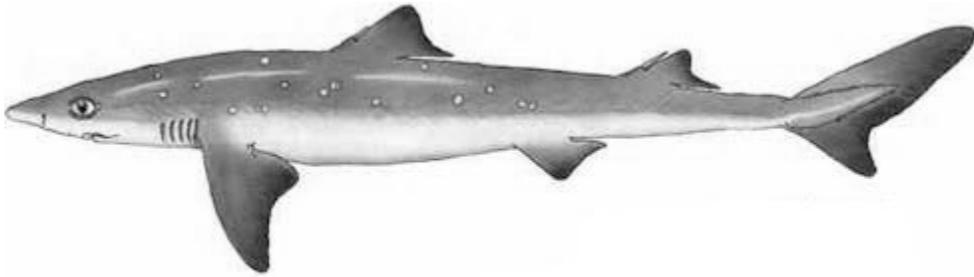


Specifications and Management Measures For:
Spiny Dogfish (2016-2018)

Includes Environmental Assessment and
Initial Regulatory Flexibility Analysis



Prepared by the

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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 their environmental impacts. The alternatives themselves consist of restrictions on the commercial fishery for spiny dogfish in the 2016 through 2018 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 and to achieve optimum yield. This document was developed in accordance with a number of applicable laws and statutes that are described in Section 8.

Specification Alternatives (Alternatives 1a, 2, 3) Summary

For the 2015 fishing year, the year preceding the measures proposed via this action, the domestic spiny dogfish Acceptable Biological Catch (ABC), Annual Catch Limit (ACL), and Annual Catch Target (ACT) were 62,269,566 pounds. Accounting for recreational catch and discards resulted in a commercial quota of 50,611,522 pounds. These current specifications (constant for three years) are detailed in Section 5 as the no-action/status quo alternative (Alternative 1), since the spiny dogfish regulations automatically roll-over if no new regulations are promulgated.

An updated assessment concluded that the stock is lower than previously thought (but no overfishing and not overfished), and the Council's Scientific and Statistical Committee (SSC) accordingly recommended a lower ABC, which then affects all of the other specifications. As detailed in the table below, the new ABCs/ACLs/ACTs recommended by the Council at its December 2015 meeting for the 2016-2018 fishing years range from 52,066,572 to 49,901,633 pounds and the commercial quotas range from 40,360,761 to 38,195,822 pounds. These are the preferred specifications (Alternative 2). The specifications decline somewhat over the three years because the spiny dogfish stock is expected to decline somewhat through 2019 due to earlier poor recruitment, and then increase beginning in 2020 due to improved recruitment. The stock is jointly managed with the New England Fishery Management Council and they recommended the same measure as preferred.

Table 1. Preferred Spiny Dogfish Specifications 2016-2018.

Specifications	Basis	2016 (pounds)	2016 (mt)	2017 (pounds)	2017 (mt)	2018 (pounds)	2018 (mt)
OFL	Projected Catch at Fmsy	64,414,664	29,218	na	na	na	na
New ABCs	Council Risk Policy	52,066,572	23,617	50,805,528	23,045	49,901,633	22,635
Canadian Landings	= avg last 3 years (10,11,12)	143,300	65	143,300	65	143,300	65
Domestic ABC	= ABC – Canadian Landings	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
ACL	= Domestic ABC	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
Mgmt Uncert. Buffer	Ave pct overage since 2011	0	0	0	0	0	0
ACT	= ACL - mgmt uncertainty	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
U.S. Discards	=3 year average 12-13-14	11,494,167	5,214	11,494,167	5,214	11,494,167	5,214
TAL	ACT – Discards	40,429,105	18,338	39,168,060	17,766	38,264,165	17,356
U.S. Rec Landings	= 2014 estimate	68,343	31	68,343	31	68,343	31
Comm Quota	TAL – Rec Landings	40,360,761	18,307	39,099,717	17,735	38,195,822	17,325

In October 2015 the Council initially reviewed a lower ABC recommendation from its SSC that resulted in lower overall specifications (Alternative 3, non-preferred - detailed in Section 5). The lower ABC stemmed from lower spiny dogfish biomass, compounded with a missing 2014 data point and the use of a 2-year average instead of the 3-year average typically used. Subsequently the NMFS Northeast Fisheries Science Center analyzed the performance of several smoothing procedures and the Council's SSC recommended a Kalman Filter-based smoothing procedure that better accounts for missing data and the associated uncertainty. Therefore there are three alternatives considered for 2016-2018 specifications: Alternative 1a - No-action/status quo; Alternative 2 - the preferred specifications described above; and Alternative 3 - the initially-considered lower specifications.

Specification Alternatives (1a, 2, 3) Impact Summary

In terms of the dogfish resource, maintaining the status quo via Alternative 1a would be expected to result in negative impacts for the spiny dogfish resource because it could induce overfishing and exacerbate the long-expected but moderate dip in spiny dogfish biomass. Alternatives 2 and 3 should have positive impacts for the spiny dogfish resource because they should avoid overfishing and maintain the sustainability of the resource. Alternative 3 would be most protective/positive for the spiny dogfish resource.

From the human community perspective, Alternatives 1a and 3 are negative for different reasons: Alternative 1a is negative because it could jeopardize the sustainability of the resource/fishery while Alternative 3 is negative because it could unnecessarily constrain the fishery. Alternative 2 should allow for optimum yield while preventing overfishing and is thus most positive from a human community perspective, especially when a long-term perspective is taken.

In terms of other valued ecosystem components (habitat, protected resources, and non-target species) impacted by this fishery, no-action/status quo (Alternative 1a) would be expected to have similar impacts as the previous year. Since the quota has not been constraining, Alternatives 2 and 3 would also result in similar impacts compared to the previous year, but since they potentially could restrict the fishery more than selecting the no-action/status quo alternative, there could be low-positive impacts from these alternatives.

Trip Limit Alternatives (Alternatives 1b, 4, 5) Summary

Changes for other management measures (especially trip limits) are sometimes recommended during the specifications process, but there are no other changes recommended by the Councils at this time. The dogfish possession limit is 5,000 pounds in Federal waters (No action/status quo, Alternative 1b); however, individual states may set more restrictive possession limits. A summary of other regulations is available at <http://www.greateratlantic.fisheries.noaa.gov/regs/infodocs/spinydogfactsheet.pdf>. The Council did consider a motion to eliminate the federal trip limit however that motion failed. The Atlantic States Marine Fisheries Commission (ASMFC) has also requested that the Councils consider increasing the Federal trip limit to 6,000 pounds. Accordingly, this document also considers increasing the federal trip limit to 6,000 pounds (Alternative 4) or 7,000 pounds (Alternative 5) even though the currently-preferred alternative of both Councils is to keep the current 5,000 pound trip limit.

Trip Limit Alternatives (1b, 4, 5) Impact Summary

The trip limits provide a primary control on the rate of landings, though the overall quota and NMFS’ authority to close the fishery should limit the total catch. Alternative 1b would maintain the status quo while Alternatives 4 and 5 would increase the trip limit by 20% and 40% respectively. Trip limits generally do not have a clear impact on the managed resource, but higher trip limits have the potential to increase fishing effort for this fishery.

From the human community perspective, Alternative 1b should result in similar impacts as previous years, i.e. ongoing positive impacts from the sustainable nature of the spiny dogfish fishery. The higher trip limits proposed under Alternatives 4 and 5 could result in greater immediate revenue per trip but are also associated with a higher potential for an abbreviated season compared to the other alternatives (though the quotas have not been constraining in recent years).

Maintaining status quo trip limits (1b) would tend to maintain the distribution and intensity of fishing effort for this species and is associated with similar impacts as previous years for non-target species, habitat, and EFH as well as ESA-listed and MMPA-protected resources. If fishing effort increases in response to higher trip limits, Alternatives 4 and 5 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 the status quo. However, effort is not expected to substantially change from the modest changes considered for trip limits, so similar impacts as that no action/status quo would be expected.

Table 2. Expected impacts of alternatives

Status Quo and Preferred Alternatives	Valued Ecosystem Components/Environmental Dimensions				
	Managed Resource	Non-target Species	Human Communities	Protected Resources	Essential Fish Habitat
Alt 1a/1b No action = Status Quo for specifications and Status Quo for trip limit (status-quo trip limit is preferred). ABC = 62,412,866 pounds and trip limit = 5,000 pounds.	neutral to date, low - moving forward	low - to date, similar moving forward	+ to date, less so moving forward	low - to date, similar moving forward	neutral
Alt 2 - Dogfish Specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (preferred)	low +	low +	low +	low +	neutral
Alt 3 - Dogfish Specifications for 2016-2018 set based on ABCs of 36,960,498 to 36,676,102 pounds, using 3-year averaging for smoothing	low +	low +	low -	low +	neutral
Alt 4 - Higher, 6,000 pound trip limit	neutral	neutral	low +	neutral	neutral
Alt 5 - Higher, 7,000 pound trip limit	neutral	neutral	low +	neutral	neutral

("+" signifies a positive impact, "-" a negative impact, and "low" indicates a likely small impact. Impacts for Alternatives are relative to the no action/status quo)

Cumulative Impacts

When the proposed 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; therefore, there are no significant cumulative effects associated with the action proposed in this document (see Section 7).

Summary 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. The preferred alternatives (1b, 2) are 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.

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3.0 COMMON ACRONYMS AND ABBREVIATIONS

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

4.0 INTRODUCTION

This document evaluates potential impacts that would result from the proposed action to approve spiny dogfish management measures for fishing years 2016-2018. In accordance with the National Environmental Policy Act (NEPA), for actions with non-significant impacts, NMFS evaluates the potential impacts of management measures through an Environmental Assessment (EA) submitted by the Council. This EA analyzes the impacts of a suite of management measures approved by the Councils, including a range of catch restrictions 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 that there are not significant 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 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 annual catch limits (ACL) and accountability measures (AMs) for the fishery. Amendment 3 added the dogfish fishery to the Research Set-Aside (RSA) program, updated Essential Fish Habitat definitions, established provisions to maintain existing management measures (including quota) in the event of delayed rulemaking, and eliminated the seasonal allocation of the coast wide commercial quota

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 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, as well as the advice of the Spiny Dogfish Advisory Panel, form the basis for the Councils' development of recommended spiny dogfish management measures.

The current regulations for this fishery are summarized at <http://www.greateratlantic.fisheries.noaa.gov/regs/infodocs/spinydogfactsheet.pdf> and the official regulations may be found at 50 CFR part 648 (<http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50>).

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 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. The specifications considered in this document are for three fishing years, 2016-2018 (the 2018 fishing year end April 30, 2019).

Figure 1 (next page) provides a diagram of the process for determining annual spiny dogfish management measures that was outlined in Amendment 2 to the FMP (MAFMC 2011). 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 to achieve the Council's desired risk of overfishing. Next, the Monitoring Committee recommends 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.

This year, the SSC provided a revised ABC and the Monitoring Committee did not have time to meet to make separate revised recommendations, but the Monitoring Committee's same approach with the initial ABC was followed with the revised ABC, and no Monitoring Committee members had objections to this approach when consulted via email. The specification alternative details are provided in Section 5.

4.2 Purpose and Need for the Action

The purpose of this action (specification of spiny dogfish management measures) is to implement the 2016 through 2018 ABCs, ACLs, ACTs, and commercial quotas for the U.S. Atlantic spiny dogfish fishery and an accompanying trip limit. 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 and that optimum yield is achieved. 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.

Spiny Dogfish Specification Process

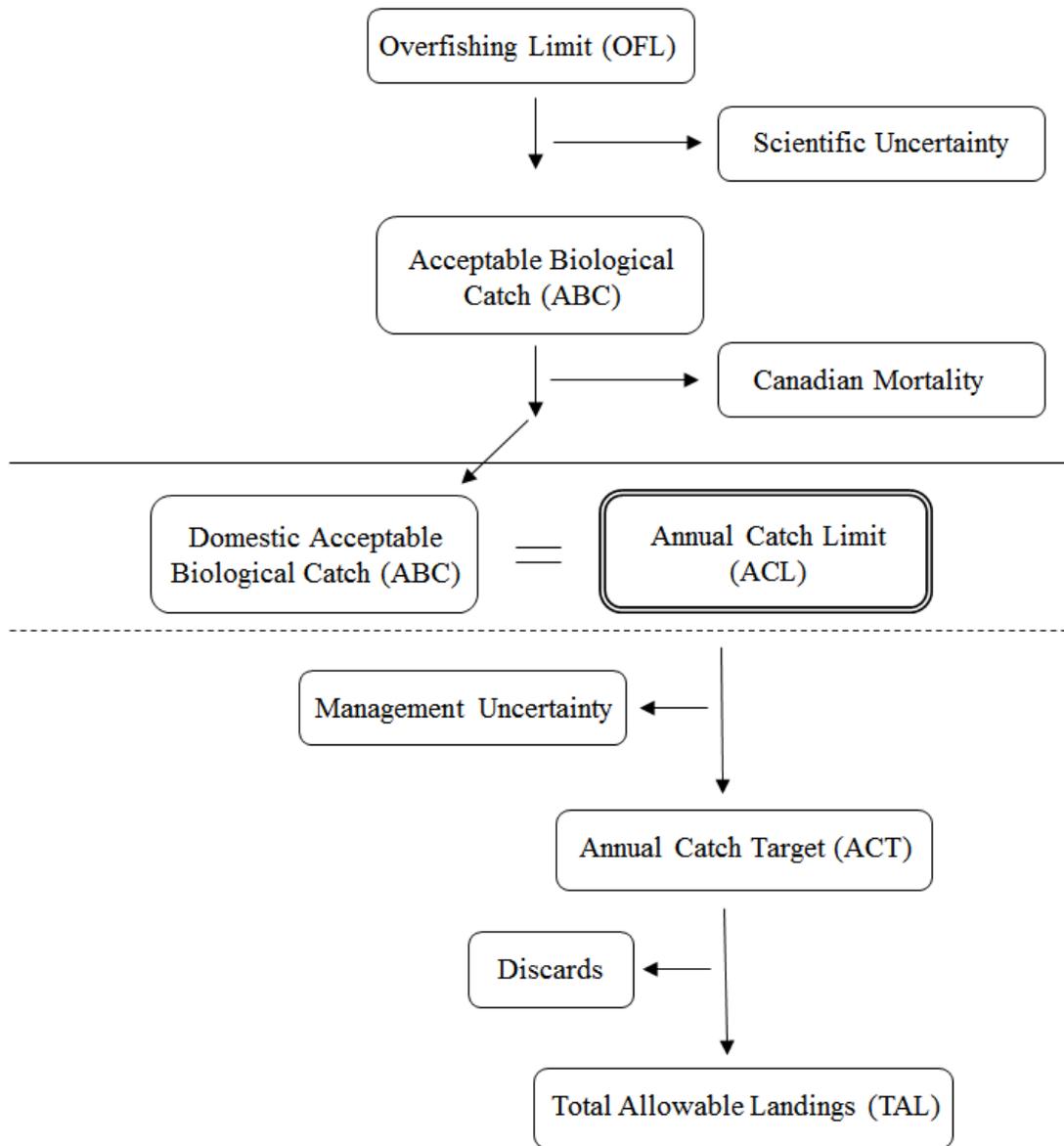


Figure 1. Specification process for spiny dogfish as described in Amendment 2 to the Spiny dogfish FMP (Omnibus ACL/AM Amendment).

5.0 WHAT ALTERNATIVES ARE CONSIDERED IN THIS DOCUMENT?

Introduction

No action or *the no action alternative* is equivalent to the current (“status quo”) specifications¹ because the current regulations contain a "roll-over" provision. This provision specifies that if NMFS fails to publish annual specifications before the start of the new fishing year, then the previous year’s specifications remain in effect. The preferred alternatives were recommended by the Council after considering the recommendations of its SSC, recommendations from the Spiny Dogfish Monitoring Committee (Council, State, and NMFS technical staff along with 2 ex-officio industry representatives), input from the Spiny Dogfish Advisory Panel, and public testimony and comment per the requirements of the MSA and the Spiny Dogfish FMP. Several alternatives are analyzed to facilitate consideration of a reasonable range of alternatives (per NEPA) and to evaluate their impacts on the stock and other valued ecosystem components, including socio-economic impacts on fishing communities (see Section 7 for impact analyses). Below, first the no action alternative and then the other alternatives are described.

5.1 ALTERNATIVE 1A/1B: NO ACTION, WHICH WOULD MAINTAIN THE STATUS QUO

Since the FMP has a rollover provision, if no action is taken then all the current specifications and management measures remain in place. The current dogfish regulations are available at <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50> NMFS has also created an overview document, available at <http://www.greateratlantic.fisheries.noaa.gov/regs/info.html>, but for the purposes of this document, taking no action has a specific meaning in relation to the specifications and trip limits, as described below. Because there are alternatives for both the specifications and trip limits, the no action alternative was divided into two parts, 1a and 1b, with 1a addressing the specifications and 1b addressing the trip limits.

1a: Dogfish Specifications **No Action** (i.e. the status quo)

The 2015 spiny dogfish ABC is 62,412,866 pounds. After Canadian landings, discards, and recreational landings were accounted for, this translated into a commercial landings quota of 50,611,522 pounds (see table below). With no action these specifications would continue.

¹ Note on research set-asides (RSA): The RSA program has been suspended by the Council pending further review of its overall utility.

Table 3. Summary 2015 Dogfish Specifications

Specifications	Basis	2015 (pounds)	2015 (mt)
OFL	Projected Catch at Fmsy		
ABC	Constant F	62,412,866	28,310
Canadian Landings	= avg last 3 years (09,10,11)	143,300	65
Domestic ABC	= ABC – Canadian Landings	62,269,566	28,245
ACL	= Domestic ABC	62,269,566	28,245
Mgmt Uncert. Buffer	Average Overages 2010-11	0	0
ACT	= ACL - mgmt uncertainty	62,269,566	28,245
U.S. Discards	2002-2011 average	11,605,133	5,264
TAL	ACT – Discards	50,664,432	22,981
U.S. Rec Landings	2010-2011 average	52,911	24
Comm Quota	TAL – Rec Landings	50,611,522	22,957

OFL = Overfishing Level
 ABC = Acceptable Biological Catch
 ACL = Annual Catch Limit
 ACT = Annual Catch Target
 TAL = Total Allowable Landings

1b: Dogfish Trip Limit No Action (i.e. the status quo)

Vessels issued a valid Federal spiny dogfish permit under §648.4(a)(11) may: (1) Possess up to 5,000 pounds (2,268 kg) of spiny dogfish per trip; and (2) Land only one trip of spiny dogfish per calendar day. This trip limit has been effective since September 8, 2014.

