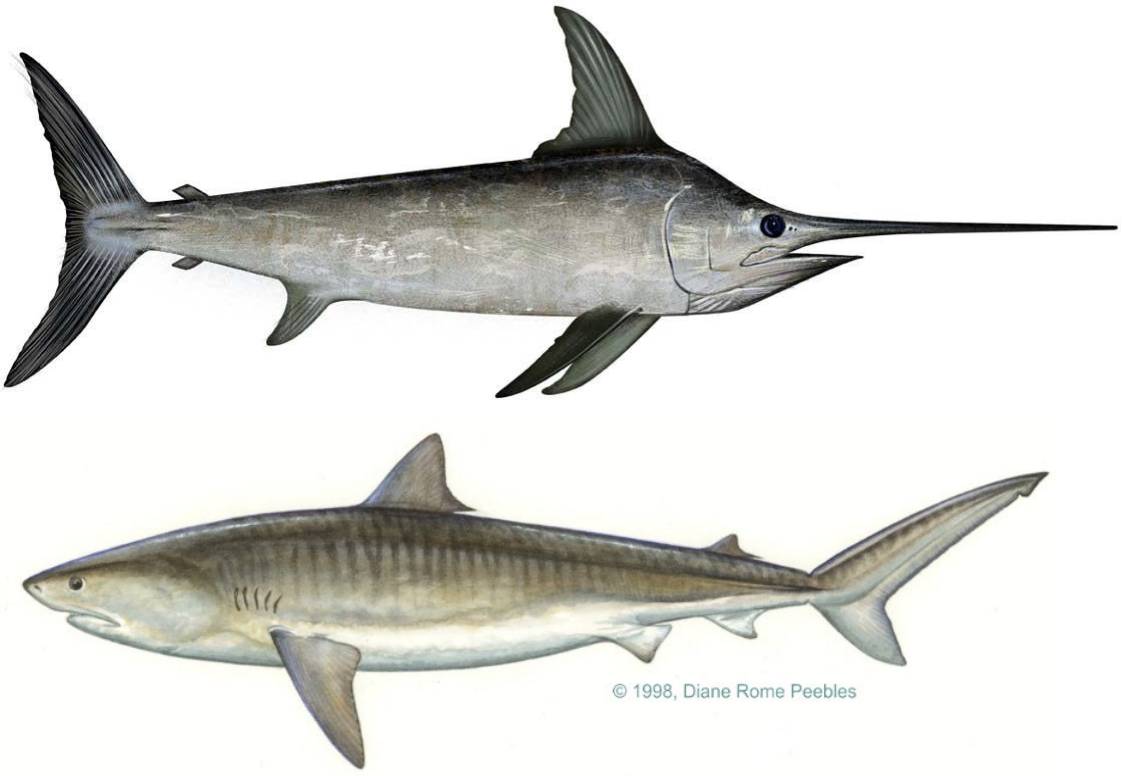
Draft Environmental Assessment,
Regulatory Impact Review,
and
Initial Regulatory Flexibility Analysis
for a

PROPOSED RULE TO MODIFY NORTH ATLANTIC SWORDFISH AND SHARK RETENTION LIMITS FOR CERTAIN PERMIT HOLDERS AND ADD INSEASON ADJUSTMENT AUTHORIZATION CRITERIA



United States Department of Commerce National Oceanic and Atmospheric Administration
National Marine Fisheries Service Office of Sustainable Fisheries
Highly Migratory Species Management Division

December 19, 2019

Abstract

Action:	Revise current North Atlantic swordfish and Atlantic shark retention limits and criteria to make inseason adjustments for certain permit holders in U.S. Atlantic and Caribbean waters.
Type of statement:	Draft Environmental Assessment, Regulatory Impact Review, and Initial Regulatory Flexibility Analysis
Lead Agency:	National Marine Fisheries Service: Office of Sustainable Fisheries
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Abstract:

This Draft Environmental Assessment analyzes the potential environmental impacts of several alternatives that could increase the flexibility of and provide consistency between the swordfish retention limits for commercial swordfish fishermen fishing with similar gears within U.S. Atlantic and Caribbean waters; adjust shark retention limits and change regulatory procedures for commercial shark fishermen in the U.S. Caribbean; and increase administrative efficiencies by managing the swordfish fishery in two regions with one action as needed (i.e., inseason adjustment). The goal is to improve efficiency of management while also avoiding overharvests in these fisheries. Specifically, this action considers modifying the swordfish and shark retention limits and adding regulatory criteria for inseason adjustment of those swordfish and shark retention limits for certain permit holders. This proposed action would also streamline Atlantic Highly Migratory Species (HMS) regulations to align swordfish retention limits for commercial swordfish permits established for HMS Commercial Caribbean Small Boat permit holders under Amendment 4 to the 2006 Consolidated Atlantic HMS Fishery Management Plan with those established in Amendment 8 to the 2006 Consolidated Atlantic HMS Fishery Management Plan for Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders.

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1.0 Introduction

1.1 Regulatory Authorities

The National Marine Fisheries Service (NMFS), on behalf of the Secretary of Commerce, is responsible for managing Atlantic highly migratory species (HMS[1]), including the federal Atlantic shark, tuna, billfish, and swordfish fisheries, under the authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act; 16 U.S.C. 1801 et seq.), Section 304(g), and the Atlantic Tunas Convention Act (ATCA; 16 U.S.C. 971 et seq.). Under the Magnuson-Stevens Act, NMFS must, consistent with ten National Standards, manage fisheries to maintain optimum yield on a continuing basis, while preventing overfishing. Since 1993, NMFS has implemented several fishery management plans (FMPs), FMP amendments, and numerous regulations relating to Atlantic HMS fisheries under the authority of the Magnuson-Stevens Act. Currently, Atlantic HMS fisheries are managed under the 2006 Consolidated Atlantic HMS Fishery Management Plan (FMP), its amendments, and implementing regulations at 50 Code of Federal Regulations (CFR) part 635.

In accordance with both the Magnuson-Stevens Act and ATCA, the alternatives in this Environmental Assessment (EA) and proposed rule analyze the potential environmental, economic, and social impacts of options that could increase the flexibility for commercial swordfish fishermen fishing within U.S. Atlantic and Caribbean waters, while also avoiding overfishing. In addition to the Magnuson-Stevens Act and ATCA, any management measures must also be consistent with other applicable laws including, but not limited to, the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), the Marine Mammal Protection Act (MMPA), and the Coastal Zone Management Act. This document is prepared, in part, to comply with NMFS' responsibilities under NEPA, as implemented by the regulations published by the Council on Environmental Quality (CEQ), 50 CFR Parts 1501-1508, and NOAA Administrative Order 216-6A (NAO 216-6A): Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and 13690, Floodplain Management; and 11990, Protection of Wetlands, issued April 22, 2016.

The alternatives in this EA involve issues which affect commercial fishing for North Atlantic swordfish and Atlantic sharks for certain permit holders in the Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea.

1.2 Management History

Swordfish Management History

[1] The Magnuson–Stevens Act, Section 3, defines the term "highly migratory species" as tuna species, marlin (*Tetrapturus* spp. and *Makaira* spp.), oceanic sharks, sailfishes (*Istiophorus* spp.), and swordfish (*Xiphias gladius*). 16 U.S.C. § 1802(21). Further, the Magnuson-Stevens Act, Section 3, defines the term "tunas species" as albacore tuna (*Thunnus alalunga*), bigeye tuna (*Thunnus obesus*), bluefin tuna (*Thunnus thynnus*), skipjack tuna (*Katsuwonus pelamis*), and yellowfin tuna (*Thunnus albacares*). 16 U.S.C. § 1802(44).

This section provides a brief overview of Atlantic swordfish management relative to the proposed action. More detail regarding the history of Atlantic swordfish management can be found in Chapter 3 of this document.

The first Atlantic Swordfish FMP was completed and implemented in 1985 by the South Atlantic Fishery Management Council in cooperation with other Atlantic Regional Fishery Management Councils. This FMP laid the groundwork for defining approved fishing methods, determining optimum yield and status of the stocks, implementing variable season closures, and regulating foreign fishing in U.S. waters. Swordfish management was transferred from the Fishery Management Councils to NMFS in the early 1990s. From that time to implementation of a rebuilding plan in 2000, numerous management initiatives were implemented including establishment of three limited access permits, a minimum size limit, commercial quota changes, and a prohibition on driftnets for swordfish fishing.

In 1999, the International Commission for the Conservation of Atlantic Tunas (ICCAT) established a 10-year rebuilding plan. Based on these guidelines, the United States completed development of a domestic rebuilding plan for North Atlantic swordfish in 2000. Regulations implemented under the authority of ATCA and the Magnuson-Stevens Act governing the harvest of North Atlantic swordfish by persons and vessels subject to U.S. jurisdiction are found at 50 CFR 635. Section 635.27 subdivides the U.S. North Atlantic swordfish quota recommended by ICCAT and implemented by the United States into two equal semi-annual directed fishery quotas; an annual incidental catch quota for fishermen targeting other species or catching swordfish recreationally; and a reserve category, according to the allocations established in the 2006 Consolidated Atlantic HMS FMP (71 FR 58058, October 2, 2006), as amended, and in accordance with implementing regulations. NMFS is required under ATCA and the Magnuson-Stevens Act to provide U.S. fishing vessels with a reasonable opportunity to harvest the ICCAT-recommended quota.

In 2009, North Atlantic swordfish were assessed and the North Atlantic swordfish stock was found to be fully rebuilt with no overfishing occurring. In recent years, several management measures have been implemented that primarily affected commercial swordfish fishermen fishing with pelagic longline (PLL) gear. These measures included: time/area closures; mandatory use of circle hooks; bait restrictions; gear requirements; mandatory protected species workshop training; mandatory vessel monitoring systems; changes to authorized gears; commercial and recreational retention limits; and vessel upgrading restrictions. Most recently in 2012, the cleithrum to caudal keel minimum size measurement was modified from 29 inches to 25 inches, to provide a more equivalent alternative dressed swordfish measurement to the existing 47-inch lower jaw-fork length minimum size (Figure 1.1).

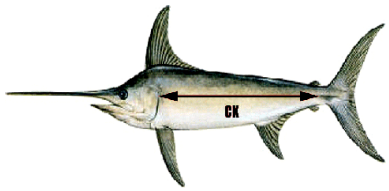	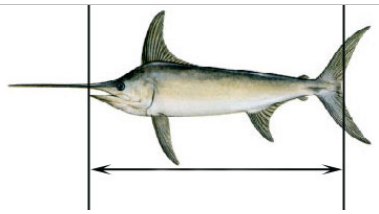
Cleithrum to Caudal Keel-a curved measurement, from the point on the cleithrum that provides the shortest possible measurement along the body contour to the anterior portion of the caudal keel. If the head of the swordfish is no longer naturally attached, this measurement is the sole criterion for determining the size of the swordfish.	**Lower Jaw Fork Length**-a straight-line measurement, not following the body contour, from the tip of the lower jaw to the fork of the caudal fin. If the head of the swordfish is naturally attached, this measurement is the sole criterion for determining the size of the swordfish.

