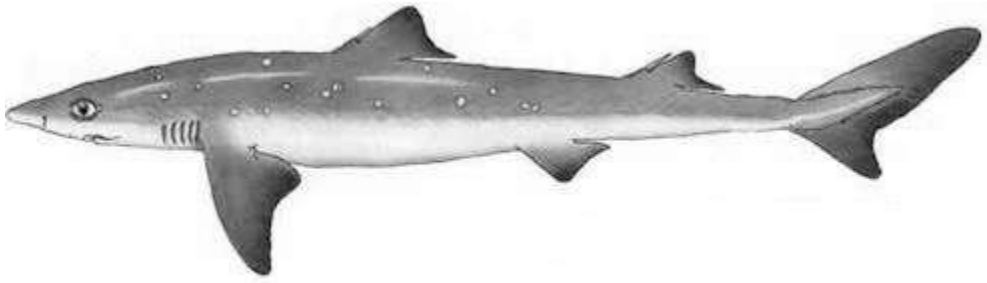
2014 - 2015
Spiny Dogfish Specifications
and
Draft Environmental Assessment



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Prepared by the

Mid-Atlantic Fishery Management Council

in cooperation with the

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1.0 TABLE OF CONTENTS

List of Figures

List of Tables

2.0 EXECUTIVE SUMMARY

This spiny dogfish specifications document was prepared by the Mid-Atlantic Fishery Management Council (Council) under consultation with the National Marine Fisheries Service (NMFS). The document's purpose is to present, for the U.S. Atlantic spiny dogfish fishery, a range of management measure alternatives while also characterizing the environmental impacts of each alternative. The alternatives themselves consist of restrictions on the commercial fishery for spiny dogfish in the 2014 through 2015 fishing years (fishing year is May 1 – Apr 30) and are needed to prevent the spiny dogfish fishery from overfishing the spiny dogfish stock in that time period. This document was developed in accordance with a number of applicable laws and statutes that are described in Section 8.0 (see the Table of Contents to locate document sections).

On May 3, 2013, the NMFS, on behalf of the U.S. Secretary of Commerce, issued final specifications (78FR25862) for the 2013 - 2015 spiny dogfish fishery, including ACLs, commercial quotas and commercial possession limit. For 2014, the action established the 2014 ACL as 55.277 M lb, the commercial quota as 41.784 M lb, and the commercial possession limit as 4,000 lb. The action established the 2015 ACL as 55.063 M lb, the commercial quota as 41.578 M lb, and the commercial possession limit as 4,000 lb. These specified management measures were based on the best available scientific information at the time. Subsequently, in September 2013, an updated review of spiny dogfish stock conditions by the Council's Scientific and Statistical Committee (SSC) resulted in a revision of their previously recommended ABCs for 2014 and 2015. Specifically, the SSC's ABC recommendations were modified from 55.455 M lb upward 60.839 M lb in 2014 and from 55.241 M lb upward 62.413 M lb in 2015. As a result, all the management measures based on these ABCs were affected.

The Mid-Atlantic Council responded to the SSC's review by recommending revised management measures for 2014. The Council recommended that for 2014 ACL be revised to 60.695 M lb and the commercial quota to 49.037 M lb, and that for 2015 ACL be revised to 62.270 M lb and the commercial quota to 50.612 M lb. The 3% RSA allowance (pending approval of Amendment 3 to the Spiny Dogfish FMP) and 4,000 lb commercial possession limit for 2014 and 2015 were not revised. The New England Council recommended the same ACLs, commercial quotas and RSA percentages as the Mid-Atlantic Council, but also recommended that the trip limits for spiny dogfish in Federal waters be eliminated. For the purposes of this Environmental Assessment, the Cumulative Effects analysis, and the "Finding of No Significant Impact" discussion, the New England Council's recommendations represent the NMFS proposed action.

Table 1 below contains the quotas and trip limits for each quota-setting alternative. Alternative 1 is submitted as the MAFMC-recommended alternative and Alternative 2 as the NEFMC-recommended alternative and NMFS-proposed action. The FMP provides for disagreement between the Councils on management measures in that the Greater Atlantic (formerly Northeast) Regional Administrator of NMFS may select from any alternative that has not been rejected by both Councils. None of the alternatives presented in this document were rejected by both Councils. NMFS has selected to propose Alternative 2 (NEFMC-recommended quotas and unlimited trip limit), but intends to fully consider public comments on the trip limit before making a final determination.

Among the three alternatives for each fishing year, the landings associated with Alternatives 1 and 2 are expected to result in neutral impacts on the spiny dogfish resource. Alternatives 1 and 2 would increase landings compared to the current fishing year, however, the spiny dogfish stock

is expected to increase anyway; and Alternatives 1 and 2 are consistent with an ACT reduced from ACL as recommended by the Spiny Dogfish Monitoring Committee. Alternative 3 would maintain the currently specified commercial quotas in 2014 and 2015, which makes this the most restrictive alternative and is, therefore, associated with the most positive impacts on spiny dogfish. Given the increase in ABC, Alternative 3 is considered to be more restrictive than necessary to prevent overfishing.

The trip limits under Alternatives 1 and 3 (4,000 lb) maintain the status quo while Alternative 2 (unlimited) would eliminate one of the primary controls on the rate of landings. Trip limits generally do not have a clear impact on the managed resource, but the elimination of landings limits has the potential to increase fishing effort for this fishery. If fishing effort increases in response to the elimination of trip limits, Alternative 2 would be expected to have negative effects on non-target species, habitat, and EFH as well as ESA-listed and MMPA-protected resources when compared to Alternatives 1 and 3. Maintaining status quo trip limits, as under Alternatives 1 and 3would tend to maintain the distribution and intensity of fishing effort for this species and is associated with neutral impacts to non-target species, habitat and EFH as well as ESA-listed and MMPA-protected resources.

Table 1. Management Measure Alternatives for 2014 and 2015.

Year	Quota and Trip Limit Alternatives	ACL	Commercial Quota	Trip Limit
2014	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	60.695	49.037	4,000
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS proposed)	60.695	49.037	Unlimited
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	55.277	41.784	4,000
2015	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	62.413	50.612	4,000
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS Proposed)	62.413	50.612	Unlimited
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	55.241	41.578	4,000

Table 2 contains the Research Set-Aside (RSA) deductions for each RSA alternative. These proposed deductions are the maximum percentage (3%) of the commercial quota that could be set aside for research purposes in a given fishing year as proposed in Amendment 3 to the Spiny Dogfish FMP. Because they are a percentage of the commercial quota, the RSA deductions vary in Table 2 under the alternative commercial quotas.

Table 2. RSA deductions by fishing year if preferred RSA allowance is implemented, otherwise no RSA would be deducted. All values are in M lb.

	Initial Quota		RSA Deduction		Adjusted Quota	
Quota and Trip Limit Alternatives	**2014**	**2015**	**2014**	**2015**	**2014**	**2015**
MAFMC and NEFMC Commercial Quotas (Alt 1 and 2)	49.037	50.612	1.471	1.518	47.566	49.094
No Action Commercial Quota (Alt 3)	41.784	41.578	1.254	1.247	40.530	40.331

Impacts of the Management Actions

None of the alternatives is associated with significant impacts on any of the VECs. Alternative 1 is expected to result in a null impact to the managed resource, slight negative impacts on non-target species, habitat, and protected resources, and null to positive impacts on human communities. Alternative 2 is expected to result in a slight negative impact to the managed resource, negative impacts on non-target species, habitat, and protected resources, and null to positive impacts on human communities. Alternative 3 is expected to result in a slight positive impact to the managed resource, null impacts on non-target species, habitat, protected resources, and human communities.

Further discussion on the impacts of the alternatives is presented in Section 7.0, and summarized in Table 3 below. Table 3 presents a qualitative summary of the direct and indirect impacts of the various management alternatives.

Table 3. Overall qualitative summary of the expected impacts of the alternatives considered in this document for 2014 and 2015. A minus sign (-) signifies an expected negative impact, a plus sign (+) signifies an expected positive impact, and zero is used to indicate a null impact. A "sl" in front of a sign is used to convey a minor effect, such as slight positive (sl+).

Year	Alternatives	Managed Resource	Non-Target Species	Habitat	Protected Resources	Human Communities
2014	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	0	sl-	sl-	sl-	+
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS Proposed)	sl-	-	-	-	+
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	sl+	0	0	0	0
2015	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	0	sl-	sl-	sl-	+
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS proposed)	sl-	-	-	-	+
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	sl+	0	0	0	0

Cumulative Impacts

When the proposed action (Alternative 2) is considered in conjunction with all the other pressures placed on fisheries by past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative; therefore, there are no significant cumulative effects associated with the action proposed in this document (see section 7.5).

Conclusions

A detailed discussion of the environmental impacts of the alternatives, as well as any cumulative impacts, considered in this specifications document are provided in section 7.0. The proposed action is not associated with significant impacts to the biological, physical, social or economic, environment individually or in conjunction with other actions under NEPA; therefore, a "Finding of No Significant Impact" is determined.

3.0 LIST OF ACRONYMS

ABC	Annual Biological Catch
ACL	Annual Catch Limit
ALWTRP	Atlantic Large Whale Take Reduction Plan
AM	Accountability Measure
ASAP	Age Structured Assessment Program
ASMFC	Atlantic States Marine Fisheries Commission
CEA	Cumulative Effects Assessment
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CV	Coefficient of Variation
CZMA	Coastal Zone Management Act
DPS	Distinct Population Segment
DPSWG	Data Poor Stocks Working Group
EA	Environmental Assessment
EEZ	Exclusive Economic Zone
EFH	Essential Fish Habitat
EFP	Exempted Fishing Permit
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act of 1973
F	Fishing Mortality Rate
FR	Federal Register
FMP	Fishery Management Plan
FONSI	Finding of No Significant Impact
GARFO	Greater Atlantic Regional Fisheries Office
HPTRP	Harbor Porpoise Take Reduction Plan
IRFA	Initial Regulatory Flexibility Analysis
LNG	Liquefied Natural Gas
LOF	List of Fisheries
LWTRP	Large Whale Take Reduction Plan
MAFMC	Mid-Atlantic Fishery Management Council
MMPA	Marine Mammal Protection Act
MRFSS	Marine Recreational Fisheries Statistical Survey
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSY	Maximum Sustainable Yield
NAO	NOAA Administrative Order
NEFSC	Northeast Fisheries Science Center
NEFOP	Northeast Fisheries Observer Program
NEPA	National Environmental Policy Act
NERO	Northeast Regional Office
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
OFL	Overfishing Limit
OY	Optimal Yield
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Act
RIR	Regulatory Impact Review
RSA	Research Set-Aside
SARC	Stock Assessment Review Committee
SAW	Stock Assessment Workshop
SFA	Sustainable Fisheries Act
SBA	Small Business Administration
SSB	Spawning Stock Biomass
SSC	Scientific and Statistical Committee
TED	Turtle Excluder Device
US	United States
VECs	Valued Ecosystem Components
VTR	Vessel Trip Report

4.0 INTRODUCTION

The Council has prepared this analysis to evaluate potential impacts that would result from the proposed action to approve spiny dogfish management measures for fishing years 2014 and 2015. In accordance with the National Environmental Policy Act (NEPA), NMFS evaluates the potential impacts of management measures through an Environmental Assessment (EA) submitted by the Council. The EA analyzes the impacts of a suite of management measures approved by the Councils, including a range of annual catch limits (ACLs), annual catch targets (ACTs), commercial quotas and trip limits for the spiny dogfish fishery. All beneficial and adverse impacts of the actions are evaluated in the specifications EA allowing a determination to be made as to the significance of the impacts to the human environment. This EA presents impact information on the managed resource (spiny dogfish), non-target species, protected resources, habitat, and human communities ecosystem components that would result from approving the management measures for spiny dogfish as described herein.

4.1 Background

The spiny dogfish fishery in U.S. waters of the western Atlantic Ocean is managed under the Spiny Dogfish FMP that was prepared cooperatively by the Mid-Atlantic and New England Fishery Management Councils (Councils). The plan was approved by the National Marine Fisheries Service (NMFS) in 2000. Following the 2007 reauthorization of the MSA, the FMP was amended through Amendment 2 to the FMP (MAFMC 2011) in order to implement an ACL and accountability measures for the fishery.

This document, which describes the action and its impacts, was developed in accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA), the National Environmental Policy Act of 1969 (NEPA), and the Spiny Dogfish Fishery Management Plan (FMP). The MSA is the primary domestic legislation governing fisheries management in the U.S. Exclusive Economic Zone (EEZ) and compliance with the MSA requires preventing overfishing on an ongoing basis. Failure to specify spiny dogfish management measures to prevent overfishing in 2014 and 2015 would be inconsistent with that legislation. As required by the MSA, the Council's Scientific and Statistical Committee (SSC) provides ongoing advice for preventing overfishing and achieving maximum sustainable yield. The Spiny Dogfish Monitoring Committee (MC), created through the FMP, develops specific management measures which constrain spiny dogfish catch at identified levels. The advice of the SSC and MC form the basis for the Councils' development of recommended spiny dogfish management measures.

Specified management measures for the 2014 and 2015 fishing years have previously been established and implemented. On May 3, 2013, the NMFS, on behalf of the U.S. Secretary of Commerce, issued final specifications for the 2013 - 2015 spiny dogfish fishery, including ACLs, commercial quotas and commercial possession limit. These specified management measures were based on the best available scientific information at the time.

Subsequently, in September 2013, an updated review of spiny dogfish stock conditions by the Council's SSC resulted in a revision of their previously recommended ABCs for 2014 and 2015. As a result, all the management measures based on these ABCs were affected. In October 2013 and January 2014, the Mid-Atlantic Council and New England Council, respectively, responded to the SSC's review by recommending revised management measures for 2014 and 2015. Their recommendations are described in Section 5.0 below. The FMP provides for disagreement

between the Councils on management measures in that the Greater Atlantic (i.e., Northeast) Regional Administrator of NMFS may select from any alternative that has not been rejected by both Councils. None of the alternatives presented in this document were rejected by both Councils. For the purposes of this EA, the New England Council's recommendations represent the NMFS proposed action. However, NMFS will fully consider public comments on the trip limit alternatives before making a final determination.

Multi-year specifications

This specifications package for spiny dogfish contains multi-year management measures. According to the Spiny Dogfish FMP as modified through Framework 1 (MAFMC 2006), management measures can be specified for up to five years. The SSC and MC took into account sources of scientific and management uncertainty, respectively, associated with multi-year management measures in making their recommendations. Further elaboration of this is provided in the respective Committee summaries available at www.mafmc.org. Limiting the specifications timeframe to two years instead of the allowable five was an SSC decision based on the need to replace previously specified ABC for 2014-2015, as well as an expectation that biomass may begin to decline in 2016 according to stock projections.

Figure 1 provides a diagram of the process for determining annual spiny dogfish management measures that was outlined in Amendment 2 to the FMP (MAFMC 2011). Accordingly, the SSC first identifies the catch level above which overfishing is occurring (overfishing limit or OFL) as well as the catch below OFL, called acceptable biological catch or ABC, that adequately accounts for scientific uncertainty in the estimate of OFL and the condition of the stock. Next, the MC determines the annual catch limit (ACL) which, if exceeded, would trigger accountability measures (AMs) such as reductions in future year landings. By accounting for assumed Canadian landings in the upcoming year, the catch limit determined by the MC reflects a "domestic ACL. The MC further determines the catch level at or below ACL called the annual catch target (ACT) that accounts for uncertainty in the efficacy of the management measures. The discarded (as opposed to landed) component of that catch is deducted to arrive at the total allowable landings (TAL). Although not obligated under the FMP, the Council then deducts assumed recreational landings from the TAL in order to arrive at an appropriate commercial quota.

Spiny Dogfish Specification Process

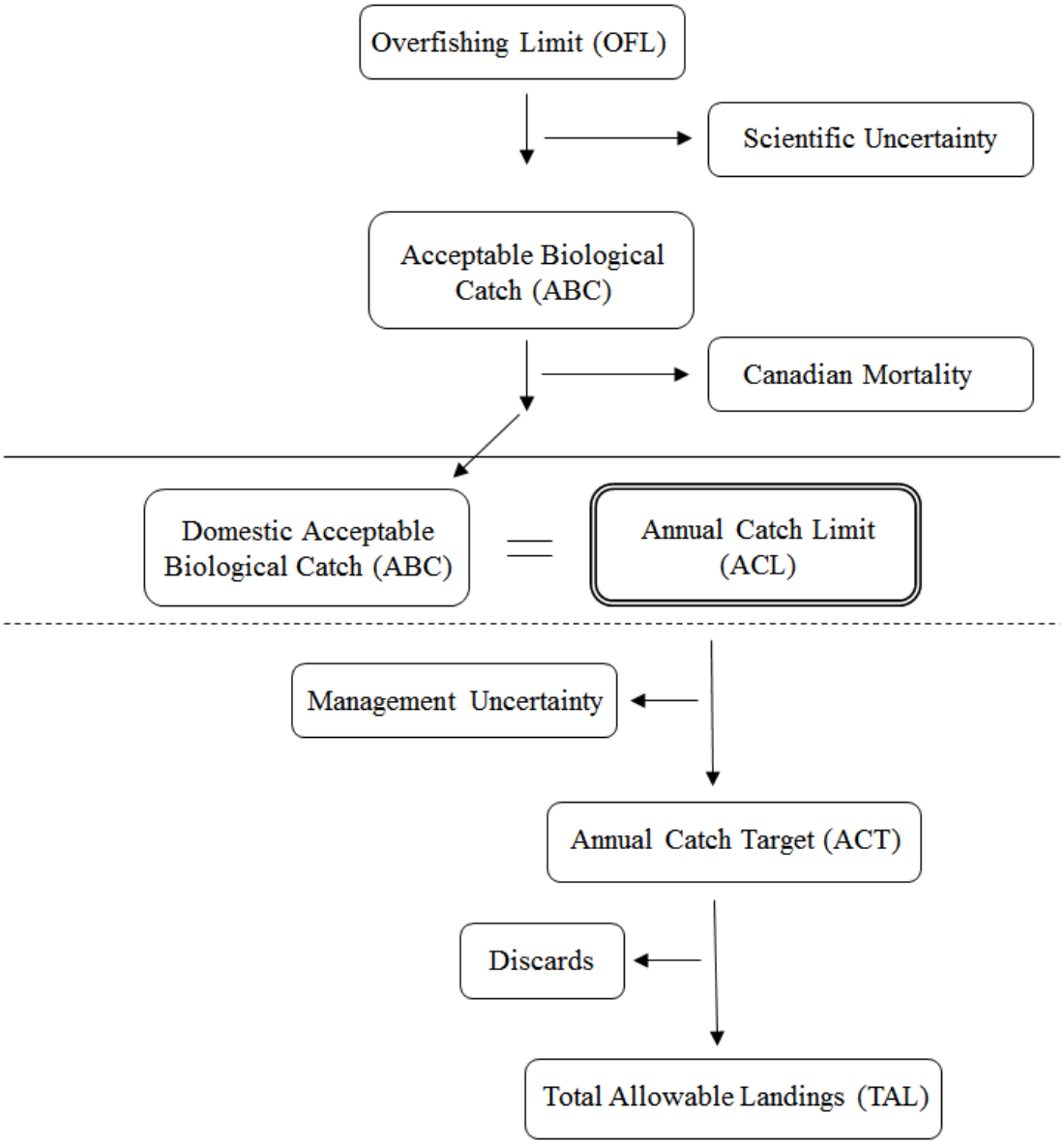

Figure 1. Specification process for spiny dogfish as described in Amendment 2 to the Spiny dogfish FMP (Omnibus ACL/AM Amendment).

The SSC, MC, and Council identified values for the management measures listed above according to their respective responsibilities, and these are reported at www.mafmc.org. An overview is provided in the following two paragraphs. The values and the basis for the values are provided in Table 4.

2014

For the 2014 fishing year, the SSC determined OFL for spiny dogfish to be 71.011 M lb and ABC to be 60.839 M lb, where ABC is associated with a 40 % probability of overfishing. According to the Council's risk policy (MAFMC 2011), management measures based on this ABC will adequately ensure that overfishing does not occur (see SSC report). A domestic ABC (60.695 M lb) was determined by reducing the overall ABC by Canadian landings (65 k lb). According to the FMP, ACL is set equivalent to Domestic ABC. Historic landings data compared to commercial quotas were reviewed by the MC and the ACT was calculated as ACL minus a management uncertainty buffer. The management uncertainty buffer corresponded to the average 2010-2012 landings overage. These years show an average underharvest of 4% of the commercial quota. Because of the tendency for the commercial fishery to underharvest in recent years, a deduction from the domestic ACL could result in foregone yield. As such, no deduction for management uncertainty was made and ACT = ACL. Long term discards were observed by the MC to be very stable despite increasing quotas. After deducting for discards, the resulting TAL is 49.090 M lb. An additional deduction for recreational landings (53 k lb) results in a commercial quota of 49.037 M lb.

2015

For the 2015 fishing year, the SSC determined ABC to be 62.413 M lb. OFL is not estimated for years beyond 2014. ABC was determined by applying the effective fishing mortality rate associated with ABC in 2014 (F = 0.19528) to 2015 projected biomass. Other management measures were calculated in the same manner as for 2014 such that, Domestic ABC = 62.270 M lb = ACL. ACT = 62.270 M lb = ACL – management uncertainty buffer (0 M lb). TAL = 50.664 M lb = ACT – discards (11.605 M lb). Commercial quota = 50.611 M lb = TAL - recreational landings (53 k lb).

Table 4. Derivation of Monitoring Committee's recommended spiny dogfish quotas for 2014 and 2015. All values are in lbs.