5.2 ALTERNATIVE 2: NEW 2016-2018 SPINY DOGFISH SPECIFICATIONS (PREFERRED)

Alternative 2 (see table below) is a preferred alternative because it utilizes the current SSC ABC recommendation, and conforms to the Spiny Dogfish FMP in terms of how specifications are set to derive the commercial quota. It is based on the SSC-recommended ABCs for each year, which resulted from the SSC’s selection of a Kalman filter as the best way to smooth data given concerns about how missing 2014 data would be accounted for. Mechanical issues prevented sampling of survey areas that are important for spiny dogfish, so no biomass estimate is available for 2014. Paul Rago (NMFS Northeast Fisheries Science Center) completed an evaluation (available at: <http://www.mafmc.org/council-events/2015/ssc-meeting-nov24>) of several smoothing options to deal with the missing 2014 data. The Council’s SSC met November 24, 2015, and reviewed the evaluation and concluded that a Kalman filter was the best of the available smoothing methods (<http://www.mafmc.org/s/2015-11-SSC-Report.pdf>). Application of the Kalman filter results in different ABCs and quotas than were recommended at the Council’s October 2015 meeting, but these ABCs are the SSC’s current recommendations and the Council made new recommendations at its December 2015 meeting, which are the basis of this preferred alternative.

To get the portion of the total ABC available for the U.S. commercial quota, expected discards, Canadian landings, and recreational landings are deducted as per the table below. While it can be difficult to predict these values from past data, the Monitoring Committee recommended the utilized values as providing the best estimate of future catch given the available data and correlation analyses that indicated linkages between past data and expected future results.

Table 4. Preferred Spiny Dogfish Specifications

Specifications	Basis	2016 (pounds)	2016 (mt)	2017 (pounds)	2017 (mt)	2018 (pounds)	2018 (mt)
OFL	Projected Catch at Fmsy	64,414,664	29,218	na	na	na	na
New ABCs	Council Risk Policy	52,066,572	23,617	50,805,528	23,045	49,901,633	22,635
Canadian Landings	= avg last 3 years (10,11,12)	143,300	65	143,300	65	143,300	65
Domestic ABC	= ABC – Canadian Landings	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
ACL	= Domestic ABC	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
Mgmt Uncert. Buffer	Ave pct overage since 2011	0	0	0	0	0	0
ACT	= ACL - mgmt uncertainty	51,923,272	23,552	50,662,228	22,980	49,758,333	22,570
U.S. Discards	=3 year average 12-13-14	11,494,167	5,214	11,494,167	5,214	11,494,167	5,214
TAL	ACT – Discards	40,429,105	18,338	39,168,060	17,766	38,264,165	17,356
U.S. Rec Landings	= 2014 estimate	68,343	31	68,343	31	68,343	31
Comm Quota	TAL – Rec Landings	40,360,761	18,307	39,099,717	17,735	38,195,822	17,325

5.3 ALTERNATIVE 3: ALTERNATE 2016-2018 SPINY DOGFISH SPECIFICATIONS

Before the evaluation of additional smoothing options described above, the SSC had recommended ABCs based on the traditional three-year smoothing used in previous assessment updates. However, since there is no 2014 abundance data point, the update was actually a two-year average of 2013 and 2015 data. These specifications would be lower than Alternative 2, and are detailed in the table below. The differences in these specifications and the preferred specifications result only from the lower starting ABC for Alternative 3. They do not utilize the current SSC or Council recommendations and are not preferred.

Table 5. Alternate Spiny Dogfish Specifications

Specifications	Basis	2016 (pounds)	2016 (mt)	2017 (pounds)	2017 (mt)	2018 (pounds)	2018 (mt)
OFL	Projected Catch at Fmsy	53,455,485	24,247	55,313,982	25,090	56,824,148	25,775
ABC	Council Risk Policy	36,960,498	16,765	36,433,593	16,526	36,676,102	16,636
Canadian Landings	= avg last 3 years (10,11,12)	143,300	65	143,300	65	143,300	65
Domestic ABC	= ABC – Canadian Landings	36,817,198	16,700	36,290,293	16,461	36,532,801	16,571
ACL	= Domestic ABC	36,817,198	16,700	36,290,293	16,461	36,532,801	16,571
Mgmt Uncert. Buffer	Ave pct overage since 2011	0	0	0	0	0	0
ACT	= ACL - mgmt uncertainty	36,817,198	16,700	36,290,293	16,461	36,532,801	16,571
U.S. Discards	=3 year average 12-13-14	11,494,167	5,214	11,494,167	5,214	11,494,167	5,214
TAL	ACT – Discards	25,323,030	11,486	24,796,126	11,247	25,038,634	11,357
U.S. Rec Landings	= 2014 estimate	68,343	31	68,343	31	68,343	31
Comm Quota	TAL – Rec Landings	25,254,687	11,455	24,727,782	11,216	24,970,291	11,326

5.4 ALTERNATIVE 4: HIGHER, 6,000 POUND TRIP LIMIT

This alternative would increase the spiny dogfish trip limit in federal waters to 6,000 pounds from the current 5,000 pounds. While the Councils did not recommend an increase, these specifications consider the impacts of an increase to 6,000 pounds because the Council considered eliminating the Federal trip limit at its October 2015 meeting, and because the ASMFC has submitted a letter (http://www.mafmc.org/s/2016_Spiny-Dogfish-to-GARFO_trip-limits-REB-edits_AH-2.pdf) to NMFS requesting that the trip limit be increased to 6,000 pounds. The letter recommends that the trip limit be increased to encourage more participation given the underperformance of the fishery and to reduce regulatory discards. The requested change is relatively small per continuing input from fishermen to maintain stability in this still developing fishery.

5.5 ALTERNATIVE 5: HIGHER, 7,000 POUND TRIP LIMIT

This alternative would increase the spiny dogfish trip limit in federal waters to 7,000 pounds from the current 5,000 pounds. While the Councils did not recommend an increase, these specifications consider the impacts of an increase to 7,000 pounds because the Council considered eliminating the Federal trip limit at its October 2015 meeting, and because the ASMFC has submitted a letter (http://www.mafmc.org/s/2016_Spiny-Dogfish-to-GARFO_trip-limits-REB-edits_AH-2.pdf) to NMFS requesting that the trip limit be increased to 6,000 pounds. The letter recommends that the trip limit be increased to encourage more participation given the underperformance of the fishery and to reduce regulatory discards. The requested change is relatively small per continuing input from fishermen to maintain stability in this still developing fishery. A 7,000 pound trip limit is considered to provide a reasonable range of options regarding trip limits.

5.5 Considered but Rejected

While the Council entertained a motion to eliminate the Federal trip limit, this option was not further considered because additional analysis would have to be conducted to evaluate the impacts of eliminating the trip limit, which are beyond the scope of this specifications action.

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. Additional fishery performance details are provided in Section 6.4.

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.

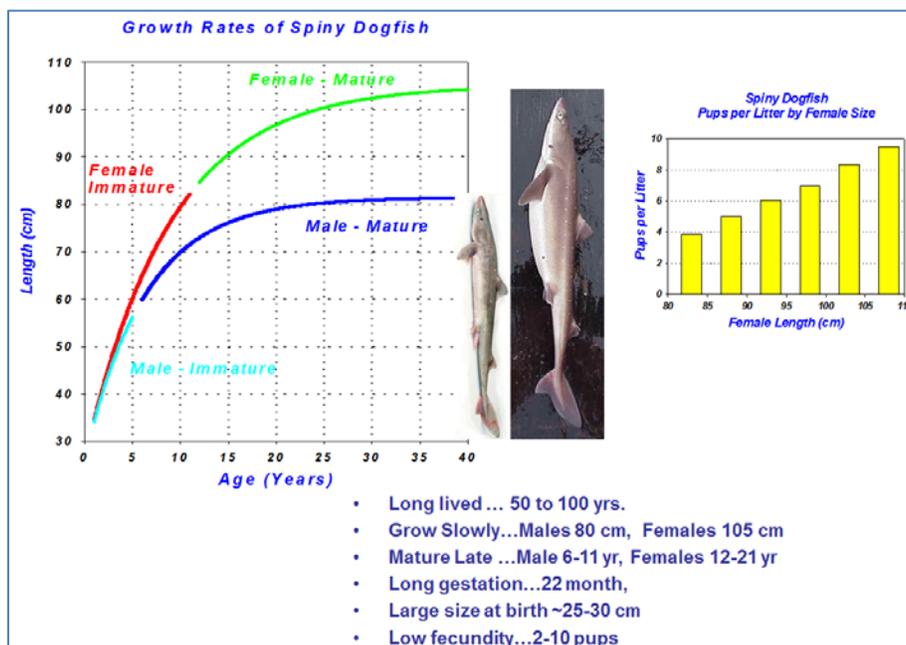


Figure 2. Summary of biological characteristics spiny dogfish relevant to the species' commercial fisheries exploitation (from Rago 2010 unpubl.).

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 pounds). 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. In 2010 the Northeast Regional Office (NERO) of NMFS communicated the successful *rebuilt* status of the stock to the Councils.

Current Stock Condition

Not Overfished

The Bmsy reference point defines when the stock is rebuilt (above Bmsy) and overfished (below $\frac{1}{2}$ 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 pounds) with $\frac{1}{2}$ of that target corresponding to the biomass threshold (79,644 mt; 175.5 M pounds). In November 2015, the Northeast Fisheries Science Center (NEFSC) updated their assessment of the spiny dogfish stock using updated catch and survey data with a Kalman filter to smooth across years (<http://www.mafmc.org/s/Evaluation-of-Alternative-Smoothing-Options-for-Spiny-Dogfish-Abundance-Estimates.pdf>). The updated estimate of SSB for 2015 is 168,207mt (371 M pounds), about 6% above SSB_{max} (159,288 mt). In updating the assessment, the NEFSC estimated a *96% probability that the stock is not overfished*.

Overfishing not Occurring

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's data (2014), these include U.S. commercial landings of 23.5 M pounds, U.S. dead discards (12.7 M pounds), and U.S. recreational landings (68 k pounds). Canadian landings are not available for 2014 but averaged only 143 k pounds for 2010-2012. The estimated F in 2015 is estimated by assuming that the catch in 2015 is equal to the estimated catch in 2014. This appears reasonable and conservative given the available data. Based on this F on females = 0.21, below $F_{msy} = 0.2439$. In updating the assessment, the NEFSC estimated a *76% probability that overfishing was not occurring* ($F_{2015} < F_{threshold}$).

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 within a 25 year projection period. Stock biomass is expected to show a decline from present to 2019 while low 1997 – 2003 year classes recruit into the mature female biomass but then rebound with improved recruitment. The Council's SSC is expected to review indicators of stock conditions for spiny dogfish each year and could recommend reconsideration of ABCs if stock condition declines unexpectedly.

6.1.2 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. Staff examined observer data 2012-2014 from fixed sink gillnets, drift sink gillnets, and bottom longlines, which accounted for approximately 85% of spiny dogfish landings in 2014. Only trips that retained at least 100 pounds of spiny dogfish were included in the analysis, the results of which are described in the table below. The scales of each fishery are not the same and the observer coverage may also vary so the results for the different gear types are not directly comparable, but it would appear that the fixed gill net fishery has the greatest magnitude of discards and variety of species that are discarded.

Table 6. 2012-2014 discards associated with the dominant gear types used to harvest spiny dogfish in 2014, as reported in northeast fisheries observer program (NEFOP) trips when at least 100 pounds of spiny dogfish was retained.

Fixed Sink Gill Net			Drift Sink Gill Net			Bottom Long Line		
Species	Pounds Discarded	% of All Discards	Species	Pounds Discarded	% of All Discards	Species	Pounds Discarded	% of All Discards
DOG FISH, SPINY	236,147	62.0%	DOG FISH, SPINY	3,988	82.9%	DOG FISH, SPINY	4,126	43.1%
LOBSTER, AMERICAN	32,755	8.6%	LOBSTER, AMERICAN	333	6.9%	DOG FISH, SMOOTH	3,209	33.5%
SKATE, WINTER (BIG)	23,814	6.3%	DOG FISH, SMOOTH	133	2.8%	SKATE, THORNY	625	6.5%
SKATE, BARNDOR	15,734	4.1%	RAVEN, SEA	67	1.4%	COD, ATLANTIC	518	5.4%
SKATE, LITTLE	11,191	2.9%	COD, ATLANTIC	59	1.2%	SKATE, BARNDOR	399	4.2%
POLLOCK	8,270	2.2%	BASS, STRIPED	50	1.0%	SKATE, LITTLE	235	2.5%
SKATE, THORNY	5,951	1.6%	SHAD, AMERICAN	25	0.5%	HADDOCK	140	1.5%
MONKFISH (GOOSEFISH)	5,241	1.4%	POLLOCK	22	0.5%	SKATE, WINTER (BIG)	112	1.2%
CRAB, JONAH	4,894	1.3%	SKATE, LITTLE	21	0.4%	WOLFFISH, ATLANTIC	46	0.5%
RAVEN, SEA	4,838	1.3%	HADDOCK	18	0.4%	TILEFISH, GOLDEN	33	0.3%
COD, ATLANTIC	4,611	1.2%	SKATE, THORNY	17	0.3%	DOG FISH, CHAIN	33	0.3%
SHAD, AMERICAN	3,106	0.8%	MONKFISH (GOOSEFISH)	10	0.2%	HAKE, SPOTTED	32	0.3%
SKATE, NK	2,224	0.6%	SKATE, SMOOTH	9	0.2%	HAKE, RED (LING)	16	0.2%
FISH, NK	1,885	0.5%	HERRING, ATLANTIC	9	0.2%	SKATE, CLEARNOSE	15	0.2%
CRAB, NORTHERN STONE	1,809	0.5%	CRAB, JONAH	8	0.2%	MONKFISH (GOOSEFISH)	8	0.1%
OTHER	18,558	4.9%	OTHER	40	0.8%	OTHER	34	0.4%
Total	381,027		TOTAL	4807.8		Total	9,581	

Source: Northeast Fishery Observer Program unpublished data

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.

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.

6.2.2 Essential Fish Habitat (EFH)

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 are:

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*²]. 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.

² Available at <http://www.mafmc.org/fisheries/fmp/dogfish>

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 gillnets, longlines, and to a lesser degree bottom otter trawls 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 further. Since a combined 85% of spiny dogfish landings in fishing year 2012 were from fixed gillnets and longlines, and trawl landings tend to be non-directed, the adverse impacts of the spiny dogfish fishery have continued to be minimal through 2014. Potential impacts on EFH of the proposed 2016 - 2018 commercial quotas are evaluated in Section 7 of this EA.

6.3 ESA Listed Species and MMPA Protected Species

There are numerous species of marine mammals, sea turtles, and fish which inhabit the environment within the management unit of this FMP and are afforded protection under the Endangered Species Act (ESA) of 1973 (i.e., for those designated as threatened or endangered) and/or the Marine Mammal Protection Act (MMPA) of 1972 (see table below). Detailed information on the range-wide status of marine mammal and sea turtle species that occur in the area can be found in a number of published documents. These include sea turtle status reviews, biological reports, and recovery plans (Conant et al. 2009; NMFS and USFWS 1991, 1992, 1995, 1998a, 1998b, 2007a, 2007b, 2008, 2013, 2015; Hirth 1997; Turtle Expert Working Group (TEWG) 1998, 2000, 2007, 2009); Seminoff et al. 2015; NMFS et al. 2011. For marine mammals this includes marine mammal stock assessment reports and recovery plans (e.g., Waring et al. 2014; Waring et al. 2015; NMFS 1991, 2005, 2010, 2011, 2012.). Additional background information on the Gulf of Maine Distinct Population Segment of Atlantic salmon and the five distinct population segments of Atlantic sturgeon can be found in the respective status reviews (Fay et al. 2006; ASSRT 2007) and listing determinations for Atlantic salmon (74 FR 29344; June 19, 2009) and Atlantic sturgeon (77 FR 5880 and 77 FR 5914; February 3, 2012). For additional information on these species (e.g., life history, distribution, stock status), please visit: <http://www.greateratlantic.fisheries.noaa.gov/Protected/> and <http://www.nmfs.noaa.gov/pr/sars/region.htm>.

A subset of the species identified in the table below are known to have the potential to interact with gear types used to prosecute the spiny dogfish fishery (primarily sink gill nets (fixed and drift), and bottom longlines). Trawl catches are lower and tend to be incidental. In the following section, available information on gear interactions with a given species (or species group) will be provided.

