	2.4%	1.9%	1.6%	1.2%	1.0%	0.8%	0.8%	0.7%	0.7%	0.5%	0.3%
CT	\$1,772	\$1,233	\$1,036	\$1,018	\$1,410	\$1,148	\$1,067	\$603	\$772	\$548	\$597	\$333	\$426	\$163	\$123
% of Total CT Revenues	4.1%	2.5%	3.1%	3.0%	3.6%	3.8%	3.5%	2.2%	2.5%	1.7%	1.6%	0.9%	1.1%	3.6%	1.3%
TOTAL MONK REVENUE	\$24,759	\$26,188	\$30,127	\$34,682	\$48,714	\$46,123	\$42,354	\$35,256	\$37,551	\$30,981	\$42,646	\$28,549	\$29,001	\$23,144	\$18,220

Source: NMFS Statistics Office, dealer weighout database

* May include data from CT vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 20 Monkfish revenues as a percent of total revenues by permit category, 1995-2009.

Vessel Length Category	1,000 pounds, landed weight														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
0-29 Feet	70	61	21	20	50	62	73	54	55	42	26	1	2	4	1
% of Total 0-29 Landings	11.7%	10.5%	3.1%	2.5%	6.9%	7.1%	6.8%	6.5%	8.5%	4.7%	1.9%	0.1%	0.4%	1.0%	0.1%
30-49 Feet	5,303	6,317	6,415	8,458	10,537	9,291	13,067	11,384	14,811	9,227	11,702	7,557	8,244	6,998	5,682
% of Total 30-49 Landings	8.7%	10.3%	10.7%	13.3%	18.5%	17.0%	24.0%	23.7%	28.3%	20.3%	23.1%	14.6%	15.3%	11.9%	9.3%
50-69 Feet	2,675	3,771	3,398	4,057	4,550	4,983	7,056	5,918	6,370	3,395	4,254	2,235	2,070	1,711	1,453
% of Total 50-69 Landings	3.5%	4.7%	3.2%	4.7%	5.5%	5.9%	8.7%	7.6%	8.4%	4.8%	6.7%	3.8%	3.6%	2.7%	1.9%
70-89 Feet	7,228	8,208	9,629	9,217	8,904	7,469	8,250	6,846	6,749	4,750	5,805	4,257	3,060	2,467	1,867
% of Total 70-89 Landings	4.0%	4.4%	3.6%	3.8%	4.0%	3.4%	3.5%	3.1%	2.9%	2.0%	2.9%	2.3%	1.7%	1.3%	1.1%
90+ Feet	2,109	1,643	1,718	1,830	1,480	1,038	1,285	662	805	619	600	406	497	369	304
% of Total 90+ Landings	2.1%	1.3%	1.2%	1.1%	1.2%	0.7%	0.6%	0.4%	0.3%	0.3%	0.2%	0.2%	0.2%	0.2%	0.1%
CT	1,029	733	592	574	557	580	787	448	583	373	420	294	263	61	102
% of Total CT Landings	5.7%	4.0%	3.3%	3.5%	2.9%	3.3%	4.5%	2.9%	3.8%	2.4%	3.2%	2.8%	3.1%	2.0%	5.7%
TOTAL MONK LANDED	18,416	20,733	21,774	24,156	26,077	23,423	30,520	25,312	29,373	18,405	22,806	14,749	14,136	11,610	9,408

Source: NMFS Statistics Office, dealer weighout database

* CT data may include landings from vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 21 Monkfish landings as a percent of total landings by vessel length category, 1995 - 2009

Vessel Length Category	\$1,000, nominal (not discounted)														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
0-29 Feet	\$72	\$60	\$34	\$25	\$99	\$98	\$98	\$66	\$61	\$57	\$42	\$2	\$6	\$12	\$2
% of Total 0-29 Revenues	8.3%	8.3%	3.3%	2.4%	8.9%	9.4%	8.4%	6.3%	6.4%	5.0%	3.0%	0.1%	0.4%	1.1%	0.2%
30-49 Feet	\$5,657	\$6,474	\$7,049	\$9,933	\$16,887	\$16,199	\$18,410	\$15,353	\$15,869	\$12,058	\$19,290	\$12,067	\$12,323	\$10,735	\$8,549
% of Total 30-49 Revenues	13.1%	15.1%	15.4%	20.2%	29.3%	29.3%	31.0%	27.9%	28.1%	20.3%	21.1%	14.2%	14.2%	12.1%	10.7%
50-69 Feet	\$3,524	\$4,530	\$4,488	\$5,718	\$8,669	\$9,963	\$9,931	\$8,458	\$8,595	\$6,498	\$8,619	\$5,094	\$5,397	\$4,079	\$3,480
% of Total 50-69 Revenues	7.2%	8.4%	7.7%	10.3%	13.0%	13.6%	13.5%	11.4%	11.0%	7.5%	8.4%	5.3%	5.7%	4.4%	4.0%
70-89 Feet	\$10,548	\$11,509	\$14,712	\$14,957	\$18,420	\$16,034	\$11,161	\$9,894	\$11,028	\$10,453	\$12,855	\$10,023	\$9,347	\$7,127	\$5,274
% of Total 70-89 Revenues	7.1%	7.2%	8.6%	8.8%	8.7%	6.8%	4.8%	4.0%	3.9%	3.0%	3.3%	2.7%	2.5%	2.1%	1.5%
90+ Feet	\$3,186	\$2,383	\$2,808	\$3,031	\$3,228	\$2,682	\$1,687	\$882	\$1,227	\$1,367	\$1,243	\$1,030	\$1,503	\$1,028	\$792
% of Total 90+ Revenues	5.6%	3.8%	4.7%	5.4%	4.9%	3.8%	2.3%	1.2%	1.4%	1.2%	1.0%	1.0%	1.4%	0.9%	0.7%
CT	\$1,772	\$1,233	\$1,036	\$1,018	\$1,410	\$1,148	\$1,067	\$603	\$772	\$548	\$597	\$333	\$426	\$163	\$123
% of Total CT Revenues	4.1%	2.5%	3.1%	3.0%	3.6%	3.8%	3.5%	2.2%	2.5%	1.7%	1.6%	0.9%	1.1%	3.6%	1.3%
TOTAL MONK REVENUE	\$24,759	\$26,188	\$30,127	\$34,682	\$48,714	\$46,123	\$42,354	\$35,256	\$37,551	\$30,981	\$42,646	\$28,549	\$29,001	\$23,144	\$18,220

Source: NMFS Statistics Office, dealer weighout database

* CT data may include landings from vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 22 Monkfish revenues as a percent of total revenues by vessel length category, 1995 – 2009

Species Category	1,000 pounds, landed weight														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Dogfish	33,914	32,392	23,902	34,127	22,942	6,742	4,129	3,632	2,298	1,673	2,321	4,499	2,918	4,515	8,582
Dogfish % of Total Landings	7.8%	6.8%	4.0%	5.9%	4.6%	1.3%	0.7%	0.7%	0.4%	0.3%	0.4%	0.9%	0.6%	0.8%	1.6%
Fluke	7,829	7,941	7,732	9,396	9,478	8,670	11,375	12,092	13,987	15,405	12,553	10,120	5,538	7,251	7,176
Fluke % of Total Landings	1.8%	1.7%	1.3%	1.6%	1.9%	1.7%	1.9%	2.3%	2.2%	2.5%	2.1%	2.0%	1.1%	1.3%	1.3%
Monkfish	18,416	20,733	21,774	24,156	26,077	23,423	30,520	25,312	29,373	18,405	22,806	14,749	14,136	11,610	9,408
Monkfish % of Total Landings	4.2%	4.3%	3.7%	4.2%	5.2%	4.5%	5.0%	4.8%	4.6%	3.0%	3.8%	2.9%	2.8%	2.1%	1.8%
Multispecies	47,365	53,830	62,951	67,977	68,654	88,081	102,517	83,362	81,387	77,579	64,510	48,645	59,015	66,254	64,285
Multispecies % of Total Landings	10.8%	11.3%	10.6%	11.7%	13.6%	16.8%	17.0%	16.0%	12.7%	12.7%	10.8%	9.5%	11.6%	11.9%	12.0%
Scallops	14,535	15,852	11,834	12,565	23,332	35,380	47,297	50,541	58,583	61,142	53,119	59,338	59,149	51,611	54,222
Scallops % of Total Landings	3.3%	3.3%	2.0%	2.2%	4.6%	6.8%	7.8%	9.7%	9.1%	10.0%	8.9%	11.6%	11.6%	9.3%	10.1%
Skates	9,134	17,503	16,740	18,756	18,061	17,643	17,987	16,849	20,907		15,475	15,858	20,999	20,113	19,994
Skates % of Total Landings	2.1%	3.7%	2.8%	3.2%	3.6%	3.4%	3.0%	3.2%	3.3%	0.0%	2.6%	3.1%	4.1%	3.6%	3.7%
Other	306,209	329,535	448,958	412,327	334,735	343,322	390,973	330,310	436,504	437,614	426,179	358,145	349,122	393,822	372,413
Other % of Total Landings	70.0%	69.0%	75.6%	71.2%	66.5%	65.6%	64.6%	63.3%	67.9%	71.5%	71.4%	70.0%	68.3%	70.9%	69.5%
TOTAL LBS. LANDED	437,402	477,786	593,890	579,303	503,280	523,261	604,797	522,098	643,039	611,818	596,963	511,355	510,877	555,176	536,080

Source: NMFS Statistics Office, dealer weightout database

* CT data may include landings from vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 23 FY1995-2009 Landings of monkfish and other species as a percent of total landings, on vessels with a monkfish permit in 2001 – 2009.

Species Category	\$1,000, nominal (not discounted)														
	FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	FY 2008	FY 2009
Dogfish	\$6,610	\$6,003	\$3,555	\$5,876	\$4,072	\$ 1,798	\$ 1,110	\$ 870	\$ 541	\$ 466	\$ 604	\$ 1,175	\$ 691	\$ 1,394	\$ 2,343
Dogfish % of Total Revenues	1.9%	1.6%	1.0%	1.6%	0.9%	0.4%	0.2%	0.2%	0.1%	0.1%	0.1%	0.2%	0.1%	0.2%	0.4%
Fluke	\$13,961	\$13,243	\$14,061	\$14,418	\$16,148	\$ 13,663	\$ 14,303	\$ 16,649	\$ 20,891	\$ 22,707	\$ 21,821	\$ 21,826	\$ 14,095	\$ 14,174	\$ 14,196
Fluke % of Total Revenues	4.1%	3.6%	3.8%	3.9%	3.7%	2.9%	3.1%	3.5%	3.9%	3.6%	2.9%	3.1%	2.0%	2.2%	2.2%
Monkfish	\$24,759	\$26,188	\$30,127	\$34,682	\$48,714	\$ 46,123	\$ 42,354	\$ 35,256	\$ 37,551	\$ 30,981	\$ 42,646	\$ 28,549	\$ 29,001	\$ 23,144	\$ 18,220
Monkfish % of Total Revenues	7.3%	7.1%	8.2%	9.5%	11.0%	9.9%	9.0%	7.3%	7.0%	4.9%	5.7%	4.1%	4.1%	3.6%	2.9%
Multispecies	\$57,323	\$60,825	\$71,309	\$82,758	\$83,994	\$ 93,590	\$ 102,072	\$ 98,877	\$ 89,008	\$ 81,986	\$ 83,512	\$ 74,454	\$ 81,434	\$ 82,148	\$ 77,026
Multispecies % of Total Revenues	16.8%	16.5%	19.3%	22.6%	19.0%	20.0%	21.8%	20.5%	16.5%	12.9%	11.2%	10.7%	11.5%	12.7%	12.1%
Scallops	\$75,624	\$92,763	\$76,005	\$72,999	\$122,812	\$ 169,407	\$ 171,466	\$ 201,193	\$ 244,876	\$ 337,708	\$ 414,797	\$ 379,528	\$ 390,248	\$ 352,610	\$ 360,510
Scallops % of Total Revenues	22.2%	25.2%	20.6%	19.9%	27.8%	36.3%	36.6%	41.8%	45.4%	53.1%	55.5%	54.7%	54.9%	54.6%	56.6%
Skates	\$2,708	\$5,440	\$3,071	\$3,471	\$3,234	\$ 3,598	\$ 3,105	\$ 3,489	\$ 4,524		\$ 4,363	\$ 5,460	\$ 6,503	\$ 5,504	\$ 5,924
Skates % of Total Revenues	0.8%	1.5%	0.8%	0.9%	0.7%	0.8%	0.7%	0.7%	0.8%	0.0%	0.6%	0.8%	0.9%	0.9%	0.9%
Other	\$159,711	\$163,907	\$171,432	\$152,363	\$162,812	\$ 138,606	\$ 133,675	\$ 125,062	\$ 142,400	\$ 161,801	\$ 178,999	\$ 183,384	\$ 188,432	\$ 166,774	\$ 158,574
Other % of Total Revenues	46.9%	44.5%	46.4%	41.6%	36.9%	29.7%	28.6%	26.0%	26.4%	25.5%	24.0%	26.4%	26.5%	25.8%	24.9%
TOTAL REVENUE	\$340,696	\$368,369	\$369,559	\$366,568	\$441,785	\$466,785	\$468,085	\$481,396	\$539,791	\$635,649	\$746,742	\$694,377	\$710,405	\$645,747	\$636,792

Source: NMFS Statistics Office, dealer weightout database

* CT data may include landings from vessels without a 2001-2009 Monkfish permit

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 24 FY1995-2009 Revenues of monkfish and other species as a percent of total landings, on vessels with a monkfish permit in 2001-2009.

4.5.1.3 Days-at-sea (DAS)

Starting in Year 2 of the FMP (May, 2000 –April, 2001) limited access monkfish vessels (Categories A, B, C, and D) were allocated 40 monkfish DAS. By definition, Category A and B vessels do not qualify for limited access multispecies or scallop permits, and Category C and D vessels must use either a multispecies or scallop DAS while on a monkfish DAS. Beginning in FY2005 seven vessels qualified for a permit Category H fishery under the provisions adopted in Amendment 2, for vessels fishing exclusively in the southernmost area of the fishery.

Until Framework 4 which took effect in FY2007, vessels were not required to use a monkfish DAS in the NMA, as there was no monkfish trip limit when a limited access vessel was on a multispecies DAS. Therefore, DAS usage was been well below the total DAS allocated, and primarily reflected monkfish fishing activity in the SMA. Starting in FY2007, vessels in both areas were required to use a monkfish DAS when exceeding the applicable incidental limit. The effect of this requirement shows the total DAS used increased from FY2006. DAS used by permit category since the inception of the plan is shown in Figure 7.

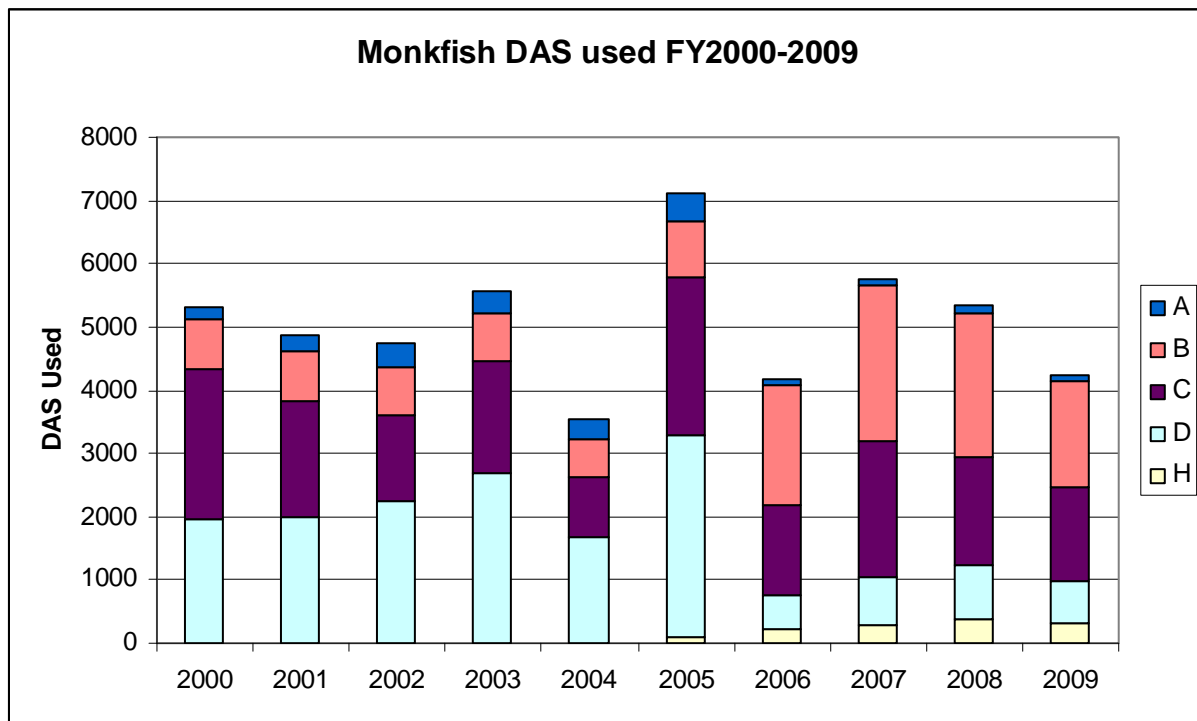


Figure 7 DAS used by permit category, FY2000 – 2009.

As shown in Table 25, only about one-third of the limited access vessels used at least one monkfish DAS in FY2009, and the total DAS used was only about one-fifth of the total allocated. This represents a substantial amount of latent effort in the fishery, however, even among active vessels (those that used at least one monkfish DAS), not all allocated DAS are used. Only about 55% of allocated DAS were used by active vessels. Part of this latent effort can

be explained by the fact that nearly one-half of the permit category C vessels, 153 vessels, are limited access scallop vessels who choose not to use a scallop DAS to target monkfish under the monkfish DAS usage requirements because of the greater profitability of using scallop DAS to target scallops (Table 26).

A second reason for the unused DAS, even among active vessels, appears to be the result of the low monkfish DAS usage rate by vessels fishing in the NMA. For active vessels, (i.e., those that used at least one DAS) in FY2009, the DAS usage rate is distinctly different between the two management areas. Of the 132 active vessels in the NMA most were not constrained by the allocation of 31 DAS, plus 4 carryover DAS, and the median number of DAS used in the NMA was 4.6 DAS (Figure 8). In contrast, among the 183 active vessels in the SMA the median number of DAS used was 17.2 of their 27 available DAS, (23 plus 4 carryover) (Figure 9). The usage rate declined in the SMA from a median of 22 DAS the previous year. All vessels fishing only in the SMA had 4 carryover DAS, regardless of DAS usage in the prior year, since their full allocation was 31 DAS, with a restriction that only 23 could be used in the SMA.

Permit Category	All Vessels			Active Vessels*		
	Total Number of Permits	DAS Allocated	DAS Used	Number of Active Vessels	DAS Allocated	DAS Used
A	21	636	331	17	515	331
B	39	1,182	653	33	1,000	653
C	340	10,302	1,472	82	2,485	1,472
D	351	10,635	1,687	115	3,485	1,687
H	7	212	92	6	182	92
TOTAL	758	22,967	4,236	253	7,666	4,236

Source: NMFS Allocation Management System (AMS) database.

* Active = vessels that used at least 1 Monk Fish DAS

Table 25 Monkfish DAS usage, FY 2009

Permit Category	Area	Number of Active Vessels	Monkfish	Monkfish/Multispecies	Monkfish/Scallop	DAS Used	Average DAS Usage
A	NMA	10	35	0	0	35	3.5
B	NMA	21	29	0	0	29	1.4
C	NMA	46	0	637	0	637	13.9
D	NMA	55	0	391	0	391	7.1
Total		132	63	1,028	0	1,091	8
A	SMA	17	297	0	0	297	17.4
B	SMA	33	625	0	0	625	18.9
C	SMA	47	0	835	0	835	17.8
D	SMA	80	0	1,297	0	1,297	16.2
H	SMA	6	0	90	0	90	15.1
Total		183	921	2,222	0	3,144	17.2

Source: NMFS Days-at-Sea (DAS) database.

* Active = vessels that used at least 1 Monk Fish DAS

Table 26 Monkfish-only, Monkfish/Multispecies and Monkfish/Scallop DAS Usage by active vessels by area, FY2009.

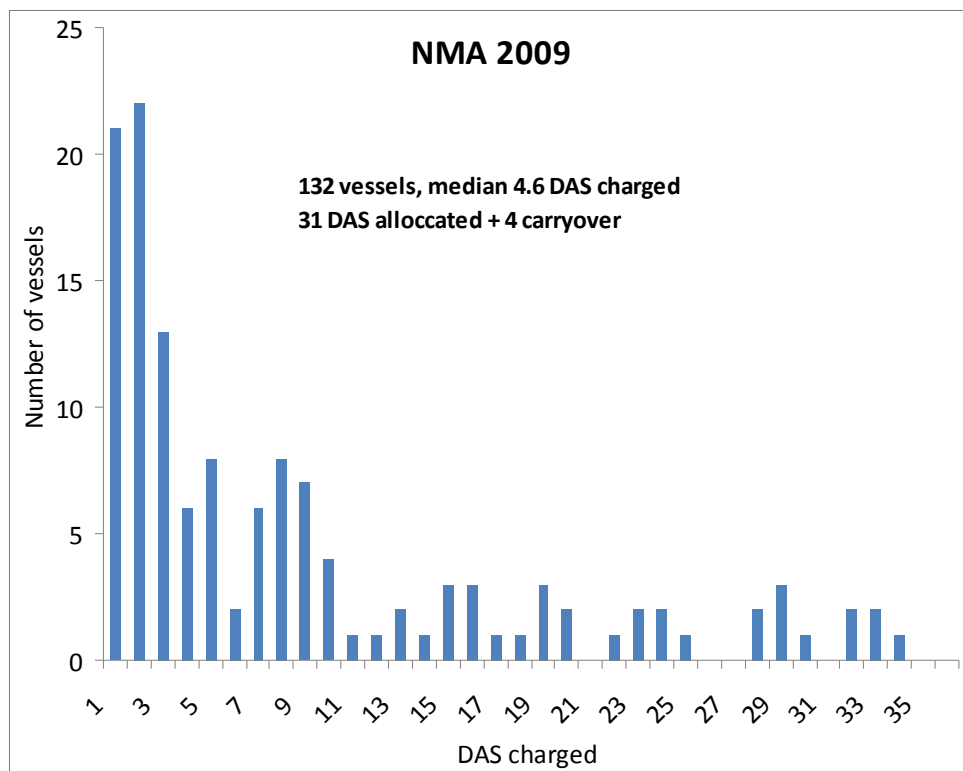


Figure 8 2009 NMA monkfish DAS usage frequency distribution.