2014 Measures	Basis	M lb
OFL		71.011
ABC	*Constant F (0.19528)*	60.839
Canadian Landings	*= ave 2009-2011*	0.143
Domestic ABC	*= ABC – Canadian Landings*	60.695
ACL	*= Domestic ABC*	60.695
Mgmt Uncertainty Buffer	*Ave of quota overages (pct) in 2010-2011 (4.0%)*	0.000
ACT	*= Domestic ACL – management uncertainty*	60.695
U.S. Discards	*= ave 2002-2011*	11.605
TAL	*ACT – Discards*	49.090
U.S. Rec Landings	*= ave 2010-2011*	0.053
Comm Quota	*TAL – Rec Landings*	49.037421

2015 Measures	Basis	M lb
OFL		
ABC	*Constant F (0.19528)*	62.413
Canadian Landings	*= ave 2009-2011*	0.143
Domestic ABC	*= ABC - Canadian Landings*	62.270
ACL	*= Domestic ABC*	62.270
Mgmt Uncertainty Buffer	*Ave of quota overages (pct) in 2010-2011 (4.0%)*	0.000
ACT	*= Domestic ACL - management uncertainty*	62.270
U.S. Discards	*= ave 2002-2011*	11.605
TAL	*ACT - Discards*	50.664
U.S. Rec Landings	*= ave 2010-2011*	0.053
Comm Quota	*TAL - Rec Landings*	50.611522

4.2 Purpose and Need for the Action

The purpose of this action (specification of spiny dogfish management measures) is to update the 2014 through 2015 commercial quota for the U.S. Atlantic spiny dogfish fishery. This action is needed to prevent overfishing and ensure that the required annual catch limits (ACLs) for spiny dogfish in those years are not exceeded. The purpose and need for this action reflect the recommendations of the Councils and apply the best available scientific information to the management of the spiny dogfish resource.

5.0 MANAGEMENT ALTERNATIVES

5.1 COMMERCIAL QUOTA AND TRIP LIMIT ALTERNATIVES

There are three quota and trip limit setting alternatives under consideration in this document for each specification year. An analysis of those alternatives relative to "no action" is a requirement under the implementation of NEPA. "No action", in this case, would be the continuation of previously specified management measures for 2014 and 2015 that were implemented through rulemaking on May 3, 2013 (78FR25862). The ACL, commercial quota, and trip limit under Alternatives 1 through 3 for each year are given below in Table 5. As previously discussed the New England and Mid-Atlantic Councils recommended different specification alternatives. Therefore, for the purposes of this EA, the New England Council's recommendations represent the NMFS proposed action.

Table 5. Values (M lb of spiny dogfish) associated with the management alternatives.

Year	Alternatives	ACL	Commercial Quota	Trip Limit
2014	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	60.695	49.037	4,000
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS proposed)	60.695	49.037	Unlimited
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	55.277	41.784	4,000
2015	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	62.270	50.612	4,000
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS proposed)	62.270	50.612	Unlimited
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	55.063	41.578	4,000

5.1.1 Fishing Year 2014 Quota and Trip Limit Alternatives

5.1.1.1 Alternative 1 (MAFMC-Recommended) – Set Quota at 49.037 M lb and Trip Limit at 4,000 lb

For FY2014, specify a commercial quota of 49.037 M lb with trip limit of 4,000 lb (vessels are prohibited from landing more than the specified amount in one calendar day). In selecting this alternative, the Mid-Atlantic Council is recommending that the harvest limit (quota) be increased in keeping with the expansion of stock biomass, while also insuring that overfishing is prevented as identified by the SSC. In addition, the status quo trip limit is intended by the Council to maintain ex-vessel economic benefits to fishery participants. The quota recommended under this alternative also accommodates and minimizes conflict with interstate management by the ASMFC which adopted the same coastwide quota in this alternative for state-jurisdictional waters.

5.1.1.2 Alternative 2 (NEFMC-Recommended and NMFS-Proposed) – Set Quota at 49.037 M lb and Eliminate Trip Limits

For FY2014, specify a commercial quota of 49.037 M lb and eliminate trip limits (vessels are not restricted to a possession limit for spiny dogfish in federal waters or number of trips per). In selecting this alternative, the New England Council is recommending that the coastwide harvest limit (quota) be increased in keeping with the expansion of stock biomass, while also insuring that overfishing is prevented as identified by the SSC. In addition, elimination of trip limits was recommended in order to encourage landings of the managed resource and increase the likelihood that the commercial quota will be fully harvested which is expected by the Council to increase ex-vessel economic benefits to fishery participants. The quota recommended under this alternative accommodates and minimizes conflict with interstate management by the ASMFC which adopted the same coast-wide quota in this alternative for state-jurisdictional waters.

5.1.1.3 Alternative 3 (Status Quo Quota and Trip Limit) – Set Quota at 41.784 M lb and Trip Limit at 4,000 lb

For FY2014, specify a commercial quota of 41.784 M lb with a trip limit of 4,000 lb (vessels are prohibited from landing more than the specified amount in one calendar day). Under this alternative, a more restrictive harvest limit (quota) would be implemented than is necessary to insure that overfishing is prevented in 2014 as identified by the SSC. The quota recommended under this alternative conflicts with interstate management by the ASMFC which adopted a different the coastwide quota.

5.1.2 Fishing Year 2015 Quota and Trip Limit Alternatives

5.1.2.1 Alternative 1 (MAFMC-Recommended) – Set Quota at 50.612 M lb and Trip Limit at 4,000 lb

For FY2014, specify a commercial quota of 50.612 M lb with trip limit of 4,000 lb (vessels are prohibited from landing more than the specified amount in one calendar day). In selecting this alternative, the Mid-Atlantic Council is recommending that the harvest limit (quota) be increased in keeping with the expansion of stock biomass, while also insuring that overfishing is prevented as identified by the SSC. In addition, the status quo trip limit is intended by the Council to maintain ex-vessel economic benefits to fishery participants. The quota recommended under this alternative also accommodates and minimizes conflict with interstate management by the ASMFC which adopted the same coastwide quota in this alternative for state-jurisdictional waters.

5.1.2.2 Alternative 2 (NEFMC-Recommended and NMFS-Proposed) – Set Quota at 50.612 M lb and Allow Unlimited Trip-Level Landings

For FY2015, specify a commercial quota of 50.612 M lb and eliminate trip limits (vessels are not restricted to a possession limit for spiny dogfish in federal waters or number of trips per). In selecting this alternative, the New England Council is recommending that the coastwide harvest limit (quota) be increased in keeping with the expansion of stock biomass, while also insuring that overfishing is prevented as identified by the SSC. In addition, elimination of trip limits was recommended in order to encourage landings of the managed resource and increase the likelihood that the commercial quota will be fully harvested which is expected by the Council to increase ex-vessel economic benefits to fishery participants. The quota recommended under this alternative accommodates and minimizes conflict with interstate management by the ASMFC which adopted the same coast-wide quota in this alternative for state-jurisdictional waters.

5.1.2.3 Alternative 3 (Status Quo Quota and Trip Limit) – Set Quota at 41.578 M lb and Trip Limit at 4,000 lb

For FY2015, specify a commercial quota of 41.578 M lb with a trip limit of 4,000 lb (vessels are prohibited from landing more than the specified amount in one calendar day). Under this alternative, a more restrictive harvest limit (quota) would be implemented than is necessary to insure that overfishing is prevented in 2015 as identified by the SSC. The quota recommended under this alternative conflicts with interstate management by the ASMFC which adopted a different the coastwide quota.

5.2 RSA Alternatives

If Amendment 3 to the Spiny Dogfish FMP is implemented as proposed, the Councils would be able to specify up to 3% of the commercial quota as set-aside for the purpose of fishery-related research. As of the submission of this specifications package, Amendment 3 has not yet been implemented although rulemaking is underway (79FR16752). The action alternative (Alternative 1) anticipates that Amendment 3 will be implemented in time for RSA awards for the 2014 and 2015 fishing years.

5.2.1 Alternative 1 (Preferred: Specify Research Set-Asides)

This alternative would allow up to 3% of the 2014 and 2015 spiny dogfish commercial quotas to be set-aside in each year to fund projects selected under the Mid-Atlantic RSA Program. The maximum RSA amount varies among the alternative commercial quotas (range ~ 1.25 – 1.5 M lb; Table 2); however the maximum allowances are unlikely to be fully taken. The project selection and award process has not yet been conducted, therefore, the specific research quota awards are not known. Once the awards are finalized, NMFS will return any un-awarded set-aside amount to the commercial fishery either through each year's spiny dogfish specification rulemaking process or through the publication of a separate notice in the Federal Register notifying the public of a quota adjustment.

The MSA requires that interested parties be provided with an opportunity to comment on all proposed exempted fishing permits. Potential environmental impacts of this program on other MAFMC-managed fisheries are addressed in those respective specification documents. Additional consultation and analysis with respect to NEPA, ESA, MSA, and other applicable law may be necessary if the statement of work changes or additional exemptions are requested.

5.2.2 Alternative 2 (No Action/*No RSA Deduction*)

Under this alternative, no spiny dogfish RSA would be awarded in 2014 and 2015 and the commercial quotas would remain unadjusted.

6.0 DESCRIPTION OF THE AFFECTED ENVIRONMENT AND FISHERIES

6.1 Description of the Managed Resource

6.1.1 Description of the Fisheries

The management unit for spiny dogfish is all spiny dogfish in U.S. waters of the western Atlantic Ocean. The commercial fishery is fully described in Section 2.3 of the FMP (MAFMC 1999). No significant recreational fishery exists for this stock. An overview of the stock and associated commercial fishery landings is provided below.

6.1.1.1 Spiny Dogfish Stock

Reports on "Stock Status," including annual assessment updates, Stock Assessment Workshop (SAW) reports, Stock Assessment Review Committee (SARC) panelist reports and peer-review panelist reports are available online at the NEFSC website: http://www.nefsc.noaa.gov/nefsc/saw/. EFH Source Documents, which include details on stock characteristics and ecological relationships, are available at the following website: http://www.nefsc.noaa.gov/nefsc/habitat/efh/.

Figure 2 below provides a snapshot of several relevant characteristics of the spiny dogfish stock that influence management of the commercial fishery. Among these are: 1) Spiny dogfish are slow growing and, therefore, recovery of an overly exploited stock can require prolonged rebuilding. 2) Males and females grow at different rates and to different maximum sizes such that the largest fish in the population are almost all female and these are more valuable to the commercial fishery. 3) Litter size, or fecundity, increases with age such that productivity can be markedly hampered by an absence of large females in the stock. 4) Maturity is delayed (12-21 years) in females such that the immature stock is susceptible to mortality for a prolonged period before contributing to stock production.

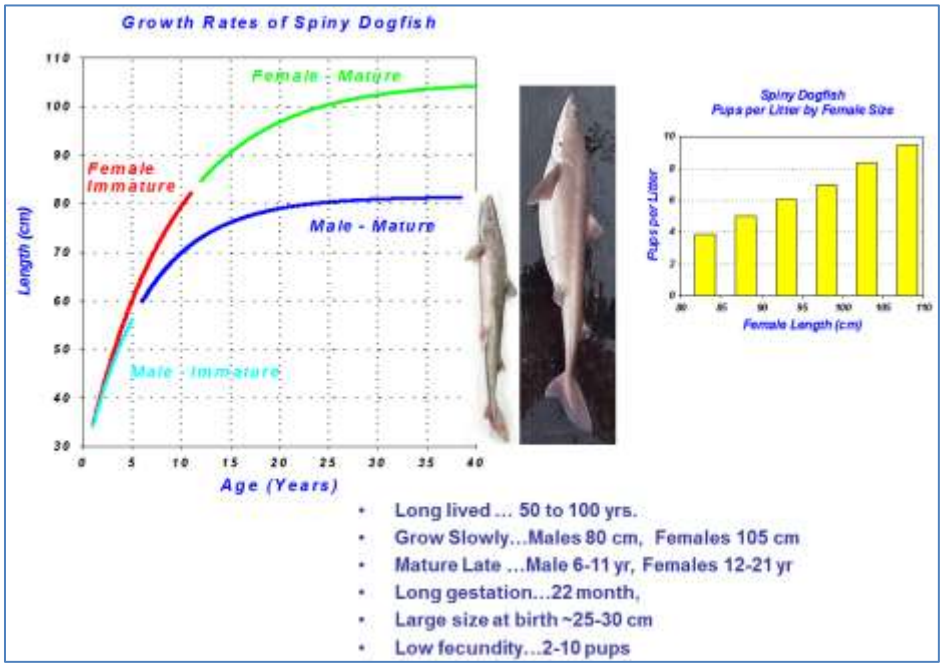

Figure 2. Summary of biological characteristics spiny dogfish relevant to the species' commercial fisheries exploitation (from Rago 2010 unpubl.).

Historical Stock Condition

At the onset of the domestic commercial fishery in the early 1990's, population biomass for the Northwest Atlantic stock of spiny dogfish was at its highest estimated level (approx. 1.2 billion lb). A large scale unregulated fishery developed and quickly depleted the stock of mature female spiny dogfish such that in 1997 a stock assessment showed that the stock was *overfished* (NEFSC 1997). The Spiny Dogfish FMP was developed in 1998 and implemented in 2000 in order to halt further depletion of mature female spiny dogfish and allow the stock to recover to a sustainable level. Because the directed commercial fishery concentrated on mature females, rebuilding required elimination of that directed fishery. The rebuilding program was successful and in 2010 the Northeast Regional Office (NERO) of NMFS communicated the *rebuilt* status of the stock to the Councils.

Current Stock Condition

<u>Not Overfished</u>

The Bmsy reference point defines when the stock is rebuilt (above Bmsy) and overfished (below ½ Bmsy). For spiny dogfish, Bmsy (proxy) is the spawning stock biomass that maximizes recruitment (SSBmax) in a Ricker type (dome-shaped) stock-recruitment model (Rago and Sosebee 2010). SSBmax is estimated to be 159,288 mt (351 M lb) with ½ of that target corresponding to the biomass threshold (79,644 mt; 175.5 M lb). In September 2013, the Northeast Fisheries Science Center (NEFSC) updated their assessment of the spiny dogfish stock using catch data (2012), and results from the 2013 trawl survey. The updated estimate of SSB for 2013 is 211,372mt (465.995 M lb), about 33% above SSB_{max} (159,288 mt). In updating the assessment, the NEFSC estimated a *97% probability that the stock is not overfished*.

<u>Overfishing not Occurring</u>

A review by the Council's SSC in 2011 was conducted to establish its endorsement of a fishing mortality reference point that defines when overfishing is occurring (Fmsy). The updated fishing mortality reference point provided by the NEFSC is $F_{msy} = 0.2439$. All accountable sources of removals contribute to the annual estimate of fishing mortality (F) under the current assessment. For the most recent assessment year (2013), these include U.S. commercial landings (24.484 M lb), Canadian commercial landings (149 k lb), U.S. dead discards (10.668 M lb), and U.S. recreational landings (29 k lb). Total removals in 2012 were approximately 34.677 M lb corresponding to an F estimate of 0.149, well below $F_{msy} = 0.2439$. In updating the assessment, the NEFSC estimated a *91% probability that overfishing was not occurring* ($F_{2012} < F_{threshold}$).

Future Stock Condition

Projections of stock biomass were provided as part of the NEFSC's stock status update. Long term projections indicate that even if the stock was fished at Fmsy (i.e., OFL in each fishing year), it would *not* revert to an overfished condition at any time in the 20 year projection period. Stock biomass is expected to show a decline from present – 2017 while low 1997 – 2003 year classes recruit into the mature female biomass. The stock is not expected to decline below the Bmsy target during the specification period or in the timeframe of the long term projections (present - 2030). The Council's SSC is expected to review indicators of stock conditions for spiny dogfish each year and could recommend reconsideration of catch limits if stock condition declines the current projections.

6.1.2 Commercial Fishery Landings

Calendar year harvest estimates from 1989 -2012 are provided in Table 3 and Figure 3. These include landings from U.S. commercial and recreational sectors as well as the Canadian commercial fishery. A thorough characterization of the historic (pre-FMP) fishery for spiny dogfish is given in Section 2.3 of the FMP (MAFMC 1999).

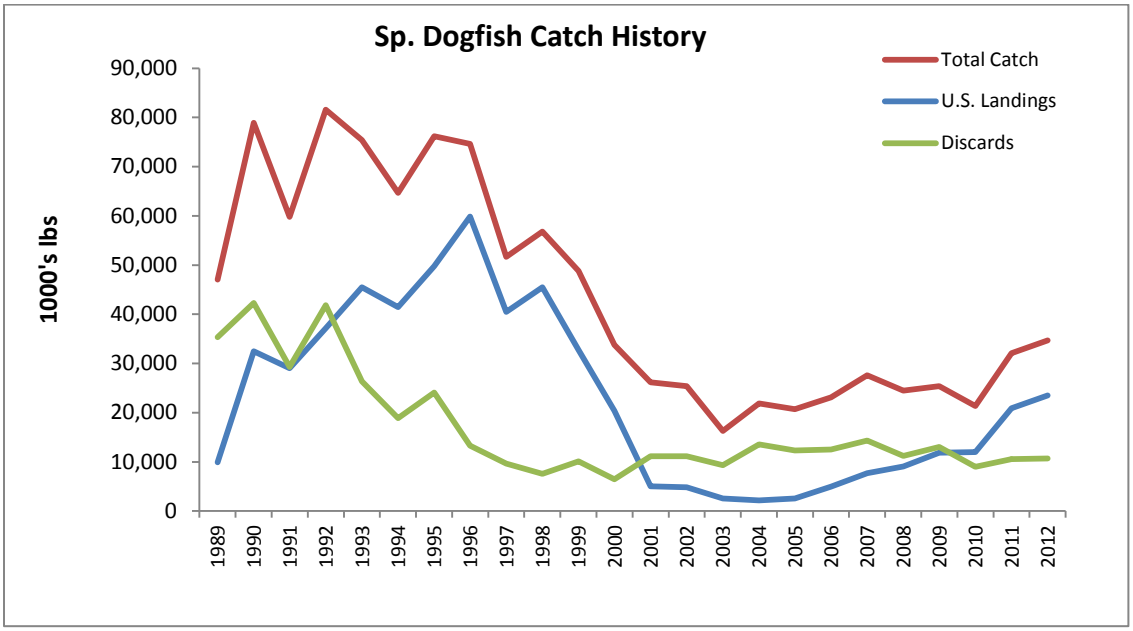

Figure 3. History of spiny dogfish landings and discards and total catch from 1989 – 2012. From NEFSC 2013.

Table 6. Landings of spiny dogfish (1,000s lb) in the Northwest Atlantic for calendar years 1989 to 2012.

Year	US Comm	US Rec	Canada	Total (NW Atl.Stock)
1989	10,317	960	384	11,661
1990	33,834	411	3,006	37,251
1991	30,265	301	705	31,271
1992	38,719	494	1,994	41,207
1993	47,412	276	3,296	50,984
1994	43,175	356	4,180	47,711
1995	51,857	156	2,196	54,209
1996	62,325	57	990	63,373
1997	42,148	152	1,024	43,324
1998	47,378	90	2,423	49,891
1999	34,119	122	4,803	39,043
2000	21,261	11	6,295	27,568
2001	5,269	64	8,774	14,107
2002	5,051	471	8,232	13,753
2003	2,687	92	2,990	5,770
2004	2,255	241	5,425	7,922
2005	2,634	103	5,214	7,951
2006	5,165	216	5,602	10,983
2007	8,046	193	5,476	13,714
2008	9,435	492	3,611	13,537
2009	12,350	78	260	12,687
2010	12,494	48	14	12,556
2011	21,773	73	285	22,132
2012	24,484	29	149	26,674

Source: NMFS Commercial Fisheries Database, MRFSS data, and NAFO data.

Coastwide Landings Relative to Limits (Quotas)

Table 3 provides the coastwide quotas and landings for the spiny dogfish fishery since the establishment of the FMP in 2000. Toward the end of the federal rebuilding schedule that ended in 2010, substantial increases in stock biomass allowed for an increase in the federal quota in 2009 to 12 M lb while still maintaining the rebuilding fishing mortality rate. Under the interstate FMP, quota increases began earlier in 2006 – 2008 (Table 3). Note that in 2010-2011, the commercial quota implemented in state waters was lower than for federal waters. Both quotas were based on the same technical advice, however, the state water quota reflects reductions for overages in accordance with Addendum 2 to the ISFMP. Similar accountability measures will be applied in federal waters in accordance with Amendment 2 to the federal FMP.

Table 7. Summary of spiny dogfish landings relative to the quota(s) for fishing years 2000 - 2012.

Fishing year (May 1 - Apr 30)	Quota (M lb)		Landings (M lb)
	Federal	States'	
2000	4.000	n/a	8.202
2001	4.000	n/a	5.103
2002	4.000	n/a	4.777
2003	4.000	8.8	3.341
2004	4.000	4.000	1.396
2005	4.000	4.000	2.417
2006	4.000	6.000	6.596
2007	4.000	6.000	6.424
2008	4.000	8.000	9.308
2009	12.000	12.000	12.307
2010	15.000	14.4	15.022
2011	20.000	19.5	22.451*
2012	35.7	35.7	26.762

** Total CFDBS landings (20.3 M lb) plus 2.2 M lb undocumented landings discovered/reported by MADMF*

Landings by Gear

Certain commercial gear types are associated with the retention of spiny dogfish in federal waters. The catch of spiny dogfish by gear in FY2012 is given in Table 8. Spiny dogfish landings came mostly from gillnets (71.7%), hook and line (17.8%), bottom otter trawls (10.4%), as well as unknown or other gear (0.2%).

Table 8. Commercial gear types associated with spiny dogfish harvest in FY2012. Note that vessels with state issued permits only are not required to complete VTRs so total VTR landings are less than total dealer-reported landings.

Commercial Gear Type	Landings (lb)	Pct Total
GILL NET	12,367,393	71.7%
HOOK AND LINE	3,067,743	17.8%
TRAWL, OTTER, BOTTOM	1,791,693	10.4%
OTHER	29,962	0.2%
Total	**17,256,791**	**100.0%**

Source: Vessel Trip Reports

Landings by Area

The Northeast Region is divided into 46 statistical areas for federal fisheries management (Figure 4). According to VTR data, six statistical areas collectively accounted for 79.10 % of spiny dogfish landings in 2011, with each contributing greater than 5.0 % of the total (Table 5). These areas also represented 76.30% of the trips that landed spiny dogfish suggesting that resource availability as expressed by catch per trip is fairly consistent through the range where harvest occurs.