Table 7. Species Protected Under the ESA and/or MMPA that May Occur in the Affected Environment of the FMP

Species	Status	Potentially affected by this action?
Cetaceans		
North Atlantic right whale (<i>Eubalaena glacialis</i>)	Endangered	Yes
Humpback whale (<i>Megaptera novaeangliae</i>) ¹	Endangered	Yes
Fin whale (<i>Balaenoptera physalus</i>)	Endangered	Yes
Sei whale (<i>Balaenoptera borealis</i>)	Endangered	Yes
Blue whale (<i>Balaenoptera musculus</i>)	Endangered	No
Sperm whale (<i>Physeter macrocephalus</i>)	Endangered	No
Minke whale (<i>Balaenoptera acutorostrata</i>)	Protected	Yes
Pilot whale (<i>Globicephala spp.</i>) ²	Protected	Yes
Risso's dolphin (<i>Grampus griseus</i>)	Protected	Yes
Atlantic white-sided dolphin (<i>Lagenorhynchus acutus</i>)	Protected	Yes
Short Beaked Common dolphin (<i>Delphinus delphis</i>) ³	Protected	Yes
Bottlenose dolphin (<i>Tursiops truncatus</i>) ⁴	Protected	Yes
Harbor porpoise (<i>Phocoena phocoena</i>)	Protected	Yes
Sea Turtles		
Leatherback sea turtle (<i>Dermochelys coriacea</i>)	Endangered	Yes
Kemp's ridley sea turtle (<i>Lepidochelys kempii</i>)	Endangered	Yes
Green sea turtle, North Atlantic DPS (<i>Chelonia mydas</i>)	Threatened ⁵	Yes
Loggerhead sea turtle (<i>Caretta caretta</i>), Northwest Atlantic DPS	Threatened	Yes
Hawksbill sea turtle (<i>Eretmochelys imbricate</i>)	Endangered	No
Fish		
Shortnose sturgeon (<i>Acipenser brevirostrum</i>)	Endangered	No
Atlantic salmon (<i>Salmo salar</i>)	Endangered	Yes
Atlantic sturgeon (<i>Acipenser oxyrinchus</i>)		
<i>Gulf of Maine DPS</i>	Threatened	Yes
<i>New York Bight DPS, Chesapeake Bay DPS, Carolina DPS & South Atlantic DPS</i>	Endangered	Yes
Cusk (<i>Brosme brosme</i>)	Candidate	Yes
Porbeagle shark (<i>Lamna nasus</i>)	Candidate	Yes
Thorny skate (<i>Amblyraja radiata</i>)	Candidate	Yes

Species	Status	Potentially affected by this action?
Pinnipeds		
Harbor seal (<i>Phoca vitulina</i>)	Protected	Yes
Gray seal (<i>Halichoerus grypus</i>)	Protected	Yes
Harp seal (<i>Phoca groenlandicus</i>)	Protected	Yes
Hooded seal (<i>Cystophora cristata</i>)	Protected	Yes
Critical Habitat		
North Atlantic Right Whale ⁶	ESA-listed	No
Northwest Atlantic DPS of Loggerhead Sea Turtle	ESA-listed	No
<p><i>Notes:</i></p> <p>¹ On April 21, 2015, a proposed rule was issued to change the ESA listing status of humpback whales (80 FR 22303). After an extensive scientific status review, 14 DPSs were identified: 2 proposed as threatened, 2 as endangered, and 10 as not warranted for listing. The DPS found in U.S. Atlantic waters, the West Indies DPS, is proposed to be delisted.</p> <p>² There are 2 species of pilot whales: short finned (<i>G. melas melas</i>) and long finned (<i>G. macrorhynchus</i>). Due to the difficulties in identifying the species at sea, they are often just referred to as <i>Globicephala spp.</i></p> <p>³ Prior to 2008, this species was called “common dolphin.”</p> <p>⁴ This includes the Western North Atlantic Offshore, Northern Migratory Coastal, and Southern Migratory Coastal Stocks of Bottlenose Dolphins (see Waring <i>et al.</i> 2014 for further details).</p> <p>⁵ On April 6, 2016, a final rule was issued removing the current range-wide listing of green sea turtles and, in its place, listing eight green sea turtle DPSs as threatened and three DPSs as endangered (81 FR 20058). The green sea turtle DPS in the Northwest Atlantic, and where the Council fisheries operate is considered the North Atlantic DPS of green sea turtles; this DPS is considered threatened under the ESA.</p> <p>⁶Originally designated June 3, 1994 (59 FR 28805); Expanded on January 27, 2016 (81 FR 4837)..</p> <p>Please note that cusk, thorny skate, and porbeagle shark are NMFS "candidate species" under the ESA. Candidate species are those petitioned species that NMFS is actively considering for listing as endangered or threatened under the ESA and those species for which NMFS has initiated an ESA status review through an announcement in the Federal Register. 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. Please note, as cusk, thorny skate, and porbeagle shark receive no substantive or procedural protection under the ESA (due to its candidate species status), these species will not be discussed further in this document.</p>		

6.3.1 Interactions Between Commercial Gear and Protected Species

The gear types that accounted for 85% of spiny dogfish landings in 2014 are gill nets (set/anchored sink and drift sink) and bottom longline. Bottom trawling accounted for approximately 5% of spiny dogfish landings in 2014. There is substantial bottom trawling in the waters off the U.S. East Coast that impacts a variety of protected resources, and some retained spiny dogfish come from that gear type. However, given the vast majority of that effort is directed at other species and given that trawling accounts for a small proportion of spiny dogfish catch/ directed effort, other documents for more relevant actions may be referenced for the impacts of bottom trawling on protected resources, (e.g. <http://www.greateratlantic.fisheries.noaa.gov/regs/2016/January/16msb2016specspr.html>). Further, in the Greater Atlantic Region, there have been no observed or reported interactions with Atlantic sturgeon, Atlantic salmon, marine mammals, or sea turtles in bottom longline gear (Waring et al. 2014; Waring et al. 2015; NMFS NEFSC FSB 2015; http://www.nefsc.noaa.gov/fsb/take_reports/nefop.html). As result, this gear type, and its interaction risk with protected species, will also not be discussed further in this document. In the table above, the following species are listed as occurring in the general area of the fishery but not impacted: blue whales, sperm whales, hawksbill sea turtles, and shortnose sturgeon. These species may at times occupy U.S. east coast waters, but their distribution does not generally overlap with the spiny dogfish fishery and there are no records of relevant interactions.

6.3.1.1 Marine Mammals and Gillnet Interactions

Pursuant to the MMPA, NMFS publishes a List of Fisheries (LOF) annually, classifying U.S. commercial fisheries into one of three categories based on the relative frequency of incidental serious injuries and/or mortalities of marine mammals in each fishery (i.e., Category I=frequent; Category II=occasional; Category III=remote likelihood or no known interactions; 79 FR 77919 (December 29, 2014)). In the Greater Atlantic Region, Northeast and Mid-Atlantic gillnet fisheries are considered Category I fisheries.

The categorization in the LOF determines whether participants in that fishery are subject to certain provisions of the MMPA such as registration, observer coverage, and take reduction plan requirements. Individuals fishing in Category I or II fisheries must comply with requirements of any applicable take reduction plan. In the Greater Atlantic Region, NMFS has implemented take reduction plans for large whales (Atlantic Large Whale Take Reduction Plan (ALWTRP)), bottlenose dolphin (Bottlenose Dolphin Take Reduction Plan (BDTRP)), and harbor porpoises (Harbor Porpoise Take Reduction Plan (HPTRP)). Details on the regulations implemented under these plans may be accessed at <http://www.greateratlantic.fisheries.noaa.gov/Protected/mmp/>. The spiny dogfish fishery must comply with the regulations and requirements in each of these respective plans. exceeded.

Large Whales

The greatest interaction risk, and source of serious injury and mortality, to large whales is posed by entanglement in fixed fishing gear (e.g., sink gillnet and trap/pot gear) comprised of lines (vertical or ground) that rise into the water column (Johnson et al. 2005; NMFS 2014a,c; Kenney and Hartley 2001; Hartley et al. 2003; Whittingham et al. 2005a,b; Waring et al. 2015; Henry et

al. 2015; see figure 8). As trap/pot gear is not used in the spiny dogfish fishery, the greatest entanglement risk to large whales posed by the spiny dogfish fishery is from gillnet gear.

Table 8. Summary of confirmed serious injury or mortality to fin, minke, humpback, sei, and North Atlantic right whales from 2009-2013 due to fisheries entanglements.¹

Species	Total Confirmed Entanglement: Serious Injury	Total Confirmed Entanglement: Mortality	Entanglement Events: Total Annual Injury and Mortality Rate
North Atlantic Right Whale	12	6	3.4
Humpback Whale	33	8	8.4
Fin Whale	7	3	1.75
Sei Whale	0	0	0
Minke Whale	23	13	6.5

Notes:
¹Information presented in this table is specific to confirmed serious injury or mortality to whales from entanglement in fishing gear along the Gulf of Mexico Coast, US East Coast, and Atlantic Canadian Provinces; it is not specific to US waters only.

Sources: Henry *et al.* 2015; Waring *et al.* 2015.

Due to the incidences of interactions with vertical lines associated with fixed fishing gear, such as gillnet gear, in addition to the endangered status of the species being affected most by these gear types (North Atlantic right whale, fin, and humpback), pursuant to the MMPA, these large whale species were designated as strategic stocks.³ Section 118(f)(1) of the MMPA requires the preparation and implementation of a Take Reduction Plan (TRP) for any strategic marine mammal stock that interacts with Category I or II fisheries. As a result, to address and mitigate the risk of large whale entanglement in fixed fishing gear comprised of vertical line, including gillnet gear and trap/pot gear, the ALWTRP was implemented; for additional information on the ALWTRP, including restrictions and management areas under the plan, see: <http://www.greateratlantic.fisheries.noaa.gov/Protected/whaletrp/>.⁴

³ A strategic stock is defined under the MMPA as a marine mammal stock: for which the level of direct human-caused mortality exceeds the potential biological removal level; which, based on the best available scientific information, is declining and is likely to be listed as a threatened species under the ESA within the foreseeable future; or which is listed as a threatened or endangered species under the ESA, or is designated as depleted under the MMPA.

⁴ In 1997, the ALWTRP was implemented; since 1997, the Plan has been modified, including the Sinking Groundline Rule and Vertical Line Rules (72 FR 57104, October 5, 2007; 79 FR 36586, June 27, 2014; 79 FR 73848, December 12, 2014; 80 FR 14345, March 19, 2015; 80 FR 30367, May 28, 2015).

Small Cetaceans and Pinnipeds

Small cetaceans and pinnipeds are vulnerable to interactions with gillnet gear and have been observed year to year to interact with this gear type (see Northeast Fisheries Observer Program Incidental Take Reports: http://www.nefsc.noaa.gov/fsb/take_reports/nefop.html). Specifically, small cetacean and pinniped species that have been observed incidentally injured and/or killed by Category I gillnet fisheries (see LOF 79 FR 77919 (December 29, 2014)) that operate in the affected environment of spiny dogfish fishery are provided in Table 9. Based on the best available information provided in Waring et al. (2014), Waring et al. (2015), and the December 29, 2014 LOF (79 FR 77919), of the gear types primarily used to prosecute Council Fisheries (i.e., sink gillnet, bottom trawl, mid-water trawl, purse seines, hook and line, bottom long line), Northeast and Mid-Atlantic gillnet fisheries (per the LOF definition), pose the greatest risks of serious injury and mortality to small cetaceans and pinnipeds (i.e., approximately 83.0% of the estimated total mean annual mortality to marine mammals (small cetaceans + seals, large whales excluded) is attributed to gillnet fisheries, 16% attributed to bottom trawl, 0.41% attributed to mid-water trawl (0.41%).

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Table 9. Small cetacean and pinniped species observed seriously injured and/or killed by Category I gillnet fisheries in the affected environment of spiny dogfish fisheries.

Fishery	Category	Species Observed or reported Injured/Killed
Northeast Sink Gillnet	I	Bottlenose dolphin (offshore)
		Harbor porpoise
		Atlantic white sided dolphin
		Short-beaked common dolphin
		Risso's dolphin
		Pilot whales (spp)
		Harbor seal
		Hooded seal
		Gray seal
		Harp seal
Mid-Atlantic Gillnet	I	Bottlenose dolphin (Northern Migratory coastal)
		Bottlenose dolphin (Southern Migratory coastal)
		Bottlenose dolphin (Northern NC estuarine)
		Bottlenose dolphin (Southern NC estuarine)
		Bottlenose dolphin (offshore)
		White-sided dolphin
		Harbor porpoise
		Short-beaked common dolphin
		Risso's dolphin
		Harbor seal
		Harp seal
		Gray seal

Several species in Table 9 have experienced such great losses to their populations as a result of interactions with Category I and II fisheries that they are now considered strategic stocks under the MMPA. These species include several stocks of bottlenose dolphins, and until recently, the harbor porpoise.⁵ As noted above, Section 118(f)(1) of the MMPA requires the preparation and implementation of a TRP for any strategic marine mammal stock that interacts with Category I

⁵ In the most recent U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessment (Waring et al.2015); harbor porpoise are no longer designated as a strategic stock.

or II fisheries. As a result, the Harbor Porpoise TRP (HPTRP) and the Bottlenose Dolphin TRP (BDTRP) were developed and implemented for these species.⁶ For additional information on each HPTRP or BDTRP, including restrictions and management areas, see the following websites: <http://www.greateratlantic.fisheries.noaa.gov/protected/porptrp/> or <http://www.nmfs.noaa.gov/pr/interactions/trt/bdtrp.htm>

6.3.1.2 Sea Turtles and Gillnet Interactions

Sea turtle interactions with gillnet gear have been observed in the GOM, GB, and the Mid-Atlantic; however, most of the observed interactions have occurred in the Mid-Atlantic (see Murray 2013; http://www.nefsc.noaa.gov/fsb/take_reports/nefop.html). As few sea turtle interactions have been observed in the GOM and GB regions of the Northwest Atlantic, there is insufficient data available to conduct a robust model-based analysis on sea turtle interactions with gillnet gear in these regions and to produce a bycatch estimate for these regions. As a result, the bycatch estimates and discussion below are based on observed sea turtle interactions in sink gillnet gear in the Mid-Atlantic.

Murray (2013) conducted an assessment of loggerhead and unidentified hard-shell turtle interactions in Mid-Atlantic gillnet gear from 2007-2011. Based on Northeast Fisheries Observer Program data from 2007-2011, interactions between loggerhead and hard-shelled sea turtles (loggerheads plus unidentified hard-shelled) and commercial gillnet gear in the Mid-Atlantic averaged 95 hard-shelled turtles and 89 loggerheads (equivalent to 9 adults) annually (Murray 2013).⁷ However, average estimated interactions in large mesh gear in warm, southern Mid-Atlantic waters have declined relative to those from 1996-2006 (Murray 2009), as did the total commercial effort (Murray 2013). Murray (2013) also estimated interactions by managed species landed in gillnet gear from 2007-2011. For instance, an estimated average annual bycatch of loggerhead and non-loggerhead hard shelled sea turtles for trips primarily landing spiny dogfish was five loggerheads (95% CI =2-8) and zero non-loggerhead hard shelled sea turtles (95% CI =0-1).

Beginning in the spring of 1995, and continuing in subsequent years, large numbers of sea turtles were stranding along the coastline of North Carolina. These stranding events coincided with the monkfish and dogfish large mesh gillnet fisheries operating offshore, and in fact, some of the stranded turtles coming ashore had large mesh gillnet gear wrapped around their body. Because of the documented strandings and subsequent investigation, NMFS enacted the Mid-Atlantic large mesh gillnet rule in waters of the EEZ on December 3, 2002 (67 FR 71895); this rule was subsequently revised on April 26, 2006 (71 FR 24776). The Mid-Atlantic large mesh gillnet rule, establishes seasonally-adjusted gear restrictions by closing portions of the Mid-Atlantic EEZ to fishing with gillnets with a mesh size ≥ 7 -inch (17.8-cm) stretched mesh to protect migrating sea turtles.

⁶ Although the most recent U.S. Atlantic and Gulf of Mexico Marine Mammal Stock Assessment (Waring et al. 2015) no longer designates harbor porpoise as a strategic stock, HPTRP regulations are still in place per the mandates provided in Section 118(f)(1).

⁷ At Sea Monitoring (ASM) data was also considered in Murray (2013); however, as the ASM program began 1 May 2010, trips (1,085 hauls), trips observed by at-sea monitors from May 2010 – December 2011 were pooled with the NEFOP data. Further, as most of the ASM trips occur in the Gulf of Maine, only a small portion (9%) of ASM data was used in the Murray (2013) analysis.

6.3.1.3 Atlantic Sturgeon and Gillnet Interactions

Atlantic sturgeon are vulnerable to interactions with sink gillnet gear, including gillnet gear used to target spiny dogfish (Stein *et al.* 2004; ASMFC 2007; Miller and Shepard 2011; Dunton *et al.* 2015; NMFS NEFSC FSB 2015). There are three documents, covering three time periods, that use data collected by the Northeast Fisheries Observer Program to describe bycatch of Atlantic sturgeon: Stein *et al.* (2004) for 1989-2000; ASMFC (2007) for 2001-2006; and Miller and Shepard (2011) for 2006-2010; None of these provide estimates of Atlantic sturgeon bycatch by DPS. Information provided in all three documents indicate that sturgeon bycatch occurs in gillnet and trawl gear, with Miller and Shepard (2011) estimating, based on fishery observer data and VTR data from 2006-2010, that annual bycatch of Atlantic sturgeon was 1,342 and 1,239, respectively (Miller and Shepard 2011). Specifically, Miller and Shepard (2011) observed Atlantic sturgeon interactions in trawl gear with small (< 5.5 inches) and large (\geq 5.5 inches) mesh sizes, as well as gillnet gear with small (< 5.5 inches), large (5.5 to 8 inches), and extra-large mesh (>8 inches) sizes. Although Atlantic sturgeon were observed to interact with trawl and gillnet gear with various mesh sizes, based on observer data, Miller and Shepard (2011) concluded that gillnet gear, in general, posed a greater risk of mortality to Atlantic sturgeon than did trawl gear. Estimated mortality rates in gillnet gear were 20.0%, while those in otter trawl gear were 5.0% (Miller and Shepard 2011). Similar conclusions were reached in Stein *et al.* 2004 and ASMFC 2007 reports, in which both studies also concluded, after review of observer data from 1989-2000 and 2001-2006, that observed mortality is much higher in gillnet gear than in trawl gear. These data support the most recent NMFS Biological Opinion 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.

6.3.1.4 Atlantic Salmon and Gillnet Interactions

There have been a low number of observed Atlantic salmon interactions with fisheries and various gear types. According to the Biological Opinion issued by NMFS Greater Atlantic Regional Fisheries Office on December 16, 2013, NMFS Northeast Fisheries Science Center's (NEFSC) Northeast Fisheries Observer and At-Sea Monitoring Programs documented a total of 15 individual salmon incidentally caught on over 60,000 observed commercial fishing trips from 1989 through August 2013 (NMFS 2013; Kocik *et al.* 2014). Specifically, Atlantic salmon were observed bycaught in gillnet (11/15) and bottom otter trawl gear (4/15), with 10 of the incidentally caught salmon listed as "discarded" and five reported as mortalities (Kocik (NEFSC), pers. comm (February 11, 2013) in NMFS 2013). The genetic identity of these captured salmon is unknown; however, the NMFS 2013 Biological Opinion considers all 15 fish to be part of the GOM Distinct Population Segment, although some may have originated from the Connecticut River restocking program (i.e., those caught south of Cape Cod, Massachusetts).

The above information, specifically the very low number of observed Atlantic salmon interactions in gillnet and trawl gear reported in the Northeast Fisheries Observer Program's database (which includes At-Sea Monitoring data), suggests that interactions with Atlantic salmon are rare events (NMFS 2013; Kocik *et al.* 2014); however, it is important to recognize

that observer program coverage is not 100 percent. As a result, it is likely that some additional interactions with Atlantic salmon have occurred, but have not been observed or reported.

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. Since 2014 fishing year (May 2014-April 2015) data had not been finalized when this was written, calendar year data through 2014 is provided unless otherwise indicated.

6.4.1 Spiny Dogfish Fishery

Calendar year harvest estimates from 1989 -2014 are provided in the figure and tables immediately below. 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).