Figure 1.1 Swordfish Minimum Size Measurements

In 2012, NMFS implemented Amendment 4 to the 2006 Consolidated Atlantic HMS FMP (Amendment 4, 77 FR 59842, October 1, 2012) to better manage the traditional small-scale commercial handgear fishing fleet in the U.S. Caribbean region (Figure 1.2), enhance fishing opportunities, improve profits for the fleet, and provide NMFS with an improved capability to monitor and sustainably manage those fisheries. Specifically, Amendment 4 created an open access HMS Commercial Caribbean Small Boat permit for the traditional small-scale commercial handgear fishing fleet in the U.S. Caribbean Region and implemented an initial swordfish retention limit of two swordfish per vessel per trip. This permit is only valid within the Caribbean region; this limitation on the use of the permit would not be changed in this rulemaking. Additionally, Amendment 4, implemented regulations that would allow modification of these limits only through the framework regulatory procedures in the 2006 Consolidated HMS FMP. *See* 50 CFR 635.34 (b). This means that in order for NMFS to modify the initial swordfish retention limit established by Amendment 4, it would have to carry out a rulemaking in accordance with the framework procedures.

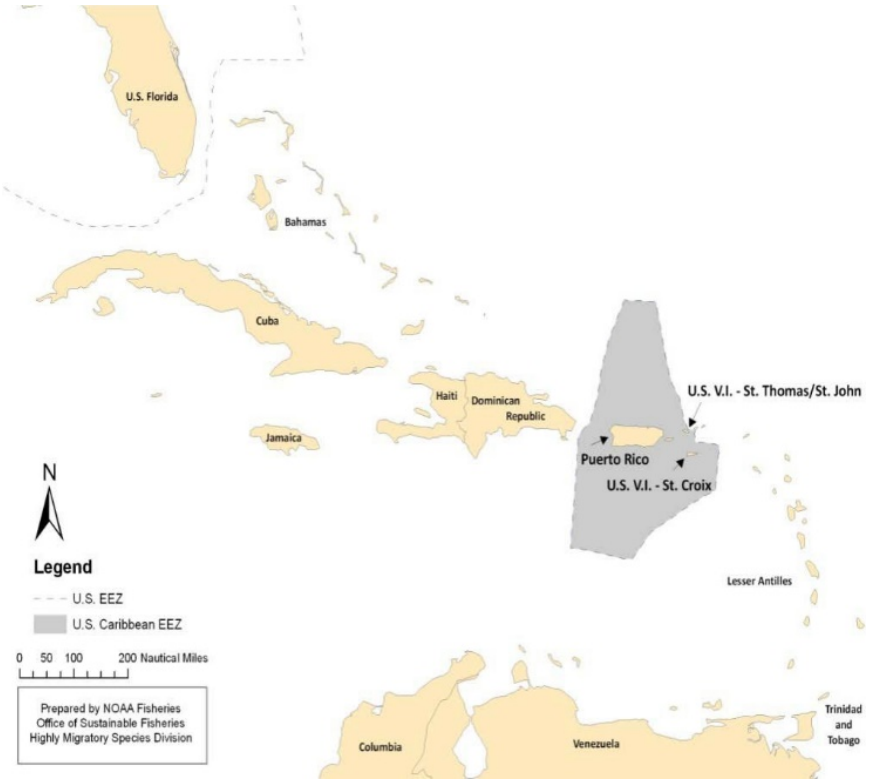

Figure 1.2 U.S. Caribbean Region and corresponding federal water boundary

In 2013, NMFS implemented Amendment 8 to the 2006 Consolidated Atlantic HMS FMP (Amendment 8, 78 FR 52011, August 21, 2013) to provide additional opportunities for U.S. fishermen to harvest swordfish using selective handgears that have low bycatch. Specifically, Amendment 8 established a new open access Swordfish General Commercial permit; established a fishery-wide zero to six swordfish per vessel per trip retention limit range for the new permit; and codified retention limits within that range. The default swordfish retention limits were set at two swordfish per vessel per trip for the U.S. Caribbean region, three swordfish per vessel per trip for the Northwest Atlantic and Gulf of Mexico regions, and a zero fish retention limit in the Florida Swordfish Management area (Figure 1.3). Amendment 8 also implemented regulations allowing NMFS to adjust these retention limits through inseason adjustment authority. This means that NMFS can modify the current default regional limits based on pre-established criteria codified at 50 CFR 635.27, instead of through a framework adjustment. These retention limits were also applied to HMS Charter/Headboat permit holders with a commercial sale endorsement on a commercial trip. A commercial trip in this document is defined as HMS Charter/Headboat permit holders with a commercial sale endorsement on a non-for hire trip catching swordfish with the intent to sell their catch. In order to provide additional opportunities for fishermen to catch the U.S. North Atlantic swordfish quota, and after considering the specified regulatory criteria, NMFS has consistently adjusted the North Atlantic swordfish retention limit for the Swordfish General Commercial permit and HMS Charter/Headboat permit with a commercial sale endorsement upward from the default limit to the maximum of six swordfish per vessel per trip in the Northwest Atlantic, Gulf of Mexico, and Caribbean regions in each of the past six years that the permit has been in existence. The default limit in the Florida Swordfish Management Area has not been adjusted from zero fish since

inception of the Swordfish General Commercial permit. These trip limits and the trip limit adjustments did not affect the trip limits established for the three Swordfish Limited Access Permits–Directed, Incidental, and Handgear. Additionally, nothing in this current rulemaking will affect the limits already established for the limited access permits.

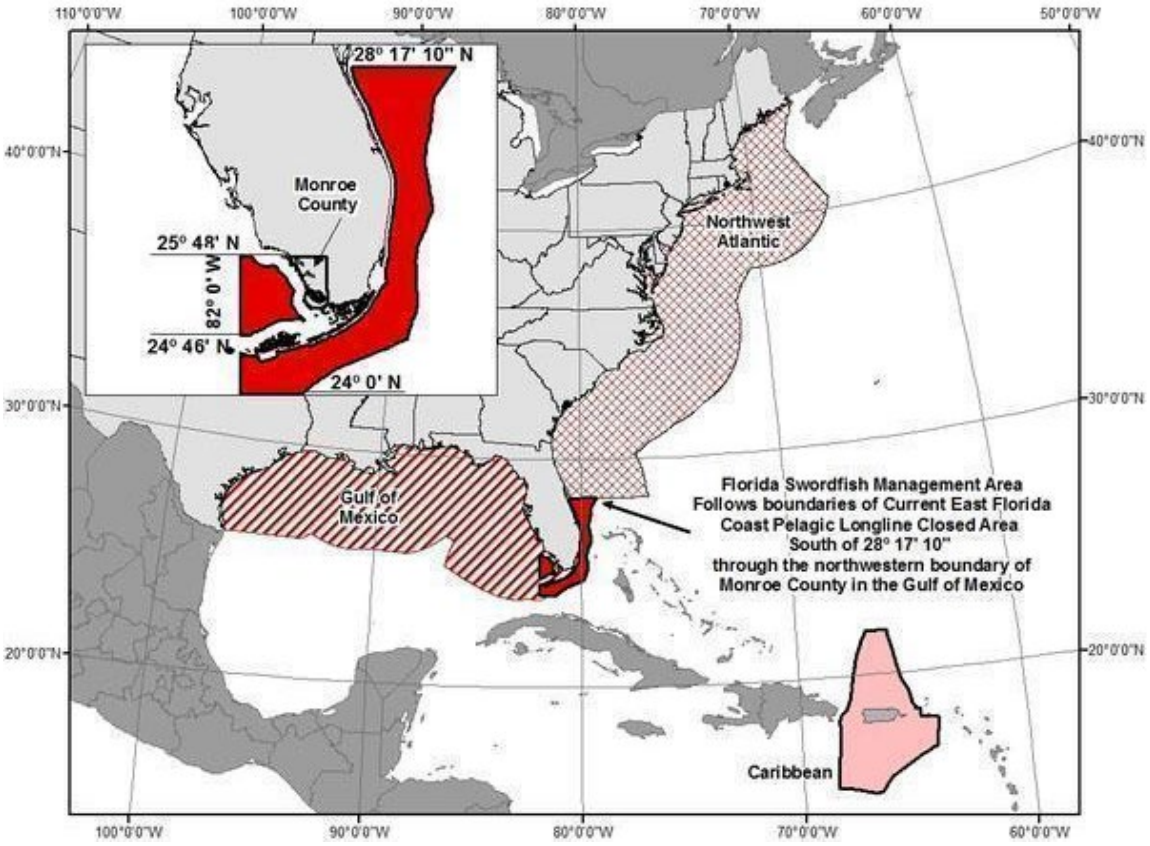

Figure 1.3 Final management regions for Amendment 8

In 2017, ICCAT's Standing Committee on Research and Statistics (SCRS) reassessed North Atlantic swordfish and found that the stock remained not overfished and that overfishing was not occurring. SCRS also indicated that the North Atlantic swordfish stock has been rebuilt since at least 2013. Landings attributable to the Swordfish General Commercial permit and Commercial Caribbean Small Boat permit count against the applicable semi-annual directed fishery quota, which in recent years has been set at 3,028.2 mt dressed weight (dw) and split equally (1,514.1 mt dw) between two semi-annual periods (January through June and July through December). The United States has not fully harvested its swordfish quota in several years; therefore, there is a need to continue to provide additional opportunities for fishermen to catch the U.S. quota.

In recent years, NMFS has received comments from Advisory Panel members at three HMS Advisory Panel meetings (September 2017, March 2018, and September 2019), the Caribbean Fishery Management Council, territorial governments, and in general discussions with commercial and recreational fishermen to increase the retention limits for the HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat, with a

commercial sale endorsement, permits. Most commenters believe that, with the available swordfish quota and growing interest in harvesting swordfish in the territories (i.e., Puerto Rico and the U.S. Virgin Islands), NMFS could increase the default swordfish retention limit for the HMS Commercial Caribbean Small Boat permit from two to six swordfish per vessel per trip, similar to the current upper swordfish retention limit for the Swordfish General Commercial permit. Commenters have also requested to increase the maximum retention limit beyond six swordfish to allow for the expanded use of the permits in areas that require longer transit times to reach fishing grounds.