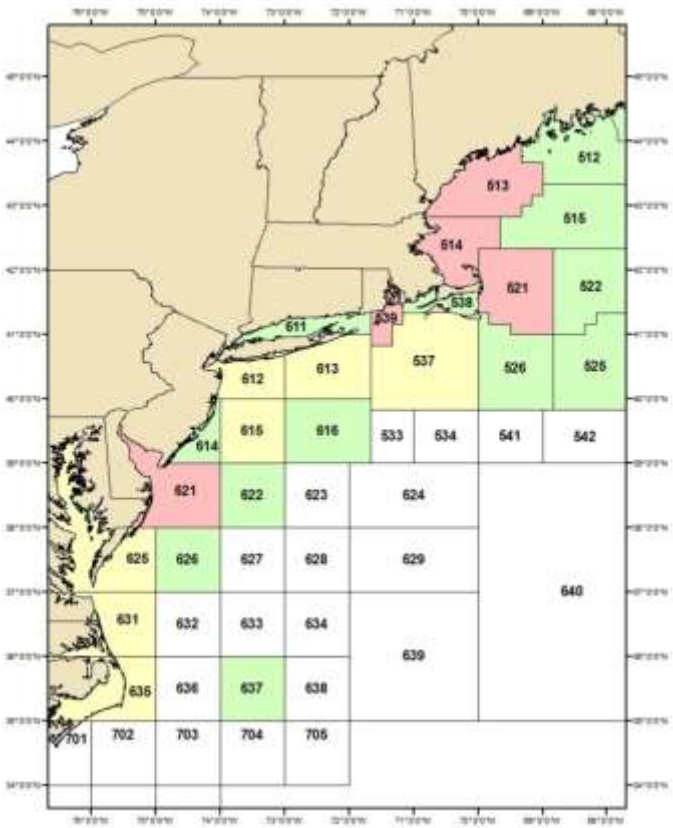

Figure 4. NMFS Northeast statistical areas. Shaded areas indicate where spiny dogfish harvest occurs. Red areas comprise 5% or more of coastwide harvest, yellow areas 1% to 5%, and green areas less than 1%.

Table 9. Statistical areas that accounted for > 1 % of the spiny dogfish landings and/or trips in FY2011 VTR data. Shading (red or yellow) is provided for reference with Figure 4.

STATAREA	Trips	lbs	Pct_Trips	Pct_Lbs
514	3,487	4,684,764	29.1%	27.1%
521	2,262	4,354,554	18.9%	25.2%
513	1,839	1,892,981	15.3%	11.0%
621	559	1,083,718	4.7%	6.3%
539	933	927,956	7.8%	5.4%
631	268	674,602	2.2%	3.9%
615	294	646,755	2.5%	3.7%
612	476	617,641	4.0%	3.6%
537	560	540,071	4.7%	3.1%
625	211	442,140	1.8%	2.6%
635	120	433,391	1.0%	2.5%
613	313	353,403	2.6%	2.0%

Source: Vessel Trip Report database

Canadian Commercial Spiny Dogfish Landings

Historic Canadian commercial landings have been low relative to landings from the U.S. commercial fishery (Table 6). In 2001, following the implementation of the U.S. Federal FMP, Canadian landings exceeded U.S. landings for the first time. In 2008, Canadian landings were about 3.5 M lb, but in 2009 landings dropped precipitously to about 250,000 lb. Since 2009, Canadian landings have not been above 300,000 lb.

Recreational Landings

As previously stated, no significant recreational fishery exists for spiny dogfish. Some retention of recreationally caught spiny dogfish does occur, however. Recreational landings by state for 2012 are provided in Table 6 below.

Table 10. Recreational landings (lb) of spiny dogfish by state for 2012.

State	Landings (lb)	Pct of Total
NEW JERSEY	10,146	35.3%
MASSACHUSETTS	8,228	28.6%
NEW HAMPSHIRE	4,430	15.4%
MAINE	3,015	10.5%
RHODE ISLAND	1,409	4.9%
DELAWARE	733	2.5%
NORTH CAROLINA	712	2.5%
MARYLAND	90	0.3%
Total	28,763	100.0%

Source: Marine Recreational Information Program

6.1.3 Non-Target Species

Discards of non-target species in the directed spiny dogfish fishery are difficult to characterize since defining the directed fishery can be done a number of ways. Gear-specific landings data suggest that catch composition varies among gears and that some gear (e.g., bottom longline) are more likely to produce catches that are predominantly spiny dogfish, while other gear (e.g., bottom trawls) are characterized by a more diverse catch. Discards have been tabulated for observed trips in 2012 where any dogfish were retained and are summarized in Table 10. On gillnet trips, spiny dogfish comprised 59.34% of total observed discards, with other major discard species including winter skate (10.90%) and lobster (9.11%). All other species combined (81 spp) comprised 19.50% of total discards. On observed hook and line trips, a total of 12 species besides spiny dogfish were accounted for in the discards. Spiny dogfish comprised 63.71% of total discards, thorny skate comprised 13.61%, cod 11.47% and no other species comprised more than 5%. On observed trawl trips, unknown fish comprised 47.22% of discards, spiny dogfish 18.54%, and little skate 11.31% with a total of 58 other discard species.

Table 11. Discards associated with the dominant gear types used to harvest spiny dogfish in 2012 as reported in northeast fisheries observer program (NEFOP) data when spiny dogfish were landed.

Hook and Line			Gill Net, Sink			Trawl, Otter, Bottom		
Discard Species	**Discards (lb)**	**Pct Of Total for this Gear**	**Discard Species**	**Discards (lb)**	**Pct Of Total for this Gear**	**Discard Species**	**Discards (lb)**	**Pct Of Total for this Gear**
DOGFISH, SPINY [a,b]	5,402	63.71%	DOGFISH, SPINY [a,b]	113,381	59.34%	FISH, NK [n/a]	387,873	47.22%
SKATE, THORNY [a,d]	1,154	13.61%	SKATE, WINTER [a,b]	20,829	10.90%	DOGFISH, SPINY [a,b]	152,304	18.54%
COD, ATLANTIC [d,e]	973	11.47%	LOBSTER [a,b]	17,414	9.11%	SKATE, LITTLE [a,b]	92,923	11.31%
SKATE, WINTER [a,b]	262	3.09%	POLLOCK [a,b]	4,489	2.35%	SKATE, WINTER [a,b]	29,157	3.55%
HADDOCK [a,b,e*]	239	2.81%	SKATE, BARNDOOR [a,b]	4,473	2.34%	SKATE, BARNDOOR [a,b]	16,171	1.97%
SKATE, LITTLE [a,b]	205	2.41%	SKATE, LITTLE [a,b]	4,043	2.12%	SKATE, NK [n/a]	11,668	1.42%
WOLFFISH, ATL. [n/a]	122	1.44%	COD, ATLANTIC [d,e]	3,400	1.78%	SKATE, THORNY [a,d]	11,531	1.40%
OTHER (6 sp.)	123	1.46%	SKATE, LITTLE [a,b]	3,294	1.72%	BUTTERFISH [a,b]	10,747	1.31%
			RAVEN, SEA	2,846	1.49%	LOBSTER [a,b]	8,478	1.03%
			OTHER (75 sp.)	16,916	8.85%	OTHER (52 sp.)	100,564	12.24%
Total	**8,479**	**100%**	**Total**	**191,086**	**100%**	**Total**	**821,416**	**100%**

[a] not overfished, [b] overfishing not occurring, [c] overfished vs. not overfished is unknown, [d] overfished, [e] overfishing is occurring, [f] overfishing unknown, [n/a] not applicable, *Overfishing for Gulf of Maine Haddock only
Source: Northeast Fishery Observer Program, 2nd Quarter 2013 NMFS Fish Stock Sustainability Index

6.2 Habitat (Including Essential Fish Habitat)

A description of the habitat associated with the spiny dogfish fishery is presented in Section 6.2 of Amendment 3 to the FMP (MAFMC 2014), and a brief summary of that information is given here. The impact of fishing on spiny dogfish habitat (and EFH) as well as the impact of the fishery on other species' habitats and EFH can also be found in Section 6.2 of Amendment 3. Potential impacts on habitat (including EFH) associated with the actions proposed in this specifications document are discussed in section 7.2.

6.2.1 Physical Environment

A report entitled "Characterization of Fishing Practices and the Marine Benthic Ecosystems of the Northeast U.S. Shelf, and an Evaluation of the Potential Effects of Fishing on Essential Fish Habitat" was developed by NMFS (Stevenson et al. 2004). The document provides additional descriptive information on the physical and biological features of regional subsystems and habitats in the Northeast Shelf Ecosystem. It also includes a description of fishing gears used in the NMFS Northeast region, maps showing the regional distribution of fishing activity by different gear types during 1995-2001, and a summary of gear impact studies published prior to 2002 that indicate how and to what degree fishing practices used in the NMFS Northeast region affect benthic habitats and species managed by the New England and Mid-Atlantic fishery management councils. It is available by request through the NMFS Northeast Regional Office or electronically at: http://www.nefsc.noaa.gov/nefsc/publications.

The Northeast Shelf Ecosystem has been described as 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 Gulf of Maine, Georges Bank, and Mid-Atlantic Bight are distinct subsystems within this region.

The Gulf of Maine is an enclosed coastal sea, characterized by relatively cold waters and deep basins, with a patchwork of 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 fast-moving currents. The Mid-Atlantic Bight is comprised of the sandy, relatively flat, gently sloping continental shelf from southern New England to Cape Hatteras, NC.

6.2.2Essential Fish Habitat (EFH)

The FMP is currently proposed to be amended to reflect the current scientific information on spiny dogfish EFH (MAFMC 2013). Additional information on spiny dogfish habitat requirements can be found in the documents titled, "Essential Fish Habitat Source Document: Spiny Dogfish, *Squalus acanthias*, Life History and Habitat Characteristics" (Stehlik 2007). Electronic versions of these source documents are available at the following website: http://www.nefsc.noaa.gov/nefsc/habitat/efh/.

The current EFH designations by life history stage for spiny dogfish as proposed in Amendment 3 are provided below.

Juveniles (male and female, <36 cm):
Pelagic and epibenthic habitats, primarily in deep water on the outer continental shelf and slope between Cape Hatteras and Georges Bank and in the Gulf of Maine, as depicted in Figure 5 [*in Amendment 3*]. Young are born mostly on the offshore wintering grounds from November to January, but newborns (neonates or "pups") are sometimes taken in the Gulf of Maine or southern New England in early summer.

Female Sub-Adults (36-79 cm):
Pelagic and epibenthic habitats throughout the region, as depicted in Figure 6 [*in Amendment 3*]. Sub-adult females are found over a wide depth range in full salinity seawater (32-35 ppt) where bottom temperatures range from 7 to 15°C. Sub-adult females are widely distributed throughout the region in the winter and spring when water temperatures are lower, but very few remain in the Mid-Atlantic area in the summer and fall after water temperatures rise above 15°C.

Male Sub-Adults (36-59 cm):
Pelagic and epibenthic habitats, primarily in the Gulf of Maine and on the outer continental shelf from Georges Bank to Cape Hatteras, as depicted in Figure 7 [*in Amendment 3*]. Sub-adult males are found over a wide depth range in full salinity seawater (32-35 ppt) where bottom temperatures range from 7 to 15°C. Sub-adult males are not as widely distributed over the continental shelf as the females and are generally found in deeper water. They are widely distributed throughout the region in the winter and spring when water temperatures are lower, but very few remain in the Mid-Atlantic area in the summer and fall after water temperatures rise above 15°C.

Female Adults:
Pelagic and epibenthic habitats throughout the region, as depicted in Figure 8 [*in Amendment 3*]. Adult females are found over a wide depth range in full salinity seawater (32-35 ppt) where bottom temperatures range from 7 to 15°C. They are widely distributed throughout the region in the winter and spring when water temperatures are lower, but very few remain in the Mid-Atlantic area in the summer and fall after water temperatures rise above 15°C.

Male Adults:
Pelagic and epibenthic habitats throughout the region, as depicted in Figure 9 [*in Amendment 3*]. Adult males are found over a wide depth range in full salinity seawater (32-35 ppt) where bottom temperatures range from 7 to 15°C. They are widely distributed throughout the region in the winter and spring when water temperatures are lower, but very few remain in the Mid-Atlantic area in the summer and fall after water temperatures rise above 15°C.

6.2.3 Fishery Impact Considerations

A baseline fishing effects analysis is provided in Amendment 3 to the FMP (MAFMC 2014). The evaluation of the habitat impacts of bottom otter trawls, gillnets, and longlines used in the commercial spiny dogfish fishery indicated that the baseline impact of the fishery was minimal and temporary in nature. Consequently, adverse effects of the spiny dogfish fishery on EFH did not need to be minimized. Since a combined 89.5% of spiny dogfish landings in fishing year 2012 were from gillnets (71.7 %) and longlines (17.8%), and trawl landings (10.4%) tend to be non-directed, the adverse impacts of the spiny dogfish fishery have continued to be minimal during 2012. Potential impacts on EFH of the proposed 2014 - 2015 commercial quotas are evaluated in Section 7.2 of this EA.

6.3 ESA Listed Species and MMPA Protected Species

There are numerous species that inhabit the environment within the Spiny Dogfish FMP management unit, and that therefore potentially occur in the operations area of the spiny dogfish fisheries, that 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. Seventeen species are classified as endangered or threatened under the ESA, three others are candidate species under the ESA, while the remainder is protected by the provisions of the MMPA.

6.3.1 Species Present in the Area

Table 8 lists the species, protected either by the ESA, the MMPA, or both, that may be found in the environment that would be utilized by the fishery. Table 12 also includes three candidate fish species as identified under the ESA. Candidate species are those petitioned species that are actively being considered for listing as endangered or threatened under the ESA, as well as those species for which NMFS has initiated an ESA status review that it has announced in the *Federal Register*.

Table 12. Species protected under the Endangered Species Act and Marine Mammal Protection Act that may occur in the operations area for the spiny dogfish fishery.

Species	Common name	Scientific Name	Status
Whales	Northern right whale	*Eubalaena glacialis*	Endangered
	Humpback whale	*Megaptera novaeangliae*	Endangered
	Fin whale	*Balaenoptera physalus*	Endangered
	Blue whale	*Balaenoptera musculus*	Endangered
	Sei whale	*Balaenoptera borealis*	Endangered
	Sperm whale	*Physeter macrocephalus*	Endangered
	Minke whale	*Balaenoptera acutorostrata*	Protected
	Risso's dolphin	*Grampus griseus*	Protected
	Long-finned pilot whale	*Globicephala melas*	Protected
	Short-finned pilot whale	*Globicephala macrorhynchus*	Protected
	Atlantic white-sided dolphin	*Lagenorhynchus acutus*	Protected
	Common dolphin	*Delphinus delphis*	Protected
	Bottlenose dolphin	*Tursiops truncatus*	Protected
	Harbor porpoise	*Phocoena phocoena*	Protected
	Spotted dolphin	*Stenella frontalis*	Protected
Pinnipeds	Harbor seal	*Phoca vitulina*	Protected
	Gray seal	*Halichoerus grypus*	Protected
	Hooded seal	*Cystophora cristata*	Protected
	Harp seal	*Phoca groenlandicus*	Protected
Sea Turtles	Leatherback	*Dermochelys coriacea*	Endangered
	Kemp's ridley	*Lepidochelys kempii*	Endangered
	Green[1]	*Chelonia mydas*	Threatened
	Hawksbill	*Eretmochelys imbricata*	Endangered
	Loggerhead[2]	*Caretta caretta*	Threatened
Fishes	Shortnose sturgeon	*Acipenser brevirostrum*	Endangered
	Atlantic salmon	*Salmo salar*	Endangered
	Smalltooth sawfish	*Pristis pectinata*	Endangered
	Atlantic sturgeon[3]	*Acipenser oxyrinchus*	Endangered; Threatened
	Cusk	*Brosme brosme*	Candidate
	Dusky Shark	*Carcharhinus obscurus*	Candidate

A status review for Atlantic sturgeon was completed in 2007 which indicated that five distinct population segments (DPS) of Atlantic sturgeon exist in the United States (ASSRT 2007). On October 6, 2010, NMFS proposed listing these five DPSs of Atlantic sturgeon along the U.S.

[1] Florida & Mexico's Pacific coast breeding populations are endangered; populations in all other areas listed as threatened.
[2] Northwest Atlantic distinct population segment (DPS) of loggerhead turtles.
[3] The Gulf of Maine DPS is listed as threatened, while the New York Bight, Chesapeake Bay, Carolina, and South Atlantic populations are listed as endangered.

East Coast as either threatened or endangered species (75 FR 61872 and 75 FR 61904). A final listing was published on February 6th, 2012 (77 FR 5880 and 75 FR 5914). The GOM DPS of Atlantic sturgeon has been listed as threatened, and the New York Bight, Chesapeake Bay, Carolina, and South Atlantic DPSs of Atlantic sturgeon have been listed as endangered. Atlantic sturgeon from any of the five DPSs could occur in areas where the dogfish fishery operates. Atlantic sturgeon have been captured in small mesh otter trawl gear, albeit less often than in large mesh otter trawl gear (Stein et al. 2004a, ASMFC 2007).

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. 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).

6.3.2 Species Potentially Affected by the Spiny Dogfish Fishery

The spiny dogfish fishery has the potential to affect the sea turtle, cetacean, and pinniped species discussed below. A number of documents contain 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 bottom longlines). These documents include sea turtle status reviews and biological reports (NMFS and USFWS 1995; Turtle Expert Working Group 1998, 2000, 2007, 2009; NMFS and USFWS 2007a, 2007b, 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. 1995---2011), and other publications (e.g., Clapham et al. 1999, Perry et al. 1999, Best et al. 2001, Perrin et al. 2002).

6.3.2.1 Sea Turtles

Loggerhead, leatherback, Kemp's ridley, and green sea turtles occur seasonally in southern New England and Mid-Atlantic continental shelf waters north of Cape Hatteras, North Carolina. Turtles generally 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). A reversal of this trend occurs in the fall when water temperatures cool. Turtles pass Cape Hatteras by December and return 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 typically occur as far north as Cape Cod whereas the more cold-tolerant leatherbacks occur 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).

On March 16, 2010, NMFS and USFWS published a proposed rule (75 FR 12598) to divide the worldwide population of loggerhead sea turtles into nine DPSs, as described in the 2009 Status Review. Two of the DPSs were proposed to be listed as threatened and seven of the DPSs,

including the Northwest Atlantic Ocean DPS, were proposed to be listed as endangered. NMFS and the USFWS accepted comments on the proposed rule through September 13, 2010 (June 2, 2010, 75 FR 30769). On March 22, 2011 (76 FR 15932), NMFS and USFWS extended the date by which a final determination on the listing action will be made to no later than September 16, 2011. This action was taken to address the interpretation of the existing data on status and trends and its relevance to the assessment of risk of extinction for the Northwest Atlantic Ocean DPS, as well as the magnitude and immediacy of the fisheries bycatch threat and measures to reduce this threat. New information or analyses to help clarify these issues were requested by April 11, 2011.

On September 22, 2011, NMFS and USFWS issued a final rule (76 FR 58868), determining that the loggerhead sea turtle is composed of nine DPSs (as defined in Conant et al., 2009) that constitute species that may be listed as threatened or endangered under the ESA. Five DPSs were listed as endangered (North Pacific Ocean, South Pacific Ocean, North Indian Ocean, Northeast Atlantic Ocean, and Mediterranean Sea), and four DPSs were listed as threatened (Northwest Atlantic Ocean, South Atlantic Ocean, Southeast Indo-Pacific Ocean, and Southwest Indian Ocean). Note that the Northwest Atlantic Ocean (NWA) DPS and the Southeast Indo-Pacific Ocean DPS were original proposed as endangered. The NWA DPS was determined to be threatened based on review of nesting data available after the proposed rule was published, information provided in public comments on the proposed rule, and further discussions within the agencies. The two primary factors considered were population abundance and population trend. NMFS and USFWS found that an endangered status for the NWA DPS was not warranted given the large size of the nesting population, the overall nesting population remains widespread, the trend for the nesting population appears to be stabilizing, and substantial conservation efforts are underway to address threats.

The September 2011 final rule also noted that critical habitat for the two DPSs occurring within the U.S. (NWA DPS and North Pacific DPS) will be designated in a future rulemaking. Information from the public related to the identification of critical habitat, essential physical or biological features for this species, and other relevant impacts of a critical habitat designation was solicited.

This proposed action only occurs in the Atlantic Ocean. As noted in Conant et al. (2009), the range of the four DPSs occurring in the Atlantic Ocean are as follows: NWA DPS – north of the equator, south of 60° N latitude, and west of 40° W longitude; Northeast Atlantic Ocean (NEA) DPS – north of the equator, south of 60° N latitude, east of 40° W longitude, and west of 5° 36' W longitude; South Atlantic DPS – south of the equator, north of 60° S latitude, west of 20° E longitude, and east of 60° W longitude; Mediterranean DPS – the Mediterranean Sea east of 5° 36' W longitude. These boundaries were determined based on oceanographic features, loggerhead sightings, thermal tolerance, fishery bycatch data, and information on loggerhead distribution from satellite telemetry and flipper tagging studies. Sea turtles from the NEA DPS are not expected to be present over the North American continental shelf in U.S. coastal waters, where the proposed action occurs (P. Dutton, NMFS, personal communication, 2011). Previous literature (Bowen et al. 2004) has suggested that there is the potential, albeit small, for some juveniles from the Mediterranean DPS to be present in U.S. Atlantic coastal foraging grounds. These data should be interpreted with caution however, as they may be representing a shared common haplotype and lack of representative sampling at Eastern Atlantic rookeries. Given that updated, more refined analyses are ongoing and the occurrence of Mediterranean DPS juveniles in U.S. coastal waters is rare and uncertain, if even occurring at all, for the purposes of this

assessment we are making the determination that the Mediterranean DPS is not likely to be present in the action area. Sea turtles of the South Atlantic DPS do not inhabit the action area of this subject fishery (Conant et al. 2009). As such, the remainder of this assessment will only focus on the NWA DPS of loggerhead sea turtles, listed as threatened.

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).

6.3.2.2 Large Cetaceans

The most recent Marine Mammal Stock Assessment Report (SAR) (Waring et al. 2010) reviewed the current population trend for each of these cetacean species within U.S. Economic Exclusion Zone (EEZ) waters. The SAR also estimated annual human-caused mortality and serious injury. Finally, it described the commercial fisheries that interact with each stock in the U.S. Atlantic. The following paragraphs summarize information from the SAR.

The western North Atlantic baleen whale species (North Atlantic right, humpback, fin, sei, and minke whales) follow a general annual pattern of migration. They migrate from high latitude summer foraging grounds, including the Gulf of Maine and Georges Bank, to and latitude winter calving grounds (Perry et al. 1999, Kenney 2002). However, this is a simplification of species movements as the complete winter distribution of most species is unclear (Perry et al. 1999, Waring et al. 2011). 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). Blue whales are most often sighted along the east coast of Canada, particularly in the Gulf of St. Lawrence. They occur only infrequently within the U.S. EEZ (Waring et al. 2002).