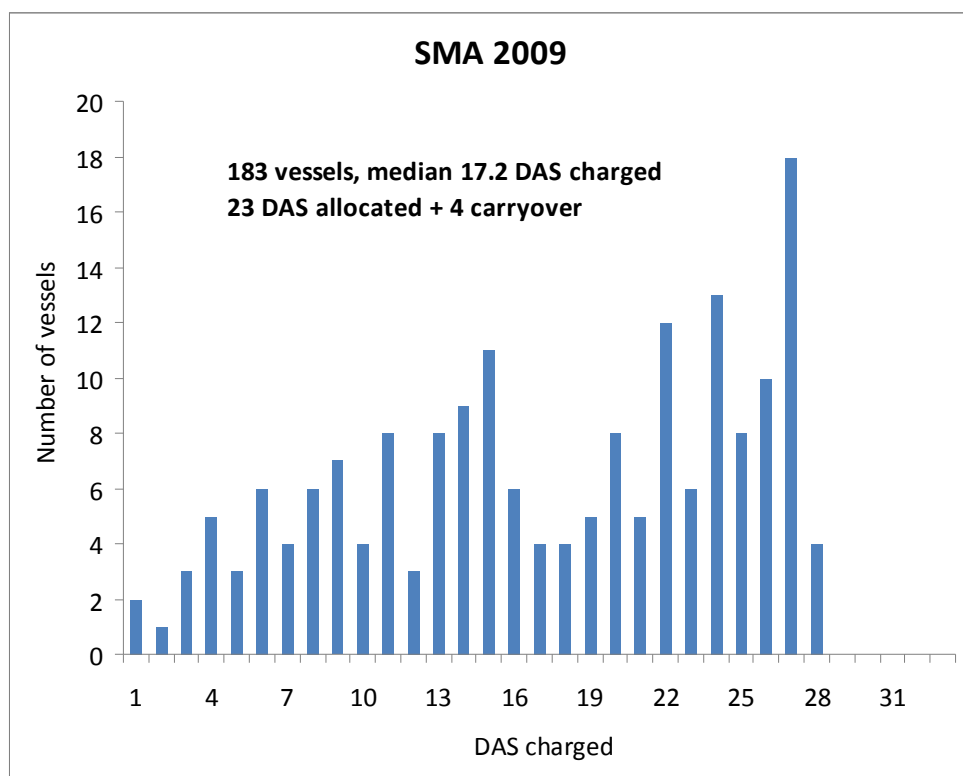


Figure 9 2009 SMA monkfish DAS usage frequency distribution.

4.5.2 Ports and communities

This section updates information contained in the EA for Amendment 5. The Monkfish FMP references Amendments 5 and 7 to the Northeast Multispecies FMP and Amendment 4 to the Sea Scallop FMP for social and cultural information about monkfish ports, including port profiles. Because of the nature of the monkfish fishery, there is significant overlap between the vessels and communities involved with the monkfish fishery and those involved with the multispecies (groundfish) and scallop fisheries. Many of the same boats that target monkfish or catch them incidentally also target groundfish or scallops. Only about six percent of the limited access monkfish permit holders do not also hold limited access permits in either the multispecies or scallop fisheries. For the purposes of this SAFE Report, “primary monkfish ports” are defined as those averaging more than \$1,000,000 in monkfish revenues from 1994-1997 (based on the dealer weighout data presented in Table 45 of the Monkfish FMP). “Secondary monkfish ports” are defined as those averaging more than \$50,000 in monkfish revenues from 1994-1997 (based on the dealer weighout data presented in the Monkfish FMP).

Primary monkfish ports include:

- Portland, ME
- Boston, MA
- Gloucester, MA
- New Bedford, MA
- Long Beach/Barneget Light, NJ, and
- Point Judith, RI.

Secondary monkfish ports include:

- Rockland, ME
- Port Clyde, ME
- South Bristol, ME
- Ocean City, MD
- Chatham, MA
- Provincetown, MA
- Scituate, MA
- Plymouth, MA
- Westport, MA
- Portsmouth, NH
- Point Pleasant, NJ
- Cape May, NJ
- Greenport, NY
- Montauk, NY
- Hampton Bay, NY
- Newport, RI
- Hampton, VA, and
- Newport News, VA.

Table 27 shows the distribution of monkfish permit holders by homeport and monkfish permit category for the six primary, 18 secondary, and “other” monkfish ports for FY2000 and FY2009 (intervening years are shown in this table in the 2008 SAFE Report in Amendment 5 to the Monkfish FMP). Table 28 shows monkfish landings for five of the six major ports (as reported by NMFS in their regular “Northeast Preliminary Fisheries Statistics” Report, not including Long Beach/Barnegat Light, NJ) and states, broken down by management area from which landings were reported, as well as by gear type. Virtually all of the monkfish landed in Portland, Gloucester and Boston come from the NMA, while the proportion of NMA landings in New Bedford declined from about 50% in previous years to 38% in 2007 and 29% in 2008, but increased in FY2009 to 46%. Nearly all of Pt. Judith’s landings are from the SMA.

Portland and Boston’s landings are almost entirely from otter trawls. Otter trawls make up about half of New Bedford landings, with the remainder split evenly between gillnets and “other gear” (scallop dredge). New Hampshire, New York and New Jersey landings are predominately (>80%) caught by gillnet gear, while Rhode Island and Connecticut landings are about 60% from gillnets. This is similar to the distribution by gear for each port in previous fishing years, as reported in earlier SAFE reports, except that in FY2003 New Bedford monkfish landings by scallop dredge (included in “other gear” in the table) were 18% of the port’s monkfish landings, while in FY2004 those declined to 12% and in FY2005 to 9%, before returning to 2003 levels in FY2006 and increasing to current levels beginning in FY2007.

Port landings and revenue data based on May-April fishing year is presented in Table 29 and Table 30, for primary and secondary ports (as identified in the original FMP), respectively, for FY1995-FY2009. Data is based on the vessel’s homeport, but for FY2009, on the vessel’s principal port of landing as indicated on the permit application. Vessels homeported in New Bedford recorded the highest monkfish landings and revenues from 1995-1999, and, although its share has declined in recent years, it remained the top port in 2009. In FY2007 and FY2008, the port of Long Beach/Barnegat Light, NJ, emerged as the homeport with the highest landings, but declined below New Bedford in 2009. Portland, which averaged nearly 1.8 million pounds from 1995-2003 has declined steadily, and in 2009 landed only 0.3 million pounds.

There has been an overall decline in landings and revenues from the peak during the FY1999-FY2001 period that is reflected in the port data. In nearly all cases, the revenues from monkfish as a percentage of total revenues by port also declined, the exceptions being Chatham, MA and Hampton Bays, NY (Table 31). While some of these effects could be due to increases in revenues from other fisheries (such as scallops in New Bedford), in most cases it can be attributable to declines in monkfish landings.

HOMEPORT	FY 2000 by Category						FY 2009 by Category						
	A	B	C	D	E	TOTAL	A	B	C	D	E	H	TOTAL
PRIMARY PORTS	4	16	196	153	351	720	9	17	226	166	373	X	791
Portland ME	X	X	11	16	18	46	X	X	13	24	20	X	57
Boston MA	X	X	46	47	137	233	X	X	32	21	50	X	104
Gloucester MA	X	X	18	34	104	156	X	X	35	47	152	X	234
New Bedford MA	X	X	93	30	41	165	X	X	117	46	83	X	248
Barnegate Light NJ	X	13	9	12	17	52	4	17	12	10	20	X	63
Point Judith RI	X	X	19	14	34	68	X	X	17	18	48	X	85
SECONDARY PORTS	X	6	56	73	335	470	X	11	54	82	471	X	620
Rockland ME	X	X	X	X	5	7	X	X	X	X	X	X	3
Port Clyde ME	X	X	3	3	6	12	X	X	X	3	X	X	7
South Bristol ME	X	X	X	3	6	11	X	X	X	5	7	X	14
Ocean City MD	X	X	X	X	13	13	X	X	X	X	23	X	23
Chatham MA	X	X	X	11	47	58	X	X	X	19	59	X	78
Provincetown MA	X	X	X	5	11	16	X	X	X	3	13	X	16
Scituate MA	X	X	3	7	27	37	X	X	X	7	25	X	34
Plymouth MA	X	X	X	X	13	15	X	X	X	X	18	X	19
Westport MA	X	X	X	6	14	21	X	X	X	X	11	X	14
Portsmouth NH	X	X	4	14	17	35	X	X	3	6	20	X	29
Point Pleasant NJ	X	3	X	3	27	35	X	3	X	7	52	X	64
Cape May NJ	X	X	19	5	49	73	X	X	23	9	113	X	146
Greenport NY	X	X	X	X	4	6	X	X	X	X	5	X	6
Montauk NY	X	X	4	5	68	77	X	5	6	10	82	X	104
Hampton Bay NY	X	X	X	X	5	8	X	X	X	X	8	X	10
Newport RI	X	X	X	5	13	20	X	X	4	7	12	X	24
Hampton VA	X	X	4	X	3	7	X	X	X	X	6	X	7
Newport News VA	X	X	9	3	7	19	X	X	8	X	13	X	22
OTHER PORTS	8	10	89	122	1,177	1,406	10	11	60	103	1,211	7	1,402
TOTAL	12	32	341	348	1,863	2,596	21	39	340	351	2,055	7	2,813

Source: NMFS Statistics Office, permit databases

Table 27 Monkfish permits by port, FY2000 & 2009.

Ports where there are fewer than three permits are marked “x” for confidentiality reasons.

PORT/ STATE	MAY 2009 - APRIL 2010	STOCK AREAS				GEAR TYPES							
		NORTHERN		SOUTHERN		OTTER TRAWL		GILLNET		HOOK		OTHER GEARS	
		Metric Tons	Percent	Metric Tons	Percent	Metric Tons	Percent	Metric Tons	Percent	Metric Tons	Percent	Metric Tons	Percent
Portland, ME	204	199	98%	5	2%	184	90%	21	10%	0	0%	0	0%
Gloucester, MA	1,212	1,193	98%	19	2%	899	74%	311	26%	0	0%	3	0%
Boston, MA	669	662	99%	7	1%	669	100%	0	0%	0	0%	0	0%
New Bedford, MA	2,015	922	46%	1,092	54%	1,011	50%	486	24%	0	0%	517	26%
Point Judith, RI	658	27	4%	631	96%	359	55%	282	43%	0	0%	17	3%
MAINE	245	240	98%	5	2%	215	88%	30	12%	0	0%	0	0%
NEW HAMPSHIRE	111	111	100%	0	0%	11	10%	100	90%	0	0%	0	0%
MASSACHUSETTS	4,431	2,958	67%	1,473	33%	2,630	59%	1,277	29%	1	0%	523	12%
RHODE ISLAND	1,135	27	2%	1,108	98%	363	32%	696	61%	0	0%	77	7%
CONNECTICUT	225	0	0%	225	100%	45	20%	140	62%	0	0%	40	18%
NEW YORK	605	4	1%	601	99%	72	12%	526	87%	0	0%	7	1%
NEW JERSEY	1,039	2	0%	1,037	100%	29	3%	891	86%	0	0%	119	11%
OTHER NORTHEAST	357	1	0%	356	100%	28	8%	294	82%	0	0%	36	10%
TOTAL	8,148	3,343	41%	4,805	59%	3,393	42%	3,954	49%	1	0%	801	10%

1. The three digit statistical areas defined below are for statistical and management purposes and may not be consistent with stock area delineation used for biological assessment (see the attached statistical chart).

Monkfish stock areas: Northern: 464-465, 467, 511-515, 521-522, 561-562
Southern: 525-526, 533-534, 537-539, 541-543, 611-639

- Landings in live weight.
- Gear data are based on vessel trip reports.

Table 28 Preliminary FY2009 monkfish landings by primary port (excluding Long Beach/Barnegat Light, NJ) and State, by gear.

HOME PORT				
		FY2007	FY2008	FY2009
Portland, ME	1,000 Lbs.	442.3	253.3	298.5
	\$1,000	\$1,477.2	\$753.8	\$895.8
Boston, MA	1,000 Lbs.	1,492.1	1,250.8	1,093.0
	\$1,000	\$3,769.6	\$3,055.2	\$2,633.9
Gloucester, MA	1,000 Lbs.	690.6	802.4	657.7
	\$1,000	\$1,622.9	\$1,675.6	\$1,593.8
New Bedford, MA	1,000 Lbs.	1,684.2	1,372.8	1,179.1
	\$1,000	\$4,578.0	\$3,733.5	\$2,848.9
Long Beach/Barnegat Light, NJ	1,000 Lbs.	1,896.3	1,640.0	1,017.8
	\$1,000	\$2,862.8	\$2,527.7	\$1,729.1
Point Judith, RI	1,000 Lbs.	652.1	524.2	381.1
	\$1,000	\$1,779.2	\$1,385.0	\$959.6

Source: NMFS Statistics Office, dealer weighout & permits databases

Pounds are in landed weight

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 29 Monkfish landings and revenues for monkfish primary ports, by homeport in FY2007 – 2009.

HOME PORT		FY2007	FY2008	FY2009
Rockland, ME	1,000 Lbs.	0.0	0.0	0.0
	\$1,000	\$0.0	\$0.0	\$0.0
Port Clyde, ME	1,000 Lbs.	58.6	43.6	40.4
	\$1,000	\$187.6	\$398.0	\$99.2
South Bristol, ME	1,000 Lbs.	132.3	113.7	88.1
	\$1,000	\$448.6	\$343.0	\$244.9
Ocean City, MD	1,000 Lbs.	2.2	1.5	0.9
	\$1,000	\$5.1	\$3.3	\$2.2
Chatham, MA	1,000 Lbs.	645.0	511.6	450.5
	\$1,000	\$958.7	\$780.1	\$615.8
Provincetown, MA	1,000 Lbs.	5.9	2.6	1.8
	\$1,000	\$18.4	\$8.3	\$5.6
Scituate, MA	1,000 Lbs.	183.6	159.8	125.7
	\$1,000	\$349.0	\$319.5	\$210.3
Plymouth, MA	1,000 Lbs.	41.4	22.6	18.8
	\$1,000	\$144.2	\$36.6	\$42.7
Westport, MA	1,000 Lbs.	83.4	48.3	136.9
	\$1,000	\$112.2	\$60.2	\$180.5
Portsmouth, NH	1,000 Lbs.	91.4	74.6	10.4
	\$1,000	\$152.9	\$110.9	\$31.3
Point Pleasant, NJ	1,000 Lbs.	212.1	271.1	97.5
	\$1,000	\$369.0	\$432.9	\$183.1
Cape May, NJ	1,000 Lbs.	181.9	117.8	83.2
	\$1,000	\$452.9	\$262.9	\$171.2
Greenport, NY	1,000 Lbs.	6.1	9.0	9.3
	\$1,000	\$20.6	\$27.3	\$31.5
Montauk, NY	1,000 Lbs.	580.5	504.7	373.5
	\$1,000	\$899.0	\$675.7	\$520.1
Hampton Bays, NY	1,000 Lbs.	182.2	63.7	88.8
	\$1,000	\$255.6	\$189.0	\$211.6
Newport, RI	1,000 Lbs.	484.7	445.6	406.4
	\$1,000	\$858.1	\$686.1	\$583.5
Hampton, VA	1,000 Lbs.	11.3	7.0	9.5
	\$1,000	\$23.4	\$14.5	\$18.4
Newport News, VA	1,000 Lbs.	35.3	17.9	7.7
	\$1,000	\$78.7	\$41.4	\$14.5

Source: NMFS Statistics Office, dealer weighout database & permit database

Pounds are in landed weight

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 30 Monkfish landings and revenues for monkfish secondary ports, by homeport in FY2007 – 2009.

HOME PORT		Number of Vessels	FY1995	FY1996	FY1997	FY1998	FY1999	FY2000	FY2001	FY2002	FY2003	FY2004	FY2005	FY2006	FY2007	FY2008	FY2009
1	Westport, MA	15	52.7%	67.8%	42.5%	40.8%	49.6%	51.2%	62.9%	37.4%	47.3%	28.9%	30.5%	8.9%	8.6%	11.1%	21.7%
2	Port Clyde, ME	18	10.8%	7.8%	13.7%	19.1%	37.6%	44.6%	36.5%	32.7%	36.9%	35.4%	13.4%	3.8%	7.4%	3.3%	4.6%
3	Plymouth, MA	10	5.4%	3.8%	14.4%	7.4%	7.8%	38.5%	29.8%	28.6%	4.6%	23.3%	6.8%	13.6%	4.9%	0.0%	0.0%
4	South Bristol, ME	10	7.2%	7.8%	8.0%	13.6%	23.7%	42.5%	32.4%	27.7%	35.6%	34.1%	35.9%	0.9%	0.0%	0.0%	0.0%
5	Portsmouth, NH	38	10.0%	11.4%	18.2%	17.1%	31.0%	39.9%	49.8%	37.8%	30.9%	28.2%	30.1%	16.5%	8.7%	9.4%	6.9%
6	Scituate, MA	33	5.8%	3.6%	5.0%	20.8%	31.8%	40.8%	34.5%	17.5%	29.4%	13.3%	9.6%	6.5%	7.2%	8.9%	5.5%
7	Boston, MA	41	13.1%	11.2%	13.8%	13.4%	27.4%	30.8%	20.6%	23.6%	23.3%	28.6%	30.1%	24.1%	18.6%	14.7%	14.2%
8	Portland, ME	76	12.3%	12.8%	13.6%	14.3%	23.4%	26.2%	22.2%	27.6%	26.3%	27.5%	22.8%	19.2%	14.0%	9.3%	4.9%
9	Rockland, ME	11	17.5%	21.6%	2.1%	5.8%	7.6%	14.3%	9.5%	2.8%	4.2%	0.3%	0.0%	0.0%	0.0%	0.0%	0.0%
10	Long Beach/Barnegat Light, NJ	69	17.6%	21.4%	16.4%	28.3%	37.8%	22.3%	34.2%	24.0%	25.1%	8.5%	12.3%	11.2%	12.8%	11.6%	8.2%
11	Gloucester, MA	219	10.4%	6.9%	5.3%	5.9%	13.4%	18.0%	15.8%	15.1%	12.9%	14.3%	13.0%	11.1%	10.5%	7.3%	6.5%
12	Point Judith, RI	126	6.5%	12.5%	9.1%	8.8%	10.3%	13.3%	11.2%	8.1%	8.6%	4.6%	7.9%	5.2%	8.4%	7.5%	6.6%
13	Newport, RI	39	5.6%	8.7%	9.5%	9.8%	19.9%	11.4%	13.3%	12.1%	18.0%	7.9%	6.5%	3.4%	6.5%	6.2%	6.2%
14	Chatham, MA	101	2.7%	2.1%	2.6%	4.7%	4.9%	11.2%	9.3%	19.9%	18.1%	11.0%	20.9%	14.6%	11.1%	9.7%	8.8%
15	Point Pleasant, NJ	128	3.9%	7.4%	11.1%	18.6%	19.6%	9.0%	13.8%	8.0%	7.1%	3.5%	4.4%	3.4%	3.3%	3.5%	2.9%
16	New Bedford, MA	403	13.2%	9.3%	13.5%	15.2%	11.1%	8.1%	5.9%	4.1%	4.5%	3.5%	3.9%	2.6%	2.8%	2.5%	1.8%
17	Hampton Bays, NY	52	2.4%	9.5%	7.9%	9.7%	10.2%	7.9%	9.7%	7.0%	6.4%	3.4%	11.6%	8.5%	15.0%	7.5%	10.8%
18	Ocean City, MD	61	6.2%	12.8%	10.3%	10.4%	12.2%	4.3%	4.8%	0.8%	2.2%	1.2%	2.2%	1.4%	1.9%	1.2%	0.8%
19	Provincetown, MA	24	8.4%	4.8%	2.4%	6.9%	6.3%	4.3%	1.3%	2.2%	4.3%	4.9%	3.3%	2.4%	2.1%	0.8%	0.6%
20	Montauk, NY	101	1.2%	1.3%	1.6%	2.7%	1.8%	1.6%	2.3%	3.4%	6.2%	3.8%	5.3%	3.4%	5.7%	5.1%	4.4%
21	Cape May, NJ	190	1.3%	1.7%	2.4%	1.9%	1.5%	1.2%	0.7%	0.5%	0.6%	0.3%	0.9%	0.8%	0.7%	0.3%	0.2%
22	Greenport, NY	3	1.7%	2.5%	2.7%	1.9%	1.1%	1.0%	1.1%	0.6%	0.2%	0.1%	0.5%	0.5%	1.4%	0.2%	5.9%
23	Hampton, VA	46	3.9%	5.0%	2.6%	2.9%	1.2%	0.8%	0.6%	0.2%	0.2%	0.3%	0.5%	0.3%	0.6%	0.3%	0.3%
24	Newport News, VA	80	1.8%	2.4%	3.8%	2.7%	1.0%	0.5%	0.2%	0.2%	0.2%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%

Source: NMFS Statistics Office, dealer weighout database & permit database

1995-2001 data based on vessels that were issued a monkfish permit during the 2001 fishing year. 2002-2009 fishing year data are based on vessels issued a monkfish permit during the 2002-2009 fishing years, respectively.

Table 31 Monkfish Revenues, FY1995-2009, as a Percentage of Total Revenues by Port

5.0 Environmental Consequences of the Alternatives

5.1 Biological Impacts of Alternatives on Monkfish, Non-target Species and Protected Species

The following section describes the biological impact of alternatives under consideration for Framework 7.