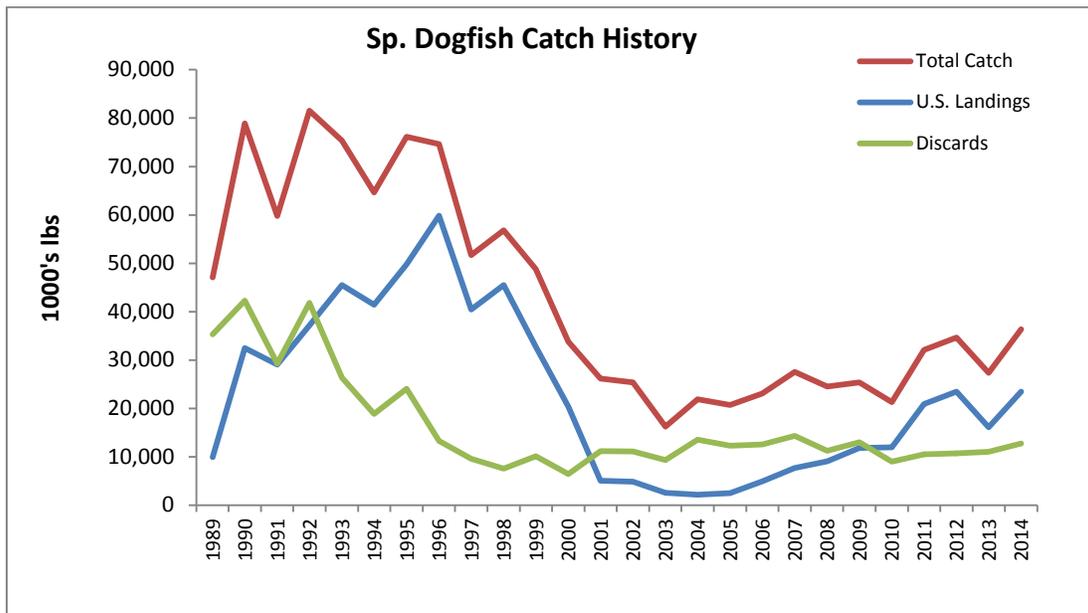


Figure 3. History of spiny dogfish landings and discards and total catch from 1989 – 2012. From NEFSC 2013.

Table 10. Landings of spiny dogfish (1,000s pounds) in the Northwest Atlantic for calendar years 1989 to 2014.

Year	US Com	US Rec	Canada	Total
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	44	149	24,677
2013	16,794	85	na	16,879
2014	23,443	71	na	23,514

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

Coastwide Landings Relative to Limits (Quotas)

The table below 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 pounds while still maintaining the rebuilding fishing mortality rate. Under the interstate FMP, quota increases began earlier in 2006 – 2008. 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. Landings in recent years have not kept pace with the quota increases. The Advisory Panel (AP) has indicated that this is a very market-driven fishery, and that only by growing demand for spiny dogfish will processors be able to take additional landings. See the AP Fishery Performance Report at <http://www.mafmc.org/ssc-meetings/2015/sept-16-17> for additional details.

Table 11. Summary of spiny dogfish landings relative to the quota(s) for fishing years 2000 - 2014.

Fishing year (May 1 - Apr 30)	Quota (M pounds)		Landings (M pounds)
	Federal	States'	
2000	4.000	n/a	8.2
2001	4.000	n/a	5.1
2002	4.000	n/a	4.8
2003	4.000	8.8	3.3
2004	4.000	4.000	1.4
2005	4.000	4.000	2.4
2006	4.000	6.000	6.6
2007	4.000	6.000	6.4
2008	4.000	8.000	9.3
2009	12.000	12.000	12.3
2010	15.000	14.4	15.0
2011	20.000	19.5	22.5*
2012	35.7	35.7	26.8
2013	40.8	40.8	16.3
2014	48.8	48.8	22.8

* Total CFDBS landings (20.3 M pounds) plus 2.2 M pounds 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 2014 is provided by gear type. Spiny dogfish landings came mostly from gillnets (70%) and bottom longline (16%). While it is not clear from the data, it appears that much of what is recorded as set gillnets in weighout data is actually sink drift gillnets. While observer coverage affects the percentages, analysis of observer coverage in 2012-2014 suggests that sink drift gillnet gear accounts for a substantial portion of dogfish landings.

Table 12. Commercial gear types associated with spiny dogfish harvest in 2014 (Calendar Year) from dealer weighout "AA" tables.

Fixed/Set Gillnet	16,365,775	69.8%
Bottom Longline	3,662,223	15.6%
Bottom Trawl	1,157,981	4.9%
Handline	1,058,551	4.5%
Unknown/Other	1,198,561	5.1%
Total	23,443,091	100%

Source: Dealer Weighout AA Tables

Landings by Area

NMFS Science Center staff generated maps (following pages) representing commercial landings for spiny dogfish 2010-2014 by half years (Jan-Jun and Jul-Dec). Landings were reported via Dealer reports. Data have been restricted to dealer trips matched to a Vessel Trip Report (VTR) (ALEVEL=A) to ensure gear and area information is as accurate as possible. Northeast Fisheries Science Center statistical areas are represented by numbered polygons and bathymetry is depicted in blue shading. Groundfish closed areas (dashed borders), and the Exclusive Economic Zone (yellow line) have been overlaid for your reference.

Figure 4. Spiny Dogfish Commercial Landings 2010-2014 Jan-Jun. Due to incomplete location data, the map depicts 48% of the total catch reported for the time frame noted.

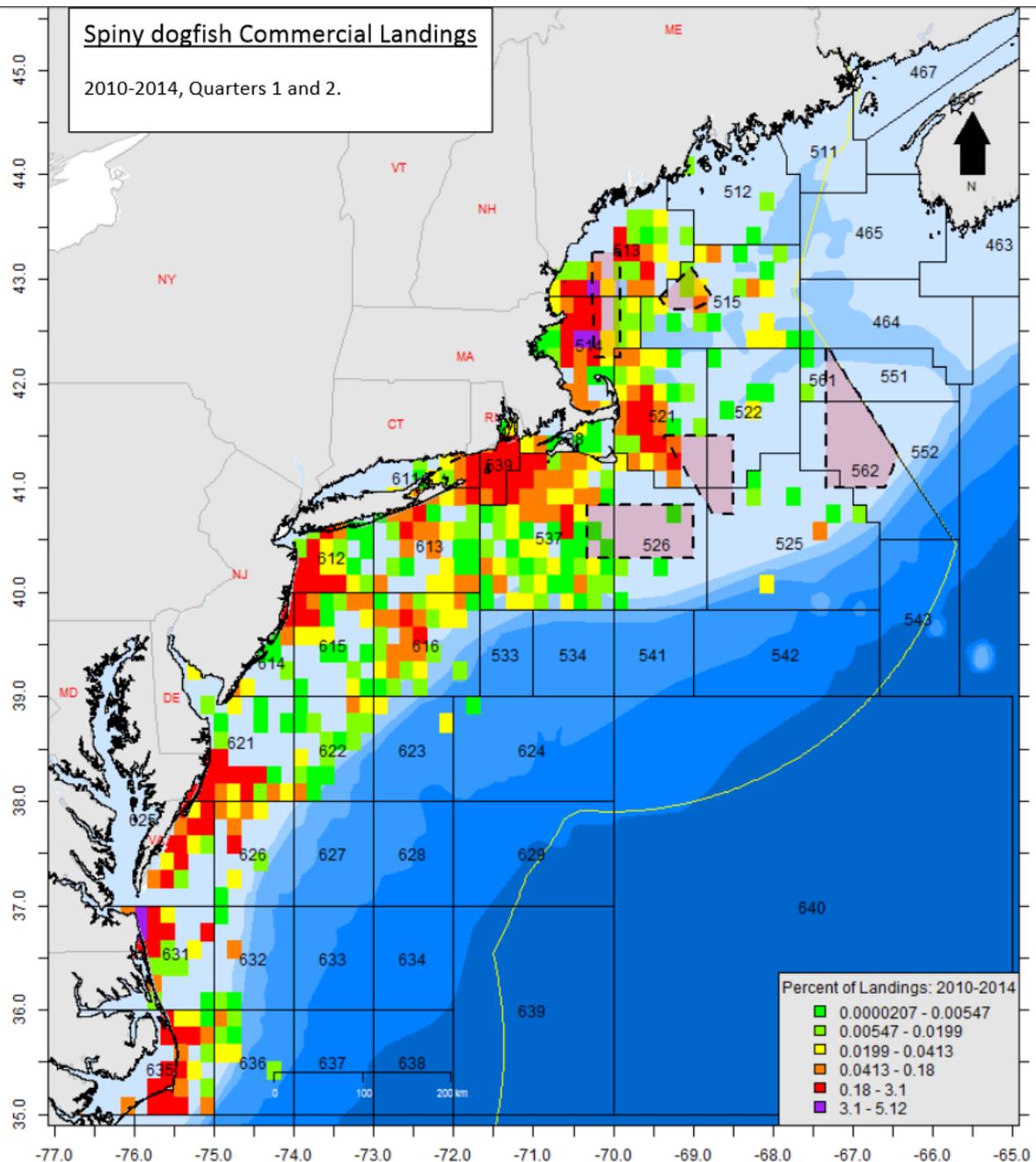
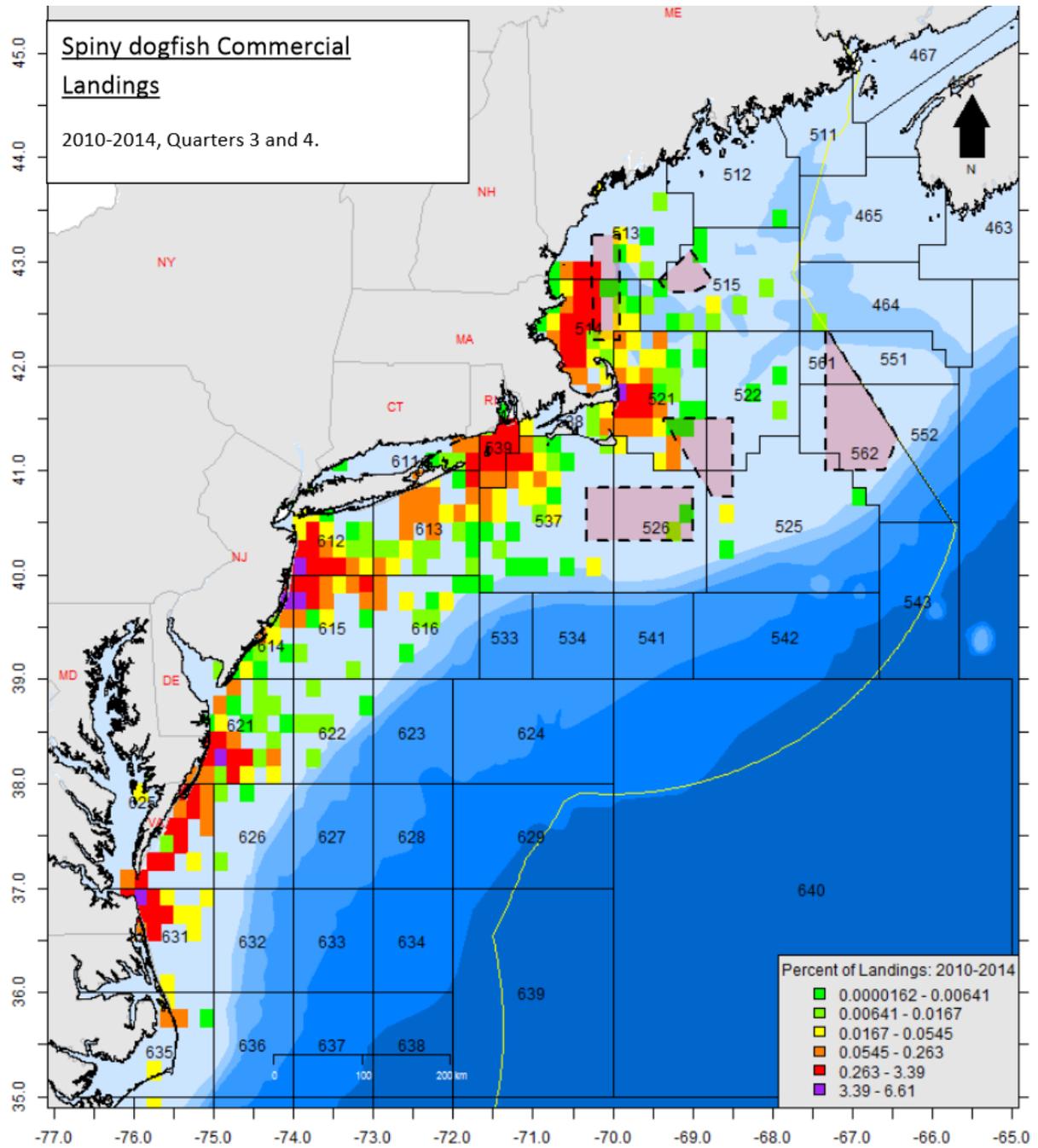


Figure 5. Spiny Dogfish Commercial Landings 2010-2014 Jul-Dec. Due to incomplete location data, the map depicts 72% of the total catch reported for the time frame noted.



Canadian Commercial Spiny Dogfish Landings

Historic Canadian commercial landings have been low relative to landings from the U.S. commercial fishery. 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 million pounds, but in 2009 landings dropped precipitously to about 250,000 pounds. Since 2009, Canadian landings have not been above 300,000 pounds. 2012 is the most recent year available but there has been no indication that the situation has changed substantially with Canadian landings.

Recreational Landings

As previously stated, no significant directed recreational fishery exists for spiny dogfish. Some retention of recreationally caught spiny dogfish does occur, but most are released. The assessment includes both retained and discarded recreationally-caught spiny dogfish. A 20% discard rate is assumed for released fish, and dead discards have ranged from approximately 600,000 – 2,000,000 pounds over the last 10 years.

Permit Activity

According to unpublished NMFS permit file data, 2,473 vessels had active permits (open access) at the end of 2014, while 357 of these vessels contributed to overall landings. Total NMFS weighout database landings were 23.44 million pounds, of which 80% came from federally-licensed vessels and 20% came from vessels without federal permits. 72 dealers bought spiny dogfish in 2014, with the top 10 dealers buying 70% of the dogfish landed.

Landings by State

Commercial harvest has historically been dominated by Massachusetts except for a period in the mid-2000s when Virginia's landings were close to 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%). 2012-2014 landings by state are provided in the table below.

Table 13. 2012-2014 Spiny Dogfish Landings by State.

YEAR	CT	MA	MD	ME	NC	NH	NJ	NY	RI	VA
2012	97,312	13,116,381	1,147,761	226,770	2,177,177	1,811,901	1,531,811	304,490	1,351,344	1,580,651
2013	21,991	6,207,653	1,124,319	106,610	3,134,810	515,448	1,776,465	82,292	1,000,514	2,150,296
2014	33,864	9,422,869	1,051,609	214,763	5,396,223	1,704,651	2,202,747	69,034	689,445	2,641,962

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 (Nov 1-April 30) 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. Beginning with the 2015 fishing year there is only an annual quota. Landings by month for 2012-2014 are provided in the table below.

Table 14. 2012-2014 Spiny Dogfish Landings by Month

YEAR	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2012	2,453,965	98,708	135,502	78,289	638,558	1,448,332	3,768,603	3,828,477	4,175,624	2,009,557	2,358,730	2,363,907
2013	1,902,651	1,618,510	1,729,851	939,487	580,834	1,151,001	1,881,288	970,960	1,216,361	1,261,138	1,607,103	1,261,355
2014	1,330,398	2,407,670	1,948,007	711,112	189,828	649,121	3,150,575	2,911,739	2,818,723	1,817,351	2,220,089	3,288,478

Source: NMFS Commercial Fisheries Database

6.4.2 Commercial Fishery Value

Fishery value and price information is provided for the fishing year periods. Unpublished NMFS dealer reports indicate that the total ex-vessel value of commercially landed spiny dogfish in fishing year 2014 (May 2014-April 2015) was about \$3.96 million and the approximate price/pounds of spiny dogfish was \$0.17. While nominal price has remained relatively even, when inflation is taken into account there has been price erosion from 2000-2014 (see figures below).

Table 15. Ex-vessel value and price per pound (nominal) of commercially landed spiny dogfish, Maine - North Carolina combined, 2000-2014 Fishing Years

Year	Value	Price
2000	\$1,954,963	\$0.24
2001	\$1,096,648	\$0.22
2002	\$938,924	\$0.20
2003	\$377,732	\$0.13
2004	\$227,465	\$0.17
2005	\$476,511	\$0.20
2006	\$1,467,366	\$0.22
2007	\$1,339,562	\$0.21
2008	\$2,187,014	\$0.24
2009	\$2,517,775	\$0.21
2010	\$2,980,052	\$0.21
2011	\$4,434,351	\$0.22
2012	\$5,304,227	\$0.20
2013	\$2,355,322	\$0.14
2014	\$3,957,650	\$0.17

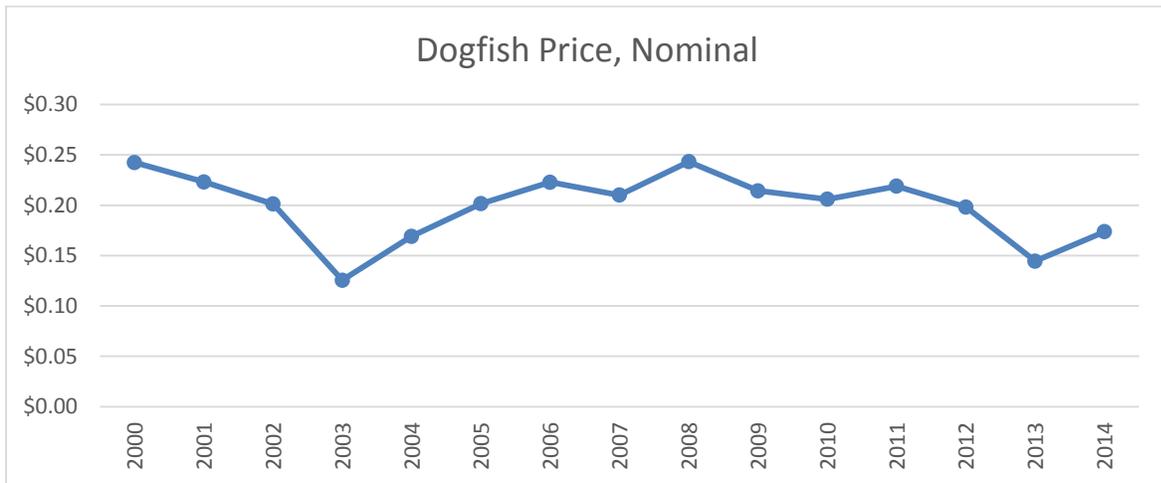


Figure 6. U.S. Spiny Dogfish fishing year ex-vessel prices (Nominal)