Available information suggests that the North Atlantic right whale population increased at a rate of 1.8 percent per year between 1990 and 2005. The total number of North Atlantic right whales is estimated to be at least 361 animals in 2005 (Waring et al. 2011). The minimum rate of annual human-caused mortality and serious injury to right whales averaged 2.8 mortality or serious injury incidents per year during 2004 to 2008 (Waring et al. 2011). Of these, fishery interactions resulted in an average of 0.8 mortality or serious injury incidents per year.

The North Atlantic population of humpback whales is conservatively estimated to be 7,698 (Waring et al. 2011). The best estimate for the GOM stock of humpback whale population is 847 whales (Waring et al. 2011). Based on data available for selected areas and time periods, the minimum population estimates for other western North Atlantic whale stocks are 3,269 fin whales, 208 sei whales (Nova Scotia stock), 3,539 sperm whales, and 6,909 minke whales (Waring et al. 2009). Current data suggest that the GOM humpback whale stock is steadily

increasing in size (Waring 2011). Insufficient information exists to determine trends for these other large whale species.

Recent revisions to the Atlantic Large Whale Take Reduction Plan (ALWTRP) (72 FR 57104, October 5, 2007) continue to address entanglement risk of large whales (right, humpback, and fin whales, and acknowledge benefits to minke whales) in commercial fishing gear. The revisions seek to reduce the risk of death and serious injury from entanglements that do occur.

6.3.2.3 Small Cetaceans

There is anthropogenic mortality of numerous small cetacean species (dolphins, pilot whales, and harbor porpoise) in spiny dogfish fishing gear. Seasonal abundance and distribution of each species off the coast of the Northeast U.S. varies with respect to life history characteristics. Some species such as white-sided dolphin and harbor porpoise primarily occupy continental shelf waters. Other species such as the Risso's dolphin occur primarily in continental shelf edge and slope waters. Still other species like the common dolphin and the spotted dolphin occupy all three habitats. Waring et al. (2009) summarizes information on the western North Atlantic stocks of each species.

6.3.2.4 Pinnipeds

Harbor seals have the most extensive distribution of the four species of seal expected to occur in the area. Harbor seals sighting have occurred 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. They occur primarily in waters off of 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. Although there are at least three gray seal pupping colonies in U.S., the majority of harbor seal pupping likely occurs in U.S. waters and the majority of gray seal pupping likely occurs in Canadian waters. Observations of harp and hooded seals are less common in U.S. EEZ waters. Both species form aggregations for pupping and breeding off eastern Canada in the late winter/early spring. They then travel to more northern latitudes for molting and summer feeding (Waring et al. 2006). Both species have a seasonal presence in U.S. waters from Maine to New Jersey, based on sightings, stranding, and fishery bycatch information (Waring et al. 2009).

6.3.2.5 Atlantic Sturgeon

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 subadult 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 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 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.

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 863 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 subadults and early life stages).

Since the ESA listing of Atlantic sturgeon, new stock assessment efforts have been completed (Kocik et al. 2013). Atlantic sturgeon are frequently sampled during the Northeast Area Monitoring and Assessment (NEAMAP) survey. NEAMAP has been conducting trawl surveys from Cape Cod, Massachusetts to Cape Hatteras, North Carolina in nearshore waters at depths to 18.3 meters (60 feet) during the fall since 2007 and depths up to 36.6 meters (120 feet) during the spring since 2008 using a spatially stratified random design with a total of 35 strata and 150 stations per survey. The information from this survey can be directly used to calculate minimum swept area population estimates during the fall, which range from 6,980 to 42,160 with coefficients of variation between 0.02 and 0.57 and during the spring, which range from 25,540 to 52,990 with coefficients of variation between 0.27 and 0.65. These are considered minimum estimates because the calculation makes the unlikely assumption that the gear will capture 100% of the sturgeon in the water column along the tow path. Efficiencies less than 100% will result in estimates greater than the minimum. The true efficiency depends on many things including the availability of the species to the survey and the behavior of the species with respect to the gear. True efficiencies much less than 100% are common for most species. The 50% efficiency assumption seems to reasonably account for the robust, yet not complete sampling of the Atlantic sturgeon oceanic temporal and spatial ranges and the documented high rates of encounter with NEAMAP survey gear and Atlantic sturgeon. For this analysis, we have determined that the best available data at this time are the population estimates derived from NEAMAP swept area biomass. We have determined that using the median value of the 50% efficiency as the best estimate of the Atlantic sturgeon ocean population is most appropriate at this time. This results in a total population size estimate of 67,776 fish, which is considerably higher than the estimates that were available at the time of listing (Kocik et al. 2013).

6.3.2.6 Species Not Likely to be Affected

NMFS has determined that the action being considered in this EA is not likely to adversely affect shortnose sturgeon, the Gulf of Maine distinct population segment (DPS) of Atlantic salmon, hawksbill sea turtles, blue whales, or sperm whales, all of which are listed as endangered species

under the ESA. Further, the action considered in this EA is not likely to adversely affect North Atlantic right whale critical habitat. The following discussion provides the rationale for these determinations.

Shortnose sturgeon are benthic fish that mainly occupy the deep channel sections of large rivers. They occupy rivers along the western Atlantic coast from St. Johns River in Florida, to the Saint John River in New Brunswick, Canada. Although, the species is possibly extirpated from the Saint Johns River system. 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 spiny dogfish fishery would not operate in or near the rivers where concentrations of shortnose sturgeon are most likely found, it is highly unlikely that sectors would affect shortnose sturgeon.

The wild populations of Atlantic salmon are listed as endangered under the ESA. Their freshwater range occurs in the watersheds from the Androscoggin River northward along the Maine coast to the Dennys River. Juvenile salmon in New England rivers typically migrate to sea in spring after a one- to three-year period of development in freshwater streams. They remain at sea for two winters before returning to their U.S. natal rivers to spawn (Kocik and Sheehan 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, Knox, and Stokesbury 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 will affect the Gulf of Maine DPS of Atlantic salmon given that operation of the dogfish fishery does not occur in or near the rivers where concentrations of Atlantic salmon are likely to be found. Additionally, dogfish gear operates in the ocean at or near the bottom rather than near the surface where Atlantic salmon are likely to occur. Thus, this species will not be considered further in this EA.

North Atlantic right whales occur in coastal and shelf waters in the western North Atlantic (NMFS 2005). Section 4.4.2.2 discusses potential fishery entanglement and mortality interactions with North Atlantic right whale individuals. The western North Atlantic population in the U.S. primarily ranges from winter calving and nursery areas in coastal waters off the southeastern U.S. to summer feeding grounds in New England waters (NMFS 2005). North Atlantic Right Whales use five well-known habitats annually, including multiple in northern waters. These northern areas include the Great South Channel (east of Cape Cod); Cape Cod and Massachusetts Bays; the Bay of Fundy; and Browns and Baccaro Banks, south of Nova Scotia. NMFS designated the Great South Channel and Cape Cod and Massachusetts Bays as Northern Atlantic right whale critical habitat in June 1994 (59 FR 28793). NMFS has designated additional critical habitat in the southeastern U.S. Dogfish gear operates in the ocean at or near the bottom rather than near the surface. It is not known whether the bottom-trawl, or any other type of fishing gear, has an impact on the habitat of the Northern right whale (59 FR 28793). Further, mesh sizes used in the dogfish fishery do not significantly impact the Northern right whale's planktonic food supply (59 FR 28793). Therefore, Northern right whale food sources in areas designated as critical habitat would not be adversely affected by sectors. For these reasons, Northern right whale critical habitat 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). Operations in the spiny dogfish fishery would not occur in waters that are typically used by hawksbill sea turtles. Therefore, it is highly unlikely that fishery 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 region, blue whales are most frequently sighted from April to January (Sears 2002). No blue whales were observed during the Cetacean and Turtle Assessment Program surveys of the mid- and North Atlantic areas of the outer continental shelf (Cetacean and Turtle Assessment Program 1982). Calving for the species occurs in low latitude waters outside of the area where the sectors would operate. Blue whales feed on euphausiids (krill) that are too small to be captured in fishing gear. There were no observed fishery-related mortalities or serious injuries to blue whales between 1996 and 2000 (Waring et al. 2002). The species is unlikely to occur in areas where the sectors would operate, and sector operations would not affect the availability of blue whale prey or areas where calving and nursing of young occurs. Therefore, the Proposed Action would not be likely to adversely affect blue whales.

Unlike blue whales, sperm whales do regularly occur in waters of the U.S. EEZ. However, the distribution of the sperm whales in the U.S. EEZ occurs on the continental shelf edge, over the continental slope, and into mid-ocean regions (Waring et al. 2007). Sperm whale distribution is typically concentrated east-northeast of Cape Hatteras in winter and shifts northward in spring when whales are found throughout the MA Bight (Waring et al. 2006). Distribution extends further northward to areas north of GB and the Northeast Channel region in summer and then south of New England in fall, back to the MA Bight (Waring et al. 1999). In contrast, the sectors would operate in continental shelf waters. The average depth over which sperm whale sightings occurred during the Cetacean and Turtle Assessment Program surveys was 5,879 ft (1,792 m) (Cetacean and Turtle Assessment Program 1982). Female sperm whales and young males almost always inhabit open ocean, deep water habitat with bottom depths greater than 3,280 ft (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 were no observed fishery-related mortalities or serious injuries to sperm whales between 2001 and 2005 (Waring et al. 2007). Sperm whales are unlikely to occur in water depths where the sectors would operate, sector operations would not affect the availability of sperm whale prey or areas where calving and nursing of young occurs. Therefore, the Proposed Action would not be likely to adversely affect sperm whales.

Although marine turtles and large whales could be potentially affected through interactions with fishing gear, NMFS has determined that the continued authorization of the spiny dogfish fishery, would not have any adverse effects on the availability of prey for these species. Sea turtles feed on a variety of plants and animals, depending on the species. However, none of the turtle species are known to feed upon groundfish. Right whales and sei whales feed on copepods (Horwood 2002, Kenney 2002). The spiny dogfish fishery will not affect the availability of copepods for foraging right and sei whales because copepods are very small organisms that will pass through fishing gear rather than being captured in it. Humpback whales and fin whales also feed on krill as well as small schooling fish such as sand lance, herring and mackerel (Aguilar 2002, Clapham 2002). Spiny dogfish fishing gear operates on or very near the bottom. Fish species caught in bottom gear are species that live in benthic habitat (on or very near the bottom) such as flounders. As a result, this gear does not typically catch schooling fish such as herring and mackerel that occur within the water column. Therefore, the continued authorization of the spiny

dogfish fishery or the approval of the FY 2012 Spiny Dogfish FMP specifications will not affect the availability of prey for foraging humpback or fin whales.

6.3.3 Interactions Between Gear and Protected Resources

NMFS categorizes commercial fisheries based on a two-tiered, stock-specific fishery classification system that addresses both the total impact of all fisheries on each marine mammal stock as well as the impact of individual fisheries on each marine mammal stock. NMFS bases the system on the numbers of animals per year that incur incidental mortality or serious injury due to commercial fishing operations relative to a marine mammal stock's Potential Biological Removal (PBR) level.[4] Tier 1 takes into account the cumulative mortality and serious injury to marine mammals caused by commercial fisheries. Tier 2 considers marine mammal mortality and serious injury caused by the individual fisheries. This EA uses Tier 2 classifications to indicate how each type of gear proposed for use in the Proposed Action may affect marine mammals (NMFS 2009b). Table 13 identifies the classifications used in the final List of Fisheries for FY 2013 (78 FR 53336; August 29, 2013) , which are broken down into Tier 2 Categories I, II, and III.

Table 13. Descriptions of the Fishery Classification Categories

Category	Category Description
Category I	A commercial fishery that has frequent incidental mortality and serious injury of marine mammals. This classification indicates that a commercial fishery is, by itself, responsible for the annual removal of 50 percent or more of any stock's PBR level.
Category II	A commercial fishery that has occasional incidental mortality and serious injury of marine mammals. This classification indicates that a commercial fishery is one that, collectively with other fisheries, is responsible for the annual removal of more than 10 percent of any marine mammal stock's PBR level and that is by itself responsible for the annual removal of between 1 percent and 50 percent, exclusive of any stock's PBR.
Category III	A commercial fishery that has a remote likelihood of, or no known incidental mortality and serious injury of marine mammals. This classification indicates that a commercial fishery is one that collectively with other fisheries is responsible for the annual removal of: a. Less than 50 percent of any marine mammal stock's PBR level, or b. More than 1 percent of any marine mammal stock's PBR level, yet that fishery by itself is responsible for the annual removal of 1 percent or less of that stock's PBR level. In the absence of reliable information indicating the frequency of incidental mortality and serious injury of marine mammals by a commercial fishery, the Assistant Administrator would determine whether the incidental serious injury or mortality is "remote" by evaluating other factors such as fishing techniques, gear used, methods used to deter marine mammals, target species, seasons and areas fished, qualitative data from logbooks or fisher reports, stranding data, and the species and distribution of marine mammals in the area or at the discretion of the Assistant Administrator.

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 inadvertent interactions with fishing gear when the fishermen deploy gear in areas used by

[4] PBR is the maximum number of animals, not including natural mortalities, which may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population.

protected resources. 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 spiny dogfish fishery through the year. Many large and small cetaceans and sea turtles are more prevalent within the operations area during the spring and summer. However they are also relatively abundant during the fall and would have a higher potential for interaction with sector activities that occur during these seasons. 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 these seasons.

Although interactions between protected species and gear deployed by the spiny dogfish fishery would vary, interactions generally include:

- Becoming caught on hooks (bottom longlines)
- Entanglement in mesh (gillnets and trawls)
- Entanglement in the float line (gillnets and trawls)
- Entanglement in the groundline (gillnets, trawls, and bottom longlines)
- Entanglement in anchor lines (gillnets and bottom longlines), or
- Entanglement in the vertical lines that connect gear to the surface and surface systems (gillnets, traps/pots, and bottom longlines).

NMFS assumes the potential for entanglements to occur is higher in areas where more gear is set and in areas with higher concentrations of protected species.

Table 14 lists the marine mammals known to have had interactions with gear used by the spiny dogfish fishery. This gear includes sink gillnets, bottom trawls, and hook gear within the Greater Atlantic Region, as excerpted from the List of Fisheries for FY 2013 ([78 FR 53336; August 29, 2013], also see Waring et al. 2009). Sink gillnets have the greatest potential for interaction with protected resources, followed by bottom trawls. There are no observed reports of interactions between longline gear and marine mammals in the past five years. However, interactions between the pelagic longline fishery and both pilot whales and Risso's dolphins led to the development of the Pelagic Longline Take Reduction Plan.

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Table 14. Marine Mammals Impacts Based on Groundfishing Gear and Spiny Dogfish Fishing Areas (Based on 2013 List of Fisheries)

Fishery		Estimated Number of Vessels/Persons	Marine Mammal Species and Stocks Incidentally Killed or Injured
Category	Type		
Category I	MA gillnet	5,509	Bottlenose dolphin, Northern Migratory coastal.[1] Bottlenose dolphin, Southern Migratory coastal.[1] Bottlenose dolphin, Northern NC estuarine system.[1] Bottlenose dolphin, Southern NC estuarine system.[1] Bottlenose dolphin, WNA offshore. Common dolphin, WNA. Gray seal, WNA. Harbor porpoise, GME/BF. Harbor seal, WNA. Harp seal, WNA. Humpback whale, Gulf of Maine. Long-finned pilot whale, WNA. Minke whale, Canadian east coast. Risso's dolphin, WNA. Short-finned pilot whale, WNA White-sided dolphin, WNA.
	Northeast sink gillnet	4,375	Bottlenose dolphin, WNA offshore. Common dolphin, WNA. Fin whale, WNA. Gray seal, WNA. Harbor porpoise, GME/BF.[1] Harbor seal, WNA. Harp seal, WNA. Hooded seal, WNA. Humpback whale, Gulf of Maine. Long-finned Pilot whale, WNA. Minke whale, Canadian east coast. North Atlantic right whale, WNA. Risso's dolphin, WNA. Short-finned Pilot whale White-sided dolphin, WNA.
Category II	Mid-Atlantic bottom trawl	631	White-sided dolphin, WNA. Bottlenose dolphin, WNA offshore. Common dolphin, WNA.[1] Gray seal, WNA. Harbor seal, WNA. Long-finned pilot whale, WNA.[1] Risso's dolphin, WNA.[1] Short-finned pilot whale, WNA.[1] White-sided dolphin, WNA.
	Northeast bottom trawl	2,987	Bottlenose dolphin, WNA offshore. Common dolphin, WNA. Gray seal, WNA. Harbor porpoise, GME/BF. Harbor seal, WNA. Harp seal, WNA. Long-finned pilot whale, WNA. Minke whale, Canadian East Coast. Short-finned pilot whale, WNA. White-sided dolphin, WNA
Category III	Northeast/Mid-Atlantic bottom longline/hook-and-line	>1,207	None documented.

Notes:

[1] Fishery classified based on serious injuries and mortalities of this stock, which are greater than 50 percent (Category I) or greater than 1 percent and less than 50 percent (Category II) of the stock's PBR.

Marine mammals are taken in gillnets, trawls, and hook gear used in the spiny dogfish fishery. Documented protected species interactions in Mid-Atlantic gillnet and Northeast sink gillnet fisheries are provided in Table 14. Spiny dogfish vessels would be required to adhere to measures in the Atlantic Large Whale Take Reduction Plan (ALWTRP) to minimize potential impacts to certain cetaceans. ALWTRP was developed to address entanglement risk to right, humpback, and fin whales, and to acknowledge benefits to Minke whales in specific Category I or II commercial fishing with gillnets. The ALWTRP calls for the use of gear markings, area restrictions, weak links, and sinking groundlines. Spiny dogfish vessels would also need to comply with the Bottlenose Dolphin Take Reduction Plan and Harbor Porpoise Take Reduction Plan (HPTRP). The Bottlenose Dolphin Take Reduction Plan restricts night time use of gillnets in the MA gillnet region. The HPTRP aims to reduce interactions between the harbor porpoise and gillnets in the Northeast Region. The HPTRP implements seasonal area closures, gear modifications and the seasonal use of pingers (acoustic devices that emit a sound) to deter harbor porpoises from approaching the nets.

Data from spiny dogfish trips from 2008-2012 indicate no overall significant increase in take of protected resources or sea turtles. On an annual basis, an average of 0.8 harbor porpoise (min 0 max 2) and 1.0 harbor seal (min 0 max 2) entanglements were observed annually.
Sea turtles have been caught and injured or killed in multiple types of fishing gear, including gillnets, trawls, and hook and line gear. However, impact due to inadvertent interaction with trawl gear is almost twice as likely to occur when compared with other gear types (NMFS 2009c). Interaction with trawl gear is more detrimental to sea turtles as they can be caught within the trawl itself and will drown after extended periods underwater. A study conducted in the MA region showed that bottom trawling accounts for an average annual take of 616 loggerhead sea turtles, although Kemp's ridleys and leatherbacks were also caught during the study period (Murray 2006). Gillnets are considered more detrimental to marine mammals such as pilot whales, dolphins, porpoises, and seals, as well as large marine whales; however, protection for marine mammals would be provided through various Take Reduction Plans outlined above.

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, preliminary analysis, the Northeast Fisheries 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 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. At this time, data were limited to information collected by the NEFOP; limited data collected in the At-Sea Monitoring Program were not included, although preliminary views suggest the incidence of sturgeon encounters was low.

The preliminary analysis apportioned the estimated weight of all sturgeon takes to specific fishery management plans. The analysis estimates that between 2006 and 2010, a total of 15,587 lbs of Atlantic sturgeon were captured and discarded in bottom otter trawl (7,740 lbs) and sink gillnet (7,848 lbs) gear. The analysis results indicate that 7.1% (550 lbs) of the weight of sturgeon discards in bottom otter trawl gear could be attributed to the large mesh bottom trawl fisheries if a correlation of FMP species landings (by weight) was used as a proxy for fishing effort. Additionally, the analysis results indicate that 4.0% (314 lbs) of the weight of sturgeon discards in sink gillnet gear could be attributed to the large mesh gillnet fisheries if a correlation of FMP species landings (by weight) was used as a proxy for fishing effort.

These additional data support the conclusion from the earlier bycatch estimates that the spiny dogfish fishery may interact with Atlantic sturgeon. A Biological Opinion (NMFS 2013a) was issued on December 16, 2013 and concluded that the spiny dogfish.fishery may adversely affect, but is not likely to jeopardize the continued existence of any of the five DPSs of Atlantic sturgeon. The Biological Opinion included reasonable and prudent measures, as well as terms and conditions which will further reduce impacts to Atlantic sturgeon..

6.4 Human Communities

A detailed description of historical fisheries for spiny dogfish is presented in Section 2.3 of the FMP. The information presented in this section is intended to briefly characterize recent fisheries trends.

6.4.1 Commercial Vessel and Dealer Activity

According to unpublished NMFS permit file data, 2,666 vessels were issued federal spiny dogfish permits in 2012, while 408 of these vessels contributed to overall landings. The distribution of permitted and active vessels by home port state is given in Table 14. Most of the active vessels were from Massachusetts (36.27%), New Jersey (15.93%), and Rhode Island (12.50%).

Table 15. Federally permitted dogfish vessel activity by home port state in FY2012. Active vessels are defined as vessels identified in the dealer reports as having landed spiny dogfish in FY2012.

State	Permitted Vessels	Pct of Total	State	Active Vessels	Pct of Total
MA	976	36.61%	MA	148	36.27%
NJ	402	15.08%	NJ	65	15.93%
ME	288	10.80%	RI	51	12.50%
NY	268	10.05%	NY	36	8.82%
RI	176	6.60%	VA	29	7.11%
NC	150	5.63%	NH	26	6.37%
VA	128	4.80%	MD	17	4.17%
NH	124	4.65%	ME	15	3.68%
CT	51	1.91%	NC	11	2.70%
MD	42	1.58%	CT	8	1.96%
DE	29	1.09%	Other	2	0.49%
PA	18	0.68%	Total	408	100.00%
FL	10	0.38%			
Other	4	0.15%			
Total	2,666	100.00%			

Source: NMFS permit data, Commercial Fisheries Database

NMFS permit data indicate that 317 dealers possessed federal spiny dogfish dealer permits in 2012 while dealer reports indicate 77 of those dealers actually bought spiny dogfish. The distribution of permitted and active dealers by state is given in Table 15. Most of the active dealers were from the states of Massachusetts (28.57%), New York (16.88%), North Carolina (15.58%), and Rhode Island (14.29%).

Table 16. Federally permitted spiny dogfish dealers by state in FY2012. Active dealers are defined as dealers identified in the federal dealer reports as having bought spiny dogfish in FY2012.