5.1.1 Impact of Biomass Reference Points

Biological and management reference points and associated control rules are the foundation of the management plan, but do not, in and of themselves have an impact on biological resources since they are administrative in nature. However, such reference points provide a framework under which to determine stock status and manage the fishery based upon the best available science. As reported by the SSC in September 2010:

The current biomass reference points for monkfish (developed by the 2007 Data Poor Stocks Working Group) are based on the lowest observed stock size as a proxy for the minimum stock size threshold, and average biomass during the assessment series as a proxy for a rebuilding target. Advances in monkfish stock assessment methods from a data-poor approach to an analytical assessment (based upon the SCALE model) support the transition to biomass reference points that are consistent with MSY. The SCALE model is superior to the previously used survey-based approach because it allows for the integration of a wide array of information and for the exploration of uncertainties. The SARC 50 Panel recommended revised biomass reference points that are based on long-term F_{MSY} projections, in which the rebuilding target is B_{MSY} , and the minimum stock size threshold is $\frac{1}{2}B_{MSY}$.

Thus, adopting biomass reference points based on MSY or its proxy (preferred alternative) is more likely to provide for sustainable management than the no action alternative, leading to slightly positive biological effects over the long term.

5.1.2 Impact of NMA ACT

The ACLs are reference points that, in conjunction with the AMs, do have an impact on management measures. Exceeding the ACLs will trigger an automatic, reactive accountability measure. The ACTs approved by the Councils in Amendment 5 are intended to prevent the catch from exceeding the ACLs and, by definition, reducing the risk of overfishing, taking into account uncertainty in the overfishing limit and management uncertainty. This framework adjustment is intended to revise the NMA ACT approved by the Councils in Amendment 5 to be consistent with the most recent scientific advice, as described in Section 2.2, Purpose and Need.

5.1.2.1 NMA ACT Alternative 1 – No Action

The no action alternative would result in an ACT not being adopted, and the basis for setting DAS and trip limit specifications would be the current target total allowable

landings (TTAL) of 5,000 mt. For the purpose analyzing the impacts of this alternative, NMA ACT Alternative 3 (preferred alternative), Option 1 (non-preferred option, 5,550 mt) serves as a proxy for the no action alternative, since the total catch target is based on the current TTAL plus estimated discards. Thus, the impacts of this alternative are functionally equivalent to the impact of Alternative 3, Option 1. As a result, a detailed discussion of the biological impacts associated with this alternative on target, non-target and protected species is contained in the discussion of NMA ACT Alternative 3. In summary, the likelihood that either stock will become overfished or that overfishing will occur under this catch level is near zero. Further, this action is unlikely to result in additional impacts to non-target and protected species, including Atlantic sturgeon, beyond those already occurring in the fishery since it would not result in any changes to existing management measures.

5.1.2.2 NMA ACT Alternative 2 – Non-preferred Alternative

In Amendment 5, the Councils adopted an NMA ACT of 10,750 mt. This ACT was 61% of the ABC that was calculated based on the updated 2007 assessment results. The recalculated ABC of 7,592 mt based on SARC 50 resulted in the proposed ACT being higher than the ABC, in violation of National Standards Guidelines. While the 2011 – 2016 projections of biomass and fishing mortality indicated that stocks will remain above the biomass and fishing mortality thresholds under the Amendment 5 ACT of 10,750 mt, biomass is in a declining trend while fishing mortality rates increase (Figure 10 and Figure 11). Table 32 shows the data used in those figures. In comparison, the no action alternative does not result in a declining biomass trend .

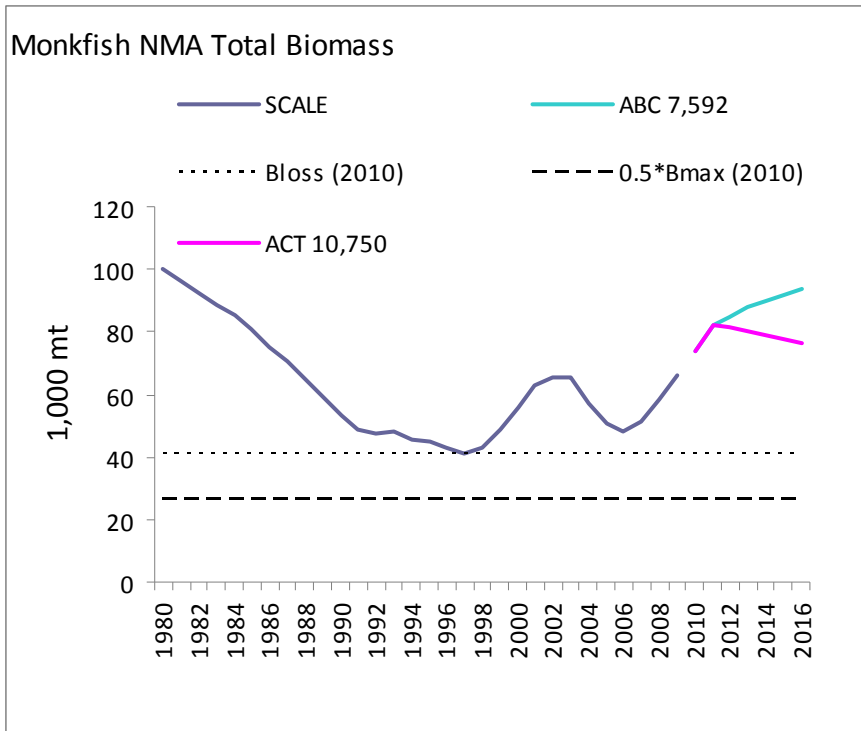


Figure 10 Projection of monkfish NMA biomass for 2013-2016 under the Amendment 5 ACT proposal (non-preferred alternative), and the ABC. Both no action (B_{loss}) and proposed ($0.5 \cdot B_{max}$) biomass threshold reference points are shown.

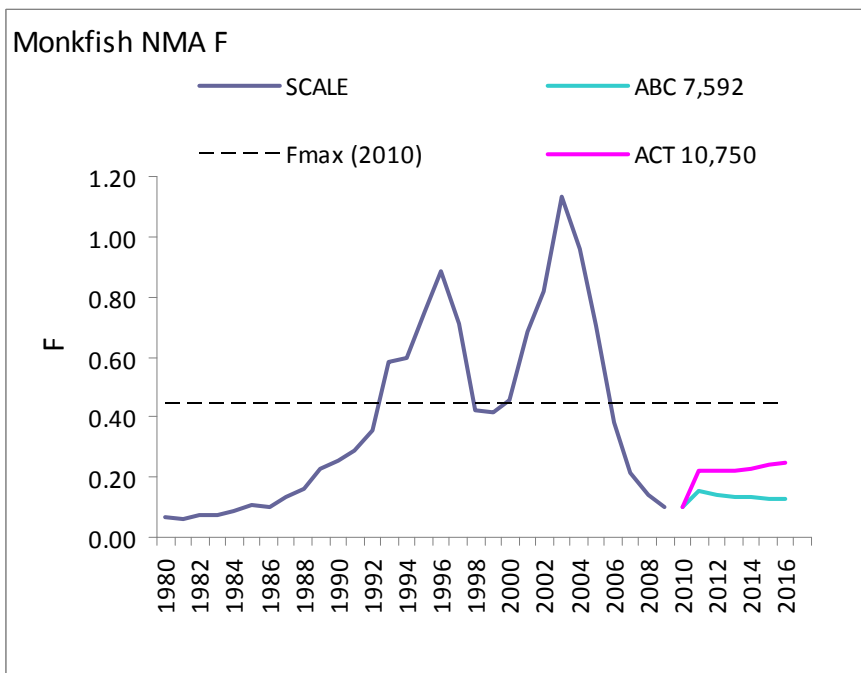


Figure 11 Projection of monkfish NMA fishing mortality rates for 2013-2016 under the Amendment 5 ACT proposal (non-preferred alternative), and the ABC in comparison to the $F_{threshold}$ reference point.

ABC=10,750

Year	F	Total Catch	Total Biomass	P < 0.5*Bmax	P < Bloss2009	P > Fmax
2010	0.10	4,447	74,102	0%	0%	0%
2011	0.22	10,750	81,907	0%	0%	0%
2012	0.22	10,750	81,204	0%	0%	0%
2013	0.22	10,750	80,225	0%	0%	0%
2014	0.23	10,750	78,944	0%	0%	0%
2015	0.24	10,750	77,548	0%	0%	0%
2016	0.25	10,750	76,383	0%	0%	0%

Table 32 Seven year projections of fishing mortality and biomass under the Amendment 5 ACT proposal (non-preferred alternative).

In terms of non-target and protected species, the impacts of this alternative are discussed in Amendment 5, where this ACT was proposed. In that discussion, it was noted that the lower ACT option (than the one proposed) might result in effort shifting out of the monkfish fishery and into other fisheries, “with associated negative effects on non-target species, depending on the measures in place to protect those species from overfishing, and the relative catch rates of those non-target species in other fisheries compared to the monkfish fishery.” This conclusion is qualified, however, by noting that the monkfish fishery in the NMA is closely linked with the groundfish fishery, and that many of the non-target species in the NMA monkfish fishery, such as grey sole and dabs, are target species in the groundfish fishery. Therefore, the distinction between the higher and lower ACT options may not materially impact groundfish species through effort displacement since the two fisheries are so closely intertwined. In terms of protected species, Amendment 5 noted that the NMA monkfish fishery is predominantly a trawl fishery, with relatively fewer protected species interactions in comparison to gillnet fisheries in this region. Thus, a higher ACT for the NMA could possibly result in a shift of effort into the trawl fishery, thus potentially reducing impacts to protected species in the gillnet fishery.

With respect to Atlantic sturgeon, there are no recent observed takes associated with the monkfish fishery in the NMA based on 2006-2010 NEFOP data (see Section 4.1.4.3.5). Thus, although this alternative may increase fishing effort in the NMA, it is not likely to have an impact on Atlantic sturgeon.

5.1.2.3 NMA ACT Alternative 3 – Preferred Alternative

Three ACT options are analyzed here: 5,550 mt, 6,074 mt, and 6,567 mt, with the latter Option 3 being the preferred option, and the first, Option 1, being a proxy for the no action alternative. Figure 12 shows the biomass projection results for 2011-2016 for the three ACT options, as well as the ABC, compared to both the no action and proposed biomass threshold reference points. Figure 13 shows the fishing mortality rate projections for the same options in comparison to the fishing mortality threshold. These projections assume that fishing mortality in 2010 is the same as it was in 2009.

These projections through 2016 show that all three options are virtually equivalent and indistinguishable in terms of their impact on stock status, under either the no action or proposed ACT period covered by this framework. In all cases, biomass starts above the biomass target and increases, and fishing mortality starts below the $F_{\text{threshold}}$ and declines slightly.

Figure 14 and Figure 15 show the 5th and 95th percent confidence intervals in the projections for the highest (ABC) and lowest (NMA ACT Option 1) values in the previous projections. This analysis confirms that the likelihood that stocks will become overfished or that overfishing will occur under any of these catch levels is near zero. Table 33 shows the data used in these figures.

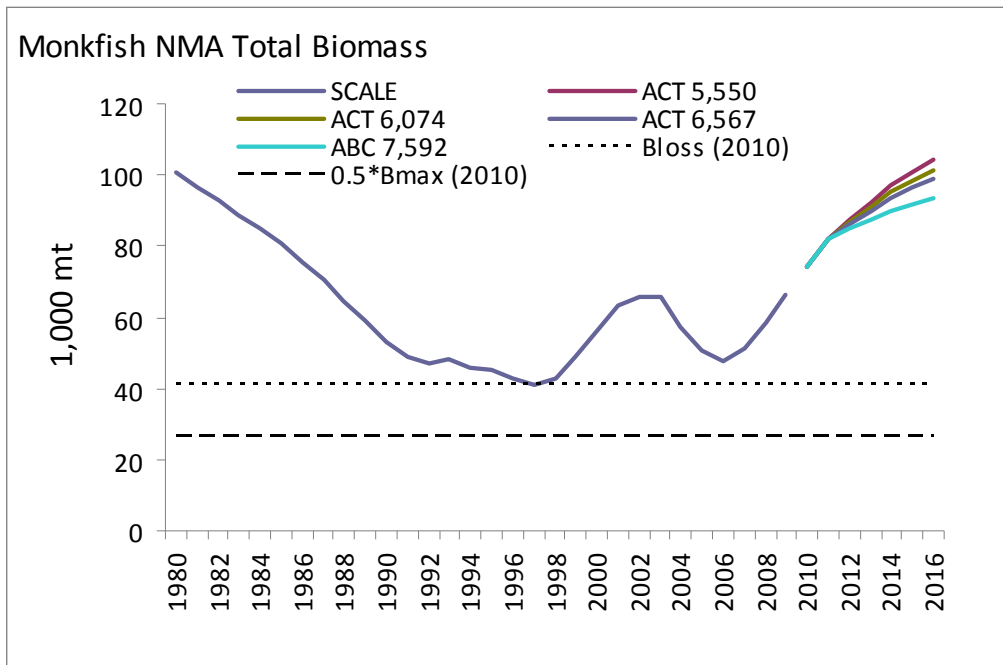


Figure 12 Projection of monkfish NMA biomass for 2013-2016 under three ACT options, and the ABC. Both no action (B_{loss}) and proposed ($0.5*B_{max}$) biomass threshold reference points are shown.

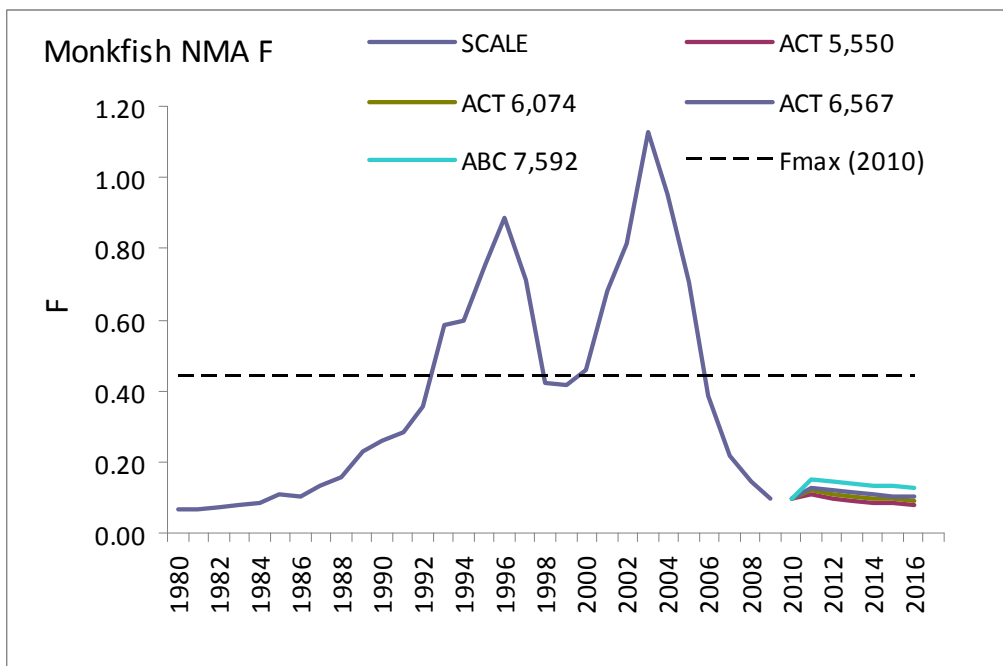


Figure 13 Projection of monkfish NMA fishing mortality rates for 2013-2016 under three ACT options, and the ABC in comparison to the $F_{threshold}$ reference point.

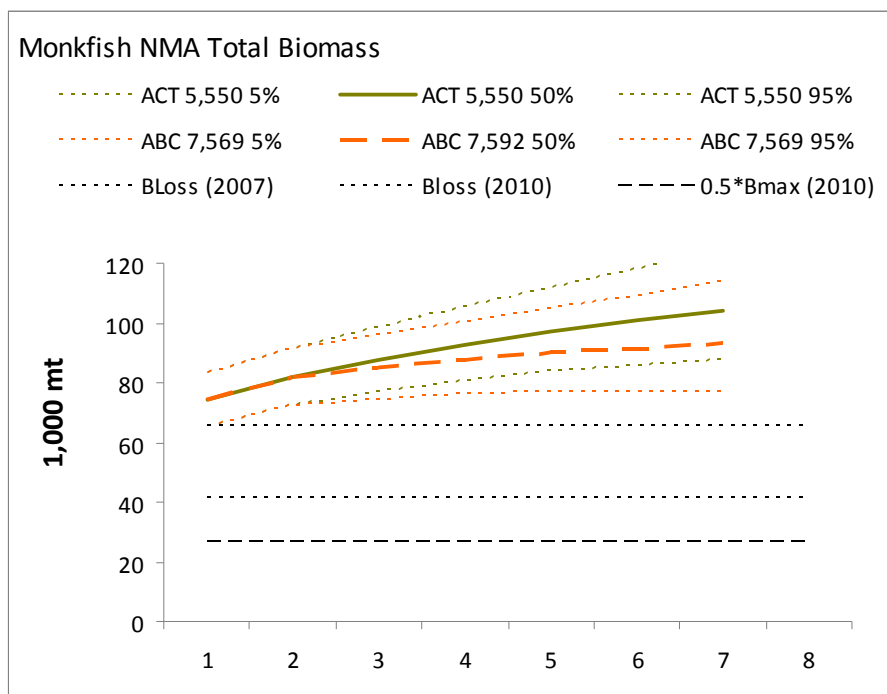


Figure 14 Seven year projections of NMA biomass starting in 2010, showing the 5th and 95th percentile confidence intervals for the lowest ACT option (Option 1) and the ABC.

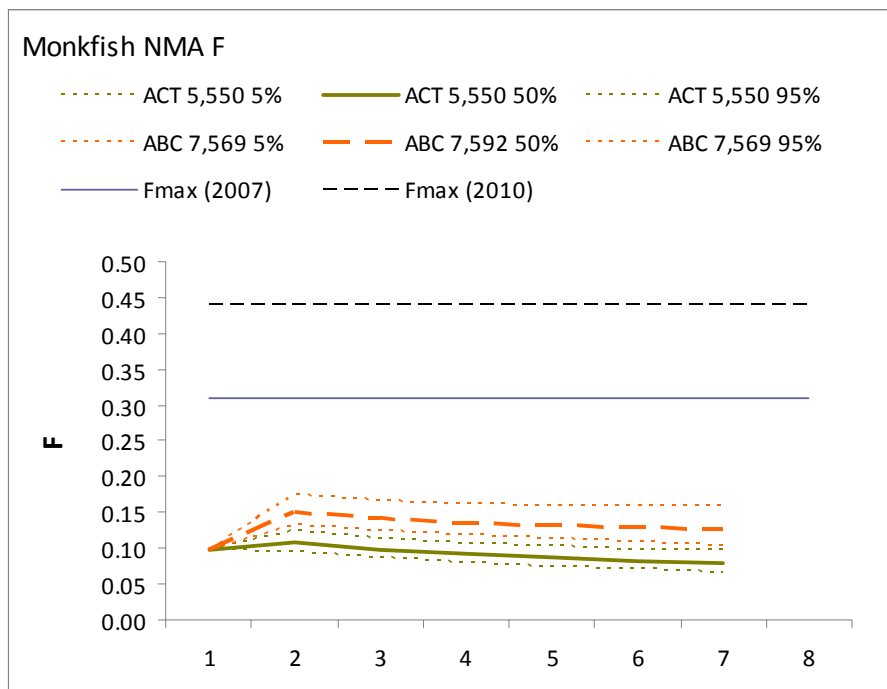


Figure 15 Seven year projections of NMA fishing mortality rates starting in 2010, showing the 5th and 95th percentile confidence intervals for the lowest ACT option (Option 1) and the ABC.

ACT=5,550

Year	F	Total Catch	Total Biomass	P < 0.5*Bmax	P < Bloss2009	P > Fmax
2010	0.10	4,447	74,102	0%	0%	0%
2011	0.11	5,550	81,907	0%	0%	0%
2012	0.10	5,550	87,351	0%	0%	0%
2013	0.09	5,550	92,467	0%	0%	0%
2014	0.09	5,550	96,950	0%	0%	0%
2015	0.08	5,550	100,657	0%	0%	0%
2016	0.08	5,550	104,088	0%	0%	0%

ACT=6,074

Year	F	Total Catch	Total Biomass	P < 0.5*Bmax	P < Bloss2009	P > Fmax
2010	0.10	4,447	74,102	0%	0%	0%
2011	0.12	6,074	81,907	0%	0%	0%
2012	0.11	6,074	86,733	0%	0%	0%
2013	0.10	6,074	91,235	0%	0%	0%
2014	0.10	6,074	95,147	0%	0%	0%
2015	0.09	6,074	98,361	0%	0%	0%
2016	0.09	6,074	101,370	0%	0%	0%

ACT=6,567

Year	F	Total Catch	Total Biomass	P < 0.5*Bmax	P < Bloss2009	P > Fmax
2010	0.10	4,447	74,102	0%	0%	0%
2011	0.13	6,567	81,907	0%	0%	0%
2012	0.12	6,567	86,149	0%	0%	0%
2013	0.11	6,567	90,077	0%	0%	0%
2014	0.11	6,567	93,446	0%	0%	0%
2015	0.11	6,567	96,189	0%	0%	0%
2016	0.10	6,567	98,807	0%	0%	0%

ABC=7,592

Year	F	Total Catch	Total Biomass	P < 0.5*Bmax	P < Bloss2009	P > Fmax
2010	0.10	4,447	74,102	0%	0%	0%
2011	0.15	7,592	81,907	0%	0%	0%
2012	0.14	7,592	84,934	0%	0%	0%
2013	0.14	7,592	87,666	0%	0%	0%
2014	0.13	7,592	89,907	0%	0%	0%
2015	0.13	7,592	91,671	0%	0%	0%
2016	0.13	7,592	93,406	0%	0%	0%

Table 33 Seven year projections of fishing mortality and biomass under the three NMA ACT options and the ABC. Shown are the zero probabilities of biomass declining below biomass thresholds (no action and preferred alternative), and of fishing mortality exceeding $F_{\text{threshold}}$.

In terms of non-target species, a lower ACT would likely result in more effort shifting out of the monkfish fishery and into other fisheries. Such a shift could have associated negative effects on other species, depending on both the management measures in place to protect those species from overfishing, and the relative catch rates of those non-target species in other fisheries compared to the monkfish fishery. In the NMA, where monkfish

is a component of the catch in the groundfish fishery, the distinction between directed monkfish fishing with incidental catch of groundfish species such as grey sole, and directed groundfish fishing with incidental catch of monkfish is only made by the declaration of a monkfish DAS when a vessel exceeds its incidental monkfish limit. In general, however, those two fisheries are otherwise indistinguishable, since the relative amount of monkfish and groundfish is variable, and a lower monkfish ACT may not materially impact groundfish fisheries through effort displacement. Furthermore, with the implementation of Amendment 16 and the sector program, catch of all groundfish species is capped, reducing the likelihood that a higher ACT option in the monkfish FMP will have a negative impact on groundfish.