Source: Unpublished NMFS dealer reports

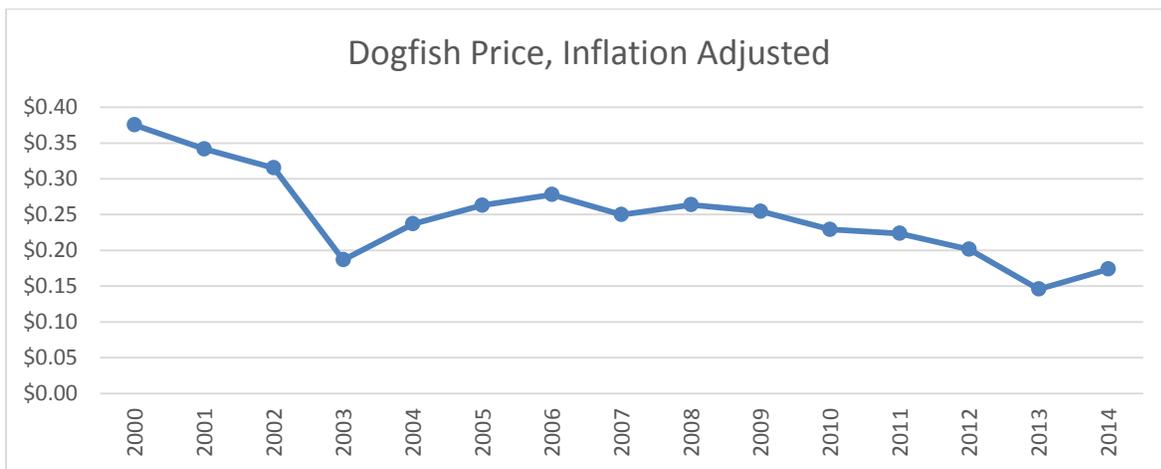


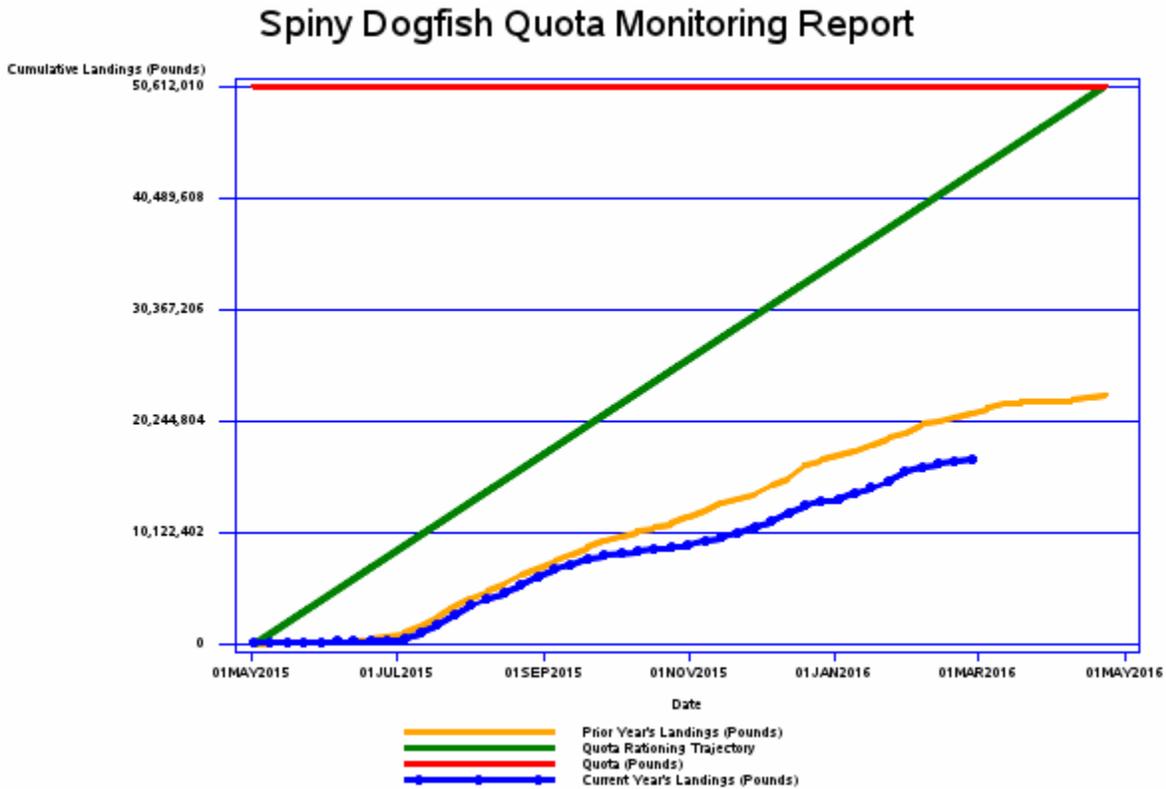
Figure 7. U.S. Spiny Dogfish fishing year ex-vessel prices (Producer Price Index adjusted, 2014 dollars)

Source: Unpublished NMFS dealer reports

Current Fishing Year

The 2015 fishing year (blue line in figure below), while incomplete, is proceeding similarly but with slightly less landings than the 2014 fishing year (orange line in figure below).

Figure 8. 2014 and 2015 (blue/current) Spiny Dogfish Fishing Year Preliminary Quota Performance.



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6.4.4 Port and Community Description

U.S. fishing communities directly involved in the harvesting or processing of dogfish are found in coastal states from Maine through North Carolina. The top ports for spiny dogfish landings are listed below. A complete set of port profiles is online at:

<http://www.nefsc.noaa.gov/read/socialsci/communityProfiles.html>

Table 16. Top 10 commercial spiny dogfish ports for 2012-2014 (in descending order). All of these ports had spiny dogfish landings valued at >\$100,000 average/year.

1. Chatham, MA
2. Gloucester, MA
3. Hatteras, NC
4. Scituate, MA
5. Ocean City, MD
6. Barnegat Light, NJ
7. Virginia Beach, VA
8. Marshfield, MA
9. Seabrook, NH
10. Point Pleasant, NJ

Source: Unpublished NMFS dealer reports

*Community Profiles available at NMFS' communities page at: http://www.nefsc.noaa.gov/read/socialsci/community_profiles/

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7.0 ENVIRONMENTAL CONSEQUENCES – ANALYSIS OF DIRECT AND INDIRECT IMPACTS

This section presents an analysis of the impacts of the proposed actions on the Valued Ecosystem Components (VECs – described in Section 6). The management alternatives are summarized in the table below for ease of reference.

Table 17. Alternatives Summary

Status Quo and Preferred Alternatives
Alt 1a/1b No action = Status Quo for specifications and Status Quo for trip limit (status-quo trip limit is preferred). ABC = 62,412,866 pounds and trip limit = 5,000 pounds.
Alt 2 - Dogfish Specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (preferred)
Alt 3 - Dogfish Specifications for 2016-2018 set based on ABCs of 36,960,498 to 36,676,102 pounds, using 3-year averaging for smoothing
Alt 4 - Higher, 6,000 pound trip limit
Alt 5 - Higher, 7,000 pound trip limit

The alternatives under consideration are fully described in section 5. Related to the specifications, the key determinant of biological impacts on the FMP’s managed resources (spiny dogfish) is how much fish can be caught, i.e. the ABCs and ACLs for spiny dogfish. In recent years the fishery has not caught the entire quotas. Thus even the no action/status quo potentially allows an expansion of catch. To the degree that extra effort is used to expand catch, impacts on non-target species, habitat, and protected resources could increase even under the no action or a reduction in ABCs/ACLs. Conversely, for the same reasons (primarily market – see Section 6) that catch has been lower than the quotas, catch and effort, and related impacts, could decrease under the no action. Rather than repeat this concept for every resource, this document acknowledges that under any of the proposed alternatives effort and related impacts could increase or decrease for reasons other than the specifications. Accordingly, the focus of analysis is on the relative upper limits or other constraints imposed (or removed) by the various alternatives considered in this action.

For habitat, protected resource, and non-target species impacts, the key determinant is not so much the catch itself but the amount and character of the related effort. A decrease in effort may result in positive impacts as a result of fewer encounters and/or fewer habitat impacts from fishing gear, while an increase in effort may result in a negative impact. Similar effort likely results in similar compared to the status quo. The table below illustrates that the availability of the target species can drive effort as much as any quota change, and as effort changes so would impacts on habitat, protected resource, and non-target species. Since limits on catch do cap effort, catch limits are a factor related to effort but many other factors are at least somewhat

beyond the control of the Council (such as markets, fish abundance, availability of other opportunities, weather, climate, fish movements/ availability, etc.).

The preferred alternatives are no action on trip limits (Alternative 1b) and specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (Alternative 2). The alternatives are designed such that specification alternatives could be matched with trip limit alternatives. As such, the specification alternative impacts and trip limit impacts are additive in nature while choosing within specification alternatives and within trip limit alternatives involve either/or differences in impacts. A descriptive label is included for each alternative below when considering impacts, and a full description of alternatives is available in Section 5.

National Oceanic and Atmospheric Administration Administrative Order 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action and it includes the possibility of introducing or spreading a nonindigenous species. This potential impact does not fit into the sections below so it is addressed in this introduction. There is no evidence or indication that these fisheries have ever resulted or would ever result in the introduction or spread of nonindigenous species.

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 upcoming 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:

- 7.1 - Managed Resource (i.e., the spiny dogfish stock)
- 7.2 - Non-Target Fish Species
- 7.3 – Habitat
- 7.4 - Protected Resources
- 7.5 - Human Communities

When the impacts are relatively simple to describe and compare impacts may be discussed together in text. When impacts are less simple to describe and compare they may be addressed with a separate section for each alternative.

Table 18. Changes in effort as a result of adjustments to quota and/or fish availability.

Change in quota	Fish abundance/availability		
	Decrease in availability	No change in availability	Increase in availability
Decrease in quota	<u>Fishing effort may decrease, increase, or stay the same depending on a combination of factors.</u>	<u>Effort likely to decrease or stay the same.</u> If per trip catch stays the same, the fishery will be closed earlier with fewer trips taken (reducing effort). However managers may reduce trip limits or adjust regulations that extend the fishing season (keeping effort the same).	<u>Effort likely to decrease or stay the same.</u> A lower quota plus higher catch per unit of effort (CPUE) from higher availability should decrease effort. However, managers may reduce trip limits or adjust regulations that extend the fishing season which may keep effort relatively even.
No change in quota	<u>Effort may increase or decrease.</u> While the quota has not changed, fishermen may try to take more trips to catch the same amount of fish (increasing effort) or may stop targeting a stock of fish if availability is low enough to decrease profitability (decreasing effort).	Fishing effort may remain the same given the quota has not changed and availability is expected to be similar.	<u>Effort should decrease.</u> While the quota has not changed, fishermen should be able to take fewer trips to catch the same amount of fish (decreasing effort).
Increase in quota	<u>Fishing effort likely to increase or stay the same.</u> A higher quota plus lower catch per unit of effort from lower availability should increase effort. However, managers may increase trip limits or adjust regulations to allow more efficient fishing (keeping effort the same).	<u>Effort likely to increase or stay the same.</u> If per trip catch stays the same, the fishery will be closed later with more trips taken (increasing effort). However managers may increase trip limits or adjust regulations to allow more efficient fishing (keeping effort the same).	<u>Fishing effort may decrease, increase, or stay the same depending on a combination of factors.</u>

7.1 Biological Impacts on Managed Species

Any amount of fishing will lower the population of a fish stock, but in the context of fishery management, a negative impact would be something that causes a population to go substantially below target levels, which are generally near the biomass that produces maximum sustainable yield.

Alternative 1a/1b No action = Status Quo for specifications and Status Quo for trip limit (status-quo trip limit is preferred). ABC = 62,412,866 pounds and trip limit = 5,000 pounds.

Given the fishery has been operating within the catch restrictions set for it, the overall baseline impact on the spiny dogfish stock from fishery operations is likely neutral to date – the stock was once overfished but has been rebuilt. Under the no action, the ABC would remain at 62,412,866 pounds, the trip limit would remain the same, and other spiny dogfish management measures would also remain the same. The only aspect of these that should markedly affect the spiny dogfish stock are the ABC and associated specifications (ACLs, ACTs, commercial quota, etc.). Not using the new SSC-recommended ABC and associated specifications could have a low negative effect on spiny dogfish (negative because of the risk of overfishing but low because the fishery hasn't been catching a level that would cause overfishing). Since spiny dogfish landings and discards are tracked and monitored to ensure that total catch remains below the ABC (and it has in recent years), trip limits should have no impacts on the spiny dogfish stock (they impact the flow of landings but not whether the ABC is exceeded).

Alternative 2 - (Preferred) – Dogfish Specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (preferred)

Compared to the no action, the new proposed spiny dogfish ABC and associated specifications should have a low positive effect on the spiny dogfish stock (positive from causing lower catches and low because the fishery hasn't been catching this lower level of specifications). Given the low positive impact relative to the status quo, the overall impact on the spiny dogfish stock is likely still generally neutral.

Alternative 3 - Dogfish Specifications for 2016-2018 set based on ABCs of 36,960,498 to 36,676,102 pounds, using 3-year averaging for smoothing

Compared to the no action, this spiny dogfish ABC and associated specifications should have a low positive effect on the spiny dogfish stock (positive from causing lower catches and low because the fishery hasn't often been catching this lower level of specifications). Given the low positive impact relative to the status quo, the overall impact on the spiny dogfish stock is likely still generally neutral.

Alternative 4 - Higher, 6,000 pound trip limit

Since spiny dogfish landings and discards are tracked and monitored to ensure that total catch remains below the ABC (and it has in recent years), this alternative should have no impacts on the spiny dogfish stock compared to the status quo.

Alternative 5 - Higher, 7,000 pound trip limit

Since spiny dogfish landings and discards are tracked and monitored to ensure that total catch remains below the ABC (and it has in recent years), this alternative should have no impacts on the spiny dogfish stock compared to the status quo.

Managed Species Impacts Summary

The no action/status quo specification alternatives may allow too much catch and thus low negative impacts for the spiny dogfish stock. Lower ABCs/specifications should have low positive impacts compared to the no action/status quo, and moderate trip limit changes should have no impact compared to the status quo.

7.2 IMPACTS ON NON-TARGET FISH SPECIES

Section 6 addresses the non-target species encountered by the spiny dogfish fishery. Given discards and landings are tracked for ABC/ACL accountability, and for stock assessments of federally-managed species, non-target impacts should be low negative for the status quo and similar to previous years. The degree to which encounters with non-target species could change under any of the alternatives is related to how fishing effort would change if a given alternative is implemented. As discussed at the start of Section 7, markets and the availability of the targeted species may drive effort (and non-target impacts) as much as quotas and other regulations.

If the quota is decreased as under Alternatives 2 and 3, compared to the no action/status quo, then it is possible that there could be some decrease in the extent of *directed* dogfish fishing in the EEZ and positive impacts for non-target fish species. However, given the fishery has generally not reached the considered reduced specification levels, impacts would be low positive compared to the status quo for both alternatives, and still low-negative overall.

For Alternatives 4 and 5, on one hand a higher trip limit than the status quo could increase interest and effort in the spiny dogfish fishery. On the other hand, if market conditions or the ABC are the primary limits on catch/effort, and considering the abundance of the resource, a higher trip limit could lead to less effort as fewer trips are needed to meet market demand (especially if the higher trip limit leads to a conversion of discards to landings). Given the relatively moderate increases in the trip limit under consideration, and these potentially countervailing forces, it is not anticipated that there would be any substantial change in effort or the nature of that effort compared to the status quo. As such, related to the considered trip limit increases, impacts on non-target fish species should be similar to the status quo, i.e. still low negative.

7.3 HABITAT IMPACTS

As discussed at the start of Section 7, markets and the availability of the targeted species may generally drive effort (and habitat impacts) as much as quotas and other regulations. The word “habitat” encompasses essential fish habitat (EFH) for the purposes of this analysis. The gears most commonly used in directed fishing for spiny dogfish are gillnets and bottom longline and these gear types are not generally associated with negative habitat impacts (Stevenson et al. 2004 p 125), so there would be neutral impacts expected from the no action/status quo.

Alternatives 2 and 3 would decrease the ABC/Specifications and would reduce the maximum possible catch/effort level, but given the relevant gear types and recent fishery performance, there should be no impacts compared to the status quo.

Alternatives 4 and 5 would moderately increase the trip limits for the fishery. As trip limits rise there is the potential for additional interest and activity from trawling operations, which could be associated with negative habitat impacts to some degree. However, given the moderate increases under consideration a substantial increase in trawling activity would not be expected, so impacts would be expected to be similar compared to the no action/status quo.

Given the specification and trip limit alternatives under consideration, there should be overall neutral impacts on habitat from maintenance of the status quo (no action) or any of the action alternatives.

7.4 IMPACTS ON PROTECTED RESOURCES

As discussed at the start of Section 7, markets and the availability of the targeted species may drive effort (and protected resource impacts) as much as quotas and other regulations.

Alternative 1a/1b No action = Status Quo for specifications and Status Quo for trip limit (status-quo trip limit is preferred). ABC = 62,412,866 pounds and trip limit = 5,000 pounds.

Under the no action, the ABC would remain at 62,412,866 pounds, the trip limit would remain the same, and other spiny dogfish management measures would also remain the same. The fishery uses several gear types, some of which may have protected species interactions as described in section 6.3. MMPA Protected and/or ESA listed species no-action impacts are further discussed below.

No-action MMPA Species Impacts

The spiny dogfish fishery overlaps with the distribution of marine mammals (cetaceans and pinnipeds) and has regular interactions. As a result, marine mammal interactions are likely (see section 6.3); however, ascertaining the risk of an interaction and the resultant potential impacts of the No Action on marine mammals are difficult and somewhat uncertain, as quantitative analysis has not been performed. However, we have considered, to the best of our ability, available information on marine mammal interactions with commercial fisheries, of which, the spiny dogfish fishery is a component (Waring *et al.* 2014; Waring *et al.* 2015). Aside from large

whale species (e.g., North Atlantic right, humpback, and fin), harbor porpoise, and several stocks of bottlenose dolphin, there has been no indication that takes of marine mammals in commercial fisheries have exceeded the potential biological removal (PBR) or exceeded levels which would threaten the sustainability these species (Waring *et al.* 2014; Waring *et al.* 2015).⁸ Although the information presented in Waring *et al.* (2014) and Waring *et al.* (2015) is a collective representation of commercial fisheries interactions with marine mammals, and does not address the effects of the spiny dogfish fishery specifically, the information does demonstrate that to date, operation of the spiny dogfish fishery, or any other fishery, has not resulted in a collective level of take that threatens the continued existence of marine mammal populations.

In conjunction with the above, additional analysis on the impacts of the operation of fisheries in the northeast region have also been conducted by NMFS, pursuant to section 7 of the ESA, for ESA-listed species of marine mammals. In 2013, a Biological Opinions (Opinion) was issued on the operation of seven commercial fisheries, including the spiny dogfish fishery. NMFS concluded that the operation of these seven FMPs may affect, but will not jeopardize the continued existence of any ESA listed species of marine mammals. Since issuance of this Opinion, there has been no indication that these fisheries have changed in any significant manner such that levels of take have gone above and beyond those considered by NMFS in its assessment of fisheries affects to listed species. As a result, we do not expect risks or impacts to ESA-listed species of marine mammals under status quo conditions to be different from those already considered by NMFS (NMFS 2013) and therefore, as concluded by NMFS, do not expect the continued operation of the spiny dogfish fishery under status quo conditions to jeopardize the continued existence of any ESA listed species of marine mammals (NMFS 2013).