State	Permitted Dealers	Pct of Total	State	Active Dealers	Pct of Total
MA	89	28.08%	MA	22	28.57%
NY	65	20.50%	NY	13	16.88%
NJ	42	13.25%	NC	12	15.58%
RI	37	11.67%	RI	11	14.29%
NC	23	7.26%	NJ	5	6.49%
VA	19	5.99%	VA	5	6.49%
ME	18	5.68%	ME	3	3.90%
NH	8	2.52%	Other	6	7.79%
MD	7	2.21%	Total	77	100.00%
PA	3	0.95%			
Other	6	1.89%			
Total	317	100.00%			

Landings by State

Commercial harvest has historically been dominated by Massachusetts (Table 16). Starting in 2007, dogfish landings from Virginia were greater than or approximately equivalent to those of Massachusetts. State-by-state landings since 2007 are influenced by the regional allocation of commercial quota through the ASMFC's Interstate FMP. Currently, that FMP allocates 58% of the annual quota to a northern region (Maine –Connecticut), and the remaining 42% among states from New York – North Carolina (NY 2.707%; NJ 7.644%; DE 0.896%; MD 5.920%; VA 10.795%, NC 14.036%).

In fishing year 2012, Massachusetts accounted for 49.56% of coastwide landings. Virginia (11.79%), North Carolina (11.72%), New Jersey (6.79%), New Hampshire (6.68%), Rhode Island (6.05%) were also important landings states. No other states contributed more than 5% of annual landings.

Table 17. Commercial landings (1,000s lb) of spiny dogfish by state from fishing years 1989 through 2012.

Year	ME	NH	MA	RI	CT	NY	NJ	DE	MD	VA	NC	Total
1989	4,962	0	5,100	47	24	13	1,434	0	714	18	0	9,903
1990	6,251	185	20,304	2,968	9	44	4,754	0	5,150	62	41	32,475
1991	2,059	0	13,523	1,901	22	74	2,382	6	3,338	165	1,463	29,049
1992	1,818	405	17,457	2,116	9	140	1,493	0	1,877	220	8,635	37,165
1993	3,408	1,639	26,189	1,554	170	100	707	0	1,893	379	8,806	45,509
1994	1,788	2,610	23,181	603	85	475	1,422	63	2,233	665	6,929	41,447
1995	1,683	2,094	28,789	414	408	815	2,581	0	7,752	1,065	9,525	50,068
1996	904	1,135	27,208	1,518	619	1,381	5,833	0	4,820	4,832	10,304	60,055
1997	437	999	21,417	682	282	312	3,831	0	2,105	3,945	5,924	40,460
1998	288	1,935	24,866	1,906	241	1,704	7,091	2	2,199	5,004	3,928	45,476
1999	28	1,233	14,824	1,237	87	2,868	6,586	0	808	1,750	3,601	32,760
2000	1	2,279	5,545	130	12	145	5	0	0	72	12	20,407
2001	0	529	3,912	395	7	62	17	0	0	178	0	5,056
2002	1	349	3,800	455	6	49	1	0	2	114	0	4,839
2003	0	175	2,006	141	2	41	0	0	5	451	520	2,579
2004	3	0	1,094	129	60	42	7	0	1	39	20	2,160
2005	31	162	1,826	173	93	44	1	0	11	66	10	2,535
2006	180	633	2,744	518	62	11	3	0	16	2,286	144	5,212
2007	99	185	2,796	523	23	21	10	0	25	2,575	167	7,723
2008	49	1,370	3,559	239	10	23	50	0	114	2,479	1,416	9,057
2009	594	1,885	3,881	940	92	192	1,342	14	175	1,487	1,708	11,752
2010	229	1,214	6,442	708	107	468	1,208	8	542	1,731	1,887	14,543
2011	349	1,526	9,069	1,265	187	407	1,628	31	1,265	2,237	2,177	20,140
2012	227	1,815	13,253	1,619	161	308	1,787	13	1,270	3,152	3,135	26,739

Source: NMFS Commercial Fisheries Database.

Landings by Month

Previously, under the federal FMP, the annual commercial quota was allocated seasonally to two half-year periods. Period 1 (May 1 – Oct 31) was allocated 57.9% of the quota and Period 2 was allocated 42.1% of the quota. This allocation scheme was implemented during rebuilding in order to match seasonal availability of the resource with the historic geographic landings patterns. Spiny dogfish migratory behavior generally makes them available to the northern end of the fishery (i.e., MA) during Period 1 and the southern end of the fishery (i.e., (VA and NC) during Period 2. In fishing year 2012, spiny dogfish were landed in all months with peak landings occurring in July-September (Table 17).

Table 18. Spiny dogfish landings (lb) by month in FY2012.

Month	Landings(lb)	Pct of Total
May	634,757	2.37%
Jun	1,453,669	5.43%
Jul	3,773,953	14.10%
Aug	3,830,129	14.31%
Sep	4,153,917	15.52%
Oct	2,059,634	7.70%
Nov	2,297,278	8.58%
Dec	2,436,100	9.10%
Jan	1,875,335	7.01%
Feb	1,563,377	5.84%
Mar	1,698,365	6.35%
Apr	985,608	3.68%
Total	26,762,122	100.00%

Source: NMFS Commercial Fisheries Database

6.4.2 Commercial Fishery Value

Unpublished NMFS dealer reports indicate that the total ex-vessel value of commercially landed spiny dogfish in in fishing year 2012 was about $5.277 million and the approximate price/lb of spiny dogfish $0.20 (Table 18).

Table 19. Ex-vessel value and price per pound of commercially landed spiny dogfish, Maine - North Carolina combined, 2000-2012.

Fishing Year	Value ($1,000)	Price ($/lb)
2000	1,989	0.24
2001	1,147	0.23
2002	970	0.20
2003	415	0.12
2004	260	0.17
2005	545	0.21
2006	1,434	0.22
2007	1,360	0.20
2008	2,157	0.24
2009	2,360	0.22
2010	3,119	0.21
2011	4,434	0.22
2012	5,277	0.20

Source: NMFS Commercial Fisheries Database

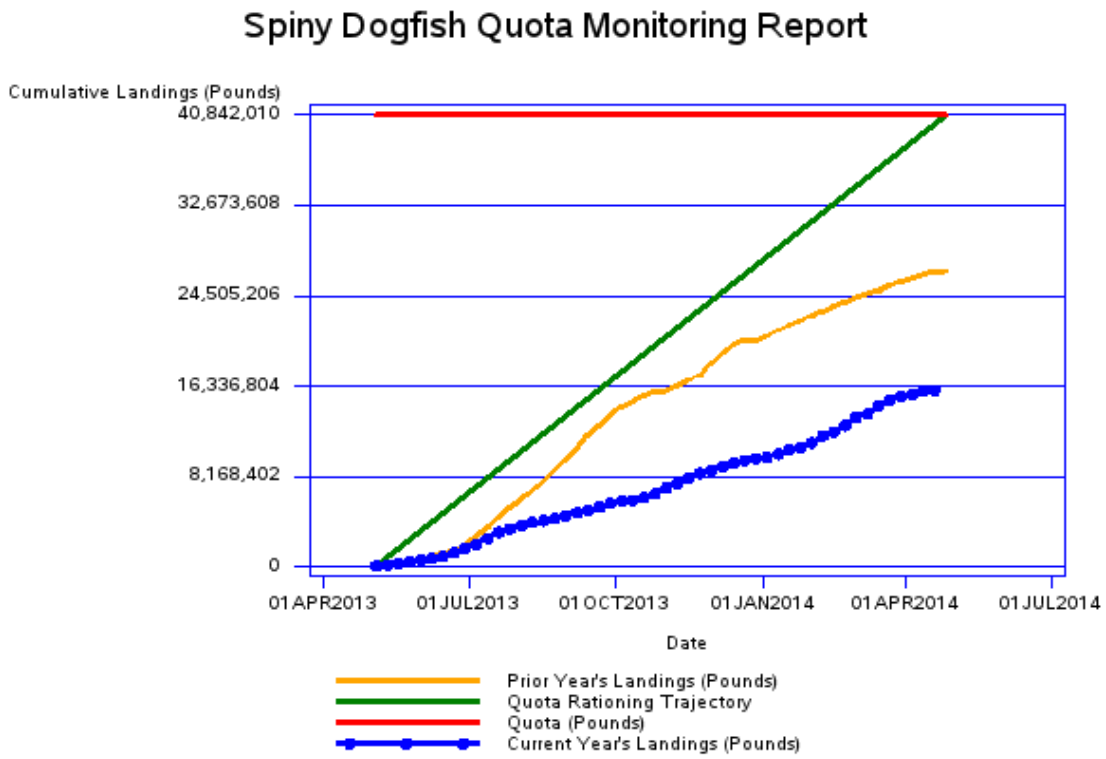
In FY2012, 220 vessels with federal dogfish permits were reported in the dealer data to have had dogfish revenues greater than 5% of total revenue (dogfish revenue range $22 to 90,336, average = $17,829; average dogfish rev / total rev = 42.1%).

6.4.3 Special Note on the 2013 Fishing Year

Although the 2013 fishing year is not complete (at the time of this draft), there are landings and value trends that are worth noting. If export market conditions do not change, then the fishery is expected to land about 40% (~17 M lb) of the 40.842 M lb commercial quota when the 2013 fishing year ends April 30, 2014. The following excerpt is taken from the Spiny Dogfish Advisory Panel's Fishery Performance Report (the complete report is included as an attachment):

> Market Demand Controlling Landings
> The market for dogfish is currently very depressed with ex-vessel prices of about $0.12/lb compared to a typical prices $0.22/lb. Market conditions were described as explaining 100% of landings levels, i.e., the availability and abundance of the resource (nearshore or offshore) is not at all constraining right now. The low value of dogfish limits the extent to which fishermen are willing to retain dogfish as part of their offshore catch in preference of more valuable species.
>
> Constraints on Market Demand
> The primary market outlet for most of the processed spiny dogfish is the EU, so any perturbations in demand by that market greatly influence the rate at which domestic processors will accept the product. Whereas the processors typically accept dogfish seven days/week, they are now only accepting full or reduced dogfish limits a few days/week. There was an apparent PCB issue in the EU involving more conservative detection standards that has, at least, temporarily depressed that market. There is some hope that as the fresh market opens up (beginning of Sept) the issue may subside. Fishermen do not feel that the issue has been clearly defined or communicated to them. The impact of this event is especially disappointing to fishermen given that certification of the fishery by the Marine Stewardship Council was expected to improve the size and stability of the export market. It was noted that the Pacific spiny dogfish fishery is also currently very depressed.

This excerpt is included because the current state of the spiny dogfish export market relates directly to the potential for full exploitation of any increases in the commercial quota (Alternatives 1 and 2) as well as full utilization of the status quo (No Action) quota.



6.4.4 Port and Community Description

U.S. fishing communities directly involved in the harvest or processing of dogfish are found in coastal states from Maine through North Carolina. Landings by port for FY2012 are given in Table 19. Chatham, MA accounted for the largest share of total FY2012 landings (16.40%), followed by Gloucester, MA (10.81%), Marshfield, MA (6.81%), and Scituate, MA (6.14%). No other port comprised greater than 5% of total landings.

Spiny dogfish revenue was calculated as a % of total port revenue and was both greater than $100,000 and greater than 5% of port revenue in Virginia Beach/Lynnhaven, VA (44.60%), Marshfield, MA (12.98%), Rye, NH (9.68%), Scituate, MA (9.38%), Hatteras, NC (7.90%), Ocean City, MD (7.18%), Little Compton, RI (5.44%), Chatham, MA (5.32%), Seabrook, NH (5.24%), and Chincoteague, VA (5.01%). Port descriptions for these ports from the NEFSC's "Community Profiles for the Northeast US Fisheries" are provided in Appendix 1. A complete set of port profiles is online: http://www.nefsc.noaa.gov/read/socialsci/communityProfiles.html

Table 20. Commercial landings (lb) and value of spiny dogfish by port for fishing year 2012. Only ports with spiny dogfish landings valued at >$100,000 are shown.

Port	Landings (lb)	Pct of Total	Value ($)	Pct of Total	Total Port Value ($)	Dogfish Value / Port Value
CHATHAM, MASSACHUSETTS*	4,413,778	16.41%	852,626	16.10%	16,035,891	5.32%
GLOUCESTER, MASSACHUSETTS	2,907,832	10.81%	671,881	12.68%	50,714,460	1.32%
MARSHFIELD, MASSACHUSETTS*	1,830,727	6.81%	413,473	7.81%	3,186,237	12.98%
SCITUATE, MASSACHUSETTS*	1,651,485	6.14%	373,342	7.05%	3,979,693	9.38%
CHINCOTEAGUE, VIRGINIA*	1,239,369	4.61%	258,971	4.89%	5,165,798	5.01%
OCEAN CITY, MARYLAND*	1,266,063	4.71%	252,633	4.77%	3,519,912	7.18%
NEW BEDFORD, MASSACHUSETTS	946,900	3.52%	246,733	4.66%	396,979,451	0.06%
HATTERAS, NORTH CAROLINA*	2,212,833	8.23%	221,974	4.19%	2,808,240	7.90%
VIRGINIA BEACH*	1,133,956	4.22%	201,494	3.80%	451,817	44.60%
LITTLE COMPTON, RHODE ISLAND*	786,165	2.92%	158,641	2.99%	2,918,615	5.44%
RYE, NEW HAMPSHIRE*	609,623	2.27%	156,311	2.95%	1,614,335	9.68%
BARNEGAT LIGHT, NEW JERSEY	794,553	2.95%	155,488	2.94%	26,358,759	0.59%
POINT PLEASANT, NEW JERSEY	813,888	3.03%	145,271	2.74%	21,596,144	0.67%
PORTSMOUTH, NEW HAMPSHIRE	708,948	2.64%	141,774	2.68%	5,367,492	2.64%
PLYMOUTH, MASSACHUSETTS	575,712	2.14%	125,286	2.37%	3,812,855	3.29%
HARWICHPORT, MASSACHUSETTS	442,641	1.65%	123,937	2.34%	2,860,643	4.33%
SEABROOK, NEW HAMPSHIRE*	439,943	1.64%	105,698	2.00%	2,018,697	5.24%
POINT JUDITH, RHODE ISLAND	690,963	2.57%	100,796	1.90%	41,068,727	0.25%

Source: Unpublished NMFS dealer reports

*Community Profile provided in Appendix

7.0 ENVIRONMENTAL CONSEQUENCES – ANALYSIS OF DIRECT AND INDIRECT IMPACTS

This section presents an analysis of the impacts of the proposed actions (Section 5.0) on the VECs (Section 6.0). Table 20, below, is provided to re-iterate the management measures that correspond to each of the alternatives. As previously discussed the New England and Mid-Atlantic Councils recommended different specification alternatives. Therefore, for the purposes of this EA, the New England Council's recommendations represent the NMFS proposed action.

Table 21. Values associated with the management alternatives.

Year	Alternatives	ACL (M lb)	Commercial Quota (M lb)	Trip Limit (lb)
2014	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	60.695	49.037	4,000
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS proposed)	60.695	49.037	Unlimited
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	55.277	41.784	4,000
2015	**Alternative 1** (MAFMC-recommended Quota and Trip Limit)	62.413	50.612	4,000
	Alternative 2 (NEFMC-recommended Quota, and Trip Limit, NMFS Proposed)	62.413	50.612	Unlimited
	Alternative 3 (No Action) (Status Quo Quota and Trip Limit)	55.241	41.578	4,000

In evaluating the likely environmental effects of the proposed management measure alternatives, the direct and indirect effects of approving any of the measures will result from either continuation of or deviation from the activity of the current fishery. In other words, the impacts of the alternatives considered in this document will be to either, 1) maintain existing effects of the fishery, 2) change the magnitude and/or direction of those effects, or 3) generate new, previously unseen fishery effects. The last of these outcomes is considered highly unlikely since there are no new types of activities being authorized through this action. The action would simply adjust the amount of spiny dogfish that may be taken by the existing commercial fishery over the course of the next two fishing years (annual commercial quotas) or by individual vessels on any given day within the fishing year (commercial possession limits).

The direct and indirect effects of the proposed alternatives are examined with respect to five valued ecosystem components (VECs). Specifically, these include:

1) Managed Resource (i.e., the spiny dogfish stock)
2) Non-target species
3) Habitat

4) Protected Resources
5) Human Communities

7.1. BIOLOGICAL IMPACTS (MANAGED RESOURCE AND NON-TARGET SPECIES)

7.1.1 Managed Resource Impacts

The impacts of the proposed alternatives directly affect the managed resource in that the approval of any of the measures would to allow the fishery to continue to remove spiny dogfish from the stock or management unit. The measures differ in terms of the amounts of spiny dogfish that could be taken. A summary of the relative increases in available landings under each alternative (there are no alternatives that would decrease available landings) is provided in Table 21 where these percentages reflect maximum potential changes if the alternative commercial quotas or trip limits were to be fully realized.

Commercial Quota Impacts

The overall effect of the commercial quotas under any of the alternatives will be for the fishery to continue to remove spiny dogfish from the stock in the 2014 and 2015 fishing years. Any of the commercial quotas contemplated in the alternatives will prevent overfishing and maintain the spiny dogfish stock at a level consistent with the biomass target based on best available science. The larger quotas for 2014 (49.037 M lb) and 2015 (50.612 M lb) under Alternatives 1 and 2 correspond to landings that are available to the fishery based on the Mid-Atlantic SSC's ABC determination (SSC 2013) and after all other removals from the stock (discards, Canadian landings, and recreational landings) have been accounted for. Additionally, stock size at the beginning of the year is predicated on complete harvest of the 2013 quota, which as described in Section 6.0, is unlikely to occur, reducing further the risk associated with ABC.

The quotas themselves were derived with consideration of the potential for the fishery to overharvest (management uncertainty buffer), but as explained in Section 4.0, historic underharvest indicated no further reduction was needed. The smaller quotas for 2014 (41.784 M lb) and 2015 (41.578 M lb) under Alternative 3 were derived using the same methods in 2012. Since then, stock conditions have improved so that the best available science now indicates that harvest at the Alternative 3 quotas is more conservative than necessary under the Council's risk policy to prevent overfishing. As stated, all of the quotas are consistent with sustainability of the resource, however, the greater potential removals under Alternatives 1 and 2 correspond to null impacts on the resource, while the quotas under Alternative 3 correspond to slight positive impacts.

Trip Limit Impacts

For the managed resource, the primary impact of the trip limits under any of the alternatives is on the timing or rate at which the fishery removes spiny dogfish from the stock over the course of the fishing year. Preventing the fishing mortality rate from reaching F_{MSY} (0.2439) is the primary issue of concern for the managed resource. While correspondence between the quota and the fishing mortality rate is fairly straight-forward, the relationship between the trip limit and fishing mortality is less so. Under equal quotas, the differential impact on fishing mortality of a 4,000 lb trip limit (Alternative 1 and 3) vs. no trip limit (Alternative 2) most likely relates to any differences in spiny dogfish discards that may occur. The worst-case scenario would be for the level of realized discards to violate assumptions about discarding that factored into in calculating the quota (Table 4), such that overall catch exceeds the ACL, or more importantly, OFL.

Between the two action alternatives, it is considered unlikely that the fishery activity under the 4,000 lb trip limit will depart significantly from existing conditions. As compared to Alternative 1 and 3, Alternative 2 is more likely to result in increased discards due to confusion or abbreviation of the season. Therefore, compared to Alternatives 1 and 3, Alternative 2 is associated with a greater risk to the stock. The 4,000 lb trip limit associated Alternatives 1 and 3 is considered unlikely to risk ACL or OFL from being exceeded. Therefore Alternative 1 and 3 trip limits have null impacts on the managed resource while Alternative 2 elimination of the trip limit has a slight negative impact on the managed resource.

Taken together, the expectation of null impacts on the managed resource from both the quota and trip limit under Alternative 1 result in an overall null impact to the managed resource compared to No Action. The null impacts from the quota and the slight negative impact of the trip limit under Alternative 2 result in an overall slight negative impact to the managed resource. The slight positive from both the quota and null impact of the trip limit under Alternative 3 result in an overall slight positive impact to the managed resource.

7.1.1.1 RSA Impacts on Managed Resource

Under Alternative 1, RSA quota would be awarded to selected projects and deducted from the commercial quotas in 2014 and 2015. Because the RSA quota is a part of landings limits, no additional mortality would occur if this alternative were adopted in either year. In addition, this alternative is expected to indirectly benefit the resource as selected projects will likely provide information that will improve resource science and management. If an RSA project requests an exemption from an existing fisheries regulation, an impact analysis would be prepared at that time.

Under Alternative 2, there would not be set-asides for 2014 and 2015, and the RSA quota amounts would not be deducted from the commercial quota. Because all landings count against the overall quota regardless of whether or not an RSA is implemented, the biological impacts would not change if this alternative were adopted. Under this alternative, there would also be no indirect positive effects from broadening the scientific base upon which management decisions are made.

Table 22. Percent difference in 2014 and 2015 limits for each alternative relative to 2013 limits and 2012 landings.

2014 Alternatives

Commercial Reference Values		Alternative 1 (49.037 M lb quota) (4,000 lb Trip Limit)	Alternative 2 (49.037 M lb quota) (No Trip Limit)	Alternative 3 (41.784 M lb quota) (4,000 lb Trip Limit)
2013	Quota (40.842 M lb)	+20.07%	+20.07%	+2.31%
	Trip Limit (4,000 lb)	0.00%	Undefined	0.00%
2012	Landings (24.484 M lb)	+100.28%	+100.28%	+70.66%

2015 Alternatives

Commercial Reference Values		Alternative 1 (50.612 M lb quota) (4,000 lb Trip Limit)	Alternative 2 (50.612 M lb quota) (No Trip Limit)	Alternative 3 (41.578 M lb quota) (4,000 lb Trip Limit)
2013	Quota (40.842 M lb)	+23.92%	+23.92%	+1.80%
	Trip Limit (4,000 lb)	0.00%	Undefined	0.00%
2012	Landings (24.484 M lb)	+106.71%	+106.71%	+69.82

7.1.2 Non-Target Species Impacts

Section 6.1.3 addresses the non-target species encountered by the spiny dogfish fishery. The degree to which encounters with non-target species would change under any of the alternatives is related to how fishing effort would change if a given alternative is implemented. If the quota is increased as under Alternatives 1and 2, compared to Alternative 3, then it is possible that there could be some increase in the extent of *directed* dogfish fishing in the EEZ. If this occurs, then bycatch of non-target species could be attributable to activity by the dogfish fishery. Directed fishing appears to be related to the type of gear used with much greater likelihood of directed effort with bottom longlines, less likelihood with bottom otter trawls, and gillnets somewhere in between. Additionally, because the abundance of dogfish has increased, larger catches are not necessarily associated with an increase in fishing effort. That a given trip would be made for the sole purpose of harvesting dogfish is also less likely the farther from shore that a trip occurs. Nevertheless, in comparison to the Alternative 3, it is expected that directed dogfish fishing in

the EEZ is more likely to increase than decrease under Alternatives 1 and 2, and remain unchanged under Alternative 3.