Similarly, depending on the measures adopted in those other fisheries for minimizing protected species interactions and the gear types used in those fisheries, such effort shifts could result in either positive or negative protected species impacts. Generally, the control of fishing effort through the use of ACLs and AMs, such as the ACT, can be considered to have an indirectly positive effect on minimizing protected species interactions when compared to uncontrolled or poorly controlled effort. Additionally, in the NMA, since the directed monkfish fishery is predominantly a trawl fishery, with relatively fewer protected species interactions in comparison to gillnet gear in this region, the higher ACT option could potentially reduce impacts to protected species in the gillnet fishery. If under the lower ACT option, effort shifts to other fisheries with higher rates of interactions such as the gillnet fishery, then this alternative could result in a negative, but indirect, impact to protected species.

With respect to Atlantic sturgeon, there are no recent observed takes associated with the monkfish fishery in the NMA based on 2006-2010 NEFOP data (see Section 4.1.4.3.5). Thus, although this alternative may increase fishing effort in the NMA, it is not likely to have an impact on Atlantic sturgeon.

5.1.3 Impact of NMA DAS and Trip Limits Alternatives

5.1.3.1 NMA DAS and trip limit options

The Councils considered three DAS/trip limit options for each of the three NMA ACT options discussed above. The basis for these options is to maintain current DAS allocations and adjust the trip limit, maintain current trip limits and increase DAS, or a combination. The DAS allocations under the three ACT options range from 31 to 45, with the preferred option (Option 3C) being 40 DAS. Trip limits for permit categories A&C are 1,250 lbs., tail wt. per DAS for all options (same as no action), since that is the highest observed average daily landings when vessels had no trip limit, and appears from the data to not constrain monkfish catch. Trip limits for permit categories B&D range from 470 lbs. tail wt. per DAS (same as no action), to 686 lbs., tail wt. per DAS, with the preferred option being 600 lbs. for B&D vessels. For the NMA, there are no options proposed that would result in the same trip limit/DAS combination currently in effect.

Since all of these options are designed to achieve the preferred ACT option of 6,567 mt, they are expected to result in equivalent impacts on monkfish, and are consistent with

preventing overfishing. In some cases a higher trip limit may reduce discards, although, based on landings data for 2007 - 2009, even the lowest trip limits do not appear to be constraining on monkfish trips in the NMA, so the likelihood of discards is low.

In terms of impacts on non-target species, the options to retain the existing 31 DAS allocation will likely have no effect since that is the DAS allocation currently in effect. Those options that increase the DAS allocation, including the preferred alternative, imply a proportionally greater amount of bycatch resulting from the increased fishing effort, particularly of skates and dogfish, possibly resulting in negative biological impacts to these species. Under the MSA mandate, for ACLs and AMs, both skates and dogfish catch will be monitored and accounted for under the provisions of their respective FMPs. Furthermore, vessels fishing in the NMA have only used a small proportion of their allocated monkfish DAS in recent years, and, therefore, an increased allocation does not necessarily translate to an increase in effort.

Similarly, the increased effort allocation may have negative impacts to protected species if actual effort increases, and those increases occur in times and areas where interactions with protected species are likely to occur. Since the predominance of monkfish fishing effort in the NMA is with trawl gear, that has relatively fewer interactions with protected species compared to gillnets, the impact on protected species of increasing DAS is not necessarily proportional to the magnitude of the increase. As noted above, however, actual effort increases are not likely in spite of the increased allocation given fishing patterns in recent years.

With respect to Atlantic sturgeon, there are no recent observed takes associated with the monkfish fishery in the NMA based on 2006-2010 NEFOP data (see Section 4.1.4.3.5). Thus, although some of the DAS and trip limit alternatives considered in this framework may increase fishing effort in the NMA, none of these proposed alternatives are likely to have an impact on Atlantic sturgeon.

5.2 Habitat Impacts

The overall effect of the fishery on EFH was analyzed and mitigated for in Amendment 2 to the Monkfish FMP, and in Amendment 13 to the NE Multispecies FMP. In summary, bottom trawling for monkfish was determined in Amendment 2 to adversely affect EFH for other demersal species managed by the NEFMC and MAFMC, but not monkfish EFH. The fishery must continue to respect the 2,811 square nautical miles of habitat closed areas established by the 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 less than temporary in nature.

The alternatives under consideration in this action for revising the biomass reference points will not directly increase monkfish effort in either management area, since they are administrative in nature, or otherwise do not affect the magnitude or distribution of

fishing effort, and will, therefore, have no direct habitat impact. Similarly, changes to the NMA ACT will not directly affect habitat, but indirectly will through the associated specification of DAS and trip limits. The control of fishing effort through the use of ACLs and AMs, such as the ACT, has an indirectly positive effect on habitat compared to uncontrolled or poorly controlled effort.

The discussion of habitat impacts below examines changes in effort relative to the historical effort allocation of 40 DAS that was analyzed in the EIS's of the original FMP and Amendment 2. Changes that have occurred in annual DAS allocations have fluctuated from year-to-year below that allocation, but not above. Therefore, in this discussion the 40 DAS allocation is being used as a proxy for the no action specifications alternative, since that is the maximum value analyzed in the DEIS for the FMP. The current DAS allocation (corresponding to the no action alternative) in the NMA is 31 DAS, but that specification is associated with a catch target that is not consistent with the revised MSA and NS1 Guidelines. There is not an EFH vulnerability issue with this fishery and the discussion of habitat impacts of the proposed alternatives has been integrated, rather than discussed on a measure-by-measure basis, as it is within other impact assessment sections of this EA.

In this framework, the Councils are considering three ACT options for the NMA, and within each ACT option, there are three options with different combinations of DAS and trip limits. These combinations are based on maintaining current (FY2007-2010) DAS allocations, and adjusting the trip limits, maintaining the current trip limits and adjusting the DAS allocations, or adjusting both to achieve a catch corresponding to the ACT. Of all of these options under consideration for the specification of NMA DAS and trip limits, only two would result in an increase compared to the historical allocation of 40 DAS that was implemented in Amendment 2, and that is being used as a proxy for the no action alternative for the purpose of evaluating habitat impacts.

As shown in Table 34, both Options 2B and 3B, which would allocate 42 and 45 DAS, respectively, are not preferred options. Since there is not an EFH vulnerability issue with this fishery and these non-preferred options are only slightly above the 40 DAS analyzed in the original FMP, their effects would be either neutral or slightly negative. All of the other options under consideration would have either allocate 40 or less DAS, the baseline allocation used in this analysis. The preferred option would allocate 40 DAS, and, therefore, would have a neutral impact on habitat.

Vessels in the NMA are primarily groundfish vessels who are either in the common pool or sector members, under the measures adopted in Amendment 16 to the Multispecies FMP, with the majority currently enrolled in sectors. Common pool vessels' DAS are severely curtailed by both a 50% reduction in allocated DAS and the 24-hour clock (where each part of a DAS would be counted as a full DAS against the vessel's DAS allocation). Since there are no trawl exempted fisheries in the NMA (where a vessel could fish on a monkfish-only DAS vs. a combined monkfish/multispecies DAS), the constraining factor on monkfish effort will be the reduced groundfish DAS allocations, as those vessels will not likely be able to use all of their monkfish DAS.

Vessels fishing in a sector would have all of their allocated groundfish DAS available to use in association with calling in a monkfish DAS, but those vessels may be constrained by the availability of sector ACE for certain species. The constraint imposed by reduced groundfish quota or DAS allocations will limit all sector vessels' ability to utilize their entire monkfish DAS allocations. As discussed in Section 4.5.1.3 vessels in the NMA are currently not using their entire monkfish DAS allocation or landing the full amount of the trip limit, suggesting that any increase in the DAS allocation or trip limits would not likely cause an increase in directed monkfish fishing effort, at least over the short term.

In summary, for the reasons stated above, the actions proposed in this amendment would not have an adverse impact on EFH for any federally managed species in the region, with the exception of options 2B and 3B which could possibly have a neutral or slightly negative impact. 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.

ACT	Specification Option	AC daily landing limit	BD daily landing limit	DAS	Potential habitat impact compared to 40 DAS
Option 1 (5,550 mt)	1A	1250	586	31	Positive
	1B	1250	470	39	Positive
	1C	1250	465	40	Neutral
Option 2 (6,074 mt)	2A	1250	636	31	Positive
	2B	1250	470	42	Negative
	2C	1250	510	40	Neutral
Option 3 (6,567 mt)	3A	1250	686	31	Positive
	3B	1250	470	45	Negative
	3C	1250	600	40	Neutral

Table 34 Specification Options (DAS and trip limits) for the NMA under three ACT options and relative habitat impacts. Option 3C is the preferred alternative.

5.3 Economic Impacts

The measures under consideration in this framework include revisions to the biomass reference points and control rules, and alternatives that would reduce the ACT for the NMA from what is proposed in Amendment 5, but increase the specifications associated with the current measures (that is, under the no action alternative).

As of FY 2009 there are approximately 758 limited access monkfish permit holders and approximately 2,156 vessels holding an open access category E permit. Based on activity report of the fishing year 2009, 550 limited access permit holders participated in the monkfish fishery, landed at least one pound of monkfish.

Based on the analysis in Amendment 5, in FY2008 73 vessels fished for monkfish only in the NMA, 167 fished only in the SMA and 333 vessels fished in both areas. At the same time, 504 incidental permit holders reported landing monkfish. Of these, 104 fished only in the NMA, 266 fished only in the SMA and 134 fished both in NMA and SMA. Table 35 shows the number of active monkfish vessels fishing in each area by permit category in FY2008.

The proposed measures under this framework would affect approximately 406 limited access vessels that fished for monkfish only in the NMA or in both areas. The following section provides a discussion of the impacts for each measure. Where possible a quantitative assessment of the impacts is provided. If a quantitative assessment is not possible, an attempt is made to identify the types and number of vessels that may be reasonably expected to be affected by the proposed measure. Although detailed information concerning the human environment relate to the monkfish fishery is described in Section 4.5, the impacts discussed in this section can only be estimated across the fishery as a whole versus at a port level or a vessel size class level due to the lack of information required for such detailed analysis.

Permit Category	Only NMA Trips	Only SMA Trips	NMA and SMA Trips
A	0	13	2
B	0	33	4
C	17	59	198
D	56	55	129
E	104	266	134
H	0	7	0

Table 35 Number of active monkfish vessels fishing by permit category and fishing area in FY2008

5.3.1 Impact of Biomass Reference Points

The creation of a new set of biomass reference points will not, of itself, have an immediate economic impact. Alternative 1 (no action), which would not create the new reference points, would not result in additional economic impacts beyond those identified

in earlier actions. However, it could lead to long-term negative economic impacts if the lack of such updated reference points resulted in vessels losing out on potential yield. Alternative 2, the preferred alternative, would establish biomass reference points based on MSY or its proxy. As such, these new reference points should provide for more long-term economic stability in the fishery and, therefore, have a generally positive, albeit indirect, economic impact.

5.3.1. Impact of NMA ACT

The establishment of an ACT will provide for long-term sustainability in the fishery by preventing overfishing, after accounting for management uncertainty. As such, an ACT *per se* will have an indirectly positive economic impact over the long term.

5.3.1.1 NMA ACT Alternative 1 – No Action

Notwithstanding the fact that the no action alternative, which would retain the current approach of setting TTAL for the fishery, is not compliant with MSA and NS1 Guidelines, the level of landings associated with this alternative, 5,000 mt, is below the level that is required to prevent overfishing. In comparison to the proposed action, this alternative would potentially have a negative economic impact by constraining catch to levels below that which could be taken without causing overfishing, preventing vessels from utilizing the available yield from the fishery. Thus, the negative economic impact associated with this alternative would be the result of unnecessarily preventing vessels from accessing potential economic yield.

5.3.1.2 NMA ACT Alternative 2 – Non preferred Alternative

This alternative would set the NMA ACT at 10,750 mt, if approved in Amendment 5, which is above the level currently determined by the SSC to prevent overfishing. While this higher ACT could allow for short-term economic benefits to the fishery, if catch exceeds the revised ACL, it would trigger reactive accountability measures which would constrain the fishery in future years to prevent overfishing, resulting in a potential long-term negative impact on the fishery and increased economic uncertainty. However, negative long-term impacts on fishing communities due to reactive AMs are not likely because in recent years vessels have not harvested the TTAL which is about one-half of the ACT under this alternative.

5.3.1.3 NMA ACT Alternative 3 – Preferred Alternative

The Councils considered three options for establishing an ACT that is below the revised ACL, with a preferred option of 6,567 mt, or 86.5% of the ACL. This is the highest of the three options under consideration. As such, relative to no action, the preferred alternative will likely have a positive economic impact. The other two options would set the ACT at 73% and 80% of ABC, or 5,550 mt and 6,074 mt, respectively. The first option is the no action landings target of 5,000 mt *plus* discards (since the ACT by definition includes both landings and discards, while the no action alternative is based only on landings). The economic impacts of these other two options are, therefore, equivalent to, or slightly positive in comparison to the no action alternative. However, both of these options would likely result in a moderately lower positive impact than the preferred alternative, based on the potential for higher revenues under the preferred alternative.

5.3.2. Impact of NMA DAS and Trip Limits Specifications Alternatives

5.3.2.1. Specifications Alternative 1 - No action

Vessels fishing in the NMA are currently allocated 31 monkfish DAS with trip limits of 1,250 lbs. and 470 lbs. (tail wt. per DAS) for permit categories A&C and B&D, respectively. While vessels are not currently using their allocation, nor are they catching the trip limit, this alternative would potentially have a long-term indirect negative impact since vessels would likely not achieve optimum yield from the fishery.

5.3.2.2. Specifications Alternative 2 – Non preferred Alternative

Under the specifications proposed in Amendment 5, vessels would be allocated 40 monkfish DAS with trip limits of 1,250 lbs. and 800 lbs. (tail wt. per DAS) for permit categories A&C and B&D, respectively. In Amendment 5, the analysis of this option was found to result in an increase of 11% in monkfish revenues on vessels fishing in the NMA, approximately a 1% increase in total vessel return and crew payments. This benefit, however, would be short-term, since the ACT associated with this option would result in overfishing and reactive accountability measures being triggered if the ACL is exceeded, resulting in long-term negative economic effects.

5.3.2.3. Specifications Alternative 3 – Preferred Alternative

Specification options comparable to those associated with the preferred NMA ACT option were analyzed in Amendment 5 using FY2008 data. This analysis is applicable to the current preferred alternative and is presented below.

The trip limit and DAS alternatives would impact vessels fishing for monkfish in either area, to the extent that it impacts their normal fishing activity. As in previous annual adjustments, estimation of relative economic impacts was accomplished through the use of a trip limit model to estimate 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 2008 vessel trip reports and dealer weigh-out slips, with the former providing catch and location data and the latter providing average monthly prices, which are used to calculate revenue estimates.

The trip limit model was previously used to analyze changes in trip limits and DAS allocations while moving from higher to lower limits. The effect was evaluated based on a 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, it may continue to fish while discarding any monkfish above the trip limit, or it may fish up to the trip limit 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 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.

Based on this analysis, the preferred alternative would result in a 10% increase in monkfish revenues per vessel for those vessels fishing only in the NMA (Table 36) and a 17.4% increase for vessels fishing in both areas (Table 37) compared to taking no action. For vessels fishing in both areas, the proposed SMA alternative in Amendment 5 was used (550 lbs. and 450 lbs, trip limits with 28 DAS). On a per trip basis, the proposed action would have a slightly positive effect on vessel returns and crew payment for vessels fishing in the NMA only, and a slightly lower impact on vessels fishing in both areas. Since ACT Options 1 and 2 are lower than the preferred Option 3, the expected economic impact of the associated specifications options would be less positive compared to Option 3.

ACT	Specification Option	AC daily landing limit	BD daily landing limit	DAS	Change in Vessel Return	Change in Crew payment	Change in Monkfish Revenue
Option 3 (6,567 mt)	3A	1250	686	31	0.2%	0.5%	0.8%
	3B	1250	470	45	1.7%	1.6%	16.1%
	3C	1250	600	40	0.5%	0.5%	10.0%

Table 36 Changes from the no action alternative to proposed alternatives – Vessels only fishing in NMA, from the analysis in Amendment 5. The Framework 7 preferred alternative row is in *italics* (option 3C).

ACT	Specification Option	AC daily landing limit	BD daily landing limit	DAS	Change in Vessel Return	Change in Crew payment	Change in Monkfish Revenue
Option 3 (6,567 mt)	3A	1250	686	31	-1.2%	-0.7%	7.3%
	3B	1250	470	45	-1.1%	-0.7%	22.9%
	3C	1250	600	40	-1.4%	-1.4%	17.4%

Table 37 Changes from the no action alternative to proposed alternatives – Vessels fishing in both the SMA and NMA, from the analysis in Amendment 5. The Framework 7 preferred alternative row is in *italics* (option 3C).

5.4 Social Impacts Assessment (SIA)

Section 5.3.4 of Amendment 5 provides a detailed SIA of the alternatives considered in that amendment, including the establishment of ACLs and AMs for the monkfish fishery. Where appropriate, this section incorporates relevant information from that analysis. However, it should be noted that much of this analysis in this Framework and in Amendment 5 is qualitative in nature and focuses mainly on impacts to the fishery as a whole due to the lack of detailed information.

5.4.1 Impact of Biomass Reference Points

As with the economic impact analysis above, the creation of a new set of biomass reference points will not, of itself, have an immediate or direct social impact, since it is administrative in nature. Alternative 1, the no action alternative, would not change existing reference points, and, therefore, would likely be neutral with respect to social impacts, or potentially negative, since those reference points are not based on the best available scientific information. Alternative 2, the preferred alternative, would establish biomass reference points based on MSY or its proxy. As such, these new reference points should provide for more long-term stability in the fishery and, therefore, have a generally positive, albeit indirect, social impact.

5.4.2 Impact of NMA ACT

The NMA ACT alternatives described below are most likely to impact vessels, individuals, and communities in the ports where 50 percent or more of vessels fished only

in the NMA, and ports where at least 50 percent of vessels fished in both management areas.

The SIA contained in Amendment 5, which was based upon FY 2008 information noted the ports where 50-percent or more of vessels fished only in the NMA, in descending order of importance, were: Port Clyde, ME; Provincetown, MA; Scituate, MA; Seabrook, NH; Rye, NH; Portland, ME and Gloucester, MA. Gloucester had the largest number of total vessels, of which 63 percent fished in the NMA only. Other ports had 75-80 percent of their vessels fishing in the NMA, but only had 10-26 vessels total.

Ports where at least 50 percent of vessels fished in both management areas, in descending order of importance, were: New Bedford, MA; Boston, MA; Chatham, MA; Stonington, CT; Portsmouth, NH; Cape May, NJ; Point Judith, RI; and Newport, RI. In Cape May, Point Judith, Newport and Portsmouth only 50-57 percent of vessels fished in both areas, with the rest in Portsmouth fishing in the NMA. The remaining vessels in the other three ports fished in the SMA. In New Bedford, Boston, Chatham and Stonington, 72-83 percent of vessels fished in both areas. The remaining vessels in New Bedford and Stonington either all or mostly fished in the SMA, while the remaining vessels in Boston and Chatham fished in the NMA.

5.4.2.1 NMA ACT Alternative 1 – No Action

The no action alternative would result in no ACT being adopted, and would retain the existing TTAL as the basis for specification of DAS and trip limits. While this alternative would impose no change on social factors (i.e., level of uncertainty, safety concerns, changes to fishing practices and operations, etc.) within the fishery, it is not compliant with the MSA and NS1 Guidelines. Furthermore, since the current TTAL of 5,000 mt is lower than the preferred ACT alternatives under consideration, this alternative probably would have an indirect, but negative impact on communities since it would constrain catch at level that is below what could be harvested.

5.4.2.2 NMA ACT Alternative 2 – Non preferred Alternative

This alternative would adopt the ACT of 10,750 mt proposed in Amendment 5. While this is the highest of all ACT options under consideration, it is not compliant with National Standard 2, as well as the NS1 Guidelines, because it a) it is not based on the best available science, and 2) because it would set the ACT higher than the updated ABC/ACL. So if adopted, even though it would allow for a higher catch in the short term, it would result in reactive accountability measures that would likely be more disruptive to fishing operations due to their unpredictability in the second year and beyond because the catch targets would have to be reduced annually until the catch is lower than the ACL. Thus, this option is likely to have the greatest negative social impact relative to the other alternatives under consideration, including the no action alternative, due to the likelihood that fishing at the level that would be authorized under this ACT would trigger the reactive AM, and result in more restrictive AMs, and unpredictable management measures in future years.

5.4.2.3 NMA ACT Alternative 3 – Preferred Alternative

This alternative contains three ACT options that are below the ACL. Since all three options represent an increase in allowable catch over the current target, they are likely to have a positive social impact in comparison to taking no action. The Councils' preferred option, Option 3, would set the ACT at 6,567 mt, and is the highest of the three options considered. The ACT is the basis for calculating the DAS allocation and trip limits, and, as such, has an indirect social impact on individuals, families or communities. This alternative could have short-term negative to neutral social impacts with respect to Alternative 2 since it would result in a lower ACT. However, unlike the higher ACT in Alternative 2, this alternative would likely not result in long-term negative impacts since the ACT is 13.5 percent below the ACL, reducing the likelihood that the reactive AM would be triggered. With respect to taking no action, this alternative would likely result in both short- and long-term positive impacts resulting from a higher ACT that is set reasonably below the ACL. Although the aforementioned social impacts of this alternative in comparison to Alternatives 1 and 2 are possible, it may be more reasonable to expect the impacts to be neutral, since vessels in the NMA are not currently catching the current and lower TTAC of 5,000 mt.

5.4.3 Impact of NMA DAS and Trip Limits Specifications Alternatives

The vessels, individuals, and communities most likely to be affected by the proposed DAS and trip limit alternatives are those located in ports where 50 percent or more of vessels fished only in the NMA, or where at least 50 percent of vessels fished in both management areas. A listing of these potentially affected ports is provided under Section 5.4.2 above.