Based on this information, and the fact that there is continual monitoring of marine mammal species bycatch, and that measures exist that reduce serious injury and mortality to marine mammal species, it is not expected that the No Action will introduce any new risks or additional takes to non-ESA listed marine mammal species that have not already been considered by NMFS to date and therefore, is not expected to affect the continued existence marine mammals. For these reasons, no action (Alternative 1a/1b) is expected to have low negative impacts on marine mammals, similar to past years.

No-action ESA Listed Species Impacts

The spiny dogfish fishery overlaps with ESA listed species distribution. As a result, ESA listed species interactions are possible (see section 6.3); however, ascertaining the risk of an interaction and the resultant potential impacts of the No Action on ESA-listed species are difficult and somewhat uncertain, as quantitative analysis has not been performed. However, we have considered, to the best of our ability, how the fishery has operated in regards to listed species since 2013, when NMFS issued a Biological Opinion (Opinion) on the operation of seven commercial fisheries, including the spiny dogfish fishery (NMFS 2013). Specifically, we have focused on available information on ESA-listed species interactions with commercial fisheries,

⁸ Although several species of large whales, harbor porpoise, and several stocks of bottlenose dolphin have experienced levels of take that exceeded each species PBR, take reduction plans have been implemented and are currently in place to reduce bycatch in the fisheries affecting these species (large whales: Atlantic Large Whale Take Reduction Plan; Harbor Porpoise Take Reduction Plan; Bottlenose Dolphins Take Reduction Plan; see section 6.2 for further details)

of which, the spiny dogfish fishery is a component (NMFS 2013; see section 6.4). The Opinion issued on December 16, 2013, included an incidental take statement authorizing the take of specific numbers of ESA listed species of sea turtles, Atlantic salmon, and Atlantic sturgeon. The spiny dogfish fishery is currently covered by the incidental take statement authorized in NMFS 2013 Opinion.

The 2013 biological opinion concluded that the spiny dogfish fishery may affect, but not jeopardize the continued existence of any ESA listed species. The No Action will retain status quo operating conditions in the FMP and therefore, changes in fishing effort or behavior would not be expected. As a result, the No Action is not expected to result in the introduction of any new risks or additional takes to ESA listed species that have not already been considered and authorized by NMFS to date (NMFS 2013). Further, the spiny dogfish fishery has not resulted in the exceedance of NMFS authorized take of any ESA listed species from 2013 to the present. Thus as concluded in the NMFS 2013 Opinion, No Action / the Status Quo is not expected to result in levels of take that would jeopardize the continued existence of ESA listed species. For these reasons, the no action (Alternative 1a/1b) is expected to have low negative impacts on ESA-listed species, similar to past years.

The impacts of the potential action alternatives relative to the no action and each other are described below.

Alternative 2 - (Preferred) – Dogfish Specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (preferred)

Alternative 2 proposes to decrease the commercial quota for spiny dogfish compared to the no action. As such, and because the spiny dogfish stock should be relatively stable, fishing effort is likely to remain similar to status quo conditions or potentially decrease; the latter potentially equates to less fishing time, and therefore, gear being present in the water for a shorter overall duration. Protected species interactions with gear, regardless of listing status, are greatly influenced by the amount of gear, and the duration of time gear is in the water, so any decrease in either of these factors will reduce the potential for protected species interactions and therefore, reduce the potential for serious injury or mortality to these species. While interactions and takes may still occur under Alternative 2, impacts to protected species are not expected to be any greater than those under status quo conditions, and in fact, as described above, may be less than status quo conditions. As a result, relative to the no action, Alternative 2 is likely to have neutral to low positive impacts on protected species. Since Alternative 2's quota is higher than Alternative 3, Alternative 2 would have less positive impacts compared to Alternative 3.

Alternatives 4 or 5 would be chosen in addition to the quota level (Alternative 2 or 3), so the impacts related to those Alternatives would be in addition to the impacts from this Alternative rather than comparable to this alternative.

Alternative 3 - Dogfish Specifications for 2016-2018 set based on ABCs of 36,960,498 to 36,676,102 pounds, using 3-year averaging for smoothing

Alternative 3 proposes to decrease the commercial quota for spiny dogfish compared to the no action. As such, and because the spiny dogfish stock should be relatively stable, fishing effort is likely to remain similar to status quo conditions or potentially decrease; the latter potentially equates to less fishing time, and therefore, gear being present in the water for a shorter overall duration. Protected species interactions with gear, regardless of listing status, are greatly influenced by the amount of gear, and the duration of time gear is in the water, so any decrease in either of these factors will reduce the potential for protected species interactions and therefore, reduce the potential for serious injury or mortality to these species. While interactions and takes may still occur under Alternative 3, impacts to protected species are not expected to be any greater than those under status quo conditions, and in fact, as described above, may be less than status quo conditions. As a result, relative to the no action, Alternative 3 is likely to have neutral to low positive impacts on protected species. Since Alternative 3's quota is lower than Alternative 2, Alternative 3 would have more positive impacts compared to Alternative 2.

Alternatives 4 or 5 would be chosen in addition to the quota level (Alternative 2 or 3), so the impacts related to those Alternatives would be in addition to the impacts from this Alternative rather than comparable to this alternative.

Alternative 4 - Higher, 6,000 pound trip limit

On one hand a higher trip limit than the status quo (i.e. no action/Alternative 1) could increase interest and effort in the spiny dogfish fishery. On the other hand, if market conditions or the ABC are the primary limits on catch/effort, and considering the abundance of the resource, a higher trip limit could lead to less effort as fewer trips are needed to meet market demand (especially if the higher trip limit leads to a conversion of discards to landings). Given the relatively moderate increase in the trip limit under consideration, and these potentially countervailing forces, it is anticipated that there would not be any substantial change in effort or the nature of that effort compared to the status quo. Protected species interactions with gear, regardless of listing status, are greatly influenced by the amount of gear, and the duration of time gear is in the water, so maintaining similar fishery effort should result in a similar potential for protected species interactions/serious injury/mortality. While interactions and takes may still occur under Alternative 4, impacts to protected species are thus not expected to be any greater than those under status quo conditions. As a result, Alternative 4 is likely to overall have low negative impacts to protected species, similar to the trip limit that would persist under the no action in Alternative 1. While Alternative 4's trip limit is lower than Alternative 5, they are both expected to have similar impacts (i.e., low negative) given their moderate trip limit changes and the overall control of the ABC and market forces. As a result, relative to one another, impacts to protected species are expected to be neutral for the trip limit options.

Alternatives 4 or 5 would be chosen in addition to the quota level (Alternative 2 or 3), so the impacts related to those Alternatives would be in addition to the impacts from this Alternative rather than comparable to this alternative.

Alternative 5 - Higher, 7,000 pound trip limit

On one hand a higher trip limit than the status quo (i.e. no action/Alternative 1) could increase interest and effort in the spiny dogfish fishery. On the other hand, if market conditions or the ABC are the primary limits on catch/effort, and considering the abundance of the resource, a higher trip limit could lead to less effort as fewer trips are needed to meet market demand (especially if the higher trip limit leads to a conversion of discards to landings). Given the relatively moderate increase in the trip limit under consideration, and these potentially countervailing forces, it is anticipated that there would not be any substantial change in effort or the nature of that effort compared to the status quo. Protected species interactions with gear, regardless of listing status, are greatly influenced by the amount of gear, and the duration of time gear is in the water, so maintaining similar fishery effort should result in a similar potential for protected species interactions/serious injury/mortality. While interactions and takes may still occur under Alternative 5, impacts to protected species are thus not expected to be any greater than those under status quo conditions. As a result, Alternative 5 is likely to overall have low negative impacts to protected species, similar to the trip limit that would persist under the no action in Alternative 1. While Alternative 4's trip limit is lower than Alternative 5, they are both expected to have similar impacts given their moderate trip limit changes and the overall control of the ABC and market forces.

Alternatives 4 or 5 would be chosen in addition to the quota level, so the impacts related to those Alternatives would be in addition to the impacts from this Alternative rather than comparable to this alternative.

Protected Resources Impacts Summary

The no action/status quo alternatives should result in generally similar impacts as previous years. Alternatives (2 or 3) considering lower ABCs/quotas should have low positive impacts compared to the status quo/no action, while alternatives (4 or 5) considering a moderate trip limit increase should have no impact compared to the status quo (i.e., neutral impacts). Considered together, while interactions and takes may still occur in the fishery under any combination of alternatives considered (absent the no action), overall, impacts to protected species are likely to be slightly less than under status quo/no action conditions. Based on this, regardless of alternatives chosen together (Alternative 2 or 3 (ABC/quota) + Alternative 4 or 5 (trip limit)), impacts to protected species are likely to be neutral to low positive compared to the status quo/no action.

7.5 Socioeconomic Impacts

As discussed at the start of Section 7, markets and the availability of the targeted species may drive effort (and socioeconomic impacts) as much as quotas and other regulations.

Alternative 1a/1b No action = Status Quo for specifications and Status Quo for trip limit (status-quo trip limit is preferred). ABC = 62,412,866 pounds and trip limit = 5,000 pounds.

Under the no action, the ABC would remain at 62,412,866 pounds, the trip limit would remain the same, and other spiny dogfish management measures would also remain the same. Due to the year to year variation in catch and effort in the spiny dogfish fishery, it is difficult to quantify human community impacts but the current fishery supports a number of vessels and dealers, as described in Section 6.4, and provides a variety of jobs related directly to fishing and also in associated support services. Thus the overall socioeconomic impacts from the status quo should be positive in the short run. While catches have been unconstrained and well below a level associated with overfishing, catches at the status-quo ABC level could cause overfishing, which could lead to negative impacts in the long run. Since realized catches would likely not approach an overfishing level even under the status-quo specifications due to market forces, these negative impacts are likely low.

Alternative 2 - (Preferred) – Dogfish Specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (preferred)

Recent landings (e.g. last three fishing years) have been substantially lower than the proposed reduced spiny dogfish specifications, so it appears likely that the preferred specifications will not be constraining, and would not lead to revenue losses compared to recent years (especially given the market constraints on this fishery). Thus for this proposed alternative human community impacts are neutral compared to the no action in the short term but potentially low positive in the long run related to maintaining the sustainability of the resource, so the overall socioeconomic impact is likely still positive.

Alternative 3 - Dogfish Specifications for 2016-2018 set based on ABCs of 36,960,498 to 36,676,102 pounds, using 3-year averaging for smoothing

Recent landings (e.g. last three fishing years) have generally been lower than the proposed reduced spiny dogfish specifications, so these specifications may not be constraining, and would not lead to substantial revenue losses compared to recent years (especially given the market constraints on this fishery). Fishing year landings averaged 22.0 million pounds 2012-2014, while the proposed commercial quotas under this alternative are 25.3 million pounds for 2016, 24.7 million pounds for 2017, and 25.0 million pounds for 2018. In the 2012 fishing year landings were 26.8 million pounds, the highpoint of the fishery since the commencement of the FMP. This is approximately 2 million pounds higher than the lowest annual quota in this alternative, which at 2014 prices (~\$0.17/pound) would translate into approximately \$0.4 million in potentially lost revenues if the fishery landed that much in any of the next three years. If the fishery had the ability to land more, the potentially forgone revenues would be larger.

Thus for this alternative, human community impacts are low negative compared to the no action because they would be unnecessarily constraining without a conservation need, but the overall socioeconomic impact would likely still be positive.

Alternative 4 - Higher, 6,000 pound trip limit

Compared to the no action/status quo, higher trip limits could result in greater immediate revenue per trip but increase the potential for an abbreviated season. Given recent performance of the fishery overall however, a shortened season appears unlikely to result from a moderate trip

limit increase. As such, impacts would be expected to be low-positive compared to the status quo.

Alternative 5 - Higher, 7,000 pound trip limit

Compared to the no action/status quo, higher trip limits could result in greater immediate revenue per trip but increase the potential for an abbreviated season. Given recent performance of the fishery overall however, a shortened season appears unlikely to result from a moderate trip limit increase. As such, impacts would be expected to be low-positive compared to the status quo. Given the sensitivity of the market to the quantity and quality of product delivered, qualitatively there may be a more positive impact from a smaller increase (Alternative 4) compared to a larger increase (Alternative 5), but it is not possible to quantify this impact or determine at what point a trip limit increase could reduce benefits.

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 an online meeting (79FR15727) in 2014. 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 then current market constraints, the vessel price for spiny dogfish (~0.15/pounds) was about 32% below the long term 2008-2012 average (~0.22/pounds) 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 fisheries, 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.

The 2015 Fishery Performance Report also addressed the issue of trip limits, with some advisors expressing interest in options to increase the trip limit and other opposing, but there was no consensus (see http://www.mafmc.org/s/Tab03_Spiny-Dogfish.pdf). Some advisors recommended a slow and steady approach that does not create large changes in catches and/or prices, while others would like an option that would allow larger vessels (including trawlers) to participate in the fishery.

Socioeconomic Impacts Summary

Lower spiny dogfish specifications are unlikely to cause substantial impacts but the lowest option could lead to low negative socioeconomic impacts compared to the preferred alternative. A small increase to the trip limit is likely to cause low positive impacts compared to the status quo.

7.6 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.

7.6.1 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

7.6.2 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.

7.6.3 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 (2019) into the future, because events beyond that time are not reasonably foreseeable.

7.6.4 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. Table 19 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 generally 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.

7.6.5 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 19. 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, RFF} 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 19 (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 19 (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
Pr, RFF Strategy for Sea Turtle Conservation for the Atlantic Ocean and the Gulf of Mexico Fisheries	GOALS: <ul style="list-style-type: none"> • Characterize fisheries in state and federal waters • Evaluate sea turtle bycatch by gear type • Develop and implement measures to reduce sea turtle bycatch by gear type • Recover and protect sea turtles 	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 19 (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
Pr, 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			
Pr, 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 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			
P 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

Table 19 (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
Pr NE Multispecies Framework 51	Measures to modify ACLs and GOM cod and Am. Plaice rebuilding.	Positive Low ACLs may reduce overall effort	Short-term negative, long term positive			
Pr NE Multispecies Framework 52	Measures to revise windowpane AMs	Positive Low ACLs may reduce overall effort	Short-term negative, long term positive			
Pr NE Multispecies Framework 53	Measures to update SDCs and GOM cod restrictions	Positive Low ACLs may reduce overall effort	Short-term negative, long term positive			
RFF NE Multispecies Framework 54	Monkfish FW 9 – allowed targeting of dogfish on monkfish trips, adjust day at sea usage	Neutral May increase dogfish landings but will not cause ACL overage	Negative Bycatch mortality could increase	Neutral – fixed gear.	Negative Gear encounters could increase	Positive Expected to improve profitability
RFF NE Multispecies Framework 55	Measures to adjust catch limits (some up and some down)	Mixed Some ACLs went up (could increase effort) and some went down (could decrease effort)	Mixed Some ACLs went up (could increase effort) and some went down (could decrease effort)	Mixed Some ACLs went up (could increase effort) and some went down (could decrease effort)	Mixed Some ACLs went up (could increase effort) and some went down (could decrease effort)	Mixed Some ACLs went up (could increase landings) and some went down (could decrease landings)

7.6.5.1 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 19. The indirectly negative actions described 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 7.6.4), 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 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.

7.6.5.2 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 19. The effects of indirectly negative actions described 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 7.6.4), 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 has had 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, and will likely continue to evolve to improve bycatch estimation. 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 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.

7.6.5.3 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 19. The direct and indirect negative actions described 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 7.6.4), 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 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.

7.6.5.4 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 19. The indirectly negative actions described 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 7.6.4), 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 19, 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.

Biological Opinions issued by NMFS (fishery and non-fish actions) all have reasonable and prudent measures and terms and conditions to minimize impacts of incidental take to the relevant species.

7.6.5.5 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 19. The indirectly negative actions described 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 7.6.4), 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 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.

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.

7.6.6 Preferred Action on all the VECS

The preferred Alternative 2 for Dogfish Specifications for 2016-2018 uses lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using a Kalman Filter for smoothing. The preferred Alternative 1b would maintain the current trip limit of 5,000 pounds.

The direct and indirect impacts of the proposed action on the VECs are described in sections 7.1 through 7.5. 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. 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.

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8.0 WHAT LAWS APPLY TO THE ACTIONS CONSIDERED IN THIS DOCUMENT?

8.1 MAGNUSON-STEVENSON FISHERY CONSERVATION AND MANAGEMENT ACT

8.1.1 NATIONAL STANDARDS

Section 301 of the Magnuson-Stevens Fishery Conservation and Management Act requires that fishery management plans contain conservation and management measures that are consistent with the ten National Standards:

In General. – Any fishery management plan prepared, and any regulation promulgated to implement any such plan, pursuant to this title shall be consistent with the...national standards for fishery conservation and management.

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

The measures proposed via this document are designed to avoid acceptable biological catch overages (i.e. avoid overfishing) while also allowing the fishery to achieve the specified quotas (i.e. optimum yield).

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

The data sources considered and evaluated during the development of this action include, but are not limited to: permit data, landings data from vessel trip reports, information from resource trawl surveys, sea sampling (observer) data, data from the dealer weighout purchase reports, peer-reviewed assessments and original literature, and descriptive information provided by fishery participants and the public. To the best of the Council's knowledge these data sources constitute the best scientific information available. All analyses based on these data have been reviewed by National Marine Fisheries Service and the public.

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

The fishery management plan addresses management of the spiny dogfish stock throughout the range of the species in U.S. waters, in accordance with the jurisdiction of U.S. law.

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

The proposed management measures are not expected to discriminate between residents of different States. This action does not allocate or assign fishing privileges among various fishermen.

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

The proposed measures should not impact the efficiency of utilization of fishery resources. They are designed to continue the effective management and utilization of the spiny dogfish resource.

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

Changes in fisheries occur continuously, both as the result of human activity (for example, new technologies or shifting market demand) and natural variation (for example, oceanographic perturbations). In order to provide the greatest flexibility possible for future management decisions, the fishery management plan includes a Framework adjustment mechanism with an extensive list of possible Framework adjustment measures that can be used to quickly adjust the plan as conditions in the fishery change.

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

As always, the Council considered the costs and benefits associated with the management measures proposed in the action when developing this action. This action should not create any duplications related to managing the spiny dogfish or other resources.

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

The human community impacts of the action are described above in Section 7. The

reduction of the quota means a potential reduction in possible revenues, but the Council's SSC determined that an ABC reduction was appropriate for conservation of the stock and the new proposed quota is still higher than recent landings.