As to the impacts of trip limits, which differentiates Alternative 1 and 3 (4,000 lb) from Alternative 2 (unlimited), the likelihood for increased directed fishing is greatest under Alternative 2. The abundance of the resource and the constraining effect of state water trip limits make it unlikely that directed effort will increase substantially. Nevertheless, the trip limit impacts for Alternatives 1and 3 are expected to be null, while the elimination of trip limits from Alternative 2 is associated with low-negative impacts on non-target species.

Taken together, null to low-negative impacts on non-target species from the quota and null impacts from the trip limit under Alternative 1 result in an overall null to low-negative impact to non-target species compared to No Action. The null to low-negative impacts from the quota and the low- negative impact of the trip limit under Alternative 2 result in an overall negative impact to non-target species. The null impact from both the quota and trip limit under Alternative 3 result in an overall null impact to non-target species.

7.1.2.1 RSA Impacts on Non-Target Species

Because all spiny dogfish landings count against the overall quota regardless of whether or not an RSA is implemented, neither alternative is expected to change the level of fishing effort. In addition, the manner in which this fishery is operates is not expected to change or be redistributed by gear under either alternative.

If an RSA project requests an exemption from an existing fisheries regulation, an impact analysis would be prepared at that time. Although under Alternative 1 exemptions would be issued that would exempt vessels from possession limits and quota closures, there would be no additional impact on non-target species because the RSA quota is part of, and not in addition to the overall commercial landings limit. Therefore, each of these alternatives will likely result in minimal adverse effects of fishing on EFH to the extent practicable, pursuant to section 305 (a)(7) of the MSA.

7.2 HABITAT IMPACTS

The gears most commonly used in directed fishing for spiny dogfish are gillnets and hook-and-line (MAFMC 2014) and these gear types are not generally associated with negative habitat impacts (Stevenson et al. 2004). Additionally, the abundance of the resource makes it unlikely that total coastwide effort will need to increase dramatically in order to achieve the larger available quotas under Alternatives 1 and 2. A combination of low impact gear and an abundant resource makes it likely that implementation of the commercial quotas under any of the alternatives will result in neutral to slight negative impacts on habitat and EFH. Alternatives 1 and 2 result in impacts on habitat that range from null to low negative due to the potential for slightly increased effort under the larger quotas while Alternative 3, which would maintain the existing commercial quota would result in only null impacts.

Trip limits differentiate Alternative 1 and 3 (4,000 lb) from Alternative 2 (unlimited). With the elimination of possession limits under Alternative 2, there is a greater likelihood for increased fishing effort using trawl gear such that the elimination of trip limits under Alternative 2 is associated with low-negative impacts. There is no difference in habitat impacts attributable to the trip limits between Alternatives 1 and 3 which are null due to maintaining status quo gear effort.

Taken together, null to low-negative impacts on habitat from the quota and null impacts from the trip limit under Alternative 1 result in an overall null to low-negative impact to habitat compared to No Action. The null to low-negative impacts from the quota and the low- negative impact of the trip limit under Alternative 2 result in an overall negative impact to habitat. The null impact from both the quota and trip limit under Alternative 3 result in an overall null impact to habitat.

7.2.1 RSA Alternative Impacts on Habitat

Because all spiny dogfish landings count against the overall quota regardless of whether or not an RSA is implemented, neither alternative is expected to change the level of fishing effort. In addition, the manner in which this fishery is operates is not expected to change or be redistributed by gear under either alternative.

If an RSA project requests an exemption from an existing fisheries regulation, an impact analysis would be prepared at that time. Although under Alternative 1 exemptions would be issued that would exempt vessels from possession limits and quota closures, there would be no additional impact on habitat because the RSA quota is part of, and not in addition to the overall commercial landings limit. Therefore, each of these alternatives will likely result in minimal adverse effects of fishing on EFH to the extent practicable, pursuant to section 305 (a)(7) of the MSA.

7.3 ENDANGERED SPECIES AND MMPA PROTECTED RESOURCE IMPACTS

Section 6.2 describes the ESA listed and MMPA protected species VEC and other related impact considerations. All fishing gears are required to meet gear restrictions as required under the Atlantic Large Whale Take Reduction Plan (ALWTRP) and Harbor Porpoise Take Reduction Plan (HPTRP). These plans contain measures designed to reduce interactions/impacts associated with fishing gears. Interaction between endangered / protected resources and spiny dogfish fishing gear is also affected by species' abundances.

The degree to which encounters with endangered and other protected species would change under any of the alternatives is related to how fishing effort would change if a given alternative is implemented. If the quota is increased as under Alternatives 1and 2, compared to Alternative 3, then it is possible that there could be some increase in the extent of *directed* dogfish fishing in the EEZ. If this occurs, then encounters with protected resources could be attributable to activity by the dogfish fishery. Directed fishing appears to be related to the type of gear used with much greater likelihood of directed effort with bottom longlines, less likelihood with bottom otter trawls, and gillnets somewhere in between. Additionally, because the abundance of dogfish has increased, larger catches are not necessarily associated with an increase in fishing effort. That a given trip would be made for the sole purpose of harvesting dogfish is also less likely the farther from shore that trip occurs. Nevertheless, in comparison to the Alternative 3, it is expected that directed dogfish fishing in the EEZ is more likely to increase than decrease under Alternatives 1 and 2, and remain unchanged under Alternative 3.

As to the impacts of trip limits, which differentiates Alternative 1 and 3 (4,000 lb) from Alternative 2 (unlimited), the likelihood for increased directed fishing is greatest under Alternative 2. The abundance of the resource and the constraining effect of state water trip limits make it unlikely that directed effort will increase substantially. Nevertheless, the trip limit impacts for Alternatives 1and 3 are expected to be null, while the elimination of trip limits from Alternative 2 is associated with low-negative impacts on protected.

The protected species that would be encountered from directed dogfish fishing would likely be similar to those which occurred in the historic North Carolina gill net fishery. As such, one might expect that encounters with coastal bottlenose dolphins, sea turtles, and harbor porpoises may occur (see Section 6.3). However, since the implementation of the Bottlenose Dolphin Take Reduction Plan and Harbor Porpoise Take Reduction Plan, more stringent rules are in place than existed when those previously mentioned encounters took place. Specifically, nets must be attended and no night time sets are allowed. Similarly, the Atlantic Large Whale Take Reduction Plan should reduce potential encounters with whales. Nevertheless, it is possible that protected resource encounters associated with spiny dogfish harvest may increase under Alternatives 1 - 3 as compared to Alternative 3, and to the greatest degree under Alternative 3.

Taken together, null to low-negative impacts on protected resources from the quota and null impacts from the trip limit under Alternative 1 result in an overall null to low-negative impact to protected resources compared to No Action. The null to low-negative impacts from the quota and the low- negative impact of the trip limit under Alternative 2 result in an overall negative impact to protected resources compared to No Action. The null impact from both the quota and trip limit under Alternative 3 result in an overall null impact to protected resources.

7.3.2 RSA Alternative Impacts on Protected Resources

Because all spiny dogfish landings count against the overall quota regardless of whether or not an RSA is implemented, neither alternative is expected to change the level of fishing effort. In addition, the manner in which this fishery is operates is not expected to change or be redistributed by gear under either alternative.

If an RSA project requests an exemption from an existing fisheries regulation, an impact analysis would be prepared at that time. Although under Alternative 2 exemptions would be issued that

would exempt vessels from possession limits and quota closures, there would be no additional impact on protected resources because the RSA quota is part of, and not in addition to the overall commercial landings limit. Therefore, each of these alternatives will likely result in minimal adverse effects of fishing on EFH to the extent practicable, pursuant to section 305 (a)(7) of the MSA.

7.4 HUMAN COMMUNITY IMPACTS

Quota Impacts
None of the alternatives are associated with potential decreases revenue via decreasing the quota. Alternatives 1 and 2, which increase the quota from 40 M lb to around 50 M lb would also increase maximum potential landings and associated revenue in 2014 and 2015. Alternative 3 which would maintain the specified quotas for those years is associated with lower potential revenue. However, given the recent underperformance of the fishery relative to the quota in FY2012 and FY2013, any of the alternative quotas allow for increases in realized landings and revenue. As such, positive (Alternatives 1 and 2) or slight positive (Alternative 3) economic impacts are expected under any of the scenarios under consideration.

Trip Limit Impacts
By itself, maintaining the status quo trip limit (4,000 lb under Alternatives 1 and 3) should result in null impacts to human communities. The elimination of trip limits proposed under Alternative 2 could result in greater immediate revenue per trip but Alternative 2 is also associated with the greatest potential for an abbreviated season compared to the other alternatives. Alternative 1, which would maintain current trip limits, but increase the quota is associated with the lowest potential for a fishery closure, followed by Alternative 3 which would maintain the existing trip limits at the existing quota. As such, positive (Alternatives 1 and 3) or slight positive (Alternative 2) economic impacts are expected under any of the trip limit scenarios under consideration.

Taken together, the positive impact on human communities from the quota and null impact from the trip limit under Alternative 1 result in an overall positive impact to human communities compared to No Action. The positive impact from the quota and the positive impact of the trip limit under Alternative 2 result in an overall positive impact to human communities compared to No Action. The null impact from both the quota and trip limit under Alternative 3 (No Action) result in a null impact to human communities.

Total spiny dogfish revenue from the last complete fishing year (FY2012) was reported as $5.277 million. Using the average FY2012 price/lb ($0.20) landing 50 M lb in any year from 2014 - 2015 (Alternatives 1 and 2) corresponds to about $9.9 million. Alternative 3 (no action) proposes smaller quotas and would generate about $2 million less annual revenue (~$7.9 million). Assuming the distribution of landings by port is consistent with FY2012 (Section 6.5), the increases in dogfish revenue should benefit those ports that are more heavily dependent on dogfish revenue than other communities, assuming all other revenue sources do not change (e.g., Virginia Beach/Lynnhaven, VA (44.60%), Marshfield, MA (12.98%), Rye, NH (9.68%), Scituate, MA (9.38%), Hatteras, NC (7.90%), Ocean City, MD (7.18%), Little Compton, RI (5.44%), Chatham, MA (5.32%), Seabrook, NH (5.24%), and Chincoteague, VA (5.01%) – Table 19).

Industry remarks on trip limit impacts
A discussion of the likely operational impacts of the alternative trip limits on vessel operators and processors in the spiny dogfish fishery was facilitated by the Council via online meeting (79FR15727). Comments from that discussion are provided in a summary as Appendix 2 and a general summary is provided here:

Under the Spiny Dogfish FMP, disagreement on a particular management measure is resolved by the NMFS Regional Administrator selecting an alternative that has not been rejected by both Councils. There is no trip limit alternative that has been rejected by both Councils, so any trip limit can be selected by the Regional Administrator. In order to assist NMFS in fully considering the likely operational and economic impacts of different possession limits, further information was needed from active and invested spiny dogfish fishery participants. This information will also be used for improving the description of economic and social impacts in the 2014-2015 Spiny Dogfish Specifications Environmental Assessment.

In order to achieve this, a public meeting aimed at gathering industry perspectives on commercial spiny dogfish possession limits was held at 7 p.m. April 8, 2014 via webinar. There were approximately 37 participants and 17 individuals contributed comments. A summary of the comments is provided here [*Table 1 in Appendix 2*] and will also be incorporated into the Council's Spiny Dogfish Specifications for the 2014 and 2015 fishing years.

In general, commenters were opposed to eliminating trip limits (15 of 17 comments). Most of these supported maintaining existing trip limits (9/15), increasing the trip limit modestly (3/15), or having state and vessel-specific flexibility in (4/15) trip limits. One commenter supported both current and vessel-specific trip limits. Two commenters were in support of eliminating federal trip limits.

Under current market constraints, the vessel price for spiny dogfish (~0.15/lb) is about 32% below the long term 2008-2012 average (~0.22/lb) and opposition to unlimited possession was generally based on the expectation that it would overwhelm market supply and drive the price down even further. There was also concern that the food market which is mostly supplied by the gillnet and hook fishery would not accept a lower quality product from large trawl catches. A common theme among these commenters was the need for further development of the market including a domestic market and for market stability. Support for elimination of the trip limit came from two New England Council members. One was primarily concerned about the vast number of dogfish discards at the current trip limit and the other thought the ASMFC would be better able to respond to the need to change the trip limits.

7.4.1 RSA Alternative Impacts on Human Communities

The Council recommended research set-aside quotas of 3% of the commercial quota for 2014 and 2015. The research set aside quantities associated with each alternative evaluated in this document are shown in Table 23.

Under preferred Alternative 1, RSAs for spiny dogfish would be allowed up to a maximum of 3% of the specified commercial quota. Under the RSA program, successful applicants receive a share of the annual quota for the purpose of conducting scientific research. In fisheries where the entire quota is taken and the fishery is prematurely closed (i.e., the quota is constraining), the

economic and social costs of the program are shared among the non-RSA participants in the fishery. That is, each participant in a fishery that utilizes the resource relinquishes a share of the amount of quota retained in the RSA quota.

Under non-preferred RSA Alternative 2, there will be no RSA deducted from the commercial landings for spiny dogfish in 2014 - 2015. With no RSA under this alternative, there are no direct economic or social costs or benefits. Under RSA Alternative 2 for 2014 and 2015, the collaborative efforts among the public, research institutions, and government in broadening the scientific base upon which management decisions are made will not occur. In addition, the Nation will not receive the benefit derived from data or other information about these fisheries for management or stock assessment purposes.

If RSA projects are awarded, positive indirect impacts to human communities would be expected to the extent that information gathered is able to improve management decisions. Alternative 2 is associated with null impacts since no new information would be collected.

Assuming the fishing year 2012 average ex-vessel price ($0.20/lb) continues, the 2014 RSA could be worth as much as $294 k or $251 k under Alternatives 1/2 or 3, respectively. For 2015, the RSA could be worth as much as $304 k or $249 k under Alternatives 1/2 or 3, respectively.

Table 23. RSA deductions by fishing year if preferred RSA allowance is implemented, otherwise no RSA would be deducted. All values are in M lb.

	Initial Quota		RSA Deduction		Adjusted Quota	
Quota and Trip Limit Alternatives	**2014**	**2015**	**2014**	**2015**	**2014**	**2015**
MAFMC and NEFMC Commercial Quotas (Alt 1 and 2)	49.037	50.612	1.471	1.518	47.566	49.094
No Action Commercial Quota (Alt 3)	41.784	41.578	1.254	1.247	40.530	40.331

Note that the RSA amount used to evaluate the alternatives presented in this document is the maximum RSA allowed (3% of the TAL) to support collaborative research projects among the public, research institutions, and NMFS. The actual RSA for fishing year 2014 and 2015 will depend on the specific amounts requested by the approved research projects and is likely to be less than the 3% maximum allowable depending on which projects are approved and the specific RSA amounts requested. NMFS will adjust quotas based on updated information on RSA, overages and/or transfers as part of the final rule that implements the 2014 and 2015 specifications when the data are more complete.

7.5 Cumulative Effects Analysis

A cumulative effects analysis (CEA) is required by the Council on Environmental Quality (CEQ) (40 CFR part 1508.7). The purpose of CEA is to consider the combined effects of many actions on the human environment over time that would be missed if each action were evaluated separately. CEQ guidelines 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.

Since the Councils were not in agreement, NMFS has selected Alternative 2 (NEFMC-recommended) as the proposed action. The cumulative impacts are, therefore, described in reference to this alternative. However, since the overall quota is consistent between the specifications alternatives, NMFS expects minimal differences between the alternatives in terms of cumulative impacts. The following remarks address the significance of the expected cumulative impacts as they relate to the Federally managed spiny dogfish fishery.

7.5.1 Consideration of the VECs

In section 6.0 (Description of the Affected Environment), the VECs that exist within the spiny dogfish fishery environment are identified. Therefore, the significance of the cumulative effects will be discussed in relation to the VECs listed below.

1. Managed resource (spiny dogfish)
2. Non-target species
3. Habitat including EFH for the managed resource and non-target species
4. ESA listed and MMPA protected species
5. Human communities

7.5.2 Geographic Boundaries

The analysis of impacts focuses on actions related to the harvest of spiny dogfish. The core geographic scope for each of the VECs is focused on the Western Atlantic Ocean (section 6.0). The core geographic scopes for the managed resources are the range of the management units (section 6.1). For non-target species, those ranges may be expanded and would depend on the biological range of each individual non-target species in the Western Atlantic Ocean. For habitat, the core geographic scope is focused on EFH within the EEZ but includes all habitat utilized by spiny dogfish and non-target species in the Western Atlantic Ocean. The core geographic scope for endangered and protected resources can be considered the overall range of these VECs in the Western Atlantic Ocean. For human communities, the core geographic boundaries are defined as those U.S. fishing communities directly involved in the harvest or processing of the managed resources, which were found to occur in coastal states from Maine through North Carolina (section 6.4).

7.5.3 Temporal Boundaries

The temporal scope of past and present actions for VECs is primarily focused on actions that have occurred after FMP implementation (1990). For endangered and other protected resources, the scope of past and present actions is on a species-by-species basis (section 6.3) and is largely focused on the 1980s and 1990s through the present, when NMFS began generating stock assessments for marine mammals and sea turtles that inhabit waters of the U.S. EEZ. The temporal scope of future actions for all five VECs extends about three years (2017) into the future, because events beyond that time are not reasonably foreseeable.

7.5.4 Actions Other Than Those Proposed in these Specifications

The impacts of each of the alternatives considered in this specifications document are given in section 7.1 through 7.4. Table 23 presents meaningful past (P), present (Pr), or reasonably foreseeable future (RFF) actions to be considered other than those actions being considered in this specifications document. These impacts are described in chronological order and qualitatively, as the actual impacts of these actions are too complex to be quantified in a meaningful way. When any of these abbreviations occur together (i.e., P, Pr, RFF), it indicates that some past actions are still relevant to the present and/or future actions.

Past and Present Actions

The historical management practices of the Council have resulted in positive impacts on the health of the spiny dogfish stock (section 6.1). Actions have been taken to manage the commercial fisheries for this species through amendment actions. In addition, the annual specifications process is intended to provide the opportunity for the Council and NMFS to regularly assess the status of the fishery and to make necessary adjustments to ensure that there is a reasonable expectation of meeting the objectives of the FMP. The statutory basis for federal fisheries management is the MSA. To the degree with which this regulatory regime is complied, the cumulative impacts of past, present, and reasonably foreseeable future federal fishery management actions on the VECs should generally be associated with positive long-term outcomes. Constraining fishing effort through regulatory actions can often have negative short-term socioeconomic impacts. 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 spiny dogfish stock.

Non-fishing activities that introduce chemical pollutants, sewage, changes in water temperature, salinity, dissolved oxygen, acidification, and suspended sediment into the marine environment pose a risk to all of the identified VECs. Human-induced non-fishing activities tend to be localized in nearshore areas and marine project areas where they occur. 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. The overall impact to the affected species and its habitat on a population level is unknown, but likely neutral to low negative, since a large portion of this species has a limited or minor exposure to these local non-fishing perturbations.

In addition to guidelines mandated by the MSA, NMFS reviews these types of effects through the review processes required by Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act for certain activities that are regulated by federal, state, and local authorities. The jurisdiction of these activities is in "waters of the U.S." and includes both riverine and marine habitats.

Reasonably Foreseeable Future Actions

For many of the proposed non-fishing activities to be permitted under other federal agencies (such as beach nourishment, offshore wind facilities, etc.), those agencies would conduct examinations of potential impacts on the VECs. The MSA (50 CFR 600.930) imposes an obligation on other federal agencies to consult with the Secretary of Commerce on actions that may adversely affect EFH. The eight Fishery Management Councils are engaged in this review process by making comments and recommendations on any federal or state action that may affect habitat, including EFH, for their managed species and by commenting on actions likely to substantially affect habitat, including EFH.

In addition, under the Fish and Wildlife Coordination Act (Section 662), “whenever the waters of any stream or other body of water are proposed or authorized to be impounded, diverted, the

channel deepened, or the stream or other body of water otherwise controlled or modified for any purpose whatever, including navigation and drainage, by any department or agency of the U.S., or by any public or private agency under federal permit or license, such department or agency first shall consult with the U.S. Fish and Wildlife Service (USFWS), Department of the Interior, and with the head of the agency exercising administration over the wildlife resources of the particular state wherein the" activity is taking place. This act provides another avenue for review of actions by other federal and state agencies that may impact resources that NMFS manages in the reasonably foreseeable future.

In addition, NMFS and the USFWS share responsibility for implementing the ESA. ESA requires NMFS to designate "critical habitat" for any species it lists under the ESA (i.e., areas that contain physical or biological features essential to conservation, which may require special management considerations or protection) and to develop and implement recovery plans for threatened and endangered species. The ESA provides another avenue for NMFS to review actions by other entities that may impact endangered and protected resources whose management units are under NMFS' jurisdiction.

7.5.5 Magnitude and Significance of Cumulative Effects

In determining the magnitude and significance of the cumulative effects, the additive and synergistic effects of the proposed action, as well as past, present, and future actions, must be taken into account. The following section discusses the effects of these actions on each of the VECs.