Currently, adjusting the regional swordfish retention limits for the three open access swordfish commercial permits codified under Amendment 4 (HMS Commercial Caribbean Small Boat permit) and Amendment 8 (Swordfish General Commercial and HMS Charter/Headboat permit on a commercial trip) requires following two different regulatory procedures, a framework adjustment and an inseason adjustment procedure, respectively (Table 1.1). Framework adjustment procedures allow NMFS to adjust swordfish retention limits through a full rulemaking process that typically take six months or more to enact. Inseason adjustment procedures allow NMFS to set and adjust the swordfish retention limits within the codified range for each region using pre-established criteria, on an as needed basis, through a more streamlined process. Unlike framework adjustments, inseason adjustments can be completed and effective in a few days. At this time, there are no inseason adjustments allowed for the HMS Commercial Caribbean Small Boat permit. This inability to adjust retention limits on an inseason basis for that permit means that NMFS currently has to take two separate regulatory actions to adjust the swordfish retention limits for the three swordfish commercial permits. Specifically, in the U.S. Caribbean region, which is the only region where all three permits are valid and available, use of the two different regulatory procedures with different time frames is likely to create confusion among fishermen. This rulemaking considers alternatives to increase the efficiency of management and remove any confusion by setting up the same inseason adjustment procedure to adjust swordfish retention limits for all three open access permits.

Revising existing swordfish retention limits and regulatory procedures for the three open access permits could provide more flexibility, efficiency, and consistency regarding when and how NMFS could change the swordfish retention limits within the four swordfish management regions. This rulemaking would not change the commercial North Atlantic swordfish quota.

Table 1.1 Codified Retention Limits and Regulatory Procedures for Swordfish and Shark Commercial Permits in the U.S. Caribbean region

Rulemaking	Permit	Retention Limit Range	Retention Limit	Regulatory Procedure to Change Retention Limits
Amendment 4	HMS Commercial Caribbean Small Boat	None	two swordfish per vessel per trip 0 sharks per vessel per trip	Framework adjustment
Amendment 8	Swordfish General Commercial/HMS Charter/Headboat with a commercial sale endorsement	0-6 swordfish per vessel per trip	Default limit set at 2 swordfish per vessel per trip	Framework or Inseason Adjustment

Shark Management History

This management history focuses on commercial shark fisheries in the U.S. Caribbean, particularly fisheries under the HMS Commercial Caribbean Small Boat permit. For a full description of the management history of Atlantic Shark Fisheries please refer to Chapter 3 of Amendments 6, 9, and 11 to the 2006 Consolidated Atlantic HMS FMP.

Sharks have been managed by the Secretary of Commerce since 1993 under the authority of the Magnuson-Stevens Act. At that time, NMFS implemented the FMP for Sharks of the Atlantic Ocean, which established three management complexes: large coastal sharks, small coastal sharks, and pelagic sharks (NMFS, 1993). This 1993 FMP implemented commercial quotas for large coastal sharks and pelagic sharks and established recreational retention limits for all sharks, consistent with the large coastal sharks rebuilding program. As a result of the 1996 amendments to the Magnuson-Stevens Act, NMFS implemented an FMP in 1999 that revised much of the management of Atlantic sharks, including establishing new commercial quotas, a commercial size limit, a recreational retention limit, a new rebuilding plan for large coastal sharks, and a limited access fishing permit program for the commercial fishery. Between 1999 and 2008, NMFS changed many of the shark management measures, including revising quotas, eliminating the commercial minimum size, adjusting the recreational retention and size limits, establishing a time/area closure off the coast of North Carolina, establishing a mechanism for changing the species on the prohibited species list, requiring shark dealers to attend shark identification workshops, and requiring gillnet, bottom longline, and pelagic longline fishermen to attend workshops on the safe handling and release of protected resources.

In 2008, NMFS implemented Amendment 2 to the 2006 Consolidated HMS FMP (Amendment 2, 73 FR 35778, June 24, 2008; 73 FR 40657, corrected version published July 15, 2008). Management measures implemented in Amendment 2 included, but were not limited to, establishing rebuilding plans for porbeagle, dusky, and sandbar sharks consistent with stock assessments; implementing commercial quotas and retention limits consistent with stock assessment recommendations to prevent overfishing and rebuild overfished stocks; modifying recreational measures to reduce fishing mortality of overfished/overfishing stocks; modifying reporting requirements; requiring that all Atlantic sharks be offloaded with fins naturally attached; collecting shark life history information via the implementation of a shark research program; and implementing time/area closures recommended by the South Atlantic Fishery Management Council.

In 2010, NMFS implemented Amendment 3 to the 2006 Consolidated HMS FMP (Amendment 3, 75 FR 30483, June 1, 2010; 75 FR 50715, corrected version August 17, 2010; 76 FR 70064, updated information on the effective date of Atlantic Smoothhound Shark Fishery Management Measures, November 10, 2011). Management measures implemented in Amendment 3 included, but were not limited to, rebuilding blacknose sharks and ending overfishing of blacknose and shortfin mako shark. This amendment also added smoothhound sharks (smooth dogfish (*Mustelus canis*) and Florida smoothhound (*M. norrisi*)) under NMFS management. The implementing regulations were published on June 1, 2010 (75 FR 30483) followed by a final rule to delay the smoothhound measures (76 FR 70064, November 10, 2011) in order to fully consider the Shark Conservation Act implications (i.e., requiring that all sharks landed in the United States be landed with their fins naturally attached to the carcass with a limited exception for smooth dogfish) and allow time for Section 7 consultation under the ESA to be completed.

In 2011, NMFS developed Amendment 5 to the 2006 Consolidated HMS FMP to rebuild scalloped hammerhead and blacknose sharks and address overfishing of Atlantic and Gulf of Mexico dusky sharks, among other issues.

In 2012, NMFS implemented Amendment 4 to the 2006 Consolidated HMS FMP (Amendment 4, 77 FR 59842, October 1, 2012) to better manage the traditional small-scale commercial handgear fishing fleet in the U.S. Caribbean region, among other things. As described above, Amendment 4 created an open access HMS Commercial Caribbean Small Boat permit for the traditional small-scale commercial handgear fishing fleet in the U.S. Caribbean region and in addition to implementing a swordfish retention limit, a shark retention limit was also implemented. The retention limit was set at zero sharks per vessel per trip. Amendment 4 analyzed a retention limit range of zero to three non-prohibited large coastal sharks per vessel per trip and 0-16 small coastal and pelagic sharks (combined) per vessel per trip, with no size limits and an initial limit of zero sharks per vessel per trip. Similar to the swordfish retention limits, the shark retention limits established by Amendment 4 can only be modified through framework regulatory procedures, *see* 50 CFR 635.34 (b), which requires carrying out a rulemaking for a framework adjustment to adjust the limit. This means that in order for NMFS to modify the initial shark retention limit established by Amendment 4, it would have to carry out a rulemaking for a framework adjustment to adjust the limit. The zero retention limit did not affect the trip limits established for the two shark limited access permits–directed and incidental, or the trip limits under the Smoothhound Shark Commercial Fishing permit. Additionally,

nothing in this current rulemaking will affect the limits already established for the shark limited access and smoothhound shark permits.

In 2014, NMFS implemented Amendment 6 to the 2006 Consolidated Atlantic HMS FMP (Amendment 6, 80 FR 50073, August 18, 2015). Management measures implemented in Amendment 6 included, but were not limited to establishing regional and sub-regional quotas for large coastal and small coastal sharks in the Atlantic and Gulf of Mexico, removing upgrading restrictions for shark limited access permit holders, and increasing the large coastal shark retention limit for shark directed limited access permit holders to a maximum of 55 large coastal sharks other than sandbar sharks per trip with a default of 45 large coastal sharks other than sandbar sharks per trip.

In March 2015, the Southeast Data, Assessment, and Review (SEDAR) 39 stock assessments for smoothhound sharks were completed. Notice of stock status determinations of no overfishing and not overfished for Atlantic smooth dogfish and Gulf of Mexico smoothhound sharks published on June 29, 2015 (80 FR 36974). These stock assessments provided information that allowed NMFS to establish scientifically-based quotas. In 2016, NMFS implemented Amendment 9 to the 2006 Consolidated HMS FMP (Amendment 9, 80 FR 73128, November 24, 2015). Management measures under Amendment 9 included, but were not limited to establishing an effective date for previously-adopted smoothhound shark management measures finalized in Amendment 3; adjusting the commercial quota for the smoothhound shark fishery based on the 2015 stock assessments; implementing the smooth dogfish-specific provisions of the Shark Conservation Act (i.e., all sharks landed from federal waters in the United States be landed with their fins naturally attached to the carcass, with limited exception for smooth dogfish); implementing the 2012 Shark Biological Opinion; and implementing Atlantic shark gillnet vessel monitoring system requirements.

In recent years, NMFS has received comments from Advisory Panel members at three HMS Advisory Panel meetings (September 2017, March 2018, and September 2019), the Caribbean Fishery Management Council, territorial governments, and in general discussion with commercial and recreational fishermen to increase the shark retention limits for the HMS Commercial Caribbean Small Boat permit. There is a growing interest in harvesting sharks in the territories (i.e., Puerto Rico and the U.S. Virgin Islands) at incidental levels. Fishermen have requested that NMFS increase the shark retention limit of the HMS Commercial Caribbean Small Boat permit from zero to three sharks per vessel per trip, in order to retain sharks for personal consumption or to sell at the local market or restaurants. As discussed above, at this time, there are no inseason adjustments allowed for the HMS Commercial Caribbean Small Boat permit.

1.3 Proposed Action, Purpose and Need

Proposed Action: NMFS is considering modifying the existing retention limits and the regulatory procedures for modifying the retention limits for the three open access swordfish commercial permits (HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat, with a commercial sale endorsement, permit holders), and modifying the existing shark retention limits and regulatory procedures for the HMS Commercial Caribbean Small Boat permit.

Purpose: The purpose of this proposed action is to provide consistency between the three open access swordfish handgear permits, all of which allow similar gears to be used within U.S. Atlantic and Caribbean waters, and to provide increased fishing opportunities for sharks in the U.S. Caribbean. Furthermore, this proposed action would increase administrative efficiencies and increase management flexibility by managing these swordfish commercial permits in the two regions similarly.

Need: This proposed action would be responsive to repeated public requests from Advisory Panel members at three HMS Advisory Panel meetings (September 2017, March 2018, and September 2019) that NMFS increase the current swordfish and shark retention limits for the HMS Commercial Caribbean Small Boat permit. In addition, during several outreach efforts, the Caribbean Fishery Management Council, the territorial governments, and commercial and recreational fishermen have shown interest in increasing the current swordfish retention limits for HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat, with a commercial sale endorsement, permits, with the goal of more fully utilizing available swordfish quota, while also avoiding overharvest in these fisheries.

1.4 Scope and Organization of this Document

In considering the management measures outlined in this document, NMFS must comply with a number of federal statutes, including the NEPA. Under NEPA, the purpose of an EA is to provide sufficient evidence and analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a finding of no significant impact (FONSI) and to aid in the Agency's compliance with NEPA when no EIS is necessary.