5.4.3.1 Specifications Alternative 1 - No action

Under the no action alternative, DAS allocations would remain at 31 DAS, and trip limits would remain at 1,250 lbs. and 470 lbs (tail wt. per DAS) for permit categories A&C and B&D, respectively. Since there is no change from the current specifications, the social impacts are likely to be neutral, or negative, since vessels would lose out on potential yield under the higher specifications in the preferred alternative.

5.4.3.2 Specifications Alternative 2 – Non preferred Alternative

Under the specifications proposed in Amendment 5, vessels would be allocated 40 DAS with trip limits of 1,250 lbs. and 800 lbs. (tail wt. per DAS) for permit categories A&C and B&D, respectively. While this is an increase from the no action alternative, these specifications are based on an ACT that is not compliant with NS1 and NS2 Guidelines. If, in fact, they were to be implemented, and if vessels catch exceeded the ACL, the reactive accountability measures would likely offset any short-term positive effect of the higher specifications in the first year or two. Therefore, the social impacts of this alternative are likely negative.

5.4.3.3 Specifications Alternative 3 – Preferred Alternative

The Councils are considering three specification options for each of the preferred ACT options discussed above. The preferred option would allocate 40 DAS and set trip limits at 1,250 lbs. and 600 lbs. (tail wt. per DAS) for permit categories A&C and B&D,

respectively. The DAS allocation and B&D trip limit are increased from the no action alternative, and, as such, would likely have a positive social impact. It should be noted, however, that in recent years, vessels fishing in the NMA have not utilized a substantial part of their allocated DAS, and have not been constrained by the trip limits, which suggests that the social impact of the preferred alternative will likely be negative to neutral in comparison to Alternative 2, and neutral to positive with respect to Alternative 1.

5.5 Cumulative Effects Analysis

5.5.1 Introduction

A cumulative effects assessment (CEA) is a required part of an EIS or EA according to the Council on Environmental Quality (CEQ) (40 CFR part 1508.7) and NOAA's agency policy and procedures for NEPA, found in NOAA Administrative Order 216-6. The purpose of the CEA is to integrate into the impact analyses, the combined effects of many actions over time that would be missed if each action were evaluated separately. CEQ guidelines recognize that it is not practical to analyze the cumulative effects of an action from every conceivable perspective but rather, the intent is to focus on those effects that are truly meaningful. This section serves to examine the potential direct and indirect effects of the alternatives in Framework 7 together with past, present, and reasonably foreseeable future actions that affect the monkfish environment. It should also be noted that the predictions of potential synergistic effects from multiple actions, past, present and/or future will generally be qualitative in nature.

Valued Ecosystem Components (VEC)

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

1. Monkfish stocks (target and non-target);
2. Non-monkfish species (incidental catch and bycatch);
3. Endangered and other protected species;
4. Habitat, including non-fishing effects; and
5. Human Communities (includes economic and social effects on the fishery and fishing communities).

Temporal Scope of the VECs

While the effects of historical fisheries are considered, the temporal scope of past and present actions for monkfish stocks, non-monkfish species, habitat and the human environment is primarily focused on actions that have taken place since implementation of the initial Monkfish FMP in 1999. An assessment using this timeframe demonstrates the changes to resources and the human environment that have resulted through management under the Council process. For endangered and other protected species, the context is largely focused on the 1980s and 1990s, when NMFS began generating stock assessments for marine mammals and turtles that inhabit waters of the U.S. EEZ, and encompasses the pre-FMP as well as post-FMP circumstances. In terms of future actions, this analysis examines the three-year specifications period following implementation of

this action (Summer, 2011). This date was chosen because the Councils will re-examine the FMP and its impacts during the next specifications-setting process.

Geographic Scope of the VECs

The geographic scope of the analysis of impacts to monkfish stocks, non-monkfish species and habitat for this action is the total range of these VECs in the Western Atlantic Ocean, as described in the Affected Environment section of the document (Section 5.0). However, the analyses of impacts presented in this amendment focuses primarily on actions related to the harvest of the managed resources. The result is a more limited geographic area used to define the core geographic scope within which the majority of harvest effort for the managed resources occurs. For endangered and protected species, the geographic range is the total range of each species (Section 5.0).

Because the potential exists for far-reaching sociological or economic impacts on U.S. citizens who may not be directly involved in fishing for the managed resources, the overall geographic scope for human communities is defined as all U.S. human communities. Limitations on the availability of information needed to measure sociological and economic impacts at such a broad level necessitate the delineation of core boundaries for the human communities. Therefore, the geographic range for the human environment is defined as those primary and secondary ports bordering the range of the monkfish fishery from the U.S.-Canada border to, and including, North Carolina.

Analysis of Total Cumulative Effects

A cumulative effects assessment ideally makes effect determinations based on the culmination of the following: (1) impacts from past, present and reasonably foreseeable future actions; PLUS (2) the baseline condition for resources and human communities (note – the baseline condition consists of the present condition of the VECs plus the combined effects of past, present and reasonably foreseeable future actions); PLUS (3) impacts from the Proposed Action and alternatives.

A description of past, present and reasonably foreseeable future actions is presented immediately below in Table 38 and more thoroughly in Appendix 3. The baseline conditions of the resources and human community are subsequently summarized although it is important to note that beyond the stocks managed under this FMP and protected species, quantitative metrics for the baseline conditions are not available. Finally, a brief summary of the impacts from the alternatives contained in this amendment is included. The culmination of all these factors is considered when making the cumulative effects assessment.

5.5.2 Past, Present and Reasonably Foreseeable Future Actions

Table 38 summarizes the combined effects of other past, present and reasonably foreseeable future actions that affect the VECs, i.e., actions other than those alternatives under development in this document (a summary of the primary past, present and reasonably foreseeable future actions effecting this amendment can be found in Appendix 3).

Note that most of the actions affecting this amendment and considered in Table 38 come from fishery-related activities (e.g., Federal fishery management actions). As expected, these activities have fairly straightforward effects on environmental conditions, and were, are, or will be taken, in large part, to improve those conditions. The reason for this is the statutory basis for Federal fisheries management - the re-authorized Magnuson-Stevens Act. That legislation was enacted to promote long-term positive impacts on the environment in the context of fisheries activities. More specifically, the act stipulates that management comply with a set of National Standards that collectively serve to optimize the conditions of the human environment. Under this regulatory regime, the cumulative impacts of past, present, and future Federal fishery management actions on the VECs should be expected to result in positive long-term outcomes. Nevertheless, these actions are often associated with offsetting impacts. For example, constraining fishing effort frequently results in negative short-term socio-economic impacts for fishery participants. However, these impacts are usually necessary to bring about long-term sustainability of a given resource and as such, should, in the long-term, promote positive effects on human communities, especially those that are economically dependent upon the managed resource.

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

VEC	Past Actions	Present Actions	Reasonably Foreseeable Future Actions	Combined Effects of Past, Present, Future Actions
Monkfish Stocks	Positive Combined effects of past actions have controlled effort, rebuilt stocks and improved habitat protection	Positive Current regulations continue to manage for sustainable stocks	Positive Future actions are anticipated to continue rebuilding and strive to maintain sustainable stocks	Positive Stocks are being managed to achieve optimum yield and prevent overfishing
Non-monkfish Species	Positive Combined effects of past actions have decreased effort and bycatch and improved habitat protection	Positive Current regulations continue to manage for sustainable stocks, thus controlling effort on direct and discard/bycatch species	Positive Future actions are anticipated to continue control effort and minimize bycatch	Positive Continued management of directed stocks will also control incidental catch/bycatch
Endangered and Other Protected Species	Mixed Combined effects of past fishery actions have reduced effort and thus interactions with protected resources	Mixed Current regulations continue to control effort, but may result in some increases, thus increasing opportunities for interactions	Mixed Future regulations will likely control effort and thus protected species interactions, but may result in some effort increase, possibly increasing interactions	Mixed Continued effort controls along with protected species regulations will likely help stabilize or reduce protected species interactions, although additional controls may be needed for some species
Habitat	Mixed Combined effects of effort reductions, closed areas, and better control of non-fishing activities have been positive but some fishing activities and non-fishing activities continue to reduce habitat quality	Mixed Effort reductions and better control of non-fishing activities have been positive but fishing activities and non-fishing activities continue to reduce habitat quality	Mixed Future regulations will likely control effort and thus habitat impacts but may allow some effort increase along with additional non-fishing activities	Mixed Continued fisheries management will likely control effort and thus fishery related habitat impacts but fishery and non-fishery related activities will continue to reduce habitat quality
Human Communities	Positive Fishery management has resulted in rebuilt stocks and controlled, sustainable fishery which supports profitable industries and communities	Positive Fishery resources continue to support communities at a sustainable level	Mixed Continued management at sustainable levels provides a stable, profitable fishery, benefitting affected communities; changes to the management program may result in redistribution of the benefits among communities	Positive Sustainable fisheries should support viable communities and economies

Impact Definitions:

-Monkfish Stocks, Non-monkfish species, Endangered and Other Protected Species: positive=actions that increase stock size and negative=actions that decrease stock size

-Habitat: positive=actions that improve or reduce disturbance of habitat and negative=actions that degrade or increase disturbance of habitat

-Human Communities: positive=actions that increase revenue and well being of fishermen and/or associated businesses

negative=actions that decrease revenue and well being of fishermen and/or associated businesses

Table 38 - Summary effects of past, present and reasonably foreseeable future actions on the VECs identified for Framework 7.

5.5.3 Baseline Conditions for Resources and Human Communities

For the purposes of a cumulative effects assessment, the baseline conditions for resources and human communities is considered the present condition of the VECs plus the combined effects of the past, present, and reasonably foreseeable future actions. The following table (Table 39) summarizes the added effects of the condition of the VECs and the sum effect of the past, present and reasonably foreseeable future actions (from Table 38 above). The resulting CEA baseline for each VEC is exhibited in the last column (shaded). In general, straight-forward quantitative metrics of the baseline conditions are only available for the managed resources, non-target species, and protected resources. The conditions of the habitat and human communities VECs are complex and varied. As such, the reader should refer to the characterizations given in Sections 5.2 and 5.4, respectively. As mentioned above, this cumulative effects baseline is then used to assess cumulative effects of the proposed management actions below in Table 39.

Impact Definitions for Table 39 below:

Monkfish Stocks, Non-monkfish species, Endangered and Other Protected Species	Positive = actions that maintain or increase stock size
	Negative = actions that decrease stock size
Habitat	Positive = actions that improve or reduce disturbance of habitat
	Negative = actions that degrade or increase disturbance of habitat
Human Communities	Positive = actions that maintain or increase revenue and well being of fishermen and/or associated businesses
	Negative = actions that decrease revenue and well being of fishermen and/or associated businesses
All VECs	Mixed=both positive and negative

VEC		Status/Trends	Combined Effects of Past, Present Reasonably Foreseeable Future Actions (Table 38)	Combined CEA Baseline Conditions
Monkfish Stocks	NMA	Not overfished (rebuilt) and overfishing is not occurring.	Positive – Stocks have achieved rebuilt status and are being managed at sustainable levels.	Negative – short term Overharvesting in the past contributed to several stocks being overfished or where overfishing is occurring; Positive – long term Regulatory actions taken over time have ended overfishing and rebuilt stocks
	SMA	Not overfished (rebuilt) and overfishing is not occurring.		
Non-monkfish Species	Groundfish stocks	4 stocks are not overfished and overfishing is not occurring; 11 stocks are overfished and overfishing is occurring; 5 stocks are either overfished, overfishing is occurring, or status unknown	Positive – Continued management of directed stocks will also control incidental catch/bycatch.	Positive – Effort reductions in the monkfish fishery have likely reduced impacts on non-target species.
	Dogfish	Not overfished and overfishing is not occurring.		
	Skates	Winter, thorny and smooth skates are overfished and thorny is also subject to overfishing. Barndoor skate is not overfished and is rebuilding toward biomass target. Little skate is not overfished, although it is close to the overfished biomass threshold. Clearnose and rosette skates are not overfished and overfishing is not occurring.		
Habitat		Fishing impacts are complex and variable and typically neutral or adverse; Non-fishing activities had historically negative but site-specific effects on habitat quality.	Mixed – Future regulations will likely control effort and thus habitat impacts but as stocks maintain rebuilt status, effort reductions are unlikely.	Mixed - reduced habitat disturbance by fishing gear but impacts from non-fishing actions, such as global warming, could increase and have a negative impact.
Protected Resources	Sea Turtles	Leatherback, Kemp's ridley and green sea turtles are classified as endangered under the ESA and loggerhead sea turtles are classified as threatened.	Mixed – reduced gear encounters through management actions to control effort taken under the FMP, as well as those under the ESA and MMPA may have had a positive impact, although additional controls may be needed for some species.	Mixed - reduced gear encounters through management actions to control effort taken under the FMP, as well as those the ESA and MMPA may have had a positive effect.
	Large Cetaceans	Of the baleen whales (right, humpback, fin, blue, sei and minke whales) and sperm whales, all are protected under the MMPA and with the exception of minke whales, all are listed as endangered under the ESA.		
	Small Cetaceans	Pilot whales, dolphins and harbor porpoise are all protected under the MMPA. The most recent stock assessment for harbor porpoise shows that takes are increasing and nearing PBR.		
	Pinnipeds	None are listed under the ESA, but protected under the MMPA.		
Human Communities		Complex and variable (see Section 5.6). Generally monkfish landings and revenues have decreased since implementation of the FMP in 1999, but from unsustainably high levels.	Positive – Management at long-term sustainable levels should support viable communities and economies	Positive – Management at long-term sustainable levels should support viable communities and economies

Table 39 Cumulative effects assessment baseline conditions of the VECs

5.5.4 Summary Effects of Framework 7 Actions

The alternatives contained in Framework 7 can be divided into two categories. First, this action adopts revised biomass reference points in compliance with the MSRA and National Standard 1 and 2 Guidelines that are based on the best scientific information available about MSY or its proxy. Second, Framework 7 adopts specifications (catch targets and associated DAS and trip limits) for the NMA fishery for FY 2011 - FY 2013. This latter action is necessary because information provided by SARC 50 and the recommendation of the SSC is that the ACT proposed in Amendment 5 would be above the recalculated ACL, which would risk overfishing and which is noncompliant with the National Standard guidelines.

The MSRA requirement to adopt ACLs and AMS is expected to provide the foundation for long-term sustainability and, more specifically, the prevention of overfishing. Since these requirements are applied to all FMPs, they should have an overall positive cumulative effect on target and non-target species and communities, and have mixed effects on protected species and habitat. In the case of monkfish, since overfishing is not occurring, and the fishery is rebuilt and managed at sustainable levels, effort reductions are not warranted, which means that the long-term impact of the fishery on protected species and habitat will not change under the FMP as it comes into compliance with the MSRA, except for changes that occur as a result of measures taken under the ESA and MMPA.

The adoption of NMA fishery specifications for FY 2011 – FY 2013 will provide for ongoing achievement of optimum yield, prevention of overfishing and stability in the fishery. As noted in Amendment 5, the specification of ACT to include monkfish discards will further enhance the FMP's ability to prevent overfishing, since all catch will be accounted for. Since the ACTs and associated management measures represent an increase from current levels, there may be some direct negative impact on non-target species that are caught while vessels target monkfish, such as skates and dogfish, but some indirect positive effect, as vessels shift effort away from other fisheries to take advantage of the increased opportunities in the monkfish fishery.

The same type of impact may occur with regards to protected species, depending on the relative effect of the monkfish fishery compared to the interactions in other fisheries. However, with respect to Atlantic sturgeon, the proposed action is expected to have a neutral impact given the lack of known recent interactions between the monkfish fishery and this proposed listed species in the NMA. The cumulative habitat effects are mixed, since the effect of increased fishing effort may have adverse effects on habitat, which is offset by the fact that effort under the FMP is being controlled and vessels must continue to respect the habitat closed areas established in Multispecies Amendment 13, and the offshore canyon closures established in Monkfish Amendment 2. It should be noted, however, that effort levels, as measured by DAS, are not increased above the baseline of 40 DAS established and analyzed in the EIS for the original FMP and Amendment 2. The effect on communities is likely to be positive in both the short and long term as a result of the increased opportunity to target monkfish at sustainable levels, and the relative stability of a 3-year specification program.

5.5.5 Cumulative Effects Summary

The regulatory atmosphere within which Federal fishery management operates requires that management actions be taken in a manner that will optimize the conditions of resources, habitat, and human communities. Consistent with NEPA, the MSRA requires that management actions be taken only after consideration of impacts to the biological, physical, economic, and social dimensions of the human environment. Given this regulatory environment, and because fishery management actions must strive to create and maintain sustainable resources, impacts on all VECs (except short-term impacts to human communities) from past, present and reasonably foreseeable future actions, when combined with baseline conditions, have generally been positive, and are expected to continue in that manner for the foreseeable future. This is not to say that some aspects of the various VECs are not experiencing negative impacts, but rather that when taken as a whole and compared to the level of unsustainable effort that existed prior to and just after the fishery came under management control, the overall long-term trend is positive.

Table 40 below is provided as a summary of likely cumulative effects found in the various groups of management alternatives contained in Framework 7. Impacts are listed as no impact/neutral, positive, negative, or mixed. Impacts listed as no impact/neutral include those alternatives that have no impact or have a neutral impact (neither positive nor negative). Impacts listed as mixed contain both positive and negative impacts. The resultant cumulative effect is the CEA baseline that, as described above in Table 38, represents the sum of the past, present, and reasonably foreseeable future (identified hereafter as "other") actions and conditions of each VEC. When an alternative has a positive effect on a VEC, for example, reduced fishing mortality on a managed species, it has a positive cumulative effect on the stock size of the species when combined with the "other" actions that were also designed to increase stock size. In contrast, when an alternative has a negative effect on a VEC, such as increased mortality, the cumulative effect on the VEC would be negative and tend to reduce the positive effects of the "other" actions. The resultant positive and negative cumulative effects are described below for each VEC and are exhibited in Table 40.

The incremental impacts of the preferred alternatives in Framework 7, relative to taking no action, are not likely to result in a significant negative impact on Atlantic sturgeon. The proposed action is not expected to result in negative cumulative impacts between the anticipated implementation date being during the summer of 2011, and October 2011, when a final listing determination under the ESA is expected. However, this determination of cumulative non-significance cannot be extended beyond the October 2011 time period due to the lack of information on which to base a determination. As a result, NMFS is implementing a Monitoring and Action Plan in conjunction with its partial approval of Amendment 5, as discussed in the Amendment 5 Addendum, which includes working with the NEFSC to gather new information that can be used to better assess the impacts of the monkfish fishery on Atlantic sturgeon and begin development of potential measures to reduce impacts to ensure that any negative impacts to Atlantic sturgeon that may occur during FYs 2011, 2012 and 2013 do not rise to the level of significance.

Managed Resources

Past actions implemented under the Monkfish FMP have served to rebuild the fishery and neither the stocks in the northern or southern fishery management areas are overfished, nor is overfishing occurring. This management trend should continue through the adoption of the proposed biomass reference points which will be neutral or positive for monkfish stocks since, while not directly affecting fishing effort, provide the basis for monitoring stock status and achieving optimum yield from the fishery while preventing overfishing. Setting the NMA ACT below the ACL, as well as the specification of associated DAS and trip limits will have a positive effect because they will prevent overfishing while achieving optimum yield. These proposed actions, along with protections afforded through other management plans, such as Amendment 16 to the NE Multispecies FMP and Atlantic Sea Scallop FMP actions, as well as actions under development to protect habitat and EFH via the Omnibus Habitat FMP should afford sustainable management of the monkfish fishery.

Non-Target Species

Effort control measures implemented under the Monkfish FMP over the past decade have reduced overall fishing effort with its associated incidental catch of non-target species, particularly skates and dogfish. This trend is likely to continue under the proposed action, notwithstanding the year-over-year increase in allocated effort proposed in this action, as discussed here. Proposed biomass reference points will not have an effect on non-target species because they do not directly affect fishing effort. The proposed NMA ACT and specification of DAS and trip limits may have both positive and negative effect. While the increase opportunity to target monkfish will allow for effort to shift from other fisheries, there may be increased incidental catch of some species, particularly skates and dogfish.

Protected Resources

As with target and non-target species, past effort controls and other actions developed under the Monkfish FMP have reduced the potential for interaction with protected species. The proposed NMA ACT and specification of DAS and trip limits may have mixed effects on protected species, depending on the time and area where the increased effort allocation is applied. If, for example, vessels utilize their increased allocation during the winter months when protected species interactions are minimal, then the increased allocation will not have an impact. Since the monkfish fishery in the NMA is predominantly a trawl fishery with relatively low protected species impacts, increasing directed monkfish effort could have a positive effect on protected species if the increase attracts effort from other fisheries where protected species interactions are greater. Conversely, a lower effort allocation in the NMA monkfish fishery could cause vessels to fish in other fisheries with potentially higher protected species interactions. Overall, the cumulative positive trend should continue, in terms of protected species impacts as a result of the fishing effort controls under the Monkfish FMP, in combination with actions

taken or in development under the ALWTRP and HPTRP, as well as sea turtle protection measures.

Habitat, Including EFH

Past actions taken under the Monkfish FMP, particularly the controls on fishing effort and the closure of three offshore canyon areas in Amendment 2 have had a positive effect on protecting habitat, including EFH. The adoption of biomass reference points will have no impact on habitat because they do not directly affect fishing effort. The proposed NMA ACT and specification of DAS and trip limits may be neutral or negative with respect to habitat depending on the time and area where the increase effort allocation is applied. A negative effect might occur if, for example, vessels expand the area where they fish as a result of the increased allocation. As noted above, effort levels, as measured by DAS, are not increased above the baseline of 40 DAS established and analyzed in the EIS for the original FMP and Amendment 2, with the exception of options 2B and 3B, which are only slightly above at 42 and 45 DAS, respectively. These proposed actions, along with protections afforded through other management plans, such as Amendment 16 to the NE Multispecies FMP and Atlantic Sea Scallop FMP actions, as well as actions under development designed specifically to protect habitat and EFH via the Omnibus Habitat FMP should afford ongoing minimization, to the extent practicable, of adverse impacts of the fishery on habitat.