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Table 24. Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the five VECs (not including those actions considered in this specifications document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr Original FMP and subsequent Amendments and Frameworks to the FMP	Established commercial management measures	**Indirect Positive** Regulatory tool available to rebuild and manage stocks	**Indirect Positive** Reduced fishing effort	**Indirect Positive** Reduced fishing effort	**Indirect Positive** Reduced fishing effort	**Indirect Positive** Benefited domestic businesses
P, Pr Spiny dogfish Specifications	Establish annual quotas, trip limits	**Indirect Positive** Regulatory tool to specify catch limits, and other regulation; allows response to annual stock updates	**Indirect Positive** Reduced effort levels and gear requirements	**Indirect Positive** Reduced effort levels and gear requirements	**Indirect Positive** Reduced effort levels and gear requirements	**Indirect Positive** Benefited domestic businesses
P, Pr Developed and Applied Standardized Bycatch Reporting Methodology	Established acceptable level of precision and accuracy for monitoring of bycatch in fisheries	**Neutral** May improve data quality for monitoring total removals of managed resource	**Neutral** May improve data quality for monitoring removals of non-target species	**Neutral** Will not affect distribution of effort	**Neutral** May increase observer coverage and will not affect distribution of effort	**Potentially Indirect Negative** May impose an inconvenience on vessel operations
Pr, RFF Omnibus Amendment ACLs/AMs Implemented	Establish ACLs and AMs for all three plan species	**Potentially Indirect Positive** Pending full analysis	**Potentially Indirect Positive** Pending full analysis	**Potentially Indirect Positive** Pending full analysis	**Potentially Indirect Positive** Pending full analysis	**Potentially Indirect Positive** Pending full analysis
P, Pr, RFF Agricultural runoff	Nutrients applied to agricultural land are introduced into aquatic systems	**Indirect Negative** Reduced habitat quality	**Indirect Negative** Reduced habitat quality	**Direct Negative** Reduced habitat quality	**Indirect Negative** Reduced habitat quality	**Indirect Negative** Reduced habitat quality negatively affects resource
P, Pr, RFF Port maintenance	Dredging of coastal, port and harbor areas for port maintenance	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Direct Negative** Dependent on mitigation effects	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Mixed** Dependent on mitigation effects

Table 24 (Continued). Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the five VECs (not including those actions considered in this specifications document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
P, Pr, RFF Offshore disposal of dredged materials	Disposal of dredged materials	**Indirect Negative** Reduced habitat quality	**Indirect Negative** Reduced habitat quality	**Direct Negative** Reduced habitat quality	**Indirect Negative** Reduced habitat quality	**Indirect Negative** Reduced habitat quality negatively affects resource viability
P, Pr, RFF Beach nourishment	Offshore mining of sand for beaches	**Indirect Negative** Localized decreases in habitat quality	**Indirect Negative** Localized decreases in habitat quality	**Direct Negative** Reduced habitat quality	**Indirect Negative** Localized decreases in habitat quality	**Mixed** Positive for mining companies, possibly negative for fishing industry
	Placement of sand to nourish beach shorelines	**Indirect Negative** Localized decreases in habitat quality	**Indirect Negative** Localized decreases in habitat quality	**Direct Negative** Reduced habitat quality	**Indirect Negative** Localized decreases in habitat quality	**Positive** Beachgoers like sand; positive for tourism
P, Pr, RFF Marine transportation	Expansion of port facilities, vessel operations and recreational marinas	**Indirect Negative** Localized decreases in habitat quality	**Indirect Negative** Localized decreases in habitat quality	**Direct Negative** Reduced habitat quality	**Indirect Negative** Localized decreases in habitat quality	**Mixed** Positive for some interests, potential displacement for others
P, Pr, RFF Installation of pipelines, utility lines and cables	Transportation of oil, gas and energy through pipelines, utility lines and cables	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Direct Negative** Reduced habitat quality	**Potentially Direct Negative** Dependent on mitigation effects	**Uncertain – Likely Mixed** Dependent on mitigation effects

Table 24 (Continued). Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the five VECs (not including those actions considered in this specifications document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
[RFF] Offshore Wind Energy Facilities (within 3 years)	Construction of wind turbines to harness electrical power	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Potentially Direct Negative** Localized decreases in habitat quality possible	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Mixed** Dependent on mitigation effects
[Pr, RFF] Liquefied Natural Gas (LNG) terminals (within 3 years)	Transport natural gas via tanker to terminals offshore and onshore (1 terminal built in MA; 1 under construction; proposed in RI, NY, NJ and DE)	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Potentially Direct Negative** Localized decreases in habitat quality possible	**Uncertain – Likely Indirect Negative** Dependent on mitigation effects	**Uncertain – Likely Mixed** Dependent on mitigation effects
[RFF] Convening Gear Take Reduction Teams (within next 3 years)	Recommend measures to reduce mortality and injury to marine mammals	**Indirect Positive** Will improve data quality for monitoring total removals	**Indirect Positive** Reducing availability of gear could reduce bycatch	**Indirect Positive** Reducing availability of gear could reduce gear impacts	**Indirect Positive** Reducing availability of gear could reduce encounters	**Indirect Negative** Reducing availability of gear could reduce revenues
[RFF] Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries (w/in next 3 years)	May recommend strategies to prevent the bycatch of sea turtles in commercial fisheries operations	**Indirect Positive** Will improve data quality for monitoring total removals	**Indirect Positive** Reducing availability of gear could reduce bycatch	**Indirect Positive** Reducing availability of gear could reduce gear impacts	**Indirect Positive** Reducing availability of gear could reduce encounters	**Indirect Negative** Reducing availability of gear could reduce revenues

Table 20 (Continued). Impacts of Past (P), Present (Pr), and Reasonably Foreseeable Future (RFF) Actions on the five VECs (not including those actions considered in this specifications document).

Action	Description	Impacts on Managed Resource	Impacts on Non-target Species	Impacts on Habitat and EFH	Impacts on Protected Species	Impacts on Human Communities
RFF Spiny Dogfish Amendment 3	Allow RSA, Update EFH, Maintain Quota through Rulemaking, Single Coastwide Quota	**Neutral** Largely Administrative Actions	**Neutral** Largely Administrative Actions	**Neutral** Largely Administrative Actions	**Neutral** Largely Administrative Actions	**Neutral** Largely Administrative Actions
Pr, RFF Cape Cod Spiny Dogfish Exempted Area	Allow Access to Area Otherwise Closed to Groundfish Gear	**Neutral** Catch and effort will be controlled by quota	**Neutral** Total Effort will be limited by quota	**Neutral** Total Effort will be limited by quota	**Neutral** Total Effort will be limited by quota	**Neutral** Total Effort will be limited by quota
Pr, RFF NE Multispecies Framework 48	Measures to reduce costs, add flexibility for groundfish vessels	**Neutral** Largely administrative actions	**Neutral** Largely administrative actions	**Neutral** Largely administrative actions	**Neutral** Largely administrative actions	**Positive** Expected to partially improve short-term profitability
Pr, RFF NE Multispecies Framework 50	Specifies Groundfish ACLs, trip limits, modifies AMs	**Positive** Low ACLs may reduce overall effort	**Positive** Low ACLs may reduce overall effort	**Positive** Low ACLs may reduce overall effort	**Positive** Low ACLs may reduce overall effort	**Negative** Expected loss of groundfish revenue
Pr, RFF NE Multispecies Sector Plans	Sector exemptions	**Neutral** Catch and effort will be controlled by quota	**Neutral** Total Effort will be limited by quota	**Neutral** Total Effort will be limited by quota	**Neutral** Total Effort will be limited by quota	**Neutral** Total Effort will be limited by quota
RFF Monkfish Emergency Action	Eliminate Monkfish Trip Limits in Northern Management Area	**Negative** Bycatch mortality could increase	**Negative** Bycatch mortality could increase	**Negative** Trawl impacts on EFH would increase	**Negative** Gear encounters could increase	**Mixed** Econ mitigation of negative impacts of groundfish reductions

7.5.5.1 Managed Resources

Those past, present, and reasonably foreseeable future actions, whose effects may impact the managed resources and the direction of those potential impacts, are summarized in Table 24. The indirectly negative actions described in Table 24 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on the managed resource is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on productivity of the managed resources is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on resources under NMFS' jurisdiction.

Past fishery management actions taken through the FMP and annual specification process have had a positive cumulative effect on the managed resource. It is anticipated that the future management actions, described in Table 25, will result in additional indirect positive effects on the managed resources through actions which reduce and monitor bycatch, protect habitat, and protect ecosystem services on which spiny dogfish productivity depends. As of the 2012 fishing year, specification of ACLs and AMs have been required under the FMP. This represented a major change to the previous management program and is expected to lead to improvements in resource sustainability over the long-term. These impacts could be broad in scope. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to spiny dogfish have had a positive cumulative effect.

Commercial quotas for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The impacts from annual specification of management measures established in previous years on the managed resource are largely dependent on how effective those measures were in meeting their intended objectives (i.e., preventing overfishing, achieve OY) and the extent to which mitigating measures were effective. The proposed action in this document would positively reinforce the past and anticipated positive cumulative effects on the spiny dogfish stock, by achieving the objectives specified in the FMP. Therefore, the proposed action would not have any significant effect on the managed resources individually or in conjunction with other anthropogenic activities (see Table 25).

Table 25. Summary of the effects of past, present, and reasonably foreseeable future actions on the managed resource.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	**Indirect Positive**	
Spiny dogfish Specifications	**Indirect Positive**	
Developed and Implement Standardized Bycatch Reporting Methodology	**Neutral**	
Amendment to address ACLs/AMs implemented	**Potentially Indirect Positive**	
Agricultural runoff	**Indirect Negative**	
Port maintenance	**Uncertain – Likely Indirect Negative**	
Offshore disposal of dredged materials	**Indirect Negative**	
Beach nourishment – Offshore mining	**Indirect Negative**	
Beach nourishment – Sand placement	**Indirect Negative**	
Marine transportation	**Indirect Negative**	
Installation of pipelines, utility lines and cables	**Uncertain – Likely Indirect Negative**	
National Offshore Aquaculture Act of 2007	**Potentially Indirect Negative**	
Offshore Wind Energy Facilities (within 3 years)		**Uncertain – Likely Indirect Negative**
Liquefied Natural Gas (LNG) terminals (within 3 years)	**Uncertain – Likely Indirect Negative**	
Convening Gear Take Reduction Teams (within 3 years)		**Indirect Positive**
Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries (within next 3 years)		**Indirect Positive**
Spiny Dogfish Amendment 3		**Neutral**
Cape Cod Spiny Dogfish Exempted Area		**Neutral**
NE Multispecies Framework 48		**Neutral**
NE Multispecies Framework 50		**Indirect Positive**
NE Multispecies Sector Plans		**Neutral**
Monkfish Emergency Action		**Negative**
Summary of past, present, and future actions excluding those proposed in this specifications document	**Overall, actions have had, or will have, positive impacts on the managed resources** *** See section 7.5.5.1 for explanation.**	

7.5.5.2 Non-Target Species or Bycatch

Those past, present, and reasonably foreseeable future actions, whose effects may impact non-target species and the direction of those potential impacts, are summarized in Table 24. The effects of indirectly negative actions described in Table 24 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on non-target species is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on productivity of non-target resources and the oceanic ecosystem is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources prior to permitting or implementation of those projects. At this time, NMFS can consider impacts to non-target species (federally-managed or otherwise) and comment on potential impacts. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on resources within NMFS' jurisdiction.

Past fishery management actions taken through the FMP and annual specification process have had a positive cumulative effect on non-target species. Implementation and application of a standardized bycatch reporting methodology would have a particular impact on non-target species by improving the methods which can be used to assess the magnitude and extent of a potential bycatch problem. Better assessment of potential bycatch issues allows more effective and specific management measures to be developed to address a bycatch problem. It is anticipated that future management actions, described in Table 26, will result in additional indirect positive effects on non-target species through actions which reduce and monitor bycatch, protect habitat, and protect ecosystem services on which the productivity of many of these non-target resources depend. The impacts of these future actions could be broad in scope, and it should be noted the managed resource and non-target species are often coupled in that they utilize similar habitat areas and ecosystem resources on which they depend. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful have had a positive cumulative effect on non-target species.

Commercial quotas and trip limits for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The proposed actions in this document have impacts that range from neutral to positive or negative impacts, and would not change the past and anticipated positive cumulative effects on non-target species and thus, would not have any significant effect on these species individually or in conjunction with other anthropogenic activities (Table 26).

Table 26. Summary of the effects of past, present, and reasonably foreseeable future actions on the non-target species.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	**Indirect Positive**	
Spiny dogfish Specifications	**Indirect Positive**	
Developed and Implement Standardized Bycatch Reporting Methodology	**Neutral**	
Amendment to address ACLs/AMs implemented		**Potentially Indirect Positive**
Agricultural runoff	**Indirect Negative**	
Port maintenance	**Uncertain – Likely Indirect Negative**	
Offshore disposal of dredged materials	**Indirect Negative**	
Beach nourishment – Offshore mining	**Indirect Negative**	
Beach nourishment – Sand placement	**Indirect Negative**	
Marine transportation	**Indirect Negative**	
Installation of pipelines, utility lines and cables	**Uncertain – Likely Indirect Negative**	
National Offshore Aquaculture Act of 2007	**Potentially Indirect Negative**	
Offshore Wind Energy Facilities (within 3 years)		**Uncertain – Likely Indirect Negative**
Liquefied Natural Gas (LNG) terminals (within 3 years)		**Uncertain – Likely Indirect Negative**
Convening Gear Take Reduction Teams (within 3 years)		**Indirect Positive**
Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries (within next 3 years)		**Indirect Positive**
Spiny Dogfish Amendment 3		**Neutral**
Cape Cod Spiny Dogfish Exempted Area		**Neutral**
NE Multispecies Framework 48		**Neutral**
NE Multispecies Framework 50		**Indirect Positive**
NE Multispecies Sector Plans		**Neutral**
Monkfish Emergency Action		**Negative**
Summary of past, present, and future actions excluding those proposed in this specifications document	**Overall, actions have had, or will have, positive impacts on non-target species * See section 7.5.5.2 for explanation.**	

7.5.5.3 Habitat (Including EFH)

Those past, present, and reasonably foreseeable future actions, whose effects may impact habitat (including EFH) and the direction of those potential impacts, are summarized in Table 24. The direct and indirect negative actions described in Table 24 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on habitat is expected to be limited due to a lack of exposure to habitat at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on habitat and EFH is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' managed resources and the habitat on which they rely prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of direct and indirect negative impacts those actions could have on habitat utilized by resources under NMFS' jurisdiction.

Past fishery management actions taken through the FMP and annual specification process have had a positive cumulative effect on habitat and EFH. The actions have constrained fishing effort at a large scale and locally, and have implemented gear requirements, which may reduce habitat impacts. As required under these FMP actions, EFH and HAPCs were designated for the managed resources. It is anticipated that the future management actions, described in Table 27, will result in additional direct or indirect positive effects on habitat through actions which protect EFH for federally-managed species and protect ecosystem services on which these species' productivity depends. These impacts could be broad in scope. All of the VECs are interrelated; therefore, the linkages among habitat quality and EFH, managed resources and non-target species productivity, and associated fishery yields should be considered. For habitat and EFH, there are direct and indirect negative effects from actions which may be localized or broad in scope; however, positive actions that have broad implications have been, and it is anticipated will continue to be, taken to improve the condition of habitat. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to habitat have had a neutral to positive cumulative effect.

Commercial quotas and trip limits for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The proposed actions in this document would not change the past and anticipated cumulative effects on habitat and thus, would not have any significant effect on habitat individually or in conjunction with other anthropogenic activities (Table 27).

Table 27. Summary of the effects of past, present, and reasonably foreseeable future actions on the habitat.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	**Indirect Positive**	
Spiny dogfish Specifications	**Indirect Positive**	
Developed and Implement Standardized Bycatch Reporting Methodology	**Neutral**	
Amendment to address ACLs/AMs implemented	**Potentially Indirect Positive**	
Agricultural runoff	**Indirect Negative**	
Port maintenance	**Uncertain – Likely Indirect Negative**	
Offshore disposal of dredged materials	**Indirect Negative**	
Beach nourishment – Offshore mining	**Indirect Negative**	
Beach nourishment – Sand placement	**Indirect Negative**	
Marine transportation	**Indirect Negative**	
Installation of pipelines, utility lines and cables	**Uncertain – Likely Indirect Negative**	
National Offshore Aquaculture Act of 2007	**Potentially Indirect Negative**	
Offshore Wind Energy Facilities (within 3 years)	**Uncertain – Likely Indirect Negative**	
Liquefied Natural Gas (LNG) terminals (within 3 years)	**Uncertain – Likely Indirect Negative**	
Convening Gear Take Reduction Teams (within 3 years)	**Indirect Positive**	
Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries (within next 3 years)	**Indirect Positive**	
Spiny Dogfish Amendment 3	**Neutral**	
Cape Cod Spiny Dogfish Exempted Area	**Neutral**	
NE Multispecies Framework 48	**Neutral**	
NE Multispecies Framework 50	**Indirect Positive**	
NE Multispecies Sector Plans	**Neutral**	
Monkfish Emergency Action	**Negative**	
Summary of past, present, and future actions excluding those proposed in this specifications document	**Overall, actions have had, or will have, positive impacts on habitat * See section 7.5.5.3 for explanation.**	

7.5.5.4 ESA Listed and MMPA Protected Species

Those past, present, and reasonably foreseeable future actions, whose effects may impact the protected resources and the direction of those potential impacts, are summarized in Table 24. The indirectly negative actions described in Table 24 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on protected resources, relative to the range of many of the protected resources, is expected to be limited due to a lack of exposure to the population at large. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude, although the impact on protected resources either directly or indirectly is unquantifiable. As described above (section 7.5.4), NMFS has several means, including ESA, under which it can review non-fishing actions of other federal or state agencies that may impact NMFS' protected resources prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on protected resources under NMFS' jurisdiction.

Past fishery management actions taken through the FMP and annual specification process have had a positive cumulative effect on ESA listed and MMPA protected species through the reduction of fishing effort (potential interactions) and implementation of gear requirements. It is anticipated that the future management actions, specifically those recommended by the ALWTRT and the development of strategies for sea turtle conservation described in Table 28, will result in additional indirect positive effects on the protected resources. These impacts could be broad in scope. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to protected resources have had a positive cumulative effect.

Commercial quotas and trip limits for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The proposed actions in this document would not change the past and anticipated cumulative effects on ESA listed and MMPA protected species and thus, would not have any significant effect on protected resources individually or in conjunction with other anthropogenic activities (Table 28).

NMFS will implement any appropriate measures outlined in the BO to mitigate harm to Atlantic sturgeon, if necessary. Given the comparatively low contribution of the spiny dogfish fishery to Atlantic sturgeon mortality, the magnitude of interactions during the 2014 - 2015 fishing years are not likely to result in jeopardy to the species based on current assessments of each DPS (Kocik et al. 2013). The level of interactions with the spiny dogfish fishery under this action, or cumulatively with other past, present, or reasonably foreseeable future actions, are not likely to have a significant adverse impact on the overall Atlantic sturgeon population, or any of the DPS's. Therefore, cumulative impacts resulting from the approval of the spiny dogfish fishery specifications are not likely to be significant.

Table 28. Summary of the effects of past, present, and reasonably foreseeable future actions on the protected resources.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	**Indirect Positive**	
Spiny dogfish Specifications	**Indirect Positive**	
Developed and Implement Standardized Bycatch Reporting Methodology	**Neutral**	
Amendment to address ACLs/AMs implemented	**Potentially Indirect Positive**	
Agricultural runoff	**Indirect Negative**	
Port maintenance	**Uncertain – Likely Indirect Negative**	
Offshore disposal of dredged materials	**Indirect Negative**	
Beach nourishment – Offshore mining	**Indirect Negative**	
Beach nourishment – Sand placement	**Indirect Negative**	
Marine transportation	**Indirect Negative**	
Installation of pipelines, utility lines and cables	**Uncertain – Likely Indirect Negative**	
National Offshore Aquaculture Act of 2007	**Potentially Indirect Negative**	
Offshore Wind Energy Facilities (within 3 years)		**Uncertain – Likely Indirect Negative**
Liquefied Natural Gas (LNG) terminals (within 3 years)	**Uncertain – Likely Indirect Negative**	
Convening Gear Take Reduction Teams (within 3 years)		**Indirect Positive**
Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries (within next 3 years)		**Indirect Positive**
Spiny Dogfish Amendment 3		**Neutral**
Cape Cod Spiny Dogfish Exempted Area		**Neutral**
NE Multispecies Framework 48		**Neutral**
NE Multispecies Framework 50		**Indirect Positive**
NE Multispecies Sector Plans		**Neutral**
Monkfish Emergency Action		**Negative**
Summary of past, present, and future actions excluding those proposed in this specifications document	**Overall, actions have had, or will have, positive impacts on protected resources * See section 7.5.5.4 for explanation.**	

7.5.5.5 Human Communities

Those past, present, and reasonably foreseeable future actions, whose effects may impact human communities and the direction of those potential impacts, are summarized in Table 24. The indirectly negative actions described in Table 24 are localized in nearshore areas and marine project areas where they occur. Therefore, the magnitude of those impacts on human communities is expected to be limited in scope. It may, however, displace fishermen from project areas. Agricultural runoff may be much broader in scope, and the impacts of nutrient inputs to the coastal system may be of a larger magnitude. This may result in indirect negative impacts on human communities by reducing resource availability; however, this effect is unquantifiable. As described above (section 7.5.4), NMFS has several means under which it can review non-fishing actions of other federal or state agencies prior to permitting or implementation of those projects. This serves to minimize the extent and magnitude of indirect negative impacts those actions could have on human communities.

Past fishery management actions taken through the FMP and annual specification process have had both positive and negative cumulative effects by benefiting domestic fisheries through sustainable fishery management practices, while at the same time potentially reducing the availability of the resource to all participants. Sustainable management practices are, however, expected to yield broad positive impacts to fishermen, their communities, businesses, and the nation as a whole. It is anticipated that the future management actions, described in Table 29, will result in positive effects for human communities due to sustainable management practices, although additional indirect negative effects on the human communities could occur through management actions that may implement gear requirements or area closures and thus, reduce revenues. Overall, the past, present, and reasonably foreseeable future actions that are truly meaningful to human communities have had an overall positive cumulative effect.

Commercial quotas and trip limits for the managed resource have been specified to ensure the stock is managed in a sustainable manner, and measures are consistent with the objectives of the FMP under the guidance of the MSA. The impacts from annual specification measures established in previous years on the managed resources are largely dependent on how effective those measures were in meeting their intended objectives and the extent to which mitigating measures were effective. Overages may alter the timing of commercial fishery revenues (revenues realized a year earlier), and there may be impacts on some fishermen caused by unexpected reductions in their opportunities to earn revenues in the commercial fisheries in the year during which the overages are deducted.

Despite the potential for neutral to positive short-term effects on human communities, the expectation is that there would be a positive long-term effect on human communities due to the long-term sustainability of spiny dogfish. Overall, the proposed actions in this document would not change the past and anticipated cumulative effects on human communities and thus, would not have any significant effect on human communities individually, or in conjunction with other anthropogenic activities (Table 29).

Table 29. Summary of the effects of past, present, and reasonably foreseeable future actions on human communities.