In developing this document, NMFS adhered to the procedural requirements of NEPA, the CEQ regulations for implementing NEPA (40 CFR 1500-1508), and NOAA Administrative Order (NAO) 216-6A and the accompanying Companion Manual to:

- Fully integrate NEPA into the agency planning and decision making process;
- Fully consider the impacts of NOAA's proposed actions on the quality of the human environment;
- Involve interested and affected agencies, governments, organizations and individuals early in the agency planning and decision making process when significant impacts are or may be expected to affect the quality of the human environment from implementation of proposed major federal actions; and
- Conduct and document environmental reviews and related decisions appropriately and efficiently.

The following definitions were generally used to characterize the nature of the various impacts evaluated in this EA. Chapter 4 describes more specifically how these definitions were used for each alternative.

- Short-term or long-term impacts. These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that would occur only with respect to a particular activity or for a finite period. Long-term impacts are those that are more likely to be persistent and chronic.

- Direct or indirect impacts. A direct impact is caused by a proposed action and occurs contemporaneously at or near the location of the action. An indirect impact is caused by a proposed action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action.
- Minor, moderate, or major impacts. These relative terms are used to characterize the magnitude of an impact. Minor impacts are generally those that might be perceptible but, in their context, are not amenable to measurement because of their relatively minor character. Moderate impacts are those that are more perceptible and, typically, more amenable to quantification or measurement. Major impacts are those that, in their context and due to their intensity (severity), have the potential to meet the thresholds for significance set forth in CEQ regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for potential means for mitigation to fulfill the requirements of NEPA.
- Adverse or beneficial impacts. An adverse impact is one having unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.
- Cumulative impacts. CEQ regulations implementing NEPA define cumulative impacts as the "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time within a geographic area.

This document, as an EA, assesses the potential environmental, economic, and social impacts of modifying swordfish and shark retention limits and the regulatory procedures for adjusting retention limits for certain HMS open-access permits. The chapters that follow describe the management measures and potential alternatives (Chapter 2), the affected environment as it currently exists (Chapter 3), the probable consequences on the human environment that may result from the implementation of the management measures and their alternatives, including the potential impacts on the fisheries (Chapter 4), and any cumulative impacts from this action (Chapter 4.6).

This EA analyzes the potential direct, indirect, and cumulative ecological, social, and economic impacts associated with four and three different alternative suites of management measures, for swordfish and sharks, respectively, that are described in Chapter 2.

In this proposed action, NMFS is responsible for complying with a number of federal requirements, including NEPA. As such, the purpose of the EA is to provide an environmental analysis to support the NMFS proposed action to amend the 2006 Consolidated Atlantic HMS FMP and to encourage and facilitate public involvement in the environmental review process.

In addition to NEPA, NMFS must comply with other federal statutes and requirements such as the Magnuson-Stevens Act, Executive Order 12866 (E.O. 12866, Regulatory Planning

and Review), and the Regulatory Flexibility Act. This document comprehensively analyzes the alternatives considered for all these requirements.

Thus, Chapter 4 provides a summary of all the economic analyses and associated data. Chapter 6 meets the requirements under E.O. 12866, and Chapter 7 provides the Initial Regulatory Flexibility Analysis required under the Regulatory Flexibility Act. Chapters 8 through 11 provide additional information that is required under various statutes. While some of the chapters were written in a way to comply with the specific requirements under these various statutes and requirements, it is the document as a whole that meets these requirements and not any individual chapter.

1.5 Specific Requests for comments.

NMFS requests comments from the public on the proposed action and this document. In particular, NMFS would like the following questions considered and is specifically requesting comments on these questions from the public.

1. NMFS specifically requests comments on whether vessels having a Swordfish General Commercial permit can support the extra weight of additional swordfish.
2. NMFS specifically requests comments on whether vessels having an HMS Commercial Caribbean Small Boat permit can support the extra weight of additional swordfish.
3. NMFS specifically requests comments on the ability of the small-scale fleet to hold and market the increased retention limit for sharks.
4. NMFS specifically requests comments on the 6-shark retention limit alternative, and the ability for the fleet to hold 6 sharks and to transport them safely back to their homeport.
5. NMFS specifically requests comments on the swordfish retention limits of the HMS Commercial Caribbean Small Boat permit, Swordfish General Commercial permit, and HMS Charter/Headboat permit when a vessel is on a commercial trip, and the shark retention limits of the HMS Commercial Caribbean Small Boat permit**.**
6. NMFS specifically requests comments on price data for swordfish and non-prohibited large coastal, small coastal, pelagic, and smoothhound sharks in the U.S. Caribbean.

2.0 Summary of the Alternatives

The National Environmental Policy Act requires that any federal agency proposing a major federal action consider all reasonable alternatives, in addition to the proposed action. The evaluation of alternatives in an EA assists NMFS in ensuring that any unnecessary impacts are avoided through an assessment of alternative ways to achieve the underlying purpose of the project that may result in less environmental harm.

To warrant detailed evaluation, an alternative must be reasonable[2] and meet the purpose and need of the action (see Chapter 1). Screening criteria are used to determine whether an alternative is reasonable. The following discussion identifies the screening criteria used in this EA to evaluate whether an alternative is reasonable; evaluates various alternatives against the screening criteria (including the proposed measures) and identifies those alternatives found to be reasonable; identifies those alternatives found not to be reasonable; and for the latter, provides the basis for this finding. Alternatives considered but found not to be reasonable are not evaluated in detail in this EA.

Screening Criteria–To be considered "reasonable" for purposes of this EA, an alternative must meet the following criteria:

- An alternative must be consistent with the 10 National Standards set forth in the Magnuson-Stevens Act.
- An alternative must be administratively feasible. The costs associated with implementing an alternative cannot be prohibitively exorbitant or require unattainable infrastructure.
- An alternative cannot violate other laws (e.g., ESA, MMPA, etc.).
- An alternative must be consistent with the 2006 Consolidated Atlantic HMS FMP and its amendments.

This chapter includes a full range of reasonable alternatives designed to meet the purpose and need for action described in Chapter 1. These alternatives are listed below. The environmental, economic, and social impacts of these alternatives are discussed in later chapters.

2.1 Alternatives for Inseason Adjustment of Retention Limits under the HMS Commercial Caribbean Small Boat Permit

NMFS is considering and analyzing three alternatives (Table 2.1) that would modify the mechanism to adjust swordfish and shark retention limits for the HMS Commercial Caribbean Small Boat permit and meet the objectives stated in Chapter 1.0.

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[2] "Section 1502.14 (of the CEQ Regulations) requires the EA to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense, rather than simply desirable from the standpoint of the applicant." (CEQ, *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations," 46 FR 18,026, Mar. 23, 1981*)).

Alternative A1-No Action

Maintain current ability to adjust the regional retention limits only through framework adjustments. Under this alternative, NMFS would maintain the current ability to adjust the swordfish and shark retention limit for vessels issued the HMS Commercial Caribbean Small Boat permit only through framework adjustments. *See* 50 CFR 635.34(b).

Alternative A2 (*Preferred Alternative*)

Adopt the Swordfish General Commercial Permit inseason adjustment authorization criteria to adjust the regional swordfish retention limit for the HMS Commercial Caribbean Small Boat permit. Under this alternative, the HMS Commercial Caribbean Small Boat permit default swordfish retention limit could be modified on an as needed basis within the range selected in the retention limit alternatives (Alternatives B1 through B4) through inseason adjustment procedures identical to those established for the Swordfish General Commercial permit and codified at 50 CFR 635.24 (b)(4)(iv).

Before making any inseason adjustments to the regional retention limit, NMFS would consider the following criteria and other relevant factors:

A. The usefulness of information obtained from biological sampling and monitoring of the North Atlantic swordfish stock;
B. The estimated ability of vessels participating in the fishery to land the amount of swordfish quota available before the end of the fishing year;
C. The estimated amounts by which quotas for other categories of the fishery might be exceeded;
D. Effects of the adjustment on accomplishing the objectives of the FMP and its amendments;
E. Variations in seasonal distribution, abundance, or migration patterns of swordfish;
F. Effects of catch rates in one region precluding vessels in another region from having a reasonable opportunity to harvest a portion of the overall swordfish quota; and;
G. Review of dealer reports, landing trends, and the availability of swordfish on the fishing grounds.

Alternative A3 (*Preferred Alternative*)

Adopt the shark inseason trip limit adjustment authorization criteria to adjust the regional shark retention limit for the HMS Commercial Caribbean Small Boat permit. Under this alternative, the HMS Commercial Caribbean Small Boat permit default shark retention limit could be modified on as a needed basis within the range selected in the retention limit alternatives (Alternatives C1 through C3) through inseason adjustment procedures identical to those codified at 50 CFR 635.24(a)(8).

In adjusting the trip limit(s), NMFS would consider the following criteria and other relevant factors:

A. The amount of remaining shark quota in the relevant area or region, to date, based on dealer reports;

B. The catch rates of the relevant shark species/complexes, to date, based on dealer reports;
C. Estimated date of fishery closure based on when the landings are projected to reach 80 percent of the quota given the realized catch rates;
D. Effects of the adjustment on accomplishing the objectives of the 2006 Consolidated HMS FMP and its amendments;
E. Variations in seasonal distribution, abundance, or migratory patterns of the relevant shark species based on scientific and fishery-based knowledge; and/or,
F. Effects of catch rates in one part of a region precluding vessels in another part of that region from having a reasonable opportunity to harvest a portion of the relevant quota.

Table 2.1 Current and Proposed Mechanism to Adjust the Swordfish and Shark Retention Limit for the HMS Commercial Caribbean Small Boat Permit

	Alternative A1 (No Action)	**Alternative A2 (*Preferred Alternative*)**	**Alternative A3 (*Preferred Alternative*)**
Mechanism to adjust the regional Swordfish Retention Limits	Framework adjustment	Swordfish General Commercial Permit inseason criteria	Shark trip limit inseason criteria

2.2 Retention Limit Alternatives for Swordfish

NMFS is considering and analyzing four commercial alternatives that consider modifying swordfish retention limits for the HMS Commercial Caribbean Small Boat permit, Swordfish General Commercial permit, and the HMS Charter/Headboat permit when a vessel is on a commercial trip. The following alternatives represent a range of options that NMFS has considered based, in part, on public comments and the need to provide more fishing opportunities to harvest the U.S. swordfish quota. For example, some comments requested NMFS increase the default swordfish retention limit up to six for the HMS Commercial Caribbean Small Boat permit, while other comments requested NMFS increase the limit beyond six swordfish to allow for the expanded use of these permits in areas that require longer transit times to reach fishing grounds. The swordfish retention limit alternatives that follow are described under the assumption that the preferred alternative A2 for swordfish inseason adjustment authority is adopted (Table 2.2).