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

The Magnuson-Stevens Act defines "bycatch" as fish that are harvested in a fishery, but are not retained (sold, transferred, or kept for personal use), including economic discards and regulatory discards. The Council considers that bycatch in this fishery has been reduced to the extent practicable, and bycatch is evaluated regularly to determine if any additional of new bycatch issues need to be addressed in this fishery.

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

Fishing is a dangerous occupation; participants must constantly balance the risks imposed by weather against the economic benefits. According to the National Standard guidelines, the safety of the fishing vessel and the protection from injury of persons aboard the vessel are considered the same as "safety of human life at sea." The safety of a vessel and the people aboard is ultimately the responsibility of the master of that vessel. Each master makes many decisions about vessel maintenance and loading and about the capabilities of the vessel and crew to operate safely in a variety of weather and sea conditions. This national standard does not replace the judgment or relieve the responsibility of the vessel master related to vessel safety. No measures in this action are expected to impact safety at sea.

8.1.2 OTHER REQUIRED PROVISIONS OF THE MAGNUSON-STEVENS ACT

Section 303 of the MSA contains 15 additional required provisions for FMPs, which are listed and discussed below. Nothing in this action is expected to contravene any of these required provisions.

(1) contain the conservation and management measures, applicable to foreign fishing and fishing by vessels of the United States, which are-- (A) necessary and appropriate for the conservation and management of the fishery to prevent overfishing and rebuild overfished stocks, and to protect, restore, and promote the long-term health and stability of the fishery; (B) described in this subsection or subsection (b), or both; and (C) consistent with the National Standards, the other provisions of this Act, regulations implementing recommendations by international organizations in which the United States participates (including but not limited to closed areas, quotas, and size limits), and any other applicable law

The spiny dogfish FMP has evolved over time through multiple Amendments and currently uses Acceptable Biological Catch (ABC) recommendations from the Council's Scientific and Statistical Committee to sustainably manage the fishery. Under the umbrella of limiting catch to the Acceptable Biological Catch, a variety of other

management and conservation measures have been developed to meet the goals of the fishery management plan and remain consistent with the National Standards. The current measures are codified in the Code of Federal Regulations (50 C.F.R. § 648 Subpart B - <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50>) and summarized at <http://www.greateratlantic.fisheries.noaa.gov/regs/info.html>. This action proposes ABCs that should be sustainable. As such, the existing and proposed management measures should continue to promote the long-term health and stability of the fisheries consistent with the MSA.

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

Every Amendment to this Fishery Management Plan provides this information. This document also updates this information as appropriate in Section 6.

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

This provision is addressed via assessments that are conducted through a peer-reviewed process at the NMFS Northeast Fisheries Science Center. The available information is summarized in every Amendment and Specifications document – see Section 6. Full assessment reports are available at: <http://www.nefsc.noaa.gov/saw/>.

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

Given recent increases in the commercial quota this fishery has some room to grow. International markets largely determine spiny dogfish prices and activity in this fishery. Given sufficient demand, it is anticipated that fishing vessels of the United States have the capacity to harvest the available quota. Given sufficient demand, it is also anticipated that processors possess or could rapidly develop the processing capacity to process the available quota. The existing management measures (especially trip limits) are designed to allow for an orderly development of this fishery.

(5) specify the pertinent data which shall be submitted to the Secretary with respect to commercial, recreational, and charter fishing in the fishery, including, but not limited to, information regarding the type and quantity of fishing gear used, catch by species in numbers of fish or weight thereof, areas in which fishing was engaged in, time of fishing, number of hauls,

and the estimated processing capacity of, and the actual processing capacity utilized by, United States fish processors

Previous Amendments have specified the data that must be submitted to NMFS in the form of vessel trip reports, vessel monitoring, and dealer transactions.

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

There are no such requests pending, but the plan contains provisions for framework actions to make modifications regarding access/permitting if necessary.

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

Section 6 of this document summarizes essential fish habitat (EFH), and links are provided to more detailed information. The principal gear types used in this fishery are not associated with substantial adverse habitat impacts.

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

The preparation of this action included a review of the scientific data available to assess the impacts of all alternatives considered. No additional data was deemed needed for effective implementation of the plan.

(9) include a fishery impact statement for the plan or amendment (in the case of a plan or amendment thereto submitted to or prepared by the Secretary after October 1, 1990) which shall assess, specify, and describe the likely effects, if any, of the conservation and management measures on-- (A) participants in the fisheries and fishing communities affected by the plan or amendment; and (B) participants in the fisheries conducted in adjacent areas under the authority of another Council, after consultation with such Council and representatives of those participants;

Section 7 of this document provides an assessment of the likely effects on fishery participants and communities from the considered actions.

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

The FMP is designed such that new overfished/overfishing reference points are automatically incorporated once accepted as best available scientific information. If the fishery is declared overfished or if overfishing is occurring, an Amendment would be undertaken to implement effective corrective measures.

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

NMFS recently implemented an omnibus amendment to implement a new standardized reporting methodology since the previous methodology was invalidated by court order.

See

<http://www.greateratlantic.fisheries.noaa.gov/mediacenter/2013/09/draftsbrmamendment.html> for details.

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

The spiny dogfish fishery is primarily commercial and there are no specific catch and release fishery management programs.

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

Every Amendment to the FMP provides this information. This document also updates this information as appropriate in Section 6.

(14) to the extent that rebuilding plans or other conservation and management measures which reduce the overall harvest in a fishery are necessary, allocate any harvest restrictions or recovery benefits fairly and equitably among the commercial, recreational, and charter fishing sectors in the fishery.

No rebuilding plans are active (or necessary). Neither sector should be impacted by the proposed catch reductions.

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

The annual specifications process addresses this requirement. Acceptable Biological Catch recommendations from the Council's Scientific and Statistical Committee are designed to avoid overfishing and form the upper bounds on catches. There are a variety of proactive and reactive accountability measures for these fisheries, fully described at: <http://www.ecfr.gov/cgi-bin/text-idx?c=ecfr&SID=1e9802ffddb05d0243d9c657fade956c&rgn=div5&view=text&node=50:12.0.1.1.5&idno=50#50:12.0.1.1.5.2>.

8.1.3 DISCRETIONARY PROVISIONS OF THE MAGNUSON-STEVENSONS ACT

Section 303b of the Magnuson-Stevens Act contains 14 additional discretionary provisions for Fishery Management Plans. They may be read in the Magnuson-Stevens Act, available at

http://www.fisheries.noaa.gov/sfa/laws_policies/msa/2007_imp_archive/index.html.

Given the limited scope of this action, there are no impacts related to such provisions.

8.1.4 ESSENTIAL FISH HABITAT ASSESSMENT

The specifications under the preferred alternatives proposed in this action are not expected to result in substantial changes in effort, and the relevant gear types are not likely to cause substantial adverse habitat impacts. Therefore, the Council concluded in section 7 of this document that the proposed specifications will have no additional adverse impacts on EFH that are more than minimal. Thus no mitigation is necessary.

8.2 NEPA

8.2.1 Finding of No Significant Impact (FONSI)

National Oceanic and Atmospheric Administration Administrative Order 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 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 Administrative Order 216-6 criteria and Council on Environmental Quality'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?*

None of the proposed specifications are expected to jeopardize the sustainability of any target species affected by the action (see Section 7 of this document). The preferred alternatives are consistent with the FMP and best available scientific information. As such, the proposed action is expected to ensure the long-term sustainability of harvests from the spiny dogfish stock.

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 (see section 7 of this document) because the proposed specifications are not

expected to result in substantial increases in overall fishing effort. In addition, none of the measures are expected to substantially alter fishing methods or the temporal and/or spatial distribution of fishing activities. Therefore, none of the proposed actions are expected to jeopardize the sustainability of non-target species.

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

The specifications under the preferred alternatives proposed in this action are not expected to result in substantial changes in effort, and the relevant gear types are not likely to cause substantial adverse habitat impacts. Therefore, the Council concluded in Section 7 of this document that the proposed specifications will have no additional adverse impacts on EFH that are more than minimal.

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

None of the measures substantially alter the manner in which the industry conducts fishing activities for the target species. Therefore, the proposed actions in these fisheries are not expected to 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 spiny dogfish fishery is known to interact with a variety of protected resources. However, fishing effort is not expected to substantially increase in magnitude under the proposed specifications. In addition, none of the proposed measures are expected to substantially alter fishing methods, activities, or the spatial and/or temporal distribution of fishing effort. Therefore, this action is not expected to have increased negative effects on protected resources, including endangered or threatened species, marine mammals, or critical habitat of these species.

NMFS reinitiated consultation on seven fisheries, including the spiny dogfish FMP and finalized a biological opinion in December 2013. NMFS determined that the continued operation of the fishery is not likely to jeopardize the continued existence of any Atlantic sturgeon DPS. NMFS will implement any appropriate measures outlined in the Biological Opinion to mitigate harm to Atlantic sturgeon.

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.)?

Fishing effort is not expected to substantially increase in magnitude under the proposed specifications (see Section 7 of this document). In addition, none of the proposed specifications are expected to substantially alter fishing methods, activities or the spatial and/or temporal distribution of fishing effort. Therefore, the proposed action is not

expected to have a substantial impact on biodiversity or ecosystem function (e.g. food webs) within the affected area.

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

The action proposed addresses the spiny dogfish fishery specifications process, which was established in the FMP and modified in various amendments, frameworks, and specifications. There are no significant social or economic impacts interrelated with natural or physical environmental effects expected from implementation of this action. A complete discussion of the potential impacts of the proposed specifications and management measures is provided in Section 7 of this document.

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

The proposed action is based on measures contained in the FMP which have generally been in place for multiple years. In addition, the scientific information upon which the annual quotas are based has been reviewed by the Council's SSC and is the most recent information available. As a result of these facts, the measures proposed herein are not expected to be 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?

The action proposed addresses management of the spiny dogfish fishery, which was established in the FMP and modified in various amendments, frameworks, and specifications. Other types of commercial fishing already occur in this area, and although it is possible that historic or cultural resources such as shipwrecks could be present, 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 preferred alternative 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?

While there is always a degree of variability in the year to year performance of the fishery, the proposed actions are not expected to substantially increase overall effort or to substantially alter fishing methods and activities. As a result, the effects on the human environment of the proposed specifications are not highly uncertain nor do they involve unique or uncertain risks (see Section 7 of this document).

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

The impacts of the preferred alternatives on the biological, physical, and human environment are described in Section 7. The overall interactions of the proposed action

with other actions are expected to generate positive impacts, but 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?

The action proposed addresses management of the spiny dogfish fishery, which was established in the FMP and modified in various amendments, frameworks, and specifications. Although there are shipwrecks present in the area where fishing occurs, including some registered on the National Register of Historic Places, vessels typically avoid fishing too close to wrecks due to the possible loss or entanglement of fishing gear. Therefore, it is not likely that the preferred alternative would adversely affect the historic resources listed above.

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

There is no evidence or indication that these fisheries have ever resulted or would ever result in the introduction or spread of nonindigenous 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 has been proposed and evaluated consistent with prior years' specification setting processes and/or amendments and therefore is neither likely to establish a precedent for future actions with significant effects nor to 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?

Overall fishing effort is not expected to substantially increase in magnitude under the proposed action (see Section 7 of this document). In addition, none of the proposed specifications are expected to substantially alter fishing methods, activities, or the spatial and/or temporal distribution of fishing effort. Thus, it is not expected that they would threaten a violation of Federal, State, or local law or requirements imposed for the protection of the environment. The proposed measures have been found to be consistent with other applicable laws as described in this Section.

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?

Overall fishing effort is not expected to substantially increase in magnitude under the proposed action (see Section 7 of this document). In addition, none of the proposed specifications are expected to substantially alter fishing methods, activities or the spatial and/or temporal distribution of fishing effort. Therefore the proposed action is unlikely

to result in cumulative adverse effects (including any that could have a substantial effect on the target species or non-target species).

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the spiny dogfish fishery, it is hereby determined that the proposed specifications will not significantly impact the quality of the human environment as described in the supporting 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 EIS for this action is not necessary.

Greater Atlantic Regional Administrator, NOAA

Date

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8.3 MARINE MAMMAL PROTECTION ACT

The various species which inhabit the management unit of this FMP that are afforded protection under the Marine Mammal Protection Act of 1972 (MMPA) are described in Section 6. None of the proposed specifications are expected to significantly alter fishing methods or activities or result in substantially increased effort. The Council has reviewed the impacts of the proposed specifications on marine mammals and concluded that the management actions proposed are consistent with the provisions of the MMPA and would not alter existing measures to protect the species likely to inhabit the management units of the subject fisheries. For further information on the potential marine mammal impacts of the fishery and the proposed management action, see Sections 6 and 7 of this Environmental Assessment.

8.4 ENDANGERED SPECIES ACT

Section 7 of the ESA requires Federal agencies conducting, authorizing, or funding activities that affect threatened or endangered species to ensure that those effects do not jeopardize the continued existence of listed species. The Council has concluded that the proposed specifications and the prosecution of the associated fisheries are not likely to result in jeopardy to any ESA-listed species under NOAA Fisheries Service jurisdiction, or alter or modify any critical habitat, based on the analysis in this document. For further information on the potential impacts of the fisheries and the proposed management action on endangered species, see Sections 6 and 7 of this document.

NMFS reinitiated consultation on seven fisheries, including this FMP and finalized a biological opinion in December 2013

(<http://www.greateratlantic.fisheries.noaa.gov/protected/section7/bo/actbo.html>). NMFS determined that:

“After reviewing..., it is our biological opinion that the proposed action may adversely affect, but is not likely to jeopardize, the continued existence of North Atlantic right whales, humpback whales, fin whales, and sei whales, or loggerhead (specifically, the NWA DPS), leatherback, Kemp’s ridley, and green sea turtles, any of the five DPSs of Atlantic sturgeon, or GOM DPS Atlantic salmon. It is also our biological opinion that the proposed action is not likely to adversely affect hawksbill sea turtles, shortnose sturgeon, smalltooth sawfish DPS, *Acroporid* corals, Johnson’s seagrass, sperm whales, blue whales, designated critical habitat for right whales in the Northwest Atlantic, or designated critical habitat for GOM DPS Atlantic salmon.”

8.5 ADMINISTRATIVE PROCEDURES ACT

Section 553 of the Administrative Procedure Act establishes procedural requirements applicable to informal rulemaking by Federal agencies. The purpose of these requirements is to ensure public access to the Federal rulemaking process, and to give the public adequate notice and opportunity for comment. At this time, the Council is not requesting any abridgement of the rulemaking process for this action.

8.6 PAPERWORK REDUCTION ACT

The purpose of the Paperwork Reduction Act is to control and, to the extent possible, minimize the paperwork burden for individuals, small businesses, nonprofit institutions, and other persons resulting from the collection of information by or for the Federal Government. This action does not propose to modify any existing collections, or to add any new collections; therefore, no review under the Paperwork Reduction Act is necessary.

8.7 COASTAL ZONE MANAGEMENT ACT

Section 307(c)(1) of the Federal Coastal Zone Management Act of 1972 requires that all Federal activities that directly affect the coastal zone be consistent with approved state coastal zone management programs to the maximum extent practicable. Pursuant to the Coastal Zone Management Act regulations at 15 CFR 930.35, a negative determination may be made if there are no coastal effects and the subject action: (1) Is identified by a state agency on its list, as described in ' 930.34(b), or through case-by-case monitoring of unlisted activities; or (2) which is the same as or is similar to activities for which consistency determinations have been prepared in the past; or (3) for which the Federal agency undertook a thorough consistency assessment and developed initial findings on the coastal effects of the activity. Accordingly, NMFS has determined that this action would have no effect on any coastal use or resources of any state. Letters documenting the NMFS negative determination, along with this document, were sent to the coastal zone management program offices of the states of Maine, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, Maryland, Virginia, North Carolina, South Carolina, Georgia, and Florida. A list of the specific state contacts and a copy of the letters are available upon request.

8.8 SECTION 515 (DATA QUALITY ACT)

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

Utility

The information presented in this document should be helpful to the intended users (the affected public) by presenting a clear description of the purpose and need of the proposed action, the measures proposed, and the impacts of those measures. A discussion of the reasons for selecting the proposed action is included so that intended users may have a full understanding of the proposed action and its implications, as well as the Council's rationale.

Until a proposed rule is prepared and published, this document is the principal means by which the information contained herein is available to the public. The information provided in this document is based on the most recent available information from the relevant data sources. The development of this document and the decisions made by the Council to propose this action are the result of a multi-stage public process. Thus, the information pertaining to management measures contained in this document has been improved based on comments from the public, the fishing industry, members of the Council, and NMFS.

The Federal Register notice that announces the proposed rule and the final rule and implementing regulations will be made available in printed publication, on the website for the Greater Atlantic Regional Fisheries Office, and through the Regulations.gov website. The Federal Register documents will provide metric conversions for all measurements.

Integrity

Prior to dissemination, information associated with this action, independent of the specific intended distribution mechanism, is safeguarded from improper access, modification, or destruction, to a degree commensurate with the risk and magnitude of harm that could result from the loss, misuse, or unauthorized access to or modification of such information. All electronic information disseminated by NOAA Fisheries adheres to the standards set out in Appendix III, Security of Automated Information Resources, of OMB Circular A-130; the Computer Security Act; and the Government Information Security Act. All confidential information (e.g., dealer purchase reports) is safeguarded pursuant to the Privacy Act; Titles 13, 15, and 22 of the U.S. Code (confidentiality of census, business, and financial information); the Confidentiality of Statistics provisions of the Magnuson-Stevens Act; and NOAA Administrative Order 216-100, Protection of Confidential Fisheries Statistics.

Objectivity

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

This information product uses information of known quality from sources acceptable to the relevant scientific and technical communities. Stock status (including estimates of biomass and fishing mortality) reported in this product are based on either assessments subject to peer-review through the Stock Assessment Review Committee or on updates of those assessments prepared by scientists of the Northeast Fisheries Science Center. Landing and revenue information is based on information collected through the Vessel Trip Report and Commercial Dealer databases. Information on catch composition, by tow, is based on reports collected by the NOAA Fisheries observer program and incorporated into the sea sampling or observer database systems. These reports are

developed using an approved, scientifically valid sampling process. In addition to these sources, additional information is presented that has been accepted and published in peer-reviewed journals or by scientific organizations. Original analyses in this document were prepared using data from accepted sources, and the analyses have been reviewed by members of the Spiny Dogfish Monitoring Committee or other NMFS staff with expertise on the subject matter.