Action	Past to the Present	Reasonably Foreseeable Future
Original FMP and subsequent Amendments and Frameworks to the FMP	**Indirect Positive**	
Spiny dogfish Specifications	**Indirect Positive**	
Developed and Implement Standardized Bycatch Reporting Methodology	**Neutral**	
Amendment to address ACLs/AMs implemented		**Potentially Indirect Positive**
Agricultural runoff	**Indirect Negative**	
Port maintenance	**Uncertain – Likely Indirect Negative**	
Offshore disposal of dredged materials	**Indirect Negative**	
Beach nourishment – Offshore mining	**Indirect Negative**	
Beach nourishment – Sand placement	**Indirect Negative**	
Marine transportation	**Indirect Negative**	
Installation of pipelines, utility lines and cables	**Uncertain – Likely Indirect Negative**	
National Offshore Aquaculture Act of 2007	**Potentially Indirect Negative**	
Offshore Wind Energy Facilities (within 3 years)		**Uncertain – Likely Indirect Negative**
Liquefied Natural Gas (LNG) terminals (within 3 years)		**Uncertain – Likely Indirect Negative**
Convening Gear Take Reduction Teams (within 3 years)		**Indirect Positive**
Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries (within next 3 years)		**Indirect Positive**
Spiny Dogfish Amendment 3		**Neutral**
Cape Cod Spiny Dogfish Exempted Area		**Neutral**
NE Multispecies Framework 48		**Neutral**
NE Multispecies Framework 50		**Indirect Negative**
NE Multispecies Sector Plans		**Neutral**
Monkfish Emergency Action		**Mixed**
Summary of past, present, and future actions excluding those proposed in this specifications document	**Overall, actions have had, or will have, positive impacts on human communities** *** See section 7.5.5.5 for explanation.**	

7.5.6 Proposed Action on all the VECS

Since the Councils were not in agreement, NMFS has selected Alternative 2 (NEFMC-recommended) as the proposed action. The cumulative impacts are, therefore, described in reference to this alternative. However, since the overall quota is consistent between the specifications alternatives, NMFS expects minimal differences in terms of cumulative impacts. The following remarks address the significance of the expected cumulative impacts as they relate to the Federally managed spiny dogfish fishery.

The direct and indirect impacts of the proposed action on the VECs are described in sections 7.1 through 7.4. The magnitude and significance of the cumulative effects, which include the additive and synergistic effects of the proposed action, as well as past, present, and future actions, have been taken into account throughout this section 7.5. The action proposed in this annual specifications document builds off action taken in the original FMP and subsequent amendments and framework documents. When this action is considered in conjunction with all the other pressures placed on fisheries by past, present, and reasonably foreseeable future actions, it is not expected to result in any significant impacts, positive or negative. Based on the information and analyses presented in these past FMP documents and this document, there are no significant cumulative effects associated with the action proposed in this document (Table 30).

Table 30. Magnitude and significance of the cumulative effects; the additive and synergistic effects of the preferred action, as well as past, present, and future actions.

VEC	Status in 2012	Net Impact of P, Pr, and RFF Actions	Impact of the Preferred Action	Significant Cumulative Effects
Managed Resource	Complex and variable (Section 6.1)	Positive (Sections 7.5.4 and 7.5.5.1)	Slight negative to slight positive (Section 7.1)	**None**
Non-target Species	Complex and variable (Section 6.1)	Positive (Sections 7.5.4 and 7.5.5.2)	Negative to neutral (Section 7.1)	**None**
Habitat	Complex and variable (Section 6.2)	Neutral to positive (Sections 7.5.4 and 7.5.5.3)	Negative to neutral (Section 7.2)	**None**
Protected Resources	Complex and variable (Section 6.3)	Positive (Sections 7.5.4 and 7.5.5.4)	Negative to neutral (Section 7.3)	**None**
Human Communities	Complex and variable (Section 6.4)	Positive (Sections 7.5.4 and 7.5.5.5)	Neutral to slight positive (Section 7.4)	**None**

8.0 APPLICABLE LAWS

8.1 National Environmental Policy Act of 1969 (NEPA)

8.1.1 Finding of No Significant Environmental Impact (FONSI)

National Oceanic and Atmospheric Administration Administrative Order (NAO) 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, the Council on Environmental Quality (CEQ) regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of "context" and "intensity." Each criterion listed below is relevant to making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ's context and intensity criteria. These include:

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

The proposed action is intended to prevent overfishing and maintain spiny dogfish biomass above the biomass target. This action is not expected to jeopardize the sustainability of any target species that may be affected by the action. As discussed in Section 6.1.2, the spiny dogfish stock is rebuilt, is not overfished, and overfishing is not occurring.

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

The proposed action is not expected to jeopardize the sustainability of any non-target species. The proposed measure is not expected to significantly alter fishing methods or activities. There is limited directed fishing for spiny dogfish using gear that incidentally catches other species. The proposed action should not significantly increase directed dogfish fishing in the EEZ. As such, the incidental catch of non-target species should not increase significantly.

3) Can the proposed action reasonably be expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs?

The proposed action is not expected to cause substantial damage to the ocean, coastal habitats, and/or EFH as defined under the MSA and identified in the FMP. There has been an overall decline in bottom trawling activity in the Northeast region in recent years and management measures (closed areas) are in place for minimizing the adverse habitat impacts of bottom trawling and dredging. Therefore, fishing activity in the limited spiny dogfish trawl fishery is not expected to increase existing levels of minimal adverse impacts to EFH and do not require any mitigation.

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

No changes in fishing behavior that would affect safety are anticipated. The overall effect of the proposed action would not adversely impact public health or safety.

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

The proposed action is not reasonably expected to have an adverse impact on endangered or threatened species, marine mammals, or critical habitat for these species. While there may be some adverse impacts by maintaining fishing effort through the proposed action, that impact is not expected to be significant. Because the abundance of dogfish has increased greatly, effort is unlikely to increase significantly. In addition, measures in place to protect endangered or threatened species, marine mammals, and critical habitat for these species would remain in place.

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, etc.)?

The proposed action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area. The action is not expected to significantly alter fishing methods or activities or fishing effort or the spatial and/or temporal distribution of current fishing effort.

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

The proposed action is not expected to have a substantial impact on the natural or physical environment. The proposed action is not expected to significantly alter fishing methods or activities, fishing effort or the spatial and/or temporal distribution of current fishing effort. Therefore, there are no social or economic impacts interrelated with natural or physical environmental effects.

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

The impacts of the proposed measures on the human environment are described in Section 7 of the EA. The proposed actions merely revise the annual quota and trip limit for the 2014 - 2015 dogfish fishery. The proposed action is based upon measures contained in the FMP which have been in place for years. In addition, the scientific information upon which the annual quotas are based has been peer-reviewed and is the most recent information available. Therefore, the measures contained in this action are not expected to be highly controversial.

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?

It is possible that historic or cultural resources such as shipwrecks could be present in the area where the dogfish fishery is prosecuted. However, vessels try to avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the proposed action would result in substantial impacts to unique areas.

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

The impacts of the proposed action on the human environment are described in Section 7.0 of the EA. The proposed action addresses the commercial quota and trip limit for the spiny dogfish fishery. The proposed action is not expected to significantly alter fishing methods or activities, and is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The measures contained in this action are not expected to have highly uncertain, unique, or unknown risks on the human environment.

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

As discussed in Section 7.5, the proposed action is not expected to have cumulatively significant impacts when considered with the impacts from other fishing and non-fishing activities. The improvements in the condition of the stock are expected to generate cumulative positive impacts overall. The proposed action, together with past and future actions are not expected to result in significant cumulative impacts on the biological, physical, and human components of the environment.

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

Although there are shipwrecks present in areas where fishing occurs, including some registered on the National Register of Historic Places, vessels try to avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the proposed action would adversely affect the historic resources.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

The proposed action addresses the commercial quota and trip limit for the spiny dogfish fishery. There is no evidence or indication that this fishery has ever resulted in the introduction or spread of nonindigenous species. The proposed action is not expected to significantly alter fishing methods or activities, and is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort.

Therefore, it is highly unlikely that the proposed action would be expected to result in the introduction or spread of a non-indigenous species.

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

The proposed action addresses the commercial quota and trip limit for the spiny dogfish fishery. The proposed action is not expected to significantly alter fishing methods or activities, and is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. When new stock assessment or other biological information about these species becomes available in the future, then the specifications may be adjusted according to the FMP. The proposed action will not result in significant effects, nor does it represent a decision in principle about a future consideration.

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

The proposed action addresses the commercial quota and trip limit for the spiny dogfish fishery. The proposed action is not expected to alter fishing methods or activities such that they threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. The proposed action has been found to be consistent with other applicable laws (see Sections 9.2 - 9.10 below).

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

The impacts of the proposed action on the biological, physical, and human environment are described in Section 7.0. The cumulative effects of the proposed action on target and non-target species are detailed in Section 7.6. The proposed action is not expected to significantly increase fishing effort or the spatial and/or temporal distribution of current fishing effort. The improvements in the condition of the stock through implementation of quotas based on the fishing mortality target contained in the FMP are expected to generate positive impacts overall.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment, it is hereby determined that the proposed actions in this specification package will not significantly impact the quality of the human environment as described above and in the Environmental Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an Environmental Impact Statement for this action is not necessary.

_____ _____

John K. Bullard
Regional Administrator, Greater Atlantic Region, NMFS Date

8.2 Marine Mammal Protection Act

The MAFMC has reviewed the impacts of the proposed spiny dogfish specifications on marine mammals and has concluded that the proposed management actions are consistent with the provisions of the MMPA, and will not alter existing measures to protect the species likely to inhabit the spiny dogfish management unit. For further information on the potential impacts of the fishery and the proposed management action on marine mammals, see Section 7.4 of this document.

8.3 Endangered Species Act

Section 7 of the Endangered Species Act requires federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The MAFMC has concluded, using information available, that the proposed spiny dogfish specifications are not likely to jeopardize any ESA-listed species or alter or modify any critical habitat, based on the discussion of impacts in this document (Section 7.3).

8.4 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) of 1972, as amended, provides measures for ensuring stability of productive fishery habitat while striving to balance development pressures with social, economic, cultural, and other impacts on the coastal zone. It is recognized that responsible management of both coastal zones and fish stocks must involve mutually supportive goals. The Council has developed this specifications document and will submit it to NMFS; NMFS must determine whether this action is consistent to the maximum extent practicable with the CZM programs for each state (Maine through North Carolina).

8.5 Administrative Procedure Act

Sections 551-553 of the Federal Administrative Procedure Act establish procedural requirements applicable to informal rulemaking by federal agencies. The purpose is to ensure public access to the federal rulemaking process and to give the public notice and an opportunity to comment before the agency promulgates new regulations.

The Administrative Procedure Act requires solicitation and review of public comments on actions taken in the development of a fishery management plan and subsequent amendments and framework adjustments. Development of this specifications document provided many opportunities for public review, input, and access to the rulemaking process. This proposed specifications document was developed as a result of a multi-stage process that involved review of the source document (2014 - 2015 Specifications and Management Measures) by affected members of the public. The public had the opportunity to review and comment on management measures during a meeting of the Council's Scientific and Statistical Committee in September 2013, a Spiny Dogfish MC Meeting in October 2013, a Joint Spiny Dogfish Committee meeting held in October

2013, a MAFMC meeting held in October 2013, and an NEFMC meeting held in November 2013. In addition, the public will have further opportunity to comment on this specifications package once NMFS publishes a proposed rule in the Federal Register (FR) requesting comments.

8.6 Information Quality Act

Utility of Information Product

The proposed document includes: A description of the proposed specifications, description of the alternatives considered, and the reasons for selecting the proposed management measures. This action proposes commercial quotas and other management measures for spiny dogfish 2014-2015. This proposed specifications document implements the FMP's conservation and management goals consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) as well as all other existing applicable laws.

This proposed specifications document was developed as a result of a multi-stage process that involved review of the source document (2014-2015 Specifications and Management Measures) by affected members of the public. The public had the opportunity to review and comment on management measures during a meeting of the Council's Scientific and Statistical Committee in September 2013, a Spiny Dogfish MC Meeting in October 2013, a Joint Spiny Dogfish Committee meeting held in October 2013, a MAFMC meeting held in October 2013, and an NEFMC meeting held in November 2013. In addition, the public will have further opportunity to comment on this specifications package once NMFS publishes a proposed rule in the Federal Register (FR) requesting comments.

The Federal Register notice that announces the proposed rule and the implementing regulations will be made available in printed publication and on the website for the Northeast Regional Office. The notice provides metric conversions for all measurements.

Integrity of Information Product

The information product meets the standards for integrity under the following types of documents:

Other/Discussion (e.g., Confidentiality of Statistics of the Magnuson-Stevens Fishery Conservation and Management Act; NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics; 50 CFR 229.11, Confidentiality of information collected under the Marine Mammal Protection Act.)

Objectivity of Information Product

The category of information product that applies for this product is “Natural Resource Plans.”

In preparing specifications documents, the Council must comply with the requirements of the Magnuson-Stevens Act, the National Environmental Policy Act, the Regulatory

Flexibility Act, the Administrative Procedure Act, the Paperwork Reduction Act, the Coastal Zone Management Act, the Endangered Species Act, the Marine Mammal Protection Act, the Data Quality Act, and Executive Orders 12630 (Property Rights), 12866 (Regulatory Planning), 13132 (Federalism), and 13158 (Marine Protected Areas).

This specifications document has been developed to comply with all applicable National Standards, including National Standard 2. National Standard 2 states that the FMP's conservation and management measures shall be based upon the best scientific information available. Despite current data limitations, the conservation and management measures proposed to be implemented under this specifications document are based upon the best scientific information available. This information includes NMFS commercial fisheries data for fishing year 2013, which was used to characterize the economic impacts of the management proposals. These data, as well as the NMFS Observer program database, were used to characterize historic landings, species co-occurrence in the spiny dogfish catch, and discarding. The specialists who worked with these data are familiar with the most recent analytical techniques and with the available data and information relevant to the spiny dogfish fishery. Marine Recreational Fisheries Statistical Survey (MRFSS) data were used to characterize the recreational fishery for this species.

The policy choices (i.e., management measures) proposed to be implemented by this specifications document are supported by the available scientific information and, in cases where information was unavailable, proxy reference points are based on observed trends in survey data. The management measures contained in the specifications document are designed to meet the conservation goals and objectives of the FMP, and prevent overfishing and rebuild overfished resources, while maintaining sustainable levels of fishing effort to ensure a minimal impact on fishing communities.

The supporting materials and analyses used to develop the measures in the proposed rule are contained in the specifications document and to some degree in previous specifications and/or FMPs as specified in this document.

The review process for this specifications package involves the Mid-Atlantic Fishery Management Council, the Northeast Fisheries Science Center, the Northeast Regional Office, and NOAA Fisheries 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 specifications document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the specifications document and clearance of the rule is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

8.7 Paperwork Reduction Act

The Paperwork Reduction Act (PRA) concerns the collection of information. The intent of the PRA is to minimize the federal paperwork burden for individuals, small businesses, state and local governments, and other persons as well as to maximize the usefulness of information collected by the federal government. There are no changes to the existing reporting requirements previously approved under this FMP for vessel permits, dealer reporting, or vessel logbooks. This action does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

8.8 Impacts Relative to Federalism/E.O. 13132

This specifications document does not contain policies with federalism implications sufficient to warrant preparation of a federalism assessment under Executive Order (EO) 13132.

8.9 E.O. 12866 / Regulatory Flexibility Act

8.9.1 Determination of Significance under E.O. 12866

NMFS 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.*

The proposed action will not have an effect on the economy in excess of $100 million. The proposed action is not expected to have any adverse impacts on the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local or tribal governments or communities.

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

The proposed action will not create a serious inconsistency with, or otherwise interfere with, an action taken or planned by another agency. No other agency has indicated that it plans an action that will affect the spiny dogfish fishery in the EEZ.

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 will not materially alter the budgetary impact of entitlements, grants, user fees or loan programs, or the rights and obligations of their participants.

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 does not raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in E.O. 12866.

8.9.2 Initial Regulatory Flexibility Analysis

The following sections contain analyses of the effect of the proposed action on small entities. Under Section 603(b) of the RFA, each initial regulatory flexibility analysis is required to address:

1. Reasons why the agency is considering the action,
2. The objectives and legal basis for the proposed rule,
3. The kind and number of small entities to which the proposed rule will apply,
4. The projected reporting, record-keeping and other compliance requirements of the proposed rule, and
5. All federal rules that may duplicate, overlap, or conflict with the proposed rule.

8.9.2.1 Reasons for Considering the Action

The purpose and need for this action is identified in Section 4.1 of this document. The Spiny Dogfish FMP requires that the Council and the Regional Administrator annually review the best available stock and fishery data when developing specifications for the upcoming fishing year.

8.9.2.2 Objectives and Legal Basis for the Action

The objective of the proposed action is to implement specifications for the spiny dogfish fishery, as required under the regulations implementing the Spiny Dogfish FMP, which are provided in 50 CFR 648, Subpart L.

8.9.2.3 Description and Number of Small Entities to Which the Rule Applies

In 2012, there were 2,666 vessels that held a Spiny Dogfish permit. However, not all of those vessels are active participants in either fishery; only 489 vessels landed Spiny Dogfish in 2012. If two or more vessels have identical owners, these vessels should be considered to be part of the same firm, because they may have the same owners. When permit ownership data is considered, in 2012 there were **1,976** fishing firms that held at least one Spiny Dogfish permit. Firms are classified as finfish or shellfish firms based on the activity which they derive the most revenue. Using the $5M cutoff for shellfish firms (NAICS 114112) and the $19M cutoff for finfish firms (NAICS 114111), there are **1,953** directly regulated small entities and **23** directly regulated large entities.

Table 31 describes the number of small entities that have at least 1 Spiny Dogfish permit, their average gross receipts, and their average gross receipts derived from Spiny Dogfish. For each entity, the average gross receipts for the 2010-2012 period are constructed from

NMFS dealer reports. On average, for these small entities, Spiny Dogfish is responsible for a small fraction of landings. While all **1,953** directly regulated small entities will be affected by the specifications, many of these small entities do not currently participate in this fishery and would be likely to experience only negligible economic impacts. A description of the small entities that are directly regulated **and** are active in the Spiny Dogfish is included in order to provide more understanding about the small entities that are experience effects of the Amendment 3.

Table 31. Number of small fishing firms, average gross receipts, and average gross receipts derived from Spiny Dogfish.

Revenue Category	Count of Firms	Average Gross Receipts	Average of Dogfish Receipts
.5-1M	118	$711,598	$2,169
<.5M	1639	$87,720	$1,500
1-2M	136	$1,477,752	$883
2-3M	34	$2,514,723	$38
3-4M	15	$3,376,305	$94
4-5M	10	$4,461,217	$119
5+ M	1	c	c
Total	1953		

Table 32 describes the number of small entities that are active in the Spiny Dogfish fishery, their average gross receipts, and their average gross receipts derived from Spiny Dogfish. For each entity, the average gross receipts for the 2010-2012 period are constructed from NMFS dealer reports. The active Spiny Dogfish fishery participants derive a small share of gross receipts from the Spiny Dogfish fishery. There are **488** active fishing firms, of which **482** are small entities and **6** are large entities.

Table 32. Number of active small fishing firms, average gross receipts, and average gross receipts derived from Spiny Dogfish. Only firms that caught Spiny dogfish are included.

Revenue Category	Count of Firms	Average Gross Receipts	Average of Dogfish Receipts
<.5M	410	$151,686	$5,998
.5-1M	44	$724,235	$5,817
1-2M	21	$1,410,646	$5,717
2-3M	3	$2,543,758	$436
3-4M	3	$3,352,480	$471
4-5M	1	c	c
Grand Total	**482**		

8.9.2.4 Recordkeeping and Reporting Requirements

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

8.9.2.5 Duplication, Overlap, or Conflict with Other Federal Rules

The proposed action does not duplicate, overlap or conflict with any other federal rules.

8.9.2.6 Economic Impacts on Small Entities

Section 7.0 of this document contains the economic analysis of the alternatives that were considered during the specification process.

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11.0 LIST OF AGENCIES AND PERSONS CONSULTED

This document was prepared by the Mid-Atlantic Fishery Management Council in consultation with the National Marine Fisheries Service and the New England Fishery Management Council.

Additional (final) copies of this EA can be obtained via the NMFS NERO website:
http://www.nero.noaa.gov/nero/regs/com2011.html
or by request from
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Members of the Spiny Dogfish Monitoring Committee include:

James Armstrong, MAFMC Staff (Monitoring Committee Chair)
Angel Willey, Maryland DNR
Tobey Curtis, NMFS NERO
Holly White, North Carolina Division of Marine Fisheries
Phil Haring, New England Fishery Management Council
Dan McKiernan, Massachusetts Division of Marine Fisheries
Jack Musick, Virginia Institute of Marine Sciences
Paul Rago, NEFSC Population Dynamics Branch
Eric Schneider, Rhode Island Division of Fish and Wildlife
Chris Hickman, North Carolina ex-officio industry advisor
Eric Brazer, Massachusetts ex-officio industry advisor

Members of the Joint Spiny Dogfish Committee include:

Rob O'Reilly (Chair) MAFMC
Chris Batsavage MAFMC
Erling Berg MAFMC
Jeff Deem MAFMC
Dewey Hemilright MAFMC
Pete Himchak MAFMC
Mike Luisi MAFMC
Preston Pate MAFMC
Bob Beal ASMFC
Dave Pierce NEFMC
Frank Blount NEFMC
David Preble NEFMC
John Quinn NEFMC

In addition, the following organizations/agencies were consulted during the development of the spiny dogfish specifications, either through direct communication/correspondence and/or participation in Council public meetings:

NOAA Fisheries, National Marine Fisheries Service, Greater Atlantic Regional Office, Gloucester MA
Northeast Fisheries Science Center, Woods Hole, MA
Atlantic States Marine Fisheries Commission

APPENDIX 1

Relevant Port and Community Descriptions

(The contents of this appendix are taken from the NEFSC's "Community Profiles for the Northeast US Fisheries" for Virginia Beach, VA, Marshfield, MA, Rye, NH, Scituate, MA, Hatteras, NC, Ocean City, MD, Little Compton, RI, Chatham, MA, Seabrook, NH , and Chincoteague, VA for which spiny dogfish comprised greater than 5% of total port ex-vessel revenue according to the federal dealer report database. They are also available on the internet at:
http://www.nefsc.noaa.gov/read/socialsci/community_profiles/)

APPENDIX 2

Contents **Page**