Alternative B1-No Action

Keep the current swordfish retention limits and retention limit ranges for HMS Commercial Caribbean Small Boat permit holders, Swordfish General Commercial permit holders, and HMS Charter/Headboat permit holders with a commercial sale endorsement. Under this alternative, NMFS would maintain the current retention limit of two swordfish per vessel per trip for vessels issued an HMS Commercial Caribbean Small Boat permit. NMFS would also maintain the existing range of zero to six swordfish per vessel per trip within all regions (Figure 1.3) for Swordfish General Commercial permit holders and for HMS Charter/Headboat permit holders with a commercial sale endorsement. The default retention limits established for these

permits would remain at: 1) Northwest Atlantic region–three swordfish per vessel per trip; 2) Gulf of Mexico region–three swordfish per vessel per trip; 3) U.S. Caribbean region–two swordfish per vessel per trip; and, 4) Florida Swordfish Management Area–zero swordfish per vessel per trip.

Table 2.2 Possible Swordfish Retention Limits and Retention Limit Ranges Considered for each Swordfish Management Region for the HMS Commercial Caribbean Small Boat (CCSB) Permits, Swordfish General Commercial (SGC) Permits and HMS Charter/Headboat (CHB) Permits with a commercial sale endorsement

Swordfish Management Regions	Alternative B1 (No Action)	Alternative B2 (*Preferred Alternative*)	Alternative B3	Alternative B4
Retention Limit Range	None for CCSB; 0-6 per vessel per trip for SGC and CHB	0-6 per vessel per trip for CCSB; 0-6 per vessel per trip for SGC and CHB	0-18 per vessel per trip for all permits	0-18 per vessel per trip for all permits
Default NW Atlantic and Gulf of Mexico Limit	3 per vessel per trip for SGC and CHB	6 per vessel per trip for SGC and CHB	18 per vessel per trip for SGC and CHB	18 per vessel per trip for SGC and CHB
Default Florida Swordfish Management Area Limit	0 per vessel per trip for SGC and CHB	0 per vessel per trip for SGC and CHB	0 per vessel per trip for SGC and CHB	0 per vessel per trip for SGC and CHB
Default U.S. Caribbean Limit†	2 per vessel per trip for all permits	6 per vessel per trip for all permits	6 per vessel per trip for all permits	18 per vessel per trip for all permits

† Number in this table would be the default retention limit for HMS Commercial Caribbean Small Boat if selecting inseason adjustment alternative under issue A.

Alternative B2 (*Preferred Alternative*)

Maintain the default swordfish retention limit of zero swordfish per vessel per trip for the Florida Management Region and establish a default swordfish retention limit of six swordfish per vessel per trip for all other regions and for HMS Commercial Caribbean Small Boat and Swordfish General Commercial permit holders, and HMS Charter/Headboat permit holders with a commercial sale endorsement, which is consistent with the current adjusted retention limits for Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement. For these permit holders in all regions, the retention limit range

would be zero to six swordfish per vessel per trip. Under this alternative (*Preferred Alternative*), the default retention limits would be: 1) Northwest Atlantic region–six swordfish per vessel per trip; 2) Gulf of Mexico region–six swordfish per vessel per trip; 3) U.S. Caribbean region–six swordfish per vessel per trip; and, 4) Florida Swordfish Management Area–zero swordfish per vessel per trip.

Alternative B3

Maintain the default swordfish retention limit of zero for the Florida Management Region, adjust the default swordfish retention limit to six swordfish per vessel per trip for HMS Commercial Caribbean Small Boat permit holders, and adjust the default swordfish retention limit to 18 for Swordfish General Commercial permit holders, and HMS Charter/Headboat permit holders with a commercial sale endorsement. For these permit holders in all regions, the retention limit range would be 0-18 swordfish per trip. Under this alternative, the default retention limits would be: 1) Northwest Atlantic region–18 swordfish per vessel per trip; 2) Gulf of Mexico region–18 swordfish per vessel per trip; 3) U.S. Caribbean region–six swordfish per vessel per trip; and, 4) Florida Swordfish Management Area–zero swordfish per vessel per trip.

Alternative B4

Maintain the default swordfish retention limit of zero for the Florida Management Region, and adjust the default swordfish retention limit to 18 swordfish per vessel per trip for all other regions and for HMS Commercial Caribbean Small Boat and Swordfish General Commercial permit holders, and HMS Charter/Headboat permit holders with a commercial sale endorsement. For these permit holders in all regions, the retention limit range would be 0-18 swordfish per trip. Under this alternative, the default retention limits would be: 1) Northwest Atlantic region–18 swordfish per vessel per trip; 2) Gulf of Mexico region–18 swordfish per vessel per trip; 3) U.S. Caribbean region–18 swordfish per vessel per trip; and, 4) Florida Swordfish Management Area– zero swordfish per vessel per trip.

2.3 Retention Limit Alternatives for Sharks

NMFS is considering and analyzing three commercial alternatives that consider modifying shark retention limits for the HMS Commercial Caribbean Small Boat permit and meet the objectives stated in Chapter 1 (Table 2.3). The following alternatives represent a range of options that NMFS has considered based, in part, on public comments requesting increased fishing opportunities to harvest sharks under the HMS Commercial Caribbean Small Boat permit. For example, comments requested NMFS increase the shark retention limit of the HMS Commercial Caribbean Small Boat permit from zero to three sharks per vessel per trip, in order to retain sharks for personal consumption or to sell at the local market or restaurants. As such, we considered a range of alternatives that encompasses the existing limit, the limit requested by the public for those species of most interest to the state and territorial fishermen (i.e. smoothhounds and tiger sharks), and a higher limit of 6 for all authorized managed shark species. The shark retention limit alternatives that follow are described under the assumption that the preferred alternative A3 for shark inseason adjustment authority is adopted.

Alternative C1-No Action

Keep the current shark retention limit for HMS Commercial Caribbean Small Boat permit holders. Under this alternative, NMFS would maintain the current retention limit of zero sharks per vessel per trip for vessels issued an HMS Commercial Caribbean Small Boat permit.

Alternative C2 (*Preferred Alternative*)

Establish a default shark retention limit of three smoothhound and/or tiger sharks (combined) per vessel per trip for the HMS Commercial Caribbean Small Boat permit holders. The retention limit range would be zero to three smoothhounds and/or tiger sharks (combined) per vessel per trip. The retention of any other shark species would not be allowed under this alternative.

Alternative C3

Establish a default retention limit of six non-prohibited large coastal, small coastal, pelagic, and/or smoothhound sharks (combined) per vessel per trip for HMS Commercial Caribbean Small Boat permit holders. The retention limit range would be zero to six for non-prohibited large coastal, small coastal, pelagic, and smoothhound sharks (combined) per vessel per trip.

Table 2.3 Possible Shark Retention Limits and Retention Limit Ranges Considered for the HMS Commercial Caribbean Small Boat (CCSB) Permit

U.S. Caribbean	Alternative C1 (No Action)	Alternative C2 (*Preferred Alternative*)	Alternative C3
Retention Limit Range	None	0-3 per vessel per trip	0-6 per vessel per trip
Default Retention Limit	0 per vessel per trip	3 Smoothhound or Tiger Sharks (Combined) per vessel per trip	6 Non-prohibited Large Coastal; Small Coastal; Pelagic; and Smoothhound Sharks (Combined) per vessel per trip

3.0 Affected Environment

This chapter describes the affected environment (the fishery, the gears used, the communities involved, etc.), and provides a view of the current condition of the fishery, which serves as a baseline against which to compare potential impacts of the different alternatives. This chapter also provides a summary of information concerning the biological status of North Atlantic swordfish and Atlantic sharks, the marine ecosystem, the social and economic condition of the fishing interests, fishing communities, and fish processing industries, and the best available scientific information concerning the past, present, and possible future conditions of the North Atlantic swordfish stock, ecosystem, and fisheries.

3.1 Swordfish Stock Status and Biology

Life History

As described in more detail in Chapter 6.3 of Amendment 10 to the 2006 Consolidated Atlantic HMS FMP (82 FR 42329, September 7, 2017) and Chapter 9.9 of the 2018 ICCAT SCRS Report, North Atlantic swordfish are distributed widely in the Atlantic Ocean. Swordfish feed on a wide variety of prey including groundfish, pelagic fish, deep-water fish, and invertebrates. They are believed to feed throughout the water column, and from electronic tagging studies, are believed to undertake extensive diel vertical migrations. Swordfish mostly spawn in the western warm tropical and subtropical waters throughout the year, although seasonality has been reported in some of these areas. They are found in the colder temperate waters during summer and fall months. Young swordfish grow very rapidly, reaching about 140 centimeters lower-jaw fork length by age three, but grow slowly thereafter. Females grow faster than males and reach a larger maximum size. Tagging studies have shown that some swordfish can live up to 15 years. Swordfish are difficult to age, but about 50 percent of females were considered to be mature by age five, at a length of about 180 centimeters. However, more recent information suggests a smaller length and age at maturity.

North Atlantic Swordfish Stock Status

North Atlantic swordfish stock assessments are conducted by ICCAT's SCRS. The most recent North Atlantic swordfish stock assessment was in 2017. North Atlantic swordfish were found to be not overfished with overfishing not occurring (Table 3.1). Additional details on stock statuses and their determination can be found in Chapter 2 of the 2018 HMS SAFE Report.

Habitat

The Magnuson-Stevens Act requires NMFS to identify and describe essential fish habitat (EFH) for each life stage of managed species (16 U.S.C. 1855(b)(1), as implemented by 50 CFR 600.815), and to evaluate the potential adverse effects of fishing activities on EFH, including the cumulative effects of multiple fisheries activities (50 CFR 600.815(a)(2)). NMFS originally described and identified EFH and related EFH regulatory elements for all HMS in the management unit in 1999, some of which were updated in 2003 via Amendment 1 to the 1999 HMS FMP (68 FR 45237; August 1, 2003). EFH boundaries published in the 1999 HMS FMP and Amendment 1 to the 1999 HMS FMP were updated in Final Amendment 10 to the 2006 Consolidated Atlantic HMS FMP.