Human Communities

The rebuilding of the monkfish resource over the past decade, along with the stability afforded by the multi-year specifications-setting process have had an overall positive effect on the affected human communities. This trend is likely to continue under the proposed action, which allows for increased fishing opportunities while preventing overfishing. All of the proposed measures are expected to have a positive impact on communities. The increase specification of DAS represents increased economic opportunity. The cumulative effect of the ongoing management of the monkfish fishery at sustainable levels, as well as actions taken under other FMPs as they meet MSRA mandates, will likely be positive over the long term.

Management Measure	VECs				
	Managed Resources	Non-target Species	Protected Resources	Habitat Including EFH	Human Communities
Biomass Reference Points Control Rules	Neutral or Positive – objective and measurable reference points, while not directly affecting fishing effort, provide the basis for monitoring stock status and achieving optimum yield while preventing overfishing	No Impact/ Neutral – reference points have no direct effect on catch of non-target species	No Impact/ Neutral – reference points have no direct effect on interaction with protected species	No Impact/ Neutral – reference points have no direct effect on fishing effort or habitat	Neutral or Positive – objective and measurable reference points, while not directly affecting fishing effort, provide the basis for monitoring stock status and achieving optimum yield while preventing overfishing
NMA ACT	Positive – the basis for setting specifications to prevent overfishing and achieve optimum yield	Neutral or Positive – management based on ACLs and AMs will control fishing effort	Mixed – management based on ACLs and AMs will control fishing effort	Neutral or Positive – management based on ACLs and AMs will control fishing effort	Neutral or Positive – management based on ACLs and AMs will control fishing effort
Specification of DAS and Trip Limits	Positive – Effort controls to prevent overfishing and achieve optimum yield	Mixed – Increased opportunity to target monkfish shifts effort from other fisheries but may increase incidental catch in the directed fishery	Neutral or negative – Increased effort allocations may result in less or greater interaction with PS, depending on where, when and with what gear such effort is applied	Neutral or negative – Increased effort allocations may result in greater habitat impact, depending on where and when such effort is applied	Positive – Effort controls to prevent overfishing and achieve optimum yield; increased allocation improves fishery economy

Table 40 – Summary of Cumulative Effects of proposed action

6.0 Consistency with Applicable Laws

6.1 Magnuson-Stevens Act (MSA)

6.1.1 National Standards

Section 301 of the Magnuson-Stevens Act requires that FMPs contain conservation and management measures that are consistent with the ten National Standards (NS). The following section summarizes, in the context of the National Standards, the analyses and discussion of the proposed action that appear in various sections of this framework adjustment document.

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

The actions taken in the framework adjustment are primarily intended to set the ACT for the NMA at a level that will prevent overfishing after taking into account the scientific uncertainty in the estimate of the overfishing level of catch and management uncertainty. Optimum yield is defined in Amendment 5 as the yield corresponding to the ACT.

- (2) Conservation and management measures shall be based upon the best scientific information available.*

The Councils are taking the proposed actions, setting biomass reference points and NMA ACT, after considering the results of the most recent stock assessment (SARC 50) and the recommendations of the SSC. The SSC reviewed the SARC 50 results in making its recommendation.

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

The FMP established a two-area management program for monkfish, covering the exploitable range of the species. SARC 34 discussed the basis for assessing goosfish as a single stock, versus two stocks, and concluded that information was insufficient to make a determination on a biological basis. The SARC noted that the choice of number of management units is independent of the number of assessment units, and that the use of two management units may be required because of the characteristically different fisheries that occur in the two areas, in terms of gear, catch composition, seasonality and other parameters. In Amendment 2, the Councils considered a single-stock approach, but rejected it for further analysis and consideration prior to the development of the DSEIS. SARC 50 did not change the findings of the previous assessment, and the Councils are not changing this two-area approach due to the equivocal scientific information.

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

The proposed action does not discriminate between residents of different states. While the FMP measures developed to achieve the conservation goals of the FMP may have a differential impact on geographical or gear sectors of the industry, that differential impact is not the purpose. The two-area management program is based on differences in the fisheries between the two areas, and not based on allocation of fishing privileges differently among sectors of the industry. In fact, all limited access permit holders, with the exception of Category H permits, may fish in either management area, subject to the rules that apply in each. (In Amendment 2, the Councils qualified a group of vessels for a limited access permit, Category H, that had not qualified under the original FMP, on the condition that on those vessels would be restricted to fishing only in their historical area, at the southernmost range of the fishery.

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

The proposed specifications provide the greatest opportunity to harvest the resource while preventing overfishing, taking into account scientific and management uncertainty. While the FMP generally, and the proposed action specifically, may have differential impacts on various fishery groups, economic allocation is not one of the goals or objectives, nor does the action proposed in this framework directly allocate the fishery resource.

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

The two-area management approach of the FMP is specifically intended to take into account the differences in fisheries between the two areas. Other measures in the FMP, such as the permit categories and gear- and area-based incidental catch limits are also based on the differences among various fisheries that catch monkfish either as a target or incidental catch species. These considerations are not changed under the proposed action.

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

This FMP does not duplicate measures or regulations implemented under other FMPs, but coordinates with them. Increasing the DAS allocations and setting them for a three-year period, enables fishing business to expand within the available

opportunities, and to make investments in gear while knowing that those rules are not likely to change over the period.

- (8) *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 by utilizing economic and social data that meet the requirements of paragraph (2), 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.*

The actions proposed in this framework are not expected to have significant adverse effects on fishing communities (see Section 5.4), and are likely to have positive effects by allowing the directed monkfish fishery to continue and expand without negatively affecting the stock status. The recent confirmation of stock status (SARC 50) will likely have a long-term positive effect on those communities since it obviates the need for additional restrictions to rebuild overfished stocks, or stop overfishing

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

The FMP contains numerous measures to minimize bycatch and bycatch mortality, including large-mesh regulations, incidental catch allowances for all fisheries, and, since Framework 4 was implemented, the ability to declare a monkfish DAS while at sea by VMS if a vessel exceeds the incidental catch limit and is fishing in the NFMA. In Amendment 5, the FMP was modified to allow vessels to land a one-day overage of the trip limits, further minimizing the potential for regulatory discards.

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

This framework adjustment does not substantially change the impact of the FMP on safety at sea since this action does not contain any management measures that would affect safety at sea.

6.1.2 Required Provisions

Section 303 of the MSFCMA contains fifteen additional required provisions for FMPs, which are discussed below. Any FMP prepared by any Council, or by the Secretary, with respect to any fishery, shall:

- (1) *contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are-- (A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery; (B) described in this subsection or subsection (b), or both; and (C) consistent with the National Standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which*

the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law;

The Monkfish FMP comprises conservation and management measures designed to achieve optimum yield from the fishery and prevent overfishing. Based on the results of the most recent stock assessment, and the biomass reference points subsequently adopted in Framework 5, monkfish is not overfished in either management area. The action proposed in this framework would revise the reference points, but stock status would remain unchanged. The proposed NMA ACT and associated specifications will enable the fishery to continue to achieve optimum yield from the fishery while not causing overfishing, and promote long-term stability in the fishery.

- (2) contain a description of the fishery, including, but not limited to, the number of vessels involved, the type and quantity of fishing gear used, the species of fish involved and their location, the cost likely to be incurred in management, actual and potential revenues from the fishery, any recreational interest in the fishery, and the nature and extent of foreign fishing and Indian treaty fishing rights, if any;*

The fishery and its components, including biological, social and economic aspects, are described in the Affected Environment section of the EIS for the FMP, as well as in subsequent environmental documents (Amendment 2 and Frameworks 2 - 5), updated in Section 4.0 of this document, which comprises the Stock Assessment and Fishery Evaluation (SAFE) Report for the 2009 fishing year. There is no foreign fishing for monkfish, and there are no known Indian treaty fishing rights pertaining to monkfish.

- (3) assess and specify the present and probable future condition of, and the maximum sustainable yield and optimum yield from, the fishery, and include a summary of the information utilized in making such specification;*

The most recent stock assessment (SARC 50, 2010) contains the best estimate of the present condition of the monkfish resource. The impact of proposed catch targets on stock conditions in the future is discussed in Section 5.0 of this document, for the NMA, and Amendment 5 for the SMA.

- (4) assess and specify-- (A) the capacity and the extent to which fishing vessels of the United States, on an annual basis, will harvest the optimum yield specified under paragraph (3); (B) the portion of such optimum yield which, on an annual basis, will not be harvested by fishing vessels of the United States and can be made available for foreign fishing; and (C) the capacity and extent to which United States fish processors, on an annual basis, will process that portion of such optimum yield that will be harvested by fishing vessels of the United States;*

There is sufficient capacity for United States' vessels to harvest the optimum yield from the monkfish resource, as evident by the fact that, even though the fishery is under a limited access program, vessels are restricted in the number of DAS and the amount of monkfish they can land per DAS to stay within the TTACs. Thus, there is no amount of optimum yield available for foreign fishing. Furthermore, sufficient

domestic processing capacity exists to utilize all monkfish harvested by United States vessels.

- (5) *specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, charter fishing, and fish processing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls, economic information necessary to meet the requirements of this Act, and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors;*

The Monkfish Plan Development Team (PDT) compiles and publishes annually a description of the fishery, including affected communities, as part of the SAFE Report, most recently in Section 4.5 of this document, Affected Human Environment. There is no significant recreational or charter fishery for monkfish.

- (6) *consider and provide for temporary adjustments, after consultation with the Coast Guard and persons utilizing the fishery, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safe conduct of the fishery; except that the adjustment shall not adversely affect conservation efforts in other fisheries or discriminate among participants in the affected fishery;*

The framework adjustment mechanism established in the FMP provides the Council with the ability to change regulations to address issues such as vessel safety within the context of the fishery management program on an annual, or as needed basis.

- (7) *describe and identify essential fish habitat for the fishery based on the guidelines established by the Secretary under section 305(b)(1)(A), minimize to the extent practicable adverse effects on such habitat caused by fishing, and identify other actions to encourage the conservation and enhancement of such habitat;*

Section 4.4 contains the description of monkfish essential fish habitat, and Section 5.2 contains the analysis of impacts of the proposed action and alternatives on essential fish habitat.

- (8) *in the case of a fishery management plan that, after January 1, 1991, is submitted to the Secretary for review under section 304(a) (including any plan for which an amendment is submitted to the Secretary for such review) or is prepared by the Secretary, assess and specify the nature and extent of scientific data which is needed for effective implementation of the plan;*

In addition to the stock assessments usually conducted by the NEFSC every three years, the Council prepares annually a SAFE Report which is used to monitor the fishery and the progress of the FMP. Section 4.0 of this document contains the 2009 SAFE Report. Section 6.7 discusses this FMP's consistency with the Information Quality Act.

- (9) *include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and analyze the likely effects, if any, including the cumulative conservation, economic, and social impacts, of the conservation and management measures on, and possible mitigation measures for—(A) participants in the fisheries and fishing communities affected by the plan or amendment; (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants; and (C) the safety of human life at sea, including whether and to what extent such measures may affect the safety of participants in the fishery*

The impacts of the proposed action and alternatives, including cumulative impacts, impacts on the physical and human environments are discussed in Section 5.0 of this document.

- (10) *specify objective and measurable criteria for identifying when the fishery to which the plan applies is overfished (with an analysis of how the criteria were determined and the relationship of the criteria to the reproductive potential of stocks of fish in that fishery) and, in the case of a fishery which the Council or the Secretary has determined is approaching an overfished condition or is overfished, contain conservation and management measures to prevent overfishing or end overfishing and rebuild the fishery;*

Based on the recommendations of the most recent stock assessment, SARC 50, the Councils propose in this document to revise the biomass reference points used to identify when the stocks are overfished. Based on that assessment, the stock is not overfished in either management area, under either the current or proposed biomass reference points.

- (11) *establish a standardized reporting methodology to assess the amount and type of bycatch occurring in the fishery, and include conservation and management measures that, to the extent practicable and in the following priority-- (A) minimize bycatch; and (B) minimize the mortality of bycatch which cannot be avoided;*

NMFS currently has in place reporting requirements for all vessels participating in the Federal monkfish fishery, including requirements to report all bycatch on the Vessel Trip Reports (VTR), and maintains, to the extent the budget allows, a fishery observer program on board vessels. Additionally, VMS is mandatory on the majority of limited access monkfish vessels through the requirements of the Atlantic Sea Scallop and Northeast Multispecies FMPs. Since VMS allows the tracking of fishing vessels, coordination of this information with observer coverage may allow for more accurate bycatch assessment and projection. Also, the emerging Study Fleet Program can provide another source of bycatch information for the different gear types and areas. The Study Fleet Program is designed to enhance fishery-dependent data necessary for management decisions through the development of electronic reporting technology.

Since this provision requires the establishment of a Standardized Bycatch Reporting Methodology (SBRM), in January 2006, development began on the Northeast Region

Omnibus SBRM Amendment. This amendment covers 13 FMPs, 39 managed species, and 14 types of fishing gear. The purpose of the amendment is to: Explain the methods and processes by which bycatch is currently monitored and assessed for Northeast Region fisheries; determine whether these methods and processes need to be modified and/or supplemented; establish standards of precision for bycatch estimation for all Northeast Region fisheries; and document the SBRM established for all fisheries managed through the FMPs of the Northeast Region. The SBRM Amendment was approved on October 22, 2007, and a final rule became effective on February 27, 2008.

For the reasons noted above, and given the fact that NMFS is approaching the bycatch issue on a national level versus on a fishery-by-fishery basis, the Councils determined that is not appropriate or practicable to implement a significantly new or expanded reporting methodology focused just on the monkfish fishery through amendments to the FMP. Therefore, no additional specific bycatch monitoring alternatives are being recommended in this action.

- (12) *assess the type and amount of fish caught and released alive during recreational fishing under catch and release fishery management programs and the mortality of such fish, and include conservation and management measures that, to the extent practicable, minimize mortality and ensure the extended survival of such fish;*

Monkfish catch in recreational fisheries is not significant enough to be recorded in the recreational catch data.

- (13) *include a description of the commercial, recreational, and charter fishing sectors which participate in the fishery, including its economic impact, and, to the extent practicable, quantify trends in landings of the managed fishery resource by the commercial, recreational, and charter fishing sectors;*

Monkfish catch in recreational fisheries is not significant enough to be recorded in the recreational catch and vessel data. Commercial fishery sectors are described in the Affected Environment section of the EIS for the original FMP, as well as in subsequent environmental documents (plan amendments and framework adjustments), and is updated in Section 4.0 of this document.

- (14) *to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate, taking into consideration the economic impact of the harvest restrictions or recovery benefits on the fishery participants in each sector, any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery;*

As noted under the discussion of National Standard 4 in the previous section, while conservation measures may have a differential impact on different sectors of the industry, that differential impact is not the purpose of the regulations, and is done in a manner that is intended to achieve the conservation and management goals of the FMP. The two-area management program is based on differences in the fisheries

between the two areas, and not to allocate fishing privileges differently among sectors of the industry.

- (15) *establish a mechanism for specifying annual catch limits in the plan (including a multiyear plan), implementing regulations, or annual specifications, at a level such that overfishing does not occur in the fishery, including measures to ensure accountability.*

The Councils completed Amendment 5 to the FMP in September 2010 which includes, among other provisions, specification of Annual Catch Limits and Accountability Measures (AMs). The Annual Catch Targets (ACTs) are a proactive form of AM. This framework adjustment revises the ACT for the NMA as a result of newer scientific information (SARC 50), and the SSC's revision to the ACL for the NMA.

6.1.3 EFH Assessment

According to the EFH Final Rule, "federal agencies are not required to provide NMFS with assessments regarding actions that they have determined would not adversely affect EFH." Since there is not an EFH vulnerability issue with this fishery and only options 2B and 3B, at 42 and 45 DAS respectively are only slightly over the 40 DAS analyzed in the original FMP, the effect of these non-preferred options would be neutral or slightly negative. Therefore action proposed under this framework will not have an adverse effect on EFH of federally managed species, and, therefore, no EFH Assessment is required or provided.

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, and other adjustments to the FMP.

6.2.1 Finding of No Significant Impact (FONSI Statement)

NOAA has provided guidance for the determination of significance under NEPA in Section 6.01(b) of NOAA Administrative Order NAO 216-6, May 20, 1999, as well as in NMFS Instruction 3-124-1, July 22, 2005. NOAA Administrative Order 216-6 contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality regulations at 40 CFR 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity". The analysis of significance of this action is, therefore, based on both the NAO 216-6 criteria and CEQ's context and intensity criteria. Each criterion listed in the sixteen questions below is relevant in making a finding of no significant impact, and have been considered individually, as well as in combination with the others. The sixteen criteria to be considered are addressed below:

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

This action is primarily intended to modify the NMA ACT based on more recent information than what was available when the initial ACT was proposed in Amendment 5. This revised ACT is designed to prevent overfishing while taking into account scientific uncertainty and management uncertainty. As such, this action will not jeopardize the sustainability of monkfish. In addition, the adoption of biomass reference points will also allow for evaluation of stock status relative to MSY, or its proxy.

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

As noted in Section 5.1, the proposed action is not expected to jeopardize the sustainability of any non-target species. The level of fishing effort resulting from the proposed action is the same as levels analyzed in previous management actions, including the original FMP.

Although information about bycatch is limited and inconclusive with respect to fishery-wide impacts, the impact of the proposed action in the monkfish fishery on non-target species is not expected to be significant, primarily as a result of the large-mesh gear requirements and low level of effort allocated. For impacts on Atlantic sturgeon, the proposed action is not expected to be significant. To address the cumulative impacts of the fishery on Atlantic sturgeon NMFS is implementing a Monitoring and Action Plan in conjunction with its partial approval of Amendment 5 and its partial approval to mitigate any negative impacts. The combination of the incremental impacts of the proposed action with the steps to be taken to further analyze and address any adverse impacts on Atlantic sturgeon, as outlined in the Monitoring and Action Plan, likely ensures that any negative impacts to Atlantic sturgeon that may occur during FYs 2011, 2012 and 2013 do not rise to the level of significance.

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

The alternatives proposed in this action will not increase monkfish effort in either management area over the baseline effort level established in the original FMP and subsequent actions. The overall effect of the fishery on EFH was discussed and mitigated for in Amendment 2, and in Multispecies Amendment 13, and the alternatives proposed in this action do not change those findings. As discussed in Section 5.2, the action proposed in this framework would not have an adverse impact on EFH for any federally managed species in the region.

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

None of the measures proposed in this action would alter fishing procedures or otherwise create a safety or public health concern.

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

With the exception of Atlantic sturgeon, which is currently proposed for listing under the ESA, the activities and fishing effort levels conducted under the proposed action are within the scope of the original FMP, and do not change the basis for the determinations made in previous consultations, as noted in Section 5.1. The controlling of fishing effort, through the management measures in the FMP, including those in this action, in combination with NMFS' actions being proposed or taken to protect sea turtles, harbor porpoise and large whales will mitigate much of the impact of the fisheries (both the directed monkfish fishery and other fisheries in the region) on protected species, and keep such interactions within acceptable limits.

Due to the lack of currently available information on the status of Atlantic sturgeon, and due to the uncertain status of the proposed listing of this species under ESA, a cumulative determination of non-significance for the effect of the fishery during FY2011, 2012 and 2013 cannot be made without considering additional methods to reduce Atlantic sturgeon bycatch in the monkfish fishery. As a result, NMFS will take the action steps outlined in the Monitoring and Action Plan outlined in the Amendment 5 Addendum, in conjunction with its partial approval of Amendment 5, to ensure that any negative impacts to Atlantic sturgeon that may occur during FYs 2011, 2012 and 2013 do not rise to the level of significance.

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

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function with the affected area. While the role of monkfish within the ecosystem is not well understood, SARC 50 observed that "monkfish is one of the dominant piscivores in the ecosystem ... accounting for 2-6% of the total consumption by all finfish in the ecosystem." The maintenance of this predator and opportunistic feeder at historical and sustainable levels is likely to promote biodiversity and ecosystem function over the long term.

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

There are no significant social or economic impacts, nor are there any natural or physical environmental effects expected to result from the proposed action, see Section 5.0, Environmental Consequences. Under the proposed action, some vessels and communities may experience an increase in revenues from monkfish fishing compared to recent levels. There are no significant natural or physical environmental effects resulting from the proposed action that may have an impact on communities or the human environment in the context of NEPA. Furthermore, the proposed action is expected to continue the long-term benefits of a stable and sustainable fishery the the achievement of optimum yield and prevention of overfishing.

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

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

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

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

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

For all resources except Atlantic sturgeon, the analysis of the effects on the human environment of the proposed adjustment is consistent with the analyses done for prior adjustments and a broad range of fishery management actions taken by the Councils. While these analyses have some inherent uncertainty because they involve predicting future impacts that depend on a wide range of variables, such as the response of the target species to the management measures and the short-term range of alternative fisheries for affected vessels, the effects are not considered highly uncertain. Thus, while the risks inherent in analyses of the effects on the human environment are due to some uncertainty, those risks are not unique or unknown.

Regarding Atlantic sturgeon, the incremental impacts of the proposed action versus taking no action are not highly uncertain nor do they involve unique or unknown risks. However, due to the lack of currently available information on the status of Atlantic sturgeon, the cumulative effects of this fishery are not determinable at this time and cannot be made without considering additional methods to reduce Atlantic sturgeon bycatch in the monkfish fishery (see Monitoring and Action Plan described in the Amendment 5 Addendum). For this reason, NMFS has elected to initiate a conference to help determine the magnitude of the effects to the species and possibly identify measures to mitigate any negative impacts. Moreover, if Atlantic sturgeon are listed on October 6, 2011, NMFS must reinitiate a section 7 consultation for the monkfish fishery, and, if necessary, measures must be established to reduce the incidental take of Atlantic sturgeon in this fishery. In addition, in connection with the conferencing and the need for a final listing determination, NERO is working with the NEFSC to more fully analyze Atlantic sturgeon takes and estimate the impact of bycatch to the various DPSs. Once the analysis is complete (late summer/fall 2011), NMFS will be able to more accurately estimate the impacts of the monkfish fishery on the five DPSs and take appropriate action if necessary.

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

The proposed action is related to other recent management actions beginning with the implementation of the Monkfish FMP in 1999 which put in place most of the management measures that are currently in effect. While the FMP and the associated monkfish rebuilding program resulted in some significant impacts to the human environment, the framework actions and Amendment 2 which followed and which refined the original FMP measures were found to not result in significant impacts. Thus, while the proposed action is related to a recent past action that was found to have significant impacts (the rebuilding plan under the FMP), as discussed and analyzed in the cumulative effects assessment (CEA), this action when combined with other past, present and RFFAs would not result in significant cumulative impacts (see CEA in Section 5.5).