Despite current data limitations, the conservation and management measures proposed for this action were selected based upon the best scientific information available. The analyses conducted in support of the proposed action were conducted using information from the most recent complete calendar years, generally through 2014 except as noted. The data used in the analyses provide the best available information on the number of seafood dealers operating in the northeast, the number, amount, and value of fish purchases made by these dealers. Specialists (including professional members of plan development teams, technical teams, committees, and Council staff) who worked with these data are familiar with the most current analytical techniques and with the available data and information relevant to these fisheries.

The policy choices are clearly articulated in Section 5 of this document as well as the management alternatives considered in this action. The supporting science and analyses, upon which the policy choices are based, are described in Sections 6 and 7 of this document. All supporting materials, information, data, and analyses within this document have been, to the maximum extent practicable, properly referenced according to commonly accepted standards for scientific literature to ensure transparency.

The review process used in preparation of this document involves the responsible Council, the Northeast Fisheries Science Center, the Greater Atlantic Regional Fisheries 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 document. Review by staff at the Regional Office is conducted by those with expertise in fisheries management and policy, habitat conservation, protected species, and compliance with the applicable law. Final approval of the action proposed in this document and clearance of any rules prepared to implement resulting regulations is conducted by staff at NOAA Fisheries Headquarters, the Department of Commerce, and the U.S. Office of Management and Budget.

8.9 REGULATORY FLEXIBILITY ANALYSIS

The purpose of the Regulatory Flexibility Act is to reduce the impacts of burdensome regulations and recordkeeping requirements on small businesses. To achieve this goal, the Regulatory Flexibility Act requires Federal agencies to describe and analyze the effects of proposed regulations, and possible alternatives, on small business entities. This document contains an Initial Regulatory Flexibility Analysis, found at the end of this section, which includes an assessment of the effects that the proposed action and other alternatives are expected to have on small entities.

8.10 EXECUTIVE ORDER (E.O.) 12866 (REGULATORY PLANNING AND REVIEW)

To enhance planning and coordination with respect to new and existing regulations, this Executive Order requires the Office of Management and Budget (OMB) to review regulatory programs that are considered to be significant. The end of this section includes the Regulatory Impact Review, which includes an assessment of the costs and benefits of the proposed action, in accordance with the guidelines established by Executive Order 12866. The analysis shows that this action is not a significant regulatory action because it will not affect in a material way the economy or a sector of the economy.

8.11 EXECUTIVE ORDER (E.O.) 13132 (FEDERALISM)

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

8.12 INITIAL REGULATORY FLEXIBILITY ANALYSIS AND REGULATORY IMPACT REVIEW

The Regulatory Flexibility Act (RFA), first enacted in 1980, and codified at 5 U.S.C. 600-611, was designed to place the burden on the government to review all regulations to ensure that, while accomplishing their intended purposes, they do not unduly inhibit the ability of small entities to compete. The RFA recognizes that the size of a business, unit of government, or nonprofit organization frequently has a bearing on its ability to comply with a Federal regulation. Major goals of the RFA are: 1) to increase agency awareness and understanding of the impact of their regulations on small business; 2) to require that agencies communicate and explain their findings to the public; and 3) to encourage agencies to use flexibility and to provide regulatory relief to small entities.

The RFA emphasizes predicting significant adverse impacts on small entities as a group distinct from other entities and on the consideration of alternatives that may minimize the impacts, while still achieving the stated objective of the action. When an agency publishes a proposed rule, it must either, (1) “certify” that the action will not have a significant adverse impact on a substantial number of small entities, and support such a certification declaration with a “factual basis”, demonstrating this outcome, or, (2) if such a certification cannot be supported by a factual basis, prepare and make available for public review an Initial Regulatory Flexibility Analysis (IRFA) that describes the impact of the proposed rule on small entities.

This document provides the factual basis supporting a certification that the proposed regulations will not have a “significant impact on a substantial number of small entities” and that an IRFA is not needed in this case. Certifying an action must include the following elements, and each element is subsequently elaborated upon below:

- A. A statement of basis and purpose of the rule
- B. A description and estimate of the number of small entities to which the rule applies
- C. Description and estimate of economic impacts on small entities, by entity size and industry
- D. An explanation of the criteria used to evaluate whether the rule would impose significant economic impacts
- E. An explanation of the criteria used to evaluate whether the rule would impose impacts on a substantial number of small entities
- F. A description of, and an explanation of the basis for, assumptions used

A – Basis and purpose of the rule

The bases of the rules proposed in this action are the provisions of the MSA for federal fishery management to prevent overfishing, achieve optimum yield, reduce bycatch to the extent practicable, and conserve non-target species. Optimum yield is defined as the amount of fish which will achieve the maximum sustainable yield, as reduced by any relevant economic, social, or ecological factor. The purpose of the rules associated with the preferred alternatives is to implement specifications for the spiny dogfish fishery that institute quotas and related measures that will restrict catch so as to avoid overfishing

while facilitating catch within the constraint of avoiding overfishing such that optimum yield is achieved. Failure to implement the preferred measures described in this document could result in overfishing, stock depletion, and/or failure to reach optimum yield. To assist with further evaluation of the measures proposed in this document, a brief summary of the preferred alternatives is provided below. A full description of all alternatives is provided in Section 5.

Alt 1a/1b No action = Status Quo for specifications and Status Quo for trip limit (status-quo trip limit is preferred). ABC = 62,412,866 pounds and trip limit = 5,000 pounds.
Alt 2 - Dogfish Specifications for 2016-2018 set based on lower SSC-recommended ABCs of 52,066,572 to 49,901,633 pounds, using Kalman Filter for smoothing (preferred)
Alt 3 - Dogfish Specifications for 2016-2018 set based on ABCs of 36,960,498 to 36,676,102 pounds, using 3-year averaging for smoothing
Alt 4 - Higher, 6,000 pound trip limit
Alt 5 - Higher, 7,000 pound trip limit

B – Description and estimate of the number of small entities to which the rule applies

The measures proposed in this action apply to the vessels that hold federal permits for spiny dogfish, which are open access permits. Many dogfish-permitted vessels hold multiple permits and some small entities own multiple vessels. Staff queried NMFS databases for 2014 spiny dogfish permits, and then cross-referenced those results with ownership data provided by the Social Science Branch of NMFS’ Northeast Fisheries Science Center. This analysis found that 2,473 separate vessels held spiny dogfish permits in 2014, 1,830 entities own those vessels, and based on current SBA definitions, 1,812 are small entities. The SBA definitions for those categories for 2014 are \$20.5 million for finfish fishing and \$5.5 million for shellfish fishing, and \$7.5 million for for-hire entities. Of the 1,812 small entities, 418 had no revenue in 2014 and those entities with no revenue are listed as small entities for the purposes of this analysis. Of those with revenues, 570 were finfish small entities, 580 were shellfish small entities, and 244 were for-hire small entities.

C – Description and estimate of economic impacts on small entities

The proposed specifications (Alternative 2) would lower the commercial quota, but not so much that catches are likely to be restricted, and they would allow expansion beyond recent years’ landings. As such, no negative economic impacts are expected. The proposed measures would also leave the trip limit at the status quo level of 5,000 pounds per trip (no action for trip limits).

The no action/status quo specifications would not negatively impact small entities in the short run but could in the long run if sustainability is compromised.

The lowest specifications considered (Alternative 3) could have low negative impacts on small entities depending on performance of the fishery, as described in Section 7. Total forgone revenue could be up to \$0.4 million per year based on 2012-2014 data.

The moderate increases to the trip limit considered in Alternatives 4 and 5 could have low positive impacts related to the ability to retain more fish per trip, but at some level higher trip limits may have negative impacts by causing a glut of product and unstable prices.

D/E – An explanation of the criteria used to evaluate whether the rule would impose significant economic impacts/ An explanation of the criteria used to evaluate whether the rule would impose impacts on a substantial number of small entities

No adverse impacts are expected from the proposed measures.

F – A description of, and an explanation of the basis for, assumptions

Other than those described directly in the above analyses, the primary assumption utilized in the above analyses is that comparing likely 2016-2018 fishery operation to how the fishery operated over 2012-2014 is appropriate. Using the most recent three years of fishery operation is standard practice for Regulatory Flexibility Analysis and there is no indication that such an approach is contraindicated in this case since doing so captures what the industry has recently experienced versus potential impacts going forward from implementation of the proposed specifications.

REGULATORY IMPACT REVIEW

INTRODUCTION

Executive Order 12866 requires a Regulatory Impact Review (RIR) in order to enhance planning and coordination with respect to new and existing regulations. This Executive Order requires the Office of Management and Budget (OMB) to review regulatory programs that are considered to be “significant.” Section 7 assesses the costs and benefits of the Proposed Action and found the impacts to be mostly neutral or positive. The analysis included in this RIR further demonstrates that this action is not a “significant regulatory action” because it will not affect in a material way the economy or a sector of the economy.

Executive Order 12866 requires a review of proposed regulations to determine whether or not the expected effects would be significant, where a significant regulatory action is one that may:

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

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

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

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.

OBJECTIVES

The overall goal of this FMP is to conserve spiny dogfish in order to achieve optimum yield from this resource. To meet the overall goal, the following objectives have been adopted:

1. Reduce fishing mortality to ensure that overfishing does not occur.
2. Promote compatible management regulations between state and Council jurisdictions and the US and Canada.
3. Promote uniform and effective enforcement of regulations.
4. Minimize regulations while achieving the management objectives stated above.
5. Manage the spiny dogfish fishery so as to minimize the impact of the regulations on the prosecution of other fisheries, to the extent practicable.
6. Contribute to the protection of biodiversity and ecosystem structure and function.

AFFECTED ENTITIES

A description of the entities affected by this action is provided above, and Section 6 provides additional detail on participation in the spiny dogfish fishery.

PROBLEM STATEMENT

The purpose of the measures proposed in this action are described in Section 4 of this document but is generally to set specifications for the spiny dogfish fishery. This action is needed to prevent overfishing and achieve optimum yield.

ANALYSIS OF ALTERNATIVES

Executive Order 12866 mandates that proposed measures be analyzed below in terms of: (1) changes in net benefits and costs to stakeholders, (2) changes to the distribution of

benefits and costs within the industry, (3) changes in income and employment, (4) cumulative impacts of the regulation, and (5) changes in other social concerns. As described in Section 7, the spiny dogfish commercial quota is proposed to decrease, but landings have been well below even the new limit in recent years so minimal impacts would be expected. This supports a determination that this action is not significant for purposes of Executive Order 12866.

There should not be substantial distributional issues (all permit holders are impacted similarly), and impacts on income and employment should mirror the impacts on fishing revenues described above (i.e. should be negligible). As described in Section 7, the Council has concluded that no significant cumulative impacts will result from the proposed specifications. There are no other expected social concerns.

DETERMINATION OF EXECUTIVE ORDER 12866 SIGNIFICANCE

Given the analysis in Section 7 and summary information above, the action overall should have neutral to low-positive impacts on participants in the spiny dogfish fishery. In addition, there should be no interactions with activities of other agencies and no impacts on entitlements, grants, user fees, or loan programs. The proposed action is also similar to actions taken each year that set specifications, and as such does not raise novel legal or policy issues. As such, the Proposed Action is not considered significant as defined by Executive Order 12866.

10.0 Selected References and Background Documents

- ASMFC. 2007. Estimation of Atlantic Sturgeon Bycatch in Coastal Atlantic Commercial Fisheries of New England and the Mid-Atlantic. Special Report to the ASMFC Atlantic Sturgeon Management Board.
- ASSRT. 2007. Status Review of Atlantic Sturgeon (*Acipenser oxyrinchus oxyrinchus*). Prepared by the Atlantic Sturgeon Status Review Team for the National Marine Fisheries Service, National Oceanic and Atmospheric Administration. February 23, 2007.
- Beanlands, G.E., and P. N. Duinker. 1984. Ecological framework adjustment for environmental impact assessment. *Journal of Environmental Management*. 8:3
- Dadswell, M. 2006. A review of the status of Atlantic sturgeon in Canada, with comparisons to populations in the United States and Europe. *Fisheries* 31:218-229.
- Dovel, W. L., and T. J. Berggren. 1983. Atlantic sturgeon of the Hudson estuary, New York. *New York Fish and Game Journal* 30:140–172.
- Dunton, K.J., A. Jordaan, K.A. McKown, D.O. Conover, and M.G. Frisk. 2010. Abundance and distribution of Atlantic sturgeon (*Acipenser oxyrinchus*) within the Northwest Atlantic Ocean determined from five fishery-independent surveys. *Fish. Bull.* 108:450-465.
- Holland, B. F., Jr., and G. F. Yelverton. 1973. Distribution and biological studies of anadromous fishes offshore North Carolina. N.C. Dep. Nat. Econ. Res. Spec. Sci. Rep. 24. 132 pp.
- Kocik, J., C. Lipsky, T. Miller, P. Rago, and G. Shepherd. 2013. An Atlantic Sturgeon Population Index for ESA Management Analysis. Northeast Fisheries Science Center Reference Document 13-06. Available online at: <http://www.nefsc.noaa.gov/nefsc/publications/>
- Kynard, B., and M. Horgan. 2002a. Ontogenetic behavior and migration of Atlantic sturgeon, *Acipenser oxyrinchus oxyrinchus*, and shortnose sturgeon, *A. brevirostrum*, with notes on social behavior. *Environmental Biology of Fishes* 63:137–150.
- Laney, R.W., J.E. Hightower, B.R. Versak, M.F. Mangold, W.W. Cole Jr., and S.E. Winslow. 2007. Distribution, habitat use, and size of Atlantic sturgeon captured during cooperative winter tagging cruises, 1988-2006. In *Anadromous sturgeons: habitats, threats, and management* (J. Munro, D. Hatin, J.E. Hightower, K. McKown, K.J. Sulak, A.W. Kahnle, and F. Caron (eds.)), p. 167-182. *Am. Fish. Soc. Symp.* 56, Bethesda, MD.

- Laney, R.W. 1997. The relationship of submerged aquatic vegetation (SAV) ecological value to species managed by the Atlantic States Marine Fisheries Commission (ASMFC): summary for the ASMFC SAV Subcommittee. pp. 11-35 *in* C.D. Stephan and T.E. Bigford, eds. Atlantic Coastal Submerged Aquatic Vegetation: a review of its ecological role, anthropogenic impacts, state regulation, and value to Atlantic coastal fish stocks. Atlantic States Marine Fisheries Commission, Washington, D.C. Habitat Management Series #1.
- MAFMC. 2011. Amendment 2 to the Spiny Dogfish Fishery Management Plan (Omnibus ACL/AM Amendment). Dover, DE. 552 p. + append.
- _____. 2006. Framework 1 to the Spiny Dogfish Fishery Management Plan (Multi-year Management Measures). Dover, DE. 23 p.
- _____. 1999. Spiny Dogfish Fishery Management Plan (includes Final Environmental Impact Statement and Regulatory Impact Review).
- Murray, K.T. 2006. Estimated average annual bycatch of loggerhead sea turtles in the U.S. Mid-Atlantic bottom other trawl gear, 1996-2004. U.S. Commerce Northeast Fish. Sci. Cent. Ref. Doc. 06-19, 26 pp.
- NMFS. 1998. Endangered Species Act Section 7 consultation, biological opinion and conference. Consultation in accordance with Section 7(a) of the Endangered Species Act Regarding the Federal Monkfish Fishery. National Marine Fisheries Service, Northeast Regional Office, Gloucester, MA. December 21, 1998.
- NMFS 2009. National Marine Fisheries Service (NMFS). 2009c. Correspondence between ENTRIX, Inc and the Northeast Fisheries Science Center regarding impacts to sea turtles from fishing gear.
- NMFS 2013. Biological Opinion for Northeast Multispecies, Monkfish, Spiny Dogfish, Atlantic Bluefish, Northeast Skate Complex, Mackerel/Squid/Butterfish, and Summer Flounder/Scup/Black Sea Bass Fisheries. Available at <https://www.greateratlantic.fisheries.noaa.gov/protected/section7/bo/actbo.html>.
- NEFSC 2011. Update on the Status of Spiny Dogfish in 2011 and Initial Evaluation of Alternative Harvest Strategies. 44 p. Unpubl. Report.
- _____. 2002. Workshop on the effects of fishing gear on marine habitats off the northeastern United States, October 23-25, 2001, Boston, Massachusetts. U.S. Natl. Mar. Fish. Serv. Northeast Fish. Cent. Woods Hole Lab. Ref. Doc. 02-01. 86 p.
- _____. 1998. Report of the 26th Northeast Regional Stock Assessment Workshop: Stock Assessment Review Committee Consensus Summary of Assessments. NEFSC Ref. Doc. 98-03.

- Rago, P.J. and K.A. Sosebee. 2010. Biological Reference Points for Spiny Dogfish . Northeast Fish Sci Cent Ref Doc. 10-06; 52 p. Available from: National Marine Fisheries Service, 166 Water Street, Woods Hole, MA 02543-1026, <http://www.nefsc.noaa.gov/publications/crd/crd1006/>
- Rago, P.J. and K.A. Sosebee. 2015. Update of Landings and Discards of Spiny Dogfish in 2014. Available at: <http://www.mafmc.org/ssc-meetings/2014/september-17-18-2014>
- Rago, P.J. and K.A. Sosebee. 2015. Evaluation of Alternative Smoothing Options for Spiny Dogfish Abundance Estimates. Available at <http://www.mafmc.org/ssc-meetings/2015/nov-24>.
- Stein, A. B., K. D. Friedland, and M. Sutherland. 2004. Atlantic sturgeon marine bycatch and mortality on the continental shelf of the Northeast United States. North American Journal of Fisheries Management 24: 171-183.
- Stevenson, D.K., L.A. Chiarella, C.D. Stephan, R.N. Reid, K. Wilhelm, J.E. McCarthy and M. Pentony. 2004. Characterization of the fishing practices and marine benthic ecosystems of the Northeast U.S. shelf, and an evaluation of the potential effects of fishing on essential fish habitat. NOAA Technical Memorandum NMFS-NE-181, 179 p.

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 MAFMC website at www.mafmc.org or by request at the following address:

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Members of the Spiny Dogfish Monitoring Committee included:

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Angel Willey, Maryland DNR
Tobey Curtis, NMFS NERO
Beth Egbert, North Carolina Division of Marine Fisheries
Fiona Hogan, New England Fishery Management Council
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Paul Rago, NEFSC Population Dynamics Branch
Kathy Sosebee, NEFSC Population Dynamics Branch
Eric Schneider, Rhode Island Division of Fish and Wildlife
Chris Hickman, North Carolina ex-officio industry advisor
Claire Fitzgerald, Massachusetts ex-officio industry advisor

Members of the Joint Spiny Dogfish Committee include:

Mid-Atlantic Council Members

- Rob O'Reilly, Chair
- Chris Batsavage
- Tom Baum
- Dewey Hemilright
- Mike Luisi

New England Council Members

- *David Pierce, Vice-Chair*
- *Frank Blount*
- *Terry Stockwell*

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