Table 3.1 North Atlantic Swordfish Stock Status

Species	North Atlantic Swordfish
Current Relative Biomass Level	B_{2015}/B_{MSY} = 1.04 (0.82-1.39)
B_{MSY}	82,640 t (51,580-132,010)
International Threshold	B_{MSY}
Domestic Minimum Stock Size Threshold	0.8 B_{MSY} (52,048 t)
International Stock Status	Not overfished
Domestic Stock Status	Not overfished
Current Relative Fishing Mortality Rate	F_{2011}/F_{MSY} = 0.78 (0.62–1.01)
Maximum Fishing Mortality Threshold	F_{MSY} = 0.17 (0.10-0.27)
International Stock Status	Overfishing is not occurring
Domestic Stock Status	Overfishing is not occurring

3.2 Shark Stock Status and Biology

Life History

As described in more detail in Chapter 3 of Amendment 6 to the 2006 Consolidated Atlantic HMS FMP, sharks have a low reproductive potential compared to many other fish. Various factors determine this low reproductive rate: slow growth, late sexual maturity, one- to two-year reproductive cycles, a small number of young per brood, and specific requirements for nursery areas. Some shark species reproduce by laying eggs, while others nourish their embryos through a placenta. These biological factors leave many species of sharks vulnerable to overfishing.

A large number of shark species are known to inhabit the waters along the U.S. Atlantic coast, including the Gulf of Mexico and the waters around Puerto Rico and the U.S. Virgin Islands. Forty-two species are managed by the HMS Management Division of NMFS. Based on ecology and fishery dynamics, NMFS divided these Atlantic sharks into five species groups or complexes for purposes of HMS management: (1) large coastal sharks, (2) small coastal sharks, (3) pelagic sharks, (4) prohibited species, and (5) smoothhound sharks (Table 3.2).

Table 3.2 Common names of shark species included within the five species complexes. Note: Retention of certain sharks vary depending on permits, gears, and other requirements.

Species Complex	Shark Species Included
Large Coastal Sharks (11)	Sandbar+, silky*, tiger, blacktip, bull, spinner, lemon, nurse, smooth hammerhead*^, scalloped hammerhead*°^, and great hammerhead*^ sharks
Small Coastal Sharks (4)	Atlantic sharpnose, blacknose, finetooth, and bonnethead sharks
Pelagic Sharks (5)	Shortfin mako^, thresher, oceanic whitetip*^**, porbeagle^, and blue sharks
Prohibited Species (19)	Whale^, basking^, sand tiger, bigeye sand tiger, white^, dusky, night, bignose, Galapagos, Caribbean reef, narrowtooth, longfin mako^, bigeye thresher, sevengill, sixgill, bigeye sixgill, Caribbean sharpnose, smalltail, and Atlantic angel sharks
Smoothhound Sharks (3)	Smooth dogfish, Florida smoothhound, and Gulf smoothhound sharks

*Prohibited from commercial retention on pelagic longline gear and recreationally if swordfish, tunas, and/or billfish are also retained
+ Prohibited from retention with the exception of vessels selected to participate in the shark research fishery
° Distinct population segment (DPS) in the central and southwest Atlantic Ocean listed as threatened under the ESA
^ Listed under CITES Appendix II
** Listed as threatened throughout its range under the ESA

Atlantic Shark Stock Status

Atlantic shark stock assessments for large coastal, small coastal, and smoothhound sharks are generally completed by the Southeast Data, Assessment, and Review (SEDAR) process. Pelagic sharks are subject to exploitation by many different nations and exhibit trans-oceanic migration patterns. As a result, ICCAT's SCRS Subcommittee on Bycatch has recommended that ICCAT take the lead in conducting stock assessments for pelagic sharks. ICCAT's SCRS has assessed blue, shortfin mako, and porbeagle sharks to date. All SCRS final stock assessment reports can be found at www.iccat.int/assess.htm. In some cases, NMFS also looks at available resources, including peer reviewed literature, for external assessments that, if deemed appropriate, could be used for domestic management purposes. The details on all stock statuses for Atlantic sharks can be found in Chapters 1 and 3 of Amendment 6 to the 2006 Consolidated Atlantic HMS FMP and Chapter 2 of the 2018 SAFE Report. Table 3.3 summarizes stock assessment information and the current status of Atlantic shark species as of December 2019.

Table 3.3 Atlantic Shark Stock Status Summaries (Domestic and International): Overfished (and Years to Rebuild) and Not Overfished

Species	Current Relative Biomass Level	B_{MSY}	International Threshold	Domestic Minimum Stock Size Threshold	International Stock Status	Domestic Stock Status	Years to Rebuild	Rebuilding Start Date (End Date)
Northwest Atlantic porbeagle sharks	B_{2008}/B_{MSY} = 0.43-0.65	29,382-40,676 mt	B_{MSY}	(1-M) B_{MSY}‡‡*	Overfished	Overfished	100	7/24/2008 (2108)
North Atlantic blue sharks	B_{2013}/B_{MSY} = 1.35-3.45	*Unspecified* †	B_{MSY}	(1-M)B_{MSY}	Not likely overfished	Not Overfished		
North Atlantic shortfin mako sharks	B_{2015}/B_{MSY} = 0.57-0.95	62,555 mt-123,475 mt †††	B_{MSY}	(1-M) B_{MSY}‡‡*	Overfished	Overfished	‡‡**	‡‡**
Sandbar sharks	SSF_{2015}/SSF_{MSY} = 0.77	SSF_{MSY} = 681,000 (numbers of sharks)	*NA*	595,000 (1-M)SSF_{MSY}	*NA*	Overfished	66	1/1/2005 (2070)
Gulf of Mexico blacktip sharks	SSF_{2016}/SSF_{MSY} = 2.73	SSF_{MSY} = 14,400,000 (numbers of sharks)	*NA*	12,200,000 (1-M)SSF_{MSY}	*NA*	Not overfished		
Atlantic blacktip sharks	*Unknown*	*Unknown*	*NA*	(1-M)B_{MSY}	*NA*	*Unknown*		
Dusky sharks	SSF_{2015}/SSF_{MSY} = 0.41-0.64	*Unknown*†	*NA*	(1-M)SSB_{MSY}	*NA*	Overfished	~100	7/24/2008 (2107)
Scalloped hammerhead sharks	N_{2005}/N_{MSY} = 0.45	N_{MSY} = 62,000 (numbers of sharks)	*NA*	(1-M)N_{MSY}	*NA*	Overfished	10	7/3/2013 (2023)
Atlantic Bonnethead sharks	*Unknown*	*Unknown*	*NA*	*Unknown*	*NA*	*Unknown*		
Gulf of Mexico Bonnethead sharks	*Unknown*	*Unknown*	*NA*	*Unknown*	*NA*	*Unknown*		
Atlantic sharpnose sharks–Atlantic stock	SSF_{2011}/SSF_{MSY} = 2.07	SSF_{MSY} = 4,860,000 (numbers of sharks)	*NA*	(1-M)SSF_{MSY}	*NA*	Not overfished		
Atlantic sharpnose sharks-Gulf of Mexico stock	SSF_{2011}/SSF_{MSY}= 1.01	SSF_{MSY} = 17,900,000	*NA*	(1-M)SSF_{MSY}	*NA*	Not overfished		
Atlantic blacknose sharks–Atlantic stock	SSF_{2009}/SSF_{MSY} = 0.43-0.64	SSF_{MSY} = 77,577-288,360 (numbers of sharks)	*NA*	62,294-231,553 (1-M)SSF_{MSY}	*NA*	Overfished	30	7/3/2013 (2043)
Atlantic blacknose sharks–Gulf of Mexico stock	*Unknown*	*Unknown*	*NA*	(1-M)B_{MSY}	*NA*	*Unknown*		
Finetooth sharks	N_{2005}/N_{MSY} = 1.80	N_{MSY} = 3,200,000 (numbers of sharks)	*NA*	2,400,000 (1-M)N_{MSY}	*NA*	Not overfished		
Atlantic smooth dogfish	SSF_{2012}/SSF_{MSY} = 1.96-2.81	SSF_{MSY} = 4,746,000	*NA*	3,701,000 (1-M)SSF_{MSY}	*NA*	Not overfished		
Gulf of Mexico smoothhound shark complex	N_{2012}/N_{MSY} = 1.68-1.83	N_{MSY} = 7,190,000	*NA*	5.53E+06 (1-M)N_{MSY}	*NA*	Not overfished		

* = In the 2017 stock assessment, the SCRS indicated that it is not possible to calculate biomass-based reference points (e.g., BMSY) absent additional knowledge (or basis for assumptions) regarding how future recruitment potential relates to spawning stock biomass. ** = South Atlantic swordfish are managed by ICCAT, and domestic stock status is not determined or reported in the United States stock status report. † = A value for BMSY (or its proxy) was not provided in the stock assessment. ††† = Only the BSP2-JAGS and JABBA models provided BMSY values in biomass. The BMSY range encompasses the 8 scenarios run of the BSP2-JAGS and JABBA models. The SS3 model provided BMSY values in numbers. ‡‡* = M is unknown. ‡‡** = To be established by ICCAT in 2019. ^ = A new assessment has been completed and domestic status has yet to be determined (at the time of this report's publication).
Sources: SCRS 2007, 2008, 2009a, 2009b, 2010, 2011, 2012a, 2012b, 2013, 2014, 2015, 2016, 2017; Gibson and Campana 2005; NMFS 2006, 2007; Hayes et al. 2009; SEDAR 2011a, 2011b, 2011c, 2011d, 2013a, 2013b, 2015a, 2015b, 2016, 2018a, 2018b.

For additional HMS stock status determinations please consult Table 2.4 of the 2018 HMS SAFE Report. This table shows the history of domestic shark stock assessment.

Habitat

The Magnuson-Stevens Act requires NMFS to identify and describe EFH for each life stage of managed species (16 U.S.C. 1855(b)(1), as implemented by 50 CFR 600.815, and to evaluate the potential adverse effects of fishing activities on EFH, including the cumulative effects of multiple fisheries activities (50 CFR 600.815(a)(2)). NMFS originally described and identified EFH and related EFH regulatory elements for all HMS in the management unit in 1999, some of which were updated in 2003 via Amendment 1 to the 1999 HMS FMP (68 FR 45237; August 1, 2003). EFH boundaries published in the 1999 HMS FMP and Amendment 1 to the 1999 HMS FMP were updated in Final Amendment 10 to the 2006 Consolidated Atlantic HMS FMP.

3.3 Description of the Fishery

Please see Chapter 3.2.3 of Amendment 8 to the 2006 Consolidated Atlantic HMS FMP, which is incorporated here by reference, for a description of the swordfish fishery in the United States.

North Atlantic Swordfish Permits, Retention Limits, and Economic Aspects

In the United States, eight categories of permits authorized for swordfish fishing are currently issued: HMS Angling, HMS Charter/Headboat, Incidental HMS Squid Trawl Permit, Directed Swordfish, Incidental Swordfish, Swordfish Handgear, Commercial Caribbean Small Boat, and Swordfish General Commercial. The majority of swordfish landed in Atlantic HMS fisheries are by Directed Swordfish Limited Access permit holders using pelagic longline gear and, to a lesser extent, buoy gear and handgear (rod and reel, handline, harpoon, and bandit gear).