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

The proposed action is not likely to directly or indirectly affect objects listed in the National Register of Historic Places or cause significant impact to scientific, cultural or historical resources due to the spatial remoteness of the regulated activity relative to listed sites. The only object in the management area listed on the National Register of Historic Places is the wreck of the steamship “Portland”, within the Stellwagen Bank National Marine Sanctuary. The current regulations allow fishing within the Sanctuary, however, vessels typically avoid fishing near shipwrecks or bottom obstructions in order to avoid tangling and losing expensive fishing gear. Therefore, this action would not result in any adverse affects to the wreck of the “Portland”.

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

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

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

No, the proposed action is not likely to establish a precedent for future action with significant effects, and it does not represent a decision in principle about future consideration. This action is taken under an existing fishery management program. The future management regime for the monkfish fishery, should changes become necessary, has not been defined, and will depend on the advancements made in the scientific understanding of the species and its population dynamics, or shifts in management philosophy. The impact of any future changes will be analyzed as to their significance in the process of developing and implementing them. Further, the proposed changes to the listing for loggerhead sea turtles and the proposed listing of Atlantic sturgeon under ESA are not affected by this action. If a listing is approved for Atlantic sturgeon, a formal Section 7 consultation under the ESA will be required for the monkfish fishery, and, if necessary, measures must be established to reduce the incidental take of Atlantic sturgeon in this fishery.

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

No, the proposed action is not reasonably expected to threaten a violation of Federal, State or local laws or requirements imposed for the protection of the environment. This action does not propose any changes that would provide incentives for environmental laws to be broken.

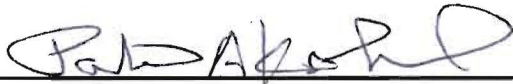
16. Can the proposed action be reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Cumulative effects on target and non-target species related to the proposed action are discussed in Section 5.5 of this document. Based on that discussion, cumulative effects are not expected to be significant, and there is no change from the original analysis of cumulative impacts as assessed in the FMP and in the EIS for Amendment 2. This conclusion is based on the premise that controlling fishing effort at sustainable levels, while addressing issues such as bycatch and protected species interactions, will have a long-term positive effect on all components of the human environment.

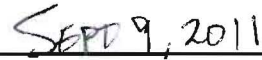
Information related to the impact of the proposed action on Atlantic sturgeon, which is proposed for listing under ESA, is contained in this EA. As explained above, however, for the purposes of this FONSI determination, impacts on Atlantic sturgeon are analyzed from the perspective of the incremental impacts of the proposed action versus taking no action. Further, the cumulative impacts of the monkfish fishery on Atlantic sturgeon will be mitigated through the steps outlined in the Monitoring and Action Plan implemented in conjunction with the partial approval of Amendment 5. NMFS has determined that this combined approach likely ensures that any negative impacts to Atlantic sturgeon that may occur during FYs 2011, 2012 and 2013 do not rise to the level of significance. Based on this explanation and approach, the effects to target and non-target species, including species listed or are proposed to be listed under the ESA, are not expected to be significant.

FONSI Statement

In view of the analysis presented in this document, the EA/RIR/RFA for Framework 7 to the Monkfish FMP, as well as in the EIS for the Monkfish Fishery Management, the proposed action will not have a significant effect on the human environment, with specific reference to the criteria contained in Section 6.02 of NOAA Administrative Order NAO 216-6, Environmental Review events for Implementing the National Environmental Policy Act, May 20, 1999. The impacts and alternatives in this document were analyzed with regard to both context and intensity, and are deemed not to be significant. Accordingly, the preparation of an Environmental Impact Statement for the proposed action is not necessary.



NMFS, Northeast Regional Administrator



Date

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

6.3.1 Determination of significance under E.O. 12866

National Marine Fisheries Service guidelines provide criteria to be used to evaluate whether a proposed action is significant. A “significant regulatory action” means any regulatory action that is likely to result in a rule that may:

- 1. Have an annual effect on the economy of \$100 million or more, or adversely effect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or State, local or tribal governments or communities.*

This action will have neither an annual effect on the economy of \$100 million, nor adversely effect in a material way the economy, a sector of the economy, productivity, competition, the environment, public health or safety, or State, local, tribal governments or communities. During fishing years 1998 through 2004, gross monkfish revenues averaged approximately \$41.4 million per fishing year. Monkfish revenues were 37.5 million in fishing year 2005. Since 2005, monkfish revenue had a decreasing trend, which declined to 25.2 million in fishing year 2006 and to \$24.2 million in fishing year 2007. Under the current regulations, the total value of monkfish landings would be \$12.3 million at the 2008 average price. The value under the proposed regulation would be \$15.1 million at the same price. Thus, there would be an impact on the National economy of \$2.8 million in additional revenues from monkfish landings relative to previous fishing year.

- 2. Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency.*

The proposed action does not create an inconsistency or otherwise interfere with an action taken or planned by another agency. The activity that would be allowed under this action involves commercial fishing for monkfish in Federal waters of the EEZ, for which the National Marine Fisheries Service is the sole agency responsible for regulation. Therefore, there is no interference with actions taken by another agency. Furthermore, this action would create no inconsistencies in the management and regulation of commercial fisheries in the Northeast.

- 3. Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof.*

The proposed action in Framework 7 includes measures that would change biological reference point, change NMA ACT alternatives and thereby impact the monkfish trip limits and DAS allocation that may be used in the Northern Fishery Management Area (NMA). This action is unrelated to any entitlements, grants, user fees, or loan programs,

and, therefore, cannot be considered significant under the third criterion specified in E.O. 12866.

4. *Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order.*

The proposed action is being taken to implement the MSRA mandated ACLs and measures to ensure accountability. Therefore, the proposed action would not be considered significant under the fourth criterion specified in E.O. 12866.

Because none of these criteria apply, the National Marine Fisheries Service has determined that the proposed actions under Framework 7 in the monkfish fishery to change the biological reference point, ACT level, and adjust the trip limits and DAS allocations that may be used in the NMA is not significant for the purpose of 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.

6.3.2.1 Reasons for Considering the Action

The Councils proposed ACLs in Amendment 5 to stop overfishing, based on the results of the most recent available scientific information during the development of the amendment, which was in 2007. In June 2010, however, SARC 50 provided updated stock status. Following publication of the SARC 50 report, SSC reviewed the new assessment results and recommended revisions to the ABC/ACLs proposed in Amendment 5 to be compliant with NS1 guidelines. The purpose of this action is, therefore, to set the NMA ACT below the ACL, re-specify the DAS and trip limits associated with the new ACT, and to adopt new biomass reference points for both management areas.

6.3.2.2 Objectives and legal basis for the action

The regulations implementing the FMP, found at 50 CFR Part 648, authorize the Council to adjust management measures as needed to achieve the FMP goals. As was noted earlier (see Section 2.2), the objective of this action is to achieve the goals of the FMP through adjusting biological reference points and NMA ACT alternative consistent with NS1 Guidelines, and the trip limits and monkfish DAS allocations. Thus, the proposed action is consistent with the goals of the FMP and its regulations implementation.

6.3.2.3 Description and number of small entities to which the rule applies

All of the entities (fishing vessels) affected by this action are considered small entities under the SBA size standards for small fishing businesses (\$4.0 million in gross sales). As of September, 2009 there were 758 limited access monkfish permit holder and 2,156 open access permit holders. Out of these, 573 limited access permit holders actively participated in the monkfish fishery, whereas this number was 504 for the open access permit holders. Table 41 shows the number of vessels in each permit category. The

proposed measures can potentially affect all the Monkfish vessels actively participating in the NMA or both regions.

Permit Category	Only NMA Trips	Only SMA Trips	NMA and SMA Trips
A	0	13	2
B	0	33	4
C	17	59	198
D	56	55	129
E	104	266	134
H	0	7	0

Table 41 Number of active monkfish vessels fishing by permit category and fishing area

6.3.2.4 Reporting, recordkeeping and other compliance requirements

This action does not introduce any new reporting, recordkeeping, or other compliance requirements.

6.3.2.5 Duplication, overlap or conflict with other Federal rules

The proposed rule does not duplicate, overlap or conflict with other Federal rules.

6.3.2.6 Economic impacts on small entities resulting from the proposed action

The proposed management changes suggest few changes over the measure proposed in Amendment 5, which will have some impacts on monkfish fishery. The following sections provide a discussion of the impacts for each alternative. Where possible, a quantitative assessment of the impacts is provided. If a quantitative assessment is not possible, an attempt is made to identify the types and number of vessels that may be reasonably expected to be affected.

6.3.2.6.1 Biological and Management Reference Points (BRP) Alternatives

The proposed change in BRP does not immediately affect any vessels because it does not change any management measures or otherwise modify vessel-level aspects of the management program.

6.3.2.6.2 Northern Management Area ACT

The proposed alternatives consist of three different ACT options to keep it below the revised ACL. The purpose for setting the annual catch target (ACT) below the annual catch limit (ACL) is to account for uncertainty in the ability of management measures to limit catch to the prescribed level. The intention behind providing a buffer between the ACL and ACT is to prevent overfishing from occurring in the event the measures to limit catch are not fully successful. The proposed alternatives includes, keeping the ACT at current level, keeping the ACT at the level approved under Amendment 5, and the preferred option of keeping the ACT at 6,567mt, or 85.6% of the ACL.

From an economic perspective, assuming that prices do not decrease due to higher landings, a higher ACT would result in higher monkfish revenues and thus additional

benefits to vessels and the nation. Since the ACT under the preferred alternative is the highest among the levels proposed, the preferred alternative may potentially lead to higher revenue. However, this is only the case if the higher allocation is actually landed, as opposed to discarded or left uncaught.

In the NMA historical landings have exceeded the level associated with both ACT options; however, in FY2008 landings were only 71% of the allocation suggesting a higher ACT may not result in higher monkfish revenues. Changes in the management of other fisheries, in particular the Multispecies FMP, could change this scenario.

Quantification of the economic impacts of the proposed ACTs requires specification of the management actions used to achieve the proposed levels. The impact of alternative DAS and trip limit levels are discussed below.

6.3.2.6.3 Northern Management Area DAS and Trip Limits Alternatives

The trip limit and DAS alternatives would impact vessels fishing for monkfish in the North or both North and South. As in previous annual adjustments, estimation of relative economic impacts was accomplished through the use of a trip limit model to estimate 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 vessel trip reports and dealer weigh-out slips, with the former providing catch and location data and the latter providing average monthly prices, which are used to calculate revenue estimates. A detail description of the model is given in the Amendment 5 document.

Specification options comparable to those associated with the preferred NMA ACT option were analyzed in Amendment 5 using FY2008 data. This analysis is used to predict impacts of the revised DAS and trip limits under the proposed ACT levels in Framework 7.

Vessels Fishing only in NMA

The impacts of the trip limit model on the vessels fishing only in the North are presented in Table 42. The model predicts that under the proposed regulations per trip average vessel return will increase from 0.2% to 1.7% whereas average crew payment will increase from 0.5% to 1.6% depending on different DAS allocations and trip limit alternatives. The increase in total monkfish revenue ranges from 0.8% to 16.1% under the proposed options. The preferred regulation is to keep the trip limits same for the AC permit holders at 1250 lbs and increasing it to 600 lbs for the BD permit holders as well as increasing DAS to 40. The proposed option will lead to a 0.5% increase in per trip average vessel return, 0.5% percent increase in crew payment and 10.0% increase in total monkfish revenue. Although, the maximum benefit in terms of percentage increase in average vessel return, average crew payment and monkfish revenue is expected to result from option 3B, council adopted option 3C which is an increase in DAS limit and trip limit for BD permit holders while keeping the trip limits at current levels for the AC permit holders.

ACT	Specification Option	AC daily landing limit	BD daily landing limit	DAS	Change in Ave. Vessel Return	Change in Ave. Crew payment	Change in Total Monkfish Revenue
Option 3 (6,567 mt)	3A	1250	686	31	0.2%	0.5%	0.8%
	3B	1250	470	45	1.7%	1.6%	16.1%
	3C	1250	600	40	0.5%	0.5%	10.0%

Table 42 Changes from the no action alternative to proposed alternatives – Vessels only fishing in NMA, from the analysis in Amendment 5. The Framework 7 preferred alternative row is in *italics (option 3C)*.

Vessels Fishing in Both NMA and SMA

Vessels fishing in both NMA and SMA will be simultaneously affected by DAS/trip limit alternatives proposed for NMA. While these vessels have a demonstrated capability to shift between areas and may be more likely to change fishing locations than vessels that have historically fished solely in one area, the trip model does not incorporate this possibility. Rather, it is assumed that vessels continue fishing in the same locations they did previously and results are calculated for each possible combinations of NMA and SMA alternatives.

There are no single DAS/trip alternative combinations for SMA and NMA which lead to a best outcome in terms of impact on average vessel return, average crew payment and total monkfish revenue. As can be seen in

Table 43; the largest increase on monkfish revenue is realized under the alternative with incidental limit of a 300 pound, 1250 pound trip limit for A and C vessels, 470 pound trip limit for B and D vessels, and 45 DAS in the NMA, in combination with the SMA levels of a 50 pound incidental limit, 550 pound trip limit for A, C, and G vessels, 450 pound trip limit for B, D and H vessels, and 28 DAS in the SMA. However these combinations of measures lead to a slight decrease in average vessel return and crew payment. Under the preferred alternative for NMA, the monkfish revenue for the vessels fishing in both North and South will increase by 17.4% with -1.4% decrease in both vessel return and crew payment.

ACT	Specification Option	AC daily landing limit	BD daily landing limit	DAS	Change in Ave. Vessel Return	Change in Ave. Crew payment	Change in Total Monkfish Revenue
Option 3 (6,567 mt)	3A	1250	686	31	-1.2%	-0.7%	7.3%
	3B	1250	470	45	-1.1%	-0.7%	22.9%
	3C	1250	600	40	-1.4%	-1.4%	17.4%

Table 43 Changes from the no action alternative to proposed alternatives – Vessels fishing in both the SMA and NMA, from the analysis in Amendment 5. The Framework 7 preferred alternative row is in *italics* (option 3C).

6.3.3 Endangered Species Act (ESA)

Section 7 of the ESA requires Federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The Councils have concluded that the proposed action in Framework 7 is not likely to result in jeopardy to any ESA-listed species under NMFS jurisdiction, or alter or modify any critical habitat, based on the analyses and discussions in this document. For further information on the potential impacts of the fishery and proposed management action, see Section 5.1 of this document. When the Councils submit this document to NMFS, it is anticipated that the agency will initiate an informal consultation on this action under Section 7 of the ESA.

6.4 Marine Mammal Protection Act (MMPA)

The Councils have reviewed the impacts of Framework 7 on marine mammals, and concluded that the proposed actions are consistent with the provisions of the MMPA, and would not alter existing measures to protect the species likely to inhabit the management unit of the monkfish fishery. For further information on the potential impacts of the fishery and the proposed management action, see Section 5.1 of this document.

6.5 Paperwork Reduction Act (PRA)

The purpose of the PRA is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. This action proposes no measures that add a reporting requirement and it does not change the total reporting burden associated with an activity. If NMFS concurs with this determination, it will submit the PRA package in support of this action, including required forms and supporting statements, following final submission of this amendment.

6.6 Coastal Zone Management Act (CZMA)

Section 307(c)(1) of the Federal CZMA of 1972 requires that all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. The NEFMC reviewed the approved coastal zone management plans of the following states to determine the consistency of the actions proposed in Framework 7 to the Monkfish FMP with the enforceable policies of the state programs: Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, New Jersey, Delaware, Maryland, Virginia, and North Carolina. The NEFMC has determined that the proposed action is consistent to the maximum extent possible with the enforceable policies of the coastal zone management programs of these states. If NMFS agrees with the NEFMC's determination, it will notify the affected states of this determination in writing, and request concurrence in accordance with the provisions of 15 CFR 930 *et seq.*

6.7 Information Quality Act (IQA)

Pursuant to NMFS guidelines implementing Section 515 of Public Law 106-554 (the Information Quality Act), all information products released to the public must first undergo a Pre-Dissemination Review to ensure and maximize the quality, objectivity, utility, and integrity of information (including statistical information) disseminated by Federal agencies. The following paragraphs address these requirements.

Utility

The information presented in this document is helpful to the intended users (the affected public) by presenting a clear description of the purpose and need of the proposed action, the measures proposed, and the impacts of those measures. A discussion of the reasons for selecting the proposed action is included so that intended users may have a full understanding of the proposed action and its implications. The intended users of the information contained in this document include individuals involved in the monkfish fishery, (e.g., fishing vessels, fish processors, fishery managers), and other individuals interested in the management of the monkfish fishery. The information contained in this document will be helpful and beneficial to owners of vessels holding limited access monkfish permits since it will notify these individuals of the measures contained in this amendment. This information will enable these individuals to adjust their management practices and make appropriate business decisions based upon this revision to the FMP.

Until a proposed rule is prepared and published, this EA/RIR/IRFA is the principal means by which the information contained herein is available to the public. The information provided in this document is based on the most recent available information from the relevant data sources. The information contained in this document includes detailed and relatively recent information on the monkfish resource and, therefore, represents an improvement over previously available information. For example, the Affected Human Environment section of the EA includes the most recent (FY2009) Stock Assessment and Fishery Evaluation Reports (SAFE Report) for the monkfish fishery. In addition, this document includes applicable information from the most recent monkfish stock assessment (SARC 50, July 2010). This EA/RIR/IRFA will be subject to public comment through proposed rulemaking, as required under the Administrative Procedure Act and, therefore, may be improved based on comments received.

This document is available in several formats, including printed publication, and online through the NEFMC's web page (www.nefmc.org). The Federal Register notice that announces the proposed rule and the final rule and implementing regulations will be made available in printed publication, on the website for the Northeast Regional Office (www.nero.noaa.gov), and through the Regulations.gov website. The Federal Register documents will provide metric conversions for all measurements.

Integrity

Prior to dissemination, information associated with this action, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of

such information. All electronic information disseminated by NMFS adheres to the standards set out in Appendix III, "Security of Automated Information Resources," of OMB Circular A-130; the Computer Security Act; and the Government Information Security Act. All confidential information (e.g., dealer purchase reports) is safeguarded pursuant to the Privacy Act; Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business, and financial information); the Confidentiality of Statistics provisions of the Magnuson-Stevens Act; and NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics.

Objectivity

For purposes of the Pre-Dissemination Review, this document is considered to be a "Natural Resource Plan." Accordingly, the document adheres to the published standards of the Magnuson-Stevens Act; the Operational Guidelines, Fishery Management Plan Process; the Essential Fish Habitat Guidelines; the National Standard Guidelines; and NOAA Administrative Order 216-6, Environmental Review Procedures for Implementing the National Environmental Policy Act.

This information product uses information of known quality from sources acceptable to the relevant scientific and technical communities. Several sources of data were used in the development of Framework 7. These data sources included, but were not limited to, historical and current landings data from the Commercial Dealer Weighout database, vessel trip report (VTR) data, effort data collected through the monkfish DAS program, fisheries independent data collected through the NMFS bottom trawl surveys, and the July 2010 monkfish stock assessment. Therefore, the analyses contained in this document were prepared using data from accepted sources. Furthermore, these analyses have been reviewed by members of the Monkfish Plan Development Team.

Despite current data limitations, the conservation and management measures proposed for this action were selected based upon the best scientific information available. The analyses conducted in support of the proposed action were conducted using information from the most recent fishing years through FY2009. Specialists (including professional members of plan development teams, technical teams, committees, and Council staff) who worked with these data are familiar with the most current analytical techniques and with the available data and information relevant to the monkfish fishery. In addition, this action utilizes information from the July 2010 monkfish stock assessment, which is considered the best and most recent scientific information available concerning the status of the monkfish resource.

The policy choices are clearly articulated, in Section 3.0 of this document, as the management alternatives considered in this action. The supporting science and analyses, upon which the policy choices are based, are summarized and described in Section 5.0 of this document. All supporting materials, information, data, and analyses within this document have been, to the maximum extent practicable, properly referenced according to commonly accepted standards for scientific literature to ensure transparency.

The review process used in preparation of this document involves the responsible Council (the NEFMC), the Northeast Fisheries Science Center (Center), the Northeast Regional Office (NERO), and NMFS Service Headquarters. The Center's technical review is conducted by senior level scientists with specialties in population dynamics, stock assessment methods, demersal resources, population biology, and the social sciences. The Council review process involves public meetings at which affected stakeholders have opportunity to provide comments on the document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of any proposed regulatory action, including any implementing regulations, is conducted by staff at NMFS Service Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget. In addition, the information contained in this document concerning monkfish stock status (SARC 50, 2010) was peer reviewed according to standard methodology.

6.8 Executive Order 13132 (Federalism)

This E.O. established nine fundamental federalism principles for Federal agencies to follow when developing and implementing actions with federalism implications. The E.O. also lists a series of policy making criteria to which Federal agencies must adhere when formulating and implementing policies that have federalism implications. However, no federalism issues or implications have been identified relative to the measures proposed in Framework 7. This action does not contain policies with federalism implications sufficient to warrant preparation of an assessment under E.O. 13132. The affected states have been closely involved in the development of the proposed management measures through their representation on the Council (all affected states are represented as voting members of at least one Regional Fishery Management Council). No comments were received from any state officials relative to any federalism implications that may be associated with this action.

6.9 Executive Order 13158 (Marine Protected Areas)

The Executive Order on Marine Protected Areas requires each Federal agency whose actions affect the natural or cultural resources that are protected by an MPA to identify such actions, and, to the extent permitted by law and to the maximum extent practicable, in taking such actions, avoid harm to the natural and cultural resources that are protected by an MPA. The E.O. directs Federal agencies to refer to the MPAs identified in a list of MPAs that meet the definition of MPA for the purposes of the Order. The E.O. requires that the Departments of Commerce and the Interior jointly publish and maintain such a list of MPAs. As of the date of submission of this FMP, the list of MPA sites has not been developed by the departments. No further guidance related to this Executive Order is available at this time.

6.10 Administrative Procedures Act (APA)

Section 553 of the APA establishes procedural requirements applicable to informal rulemaking by Federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process, and to give the public adequate notice and

opportunity for comment. At this time, the NEFMC is not requesting any abridgement of the rulemaking process for this action.