Recreational fishing for any HMS-managed species requires the issuance of an HMS Angling permit or an HMS Charter/Headboat permit. Swordfish landed under the HMS Angling permit may not be sold and swordfish landed under an HMS Charter/Headboat permit may only be sold in certain instances. The recreational swordfish trip limits are: one per person with up to four per vessel per day (HMS Angling permit); one per paying passenger with up to six per vessel per day (Charter/Headboat permit, charter vessel); and one per paying passenger with up to 15 per vessel per day (Charter/Headboat permit, headboat vessel). HMS Charter/Headboat vessel permit holders with a commercial sale endorsement can fish with rod and reel and handline under open-access swordfish commercial retention limits when on a commercial trip.

The Incidental HMS Squid Trawl permit may only be issued to vessels that already possess an *Illex* squid moratorium permit and allows squid vessels to retain up to 15 incidentally-caught swordfish per trip. The other three permits (Directed, Incidental, and Handgear) are all commercial limited access permits, meaning that participants interested in entering the fishery must obtain a permit from an existing permit holder that is interested in getting out of the fishery. When the directed swordfish fishery is open, there is no retention limit for Directed and Handgear Limited Access permit holders. If the directed fishery is closed, Directed Limited Access permit holders can retain 15 swordfish per pelagic longline trip, two swordfish per

handgear trip, and no swordfish using harpoon. Incidental swordfish permits allow fishermen to land up to 30 swordfish while engaged in other fishing activities. Vessels issued Directed and Incidental Swordfish Limited Access permits must also be issued valid Atlantic Tunas Longline and Atlantic Shark permits to retain swordfish.

The HMS Commercial Caribbean Small Boat permit is open-access and valid only in the U.S. Caribbean region on vessels that are less than 45 feet long. This permit cannot be held in conjunction with any other HMS permit in a calendar year. This permit allows the commercial retention of bigeye, albacore, yellowfin, and skipjack (BAYS) tunas, swordfish, and sharks, although the retention limit for shark is set to zero. Vessels issued the HMS Commercial Caribbean Small Boat permit are authorized to possess rod and reel, handline, harpoon, bandit, and buoy gear to harvest swordfish. The current swordfish retention limit for the HMS Commercial Caribbean Small Boat permit is two fish per vessel per trip. As described in Amendment 4 to the 2006 Consolidated Atlantic HMS FMP, this retention limit was established because, at the time, the number of permits that would be issued in the U.S. Caribbean region was unknown. Therefore, in Amendment 4, while NMFS analyzed a retention limit range of zero to six, NMFS took a conservative approach by implementing a low retention limit. Since the implementation of the HMS Commercial Caribbean Small Boat permit few permits have been issued (Table 3.4) and the U.S. continues to underharvest its U.S. swordfish quota.

Table 3.4 2014-2018 Total Number of Trips and Active Vessels Landing Swordfish for HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat Permits

Permit	2014	2015	2016	2017	2018	2019	Average Number of Trips Per Year
	Total Number of trips (total number of active vessels)						
HMS Commercial Caribbean Small Boat	5 (5)	3 (3)	3 (3)	3 (3)	3 (3)	8 (5)	4
Swordfish General Commercial	3 (3)	14 (10)	26 (16)	24 (13)	7 (15)	36 (24)	18
HMS Charter/Headboat	5 (5)	17 (6)	15 (11)	9 (8)	20 (14)	93 (23)	26

Source: eDealer and Territories landings data

The Swordfish General Commercial permit is open-access and can be held in conjunction with the Atlantic Tunas Harpoon and Atlantic Tunas General Category permits. Swordfish General Commercial permit holders can harvest swordfish using rod and reel, handline, harpoon, green-stick, and bandit gear. The swordfish retention limit under this permit may be set between zero and six swordfish per vessel per trip. The default retention limits for North Atlantic swordfish are three in the northwest Atlantic and Gulf of Mexico, two in the U.S. Caribbean, and zero in the Florida Swordfish Management Area. Regional retention limits can be changed

through inseason adjustment authority based on pre-established criteria codified at 50 CFR 635.27(a)(8). The swordfish retention limits were maintained at six swordfish throughout 2018 and 2019 by four inseason actions, published in December 2017 (82 FR 58761), July 2018 (83 FR 30884), and December 2018 (83 FR 65571) and June 2019 (84 FR 29088).

The swordfish commercial minimum sizes are 25 inches cleithrum to caudal keel for swordfish landed with the head, or any portion of the head, removed, or 47-inch lower jaw fork length for swordfish landed with the head attached. Figure 1.1 illustrates the cleithrum to caudal keel and lower jaw fork length measurements. In addition, a swordfish that has been damaged by shark bites may be retained only if the remainder of the carcass meets the appropriate minimum size.

Pelagic longlining accounts for the majority of U.S. swordfish catches; with sizeable swordfish catches in the commercial and recreational handgear fisheries as well. In 2017, U.S. swordfish catches and landings were approximately 1,035 mt dw. Of these reported catches and landings, 957 mt dw were reported as captured with pelagic longline gear (NMFS 2020). Approximately, 104.3 mt dw of swordfish are reported as captured with handline, rod and reel, harpoon, and buoy gear. See Table 3.5 for distribution of swordfish landings from 2014 to 2017 by permit type and region, respectively.

Table 3.5 2014-2017 U.S. Atlantic Commercial Swordfish Landings Metric Ton (mt) Dressed Weight (dw) by Gear Type

Gear	2014 (mt dw)	2015 (mt dw)	2016 (mt dw)	2017 (mt dw)
Longline*	1,374.2	1,194.5	1,041.4	957.3
Handline	65.4	57.3	56.8	43.7
Buoy Gear	52	39	43	35
Rod and Reel**	27.5	34.5	34.4	25.4
Harpoon	0.0	0.0	0.0	0.2

* Includes landings and estimated dead discards from scientific observer and logbook sampling programs.

** Rod and reel catches and landings represent estimates of landing and dead discards based on statistical surveys of the U.S recreational harvesting sector.

Source: Annual Report of the United States to ICCAT (2017)

Swordfish landing, in pounds, and the average ex-vessel price from 2014-2017 are shown in Table 3.6 for the three swordfish permits this rulemaking will affect. The average dressed weight per swordfish captured by HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat vessels (which are only authorized to use handgear such as rod and reel, handline, buoy gear, green stick) cannot be calculated given the available data. Instead, NMFS used an average weight of 69 pounds (lb) dw based on the 957.3 mt dw or 2,110,463 lb dw of longline swordfish landed and discarded, and the 30,448 individual swordfish caught or discarded by the pelagic longline fleet in 2017 (NMFS, 2019). NMFS expects that this proxy may be somewhat higher than what is landed in the handgear fleet given that the pelagic longline fleet generally operates further offshore and in deeper, colder waters where larger fish

may be located. At $4.80/lb, which is the average price of swordfish from all three of the handgear affected by this rule, the average value of each swordfish was $331.20 in 2018.

The handgear fisheries for all HMS are typically most active during the summer and fall, although fishing also occurs in the South Atlantic and Gulf of Mexico during the winter months. Fishing usually takes place between five and 125 miles from shore. Those vessels using bait typically use herring, mackerel, whiting, mullet, menhaden, ballyhoo, butterfish, and squid. The U.S. Caribbean fleet is similar to the Southeastern U.S. fleet in that it consists primarily of small vessels making short, relative near-shore trips, producing high quality fresh product. The number of trips and active vessels for each permit from 2014-2018 are shown in Table 3.4 for the three swordfish permits this rulemaking will affect. Because there is limited data on the number of trips and active vessels for the three swordfish commercial permits, the breakdown of the number of trips and active vessels can only be shown by permit type and not region. For a breakdown of the number of HMS commercial and recreational permits please refer to Chapter 4.1 of the 2018 HMS SAFE Report (NMFS 2020).

Table 3.6 2014-2018 U.S. Atlantic Swordfish Landings in Pounds Dressed Weight (dw) and Average Ex-Vessel Price per Pound for HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat Permits

Permit	2014	2015	2016	2017	2018
HMS Commercial Caribbean Small Boat (lb dw)	291	1,165	1,776	522	2,412
Swordfish General Commercial (lb dw)	528	1,385	12,263	3,041	2,997
HMS Charter/Headboat (lb dw)	727	2,268	1,286	1,455	3,491
Average ex-vessel price per pound					
($/lb)	5.40	5.20	4.80	4.80	4.80

Source: eDealer and Territories landings data

Atlantic Shark Permits, Retention Limits, and Economic Aspects

In the U.S. Caribbean, four categories of permits authorized for commercial shark fishing are currently available/issued: Directed Shark, Incidental Shark, Smoothhound Shark Commercial, and HMS Commercial Caribbean Small Boat permits.

An Atlantic shark directed or incidental limited access permit is required to commercially harvest Atlantic sharks other than smoothhound sharks. Under the limited access program, the agency is no longer issuing new commercial permits. Shark limited access permit holders are authorized to use pelagic longline or bottom longline, handgear, and gillnet gear. These fishermen must also become certified at a Protected Species Safe Handling, Release, and Identification Workshop if fishing pelagic longline or gillnet gear and sell only to a federally permitted Shark Dealer. The current shark retention limit for the directed limited access permit is 45 large coastal sharks and no limit on the amount of small coastal (no more than eight blacknose sharks) and pelagic sharks retained. Incidental limited access permit holders can retain three large coastal sharks and a total of 16 small coastal and pelagic sharks combined (not more than eight blacknose sharks).

Commercial smoothhound shark vessels permits have been required since March 15, 2016. These permits are open-access, and are required to land and sell smoothhound sharks including smooth dogfish, Florida smoothhound, and Gulf smoothhound. Smoothhound shark can only be sold to a federally permitted shark dealer.

As previously described, the HMS Commercial Caribbean Small Boat permit is open-access and valid only in the U.S. Caribbean region on vessels that are less than 45 feet long. This permit cannot be held in conjunction with any other HMS permit in a calendar year. This permit allows the commercial retention of BAYS tunas, swordfish, and sharks. Vessels issued the HMS Commercial Caribbean Small Boat permit are authorized to possess rod and reel, handline, harpoon, bandit, and buoy gear to harvest swordfish. The current shark retention limit for the HMS Commercial Caribbean Small Boat permit is zero fish per vessel per trip. As described in Amendment 4 to the 2006 Consolidated Atlantic HMS FMP, this retention limit was established in order to minimize any potential adverse effects to all shark species while some of the shark complexes recovered and the Agency had time to collect more data on regional participants, catches, and discards. Therefore, in Amendment 4, NMFS analyzed a retention limit range of zero to three non-sandbar large coastal sharks per vessel per trip and zero to16 small coastal and pelagic sharks (combined) per vessel per trip. Amendment 4 did not analyze the retention of smoothhound sharks as these species were not in the management unit at that time. Due to concerns about shark status and limited data, in Amendment 4, NMFS took a conservative approach by implementing a retention limit of zero sharks. Since the implementation of the HMS Commercial Caribbean Small Boat permit, state and territorial commercial shark fishermen have continued to incidentally-catch sharks while targeting other species (i.e., grouper, snapper) and have requested the ability to retain sharks at incidental levels in federal waters.