7.0 References

- Abernathy, A., ed. 1989. Description of the Mid-Atlantic environment. U.S. Dep. Interior, Minerals Manage. Ser., Herndon, VA. 167 p. + appendices.
- Almeida, F., L. Arlen, P. Auster, J. Cross, J. Lindholm, J. Link, D. Packer, A. Paulson, R. Reid, and P. Valentine. 2000. The effects of marine protected areas on fish and benthic fauna: the Georges Bank closed area II example. Poster presented at Am. Fish. Soc. 130th Ann. Meet. St. Louis, MO, August 20-24, 2000.
- Backus, R.H. 1987. Georges Bank. Massachusetts Inst. Tech. Press, Cambridge, MA. 593 p.
- Beardsley, R.C., B. Butman, W.R. Geyer, and P. Smith. 1996. Physical oceanography of the Gulf of Maine: an update. In G.T Wallace and E.F. Braasch, eds. Proceedings of the Gulf of Maine ecosystem dynamics scientific symposium and workshop. p. 39-52. Reg. Assn. for Res. on the Gulf of Maine (RARGOM), Rep. 97-1.
- Best, P.B., J. L. Bannister, R.L. Brownell, Jr., and G.P. Donovan (eds.). 2001. Right whales: worldwide status. *J. Cetacean Res. Manage.* (Special Issue). 2. 309pp.
- Boesch, D.F. 1979. Benthic ecological studies: macrobenthos. Chapter 6 in Middle Atlantic outer continental shelf environmental studies. Conducted by Virginia Inst. Mar. Stud. under contract AA550-CT6062 with U.S. Dep. Interior, Bur. Land Manage. 301 p.
- Braun-McNeill, J., and S.P. Epperly. 2004. Spatial and temporal distribution of sea turtles in the western North Atlantic and the U.S. Gulf of Mexico from Marine Recreational Fishery Statistics Survey (MRFSS). *Mar. Fish. Rev.* 64(4):50-56.
- Brooks, D.A. 1996. Physical oceanography of the shelf and slope seas from Cape Hatteras to Georges Bank: A brief overview. In K. Sherman, N.A. Jaworski, and T.J. Smayda, eds. The northeast shelf ecosystem – assessment, sustainability, and management. p. 47-75. Blackwell Science, Cambridge, MA. 564 p.
- Brown, M.W., O.C. Nichols, M.K. Marx, and J.N. Ciano. 2002. Surveillance, monitoring, and management of North Atlantic Right Whales in Cape Cod Bay and adjacent waters – 2002. Final report submitted to the MA Div. of Mar. Fisheries. Center for Coastal Studies; Provincetown, MA.
- Butman, V., M. Noble and J. Moody. 1982. Observations of near-bottom currents at the shelf break near Wilmington Canyon in the Mid-Atlantic outer continental shelf area: results of 1978-1979 field seasons. U.S. Geol. Surv. Final Rep. to U.S. Dep. Interior, Bur. Land Manage: 3-1-3-58.
- Clapham, P.J., S.B. Young, R.L. Brownell, Jr. 1999. Baleen whales: conservation issues and the status of the most endangered populations. *Mammal Review* 29(1): 35-60.
- Colvocoresses, J.A. and J.A. Musick. 1984. Species associations and community composition of Middle Atlantic Bight continental shelf demersal fishes. *Fish. Bull.* (U.S.) 82: 295-313.
- Cook, S.K. 1988. Physical oceanography of the Middle Atlantic Bight. In A.L. Pacheco, ed. Characterization of the middle Atlantic water management unit of the northeast regional action plan. p. 1-50. NOAA Tech. Mem. NMFS-F/NEC-56. 322 p.

- Cooper, R.A., P.C. Valentine, J.R. Uzmann, and R.A. Slater. 1987. Submarine canyons. In R.H. Backus and D.W. Bourne, eds. Georges Bank. p. 52-63. MIT Press, Cambridge, MA.
- Dorsey, E.M. 1998. Geological overview of the sea floor of New England. In E.M. Dorsey and J. Pederson, eds. Effects of fishing gear on the sea floor of New England. p. 8-14. MIT Sea Grant Pub. 98-4.
- Gabriel, W. 1992. Persistence of demersal fish assemblages between Cape Hatteras and Nova Scotia, northwest Atlantic. J. Northwest Atl. Fish. Sci. 14: 29-46.
- Haring, P., and Maguire, J-J. 2008. The Monkfish Fishery and its Management in the Northeastern USA. ICES Journal of Marine Science. 65: 1370-1379.
- Hecker, B. 1990. Variation in megafaunal assemblages on the continental margin south of New England. Deep-Sea Res. 37: 37-57.
- Hecker, B. 2001. Polygons BH1-4 (Veatch, Hydrographer, Oceanographer and Lydonia Canyons). In S. Azimi, ed. Priority ocean areas for protection in the Mid-Atlantic. p. 32-36. Natural Resources Defense Council, Washington, DC. 59 p.
- Hecker, B. and G. Blechschmidt. 1979. Epifauna of the northeastern U.S. continental margin. In B. Hecker, G. Blechschmidt, and P. Gibson, eds. Epifaunal zonation and community structure in three mid- and North Atlantic canyons. Appendix A. Final Rep. Canyon Assess. Stud. in the Mid- and North Atlantic Areas of the U.S. Outer Continental Shelf. U.S. Dep. Interior, Bur. Land Manage., Washington, DC, January 11, 1980.
- Hecker, B., D.T. Logan, F.E. Gandarillas, and P.R. Gibson. 1983. Megafaunal assemblages in canyon and slope habitats. Vol. III: Chapter I. Canyon and slope processes study. Final Rep. prepared for U.S. Dep. Interior, Minerals Manage. Ser., Washington, D.C.
- Hirth, H.F. 1997. Synopsis of the biological data of the green turtle, *Chelonia mydas* (Linnaeus 1758). USFWS Biological Report 97(1). 120pp.
- ICES. International Council for the Exploration of the Sea. 2000. Report of the ICES Advisory Committee on the Marine Environment (ACME) 2000. Cooperative Research Report No. 241, 27 pp.
- James, M.C., R.A. Myers, and C.A. Ottenmeyer. 2005. Behaviour of leatherback sea turtles, *Dermochelys coriacea*, during the migratory cycle. Proc. R. Soc. B, 272: 1547-1555.
- Katona, S.K., V. Rough, and D.T. Richardson. 1993. A field guide to whales, porpoises, and seals from Cape Cod to Newfoundland. Smithsonian Institution Press: Washington, DC, 316 pp.
- Keinath, J.A., J.A. Musick, and R.A. Byles. 1987. Aspects of the biology of Virginias sea turtles: 1979-1986. Virginia J. Sci. 38(4): 329-336.
- Kelley, J.T. 1998. Mapping the surficial geology of the western Gulf of Maine. In E.M. Dorsey and J. Pederson, eds. Effects of fishing gear on the sea floor of New England. p. 15-19. MIT Sea Grant Pub. 98-4.
- Kenney, R.D. 2002. North Atlantic, North Pacific and Southern Right Whales. pp. 806-813, In: W.F. Perrin, B. Würsig, and J.G.M. Thewissen (eds.). Encyclopedia of Marine Mammals. Academic Press, San Diego, CA.

- Lindeboom, H.J., and S.J. de Groot. 1998. Impact II. The effects of different types of fisheries on the North Sea and Irish Sea benthic ecosystems. NIOZ Rapport 1998-1. 404 p.
- Mahon, R., S.K. Brown, K.C.T. Zwanenburg, D.B. Atkinson, K.R. Buja, L. Claflin, G.D. Howell, M.E. Monaco, R.N. O'Boyle, and M. Sinclair. 1998. Assemblages and biogeography of demersal fishes of the east coast of North America. *Can. J. Fish. Aquat. Sci.* 55: 1704-1738.
- Morgan, L.E. and R. Chuenpagdee. 2003. Shifting gears: assessing the collateral impacts of fishing methods in U.S. waters. Pew Science Series on Conservation and the Environment, 42 p.
- Morreale, S. J., and E.A. Standora. 2005. Western North Atlantic waters: crucial development habitat for Kemp's ridley and loggerhead sea turtles. *Chelonian Conservation and Biology*. 04(4): 872-882.
- Morreale, S.J. and E.A. Standora. 1998. Early life stage ecology of sea turtles in northeastern U.S. waters. U.S. Dep. Commer. NOAA Tech. Mem. NMFS-SEFSC-413, 49 pp.
- Mountain, D.G., R.W. Langton, and L. Watling. 1994. Oceanic processes and benthic substrates: influences on demersal fish habitats and benthic communities. *In* R.W. Langton, J.B. Pearce, and J.A. Gibson, eds. Selected living resources, habitat conditions, and human perturbations of the Gulf of Maine: environmental and ecological considerations for fishery management. p. 20-25. NOAA Tech. Mem. NMFS-NE-106. 70 p.
- Musick, J.A. and C.J. Limpus. 1997. Habitat utilization and migration in juvenile sea turtles. Pp. 137-164 *In*: Lutz, P.L., and J.A. Musick, eds., *The Biology of Sea Turtles*. CRC Press, New York. 432 pp.
- NEFMC. New England Fishery Management Council. 1998. Final Amendment #11 to the Northeast Multispecies Fishery Management Plan, #9 to the Atlantic Sea Scallop Fishery Management Plan, Amendment #1 to the Monkfish Fishery Management Plan, Amendment #1 to the Atlantic Salmon Fishery Management Plan, and components of the proposed Atlantic Herring Fishery Management Plan for Essential Fish Habitat, incorporating the environmental assessment. October 7, 1998.
- NEFMC. New England Fishery Management Council. 2003. Amendment 13 to the Northeast Multispecies Fishery Management Plan, including a Final Supplemental Environmental Impact Statement and an Initial Regulatory Flexibility Analysis. Vols I and II, submitted Dec 1 2003.
- NEFSC. Northeast Fisheries Science Center. 2002. Workshop on the effects of fishing gear on marine habitats off the northeastern United States, October 23-25, 2001, Boston, Massachusetts. U.S. Natl. Mar. Fish. Serv. Northeast Fish. Cent. Woods Hole Lab. Ref. Doc. 02-01. 86 p.
- NMFS and U.S. Fish and Wildlife Service (USFWS). 1991a. Recovery plan for U.S. population of loggerhead turtle. National Marine Fisheries Service, Washington, D.C. 64 pp.
- NMFS and USFWS. 1991b. Recovery plan for U.S. population of Atlantic green turtle. National Marine Fisheries Service, Washington, D.C. 58 pp.

- NMFS and USFWS. 1992. Recovery plan for leatherback turtles in the U.S. Caribbean, Atlantic, and Gulf of Mexico. National Marine Fisheries Service, Washington, D.C. 65 pp.
- NMFS and USFWS. 2007a. Loggerhead sea turtle (*Caretta caretta*) 5 year review: summary and evaluation. National Marine Fisheries Service, Silver Spring, Maryland. 65 pp.
- NMFS and USFWS. 2007b. Leatherback sea turtle (*Dermochelys coriacea*) 5 year review: summary and evaluation. National Marine Fisheries Service, Silver Spring, Maryland. 79 pp.
- NMFS and USFWS. 2007c. Kemp's ridley sea turtle (*Lepidochelys kempii*) 5 year review: summary and evaluation. Silver Spring, Maryland: National Marine Fisheries Service. 50 pp.
- NMFS and USFWS. . 2007d. Green sea turtle (*Chelonia mydas*) 5 year review: summary and evaluation. Silver Spring, Maryland: National Marine Fisheries Service. 102 pp.
- NMFS. 2005. Recovery Plan for the North Atlantic Right Whale (*Eubalaena glacialis*). National Marine Fisheries Service, Silver Spring, MD.
- NMFS. 1991. Final recovery plan for the humpback whale (*Megaptera novaeangliae*). Prepared by the Humpback Whale Recovery Team for the national Marine Fisheries Service, Silver Spring, Maryland. 105 pp.
- NMFS. 1998. Unpublished. Draft recovery plans for the fin whale (*Balaenoptera physalus*) and sei whale (*Balaenoptera borealis*). Prepared by R.R. Reeves, G.K. Silber, and P.M. Payne for the National Marine Fisheries Service, Silver Spring, Maryland. July 1998.
- NRC. National Research Council. 2002. Effects of trawling and dredging on seafloor habitat. Ocean Studies Board, Division on Earth and Life Studies, National Research Council. National Academy Press, Washington, D.C. 126 p.
- Overholtz, W.J. and A.V. Tyler. 1985. Long-term responses of the demersal fish assemblages of Georges Bank. Fish. Bull. (U.S.) 83: 507-520.
- Perry, S.L., D.P. DeMaster, and G.K. Silber. 1999. The great whales: History and status of six species listed as endangered under the U.S. Endangered Species Act of 1973. Mar. Fish. Rev. Special Edition. 61(1): 59-74.
- Poppe, L.J., J.S. Schlee, B. Butman, and C.M. Lane. 1989a. Map showing distribution of surficial sediment, Gulf of Maine and Georges Bank. U.S. Dep. Interior, U.S. Geol. Sur. Misc. Invest. Ser., Map I-1986-A, scale 1:1,000,000.
- Poppe, L.J., J.S. Schlee, Knebel H.J. 1989b. Map showing distribution of surficial sediment on the mid-Atlantic continental margin, Cape Cod to Albemarle sound. U.S. Dep. Interior, U.S. Geol. Sur. Misc. Invest. Ser., Map I-1987-D, scale 1:1,000,000.
- Pratt, S. 1973. Benthic fauna. In Coastal and offshore environmental inventory, Cape Hatteras to Nantucket Shoals. p. 5-1 to 5-70. Univ. Rhode Island, Mar. Pub. Ser. No. 2. Kingston, RI.
- Reid, R.N. and F.W. Steimle, Jr. 1988. Benthic macrofauna of the middle Atlantic continental shelf. In A.L. Pacheco, ed. Characterization of the middle Atlantic water management unit of the northeast regional action plan. p. 125-160. NOAA Tech. Mem. NMFS-F/NEC-56. 322 p.

- Richards, R. A., Nitschke, P.C. and Sosebee, K.A. 2008. Population Biology of monkfish *Lophius americanus*. ICES Journal of Marine Science. 65.
- Schmitz, W.J., W.R. Wright, and N.G. Hogg. 1987. Physical oceanography. In J.D. Milliman and W.R. Wright, eds. The marine environment of the U.S. Atlantic continental slope and rise. p. 27-56. Jones and Bartlett Publishers Inc., Boston, MA.
- Shepard, F.P., N.F. Marshall, P.A. McLonghlin, and F.G. Sullivan. 1979. Currents in submarine canyons and other sea valleys. Am. Assn. Petrol. Geol., Studies in Geol. No. 8.
- Sherman, K., N.A. Jaworski, T.J. Smayda, eds. 1996. The northeast shelf ecosystem – assessment, sustainability, and management. Blackwell Science, Cambridge, MA. 564 p.
- Shoop, C.R. and R.D. Kenney. 1992. Seasonal distributions and abundance of loggerhead and leatherback sea turtles in waters of the northeastern United States. Herpetol. Monogr. 6: 43-67.
- Steimle, F.W. and C. Zetlin. 2000. Reef habitats in the middle Atlantic bight: abundance, distribution, associated biological communities, and fishery resource use. Mar. Fish. Rev. 62: 24-42.
- Steimle, F.W., C.A. Zetlin, P.L. Berrien, D.L. Johnson and S. Chang. 1999. Essential fish habitat source document: tilefish, *Lopholatilus chamaeleonticeps*, life history and habitat characteristics. NOAA Tech. Mem. NMFS-NE-152. 30 p.
- Stevenson, D., L. Chiarella, D. Stephan, R. Reid, K. Wilhelm, J. McCarthy, and M. Pentony. 2004. Characterization of the fishing practices and marine benthic ecosystems of the northeast U.S. shelf, and an evaluation of the potential effects of fishing on essential fish habitat. NOAA Tech. Memo. NMFS-NE-181. 179 p.
- Stumpf, R.P. and R.B. Biggs. 1988. Surficial morphology and sediments of the continental shelf of the middle Atlantic bight. In A.L. Pacheco, ed. Characterization of the middle Atlantic water management unit of the northeast regional action plan. p. 51-72. NOAA Tech. Mem. NMFS-F/NEC-56. 322 p.
- Swingle, W.M., S.G. Barco, T.D. Pitchford, W.A. McLellan, and D.A. Pabst. 1993. Appearance of juvenile humpback whales feeding in the nearshore waters of Virginia. Mar. Mamm. Sci. 9: 309-315.
- Theroux, R.B. and M.D. Grosslein. 1987. Benthic fauna. In R.H. Backus and D.W. Bourne, eds. Georges Bank. p. 283-295. MIT Press, Cambridge, MA.
- Theroux, R.B. and R.L. Wigley. 1998. Quantitative composition and distribution of the macrobenthic invertebrate fauna of the continental shelf ecosystems of the northeastern United States. NOAA Tech. Rep. NMFS 140. 240 p.
- Townsend, D.W. 1992. An overview of the oceanography and biological productivity of the Gulf of Maine. In D.W. Townsend and P.F. Larsen, eds. The Gulf of Maine. p. 5-26. NOAA Coast. Ocean Prog. Reg. Synthesis Ser. No. 1. Silver Spring, MD. 135 p.
- Tucholke, B.E. 1987. Submarine geology. In J.D. Milliman and W.R. Wright, eds. The marine environment of the U.S. Atlantic continental slope and rise. p. 56-113. Jones and Bartlett Publishers Inc., Boston, MA.
- Turtle Expert Working Group (TEWG). 1998. An assessment of the Kemp's ridley (*Lepidochelys kempii*) and loggerhead (*Caretta caretta*) sea turtle populations in the Western North Atlantic. NOAA Technical Memorandum NMFS-SEFSC-409. 96 pp.

- Turtle Expert Working Group (TEWG). 2000. Assessment update for the Kemp's ridley and loggerhead sea turtle populations in the western North Atlantic. U.S. Dep. Commer. NOAA Tech. Mem. NMFS-SEFSC-444, 115 pp.
- Turtle Expert Working Group (TEWG). 2007. An assessment of the leatherback turtle population in the Atlantic Ocean. NOAA Technical Memorandum NMFS-SEFSC-555, 116 pp.
- Turtle Expert Working Group (TEWG). 2009. An assessment of the loggerhead turtle population in the Western North Atlantic Ocean. NOAA Technical Memorandum NMFS-SEFSC-575:1-131.
- USFWS and NMFS. 1992. Recovery plan for the Kemp's ridley sea turtle (*Lepidochelys kempii*). NMFS, St. Petersburg, Florida.
- USFWS. 1997. Synopsis of the biological data on the green turtle, *Chelonia mydas* (Linnaeus 1758). Biological Report 97(1). U.S. Fish and Wildlife Service, Washington, D.C. 120 pp.
- Valentine, P.C. and R.G. Lough. 1991. The sea floor environment and the fishery of eastern Georges bank. U.S. Dep. Interior, U.S. Geol. Sur. Open File Rep. 91-439. 25 p.
- Valentine, P.C., E.W. Strom, R.G. Lough, and C.L. Brown. 1993. Maps showing the sedimentary environment of eastern Georges bank. U.S. Dep. Interior, U.S. Geol. Sur. Misc. Invest. Ser., Map I-2279-B, scale 1:250,000.
- Waring GT, Josephson E, Fairfield CP, Maze-Foley K, editors. 2006. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments -- 2005. NOAA Tech Memo NMFS NE 194.
- Waring GT, Josephson E, Fairfield CP, Maze-Foley K, editors. 2007. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments -- 2006. NOAA Tech Memo NMFS NE 201; 378 p.
- Waring, G.T., D.L. Palka, P.J. Clapham, S. Swartz, M. Rossman, T. Cole, L.J. Hansen, K.D. Bisack, K. Mullin, R.S. Wells, D.K. Odell, and N.B. Barros. 1999. U.S. Atlantic and Gulf of Mexico marine mammal stock assessments - 1999. NOAA Technical Memorandum NOAA Fisheries-NE-153.
- Waring, G.T., E. Josephson, C.P. Fairfield-Walsh, and K. Maze-Foley. 2007. U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessments -- 2006, 2nd edition, US Department of Commerce, NOAA Technical Memorandum NMFS -NE - 201.
- Waring, G.T., E. Josephson, C.P. Fairfield-Walsh, and K. Maze-Foley (eds). 2008. US Atlantic and Gulf of Mexico marine mammal stock assessments -- 2007. NOAA Tech Memo NMFS NE 205; 415 p.
- Watling, L. 1998. Benthic fauna of soft substrates in the Gulf of Maine. In E.M. Dorsey and J. Pederson, eds. Effects of fishing gear on the sea floor of New England. p. 20-29. MIT Sea Grant Pub. 98-4.
- Wiebe, P.H., E.H. Backus, R.H. Backus, D.A. Caron, P.M. Glibert, J.F. Grassle, K. Powers, and J.B. Waterbury. 1987. Biological oceanography. In J.D. Milliman and W.R. Wright, eds. The marine environment of the U.S. Atlantic continental slope and rise. p. 140-201. Jones and Bartlett Publishers Inc., Boston, MA.

- Wigley, R.L. and R.B. Theroux. 1981. Atlantic continental shelf and slope of the United States – macrobenthic invertebrate fauna of the middle Atlantic bight region – faunal composition and quantitative distribution. Geol. Surv. Prof. Pap. 529-N. 198 p.
- Wiley, D.N., R.A. Asmutis, T.D. Pitchford, and D.P. Gannon. 1995. Stranding and mortality of humpback whales, *Megaptera novaeangliae*, in the mid-Atlantic and southeast United States, 1985-1992. Fishery Bulletin 93(1):196-205.
- Worthington, L.V. 1976. On the North Atlantic circulation. Johns Hopkins Ocean. Stud. No. 6. Johns Hopkins Univ. Press, Baltimore, MD. 110 p.
- Wright, W.R. and L.V. Worthington. 1970. The water masses of the North Atlantic Ocean: a volumetric census of temperature and salinity. Ser. Atlas Mar. Environ., Am. Geol. Soc. Folio No. 19.
- Wynne, K. and M. Schwartz. 1999. Guide to marine mammals and turtles of the U.S. Atlantic and Gulf of Mexico. Rhode Island Sea Grant, Narragansett. 115pp.

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