The majority of sharks landed in Atlantic HMS fisheries are by Directed Shark Limited Access permit holders using bottom longline and gillnet gear. The majority of small-scale commercial vessels participating in HMS fisheries in the Caribbean region are small, and limited in range, hold capacity, crew size, and market infrastructure. These small-scale vessels in the U.S. Caribbean use handgear (handline, rod and reel) (Table 3.7 and Table 3.8) and rarely target sharks, but rather catch them as bycatch while targeting other federally permitted species (i.e., snapper, grouper). Because there are currently a limited number of shark fishing and dealer permits, and because the HMS Commercial Caribbean Small Boat permit does not allow for retention of sharks, there is limited catch and landings data from the U.S. Caribbean fisheries.

The limited amount of data available includes trip-ticket data from Puerto Rico and the U.S. Virgin Islands, which offers the best source of shark landings data.

Based on trip-ticket data from the U.S. Caribbean, in 2018, 47 commercial fishermen from Puerto Rico reported landing sharks, averaging 64 lb dw of sharks per trip, while in the U.S. Virgin Islands, 14 commercial fishermen reported landing sharks, averaging 15 lb dw of sharks per trip (Table 3.9). In addition, vessels that reported landing sharks in the U.S. Caribbean made an average of two trips per month. Table 3.10 shows the average dressed weight per shark species/complex (relevant to this rulemaking) and price per pound based on Southeast Fishery Science Center conversion factors, and trip-ticket data from Puerto Rico and U.S. Virgin Islands, respectively. Given the limited trip-ticket shark landings data from the U.S. Caribbean, NMFS used the averaged weight for all unclassified sharks as a proxy for the price data of all species/management groups relevant to this rulemaking. Because the U.S. Virgin Islands trip ticket data did not report price data for sharks, NMFS is using the average price per pound for sharks reported for Puerto Rico as a proxy. Atlantic shark landings, in pounds dressed weight, are shown in Table 3.11 and Table 3.12 for the state and territorial commercial shark fishermen in the U.S. Caribbean. Landings data shows a limited number of sharks being landed, with only unclassified sharks reported in 2018. This may indicate some misidentification issues by state and territorial commercial fishermen who catch sharks incidentally while targeting other fish and might not be familiar with how to properly identify sharks to species level.

Table 3.7 2014-2018 Atlantic Commercial Shark Landings Pounds (lb) Dressed Weight (dw) by Gear Type in Puerto Rico

Gear	2014	2015	2016	2017	2018
Hook and Line	9,479	6,197	C	C	5,109
Net	4,853	3,775	C	C	4,057
Spearhand/Trap	0	1,103	C	C	220
Grand Total	14,332	11,076	7,782	7,345	9,386

Source: Territorial government trip ticket data. The letter C denotes instances where data could not be presented due to confidentiality issues.

Table 3.8 2014-2018 Atlantic Commercial Shark Landings Pounds (lb) Dressed Weight (dw) by Gear Type in U.S. Virgin Islands

Gear	2014	2015	2016	2017	2018
Hook and Line	1,164	C	604	426	360
Net/Spearhand/Trap	340	C	209	355	109
Grand Total	1,504	865	813	781	469

Source: Territorial government trip ticket data. The letter C denotes instances where data could not be presented due to confidentiality issues.

Table 3.9 2014-2018 Number of vessels and trips landing sharks by year in Puerto Rico and the U.S. Virgin Islands

Island		2014	2015	2016	2017	2018
Puerto Rico	Number of Vessels	57	60	66	43	47
	Number of Trips	243	210	281	177	196
U.S. Virgin Islands	Number of Vessels	8	9	11	11	14
	Number of Trips	41	19	21	28	31

Source: Territorial government trip ticket data

Table 3.10 Average dressed weight and price data for Atlantic Sharks in the U.S. Caribbean

Species/Management Group	Average Dressed Weight (lb dw)	Price ($/lb)
Large Coastal Shark	34	1.82
Small Coastal Shark	3.25	
Pelagic Shark	43	
Tiger Shark	34	
Smoothhound Shark	5.6	

Source: Southeast Fishery Science Center conversion factors/Territorial government trip ticket data

Table 3.11 2014-2018 Atlantic Shark Landings in Pounds Dressed Weight (dw) by Species in Puerto Rico

Species	2014	2015	2016	2017	2018
Sharks	6,487	4,937	3,095	C	3,498
Tiger shark	5,330	3,056	2,291	C	4,470
Lemon shark	947	2,503	1,655	C	C
Caribbean Reef shark	762	450	425	C	28
Hammerhead sharks	735	71	152	C	902
Sevengill shark	111	60	164	C	C
Grand Total	14,372	11,076	7,782	7,345	9,386

Source: Territorial government trip ticket data. The letter C denotes instances where data could not be presented due to confidentiality concerns.

Table 3.12 2014-2018 Atlantic Shark Landings in Pounds Dressed Weight (dw) by Species in U.S. Virgin Islands

Shark Species	2014	2015	2016	2017	2018
Sharks	C	C	C	C	C
Tiger shark	C	C	C	C	C
Lemon shark	C	C	C	C	C
Caribbean Reef shark	C	C	C	C	C
Hammerhead sharks	C	C	C	C	C
Nurse shark	C	C	C	C	C
Grand Total	1,504	865	813	781	469

Source: Territorial government trip ticket data. The letter C denotes instances where data could not be presented due to confidentiality concerns.

Fishery Participants

In order to understand the universe of entities potentially affected by this action, NMFS analyzed the number of vessels and dealer permits issued. As of December 2019, there were 35 HMS Commercial Caribbean Small Boat permits, 667 Swordfish General Commercial permits, and 3,769 HMS Charter/Headboat permits issued. Of those 667 Swordfish General Commercial permit holders, 24 landed swordfish in 2019. Of 35 HMS Commercial Caribbean Small Boat permit holders, five landed swordfish in 2019. Of the 3,769 HMS Charter/Headboat vessels, 23 had an active sales endorsement and landed swordfish in 2019. Table 3.13 to Table 3.16 provide the distribution of these permits across states and territories.

Table 3.13 Number of HMS Commercial Caribbean Small Boat Permits by State and Territories*

State/Territory	HMS Commercial Caribbean Small Boat** permits
South Carolina	2
Florida	27
Louisiana	1
Puerto Rico	4
U.S. Virgin Islands	1
2019 Totals	35
2018 Totals	40
2017 Totals	39

* As of December 2019.

**The HMS Commercial Caribbean Small Boat permit is only valid in the U.S. Caribbean.

Table 3.14 Number of Swordfish General Commercial Permits by State*

State/Territory	Swordfish General Commercial permits	State/Territory	Swordfish General Commercial permits
Alabama	7	Mississippi	2
California	2	North Carolina	82
Connecticut	11	New Hampshire	36
Delaware	3	New Jersey	21
Florida	62	New York	42
Georgia	7	Pennsylvania	2
Hawaii	1	Puerto Rico	9
Louisiana	11	Rhode Island	33
Massachusetts	165	South Carolina	3
Maryland	6	Texas	6
Maine	145	Virginia	11
2019 Totals		667	
2018 Totals		723	
2017 Totals		613	

* As of December 2019.

Table 3.15 Number of Atlantic HMS Charter/Headboat Permits by State*

State/Territory	HMS Charter/Headboat permits	State/Territory	HMS Charter/Headboat permits
Alabama	64	New Hampshire	92
California	1	New Mexico	1
Connecticut	68	New Jersey	471
Delaware	98	New York	314
Florida	723	Ohio	2
Georgia	26	Oklahoma	1
Idaho	1	Pennsylvania	10
Illinois	1	Puerto Rico	19
Louisiana	91	Rhode Island	128
Massachusetts	699	South Carolina	130
Maryland	123	Texas	100
Maine	138	Virginia	75
Michigan	1	U.S. Virgin Islands	16
Mississippi	17	Wisconsin	2
North Carolina	356	West Virginia	1
2019 Totals		3,769	
2018 Totals		3,635	
2017 Totals		3,618	

* As of December 2019.

Amendment 4 to the 2006 Consolidated Atlantic HMS FMP allowed Caribbean small-scale fishermen with the HMS Commercial Caribbean Small Boat permit to directly sell their catches of authorized HMS without possessing a dealer permit, provided that the fishermen report the harvest and sale of these animals to their respective territorial governments, which will report these data to the NMFS SEFSC. As of December 2019, there were 200 Atlantic swordfish and 104 Atlantic shark dealer permits. HMS dealer permits are open access and required for the "first receiver" of Atlantic tunas, swordfish, and sharks. A first receiver is any entity, person, or company that takes, for commercial purposes (other than solely for transport), immediate possession of the fish, or any part of the fish, as the fish are offloaded from a fishing vessel. Table 3.16 shows the distribution of Atlantic swordfish and shark dealer permits across the states and territories, and a summary of permits held between 2015 and 2019.

Table 3.16 Number of Domestic Atlantic Swordfish and Shark Dealer Permits*

State/Territory	2019 Permits by State/Territory†	
	Atlantic Swordfish	Atlantic Shark
Alabama	7	2
California	2	-
Connecticut	-	-
Delaware	1	-
Florida	91	31
Illinois	1	-
Georgia	1	1
Hawaii	-	-
Louisiana	7	4
Massachusetts	17	6
Maryland	3	2
Maine	1	1
Missouri	1	-
North Carolina	22	18
New Hampshire	2	-
New Jersey	9	9
New York	11	17
Pennsylvania	1	-
Puerto Rico	1	-
Rhode Island	5	2
South Carolina	12	8
Texas	3	2
Virginia	2	1
U.S. Virgin Islands	-	-
Vermont	-	-
2019†Totals	200	104
2018 Totals	193	108
2017 Totals	189	113
2016 Totals	182	111
2015 Totals	184	102

* As of December 2019.

† The actual number of permits per state/territory may change as permit holders move or sell their businesses.

3.4 Endangered Species Act and Marine Mammal Protection Act

The ESA is the primary federal legislation governing interactions between fisheries and species listed as threatened or endangered and effects on ESA-listed critical habitat. Through a consultation process, the ESA requires federal agencies to evaluate actions they authorize, fund, or carry out that may affect a listed species. In the case of marine fisheries, the NMFS Office of

Sustainable Fisheries consults with the Office of Protected Resources to determine what impacts fishery management actions could have on threatened or endangered marine species and what actions can be taken to reduce or eliminate negative impacts. Under the ESA Section 7 consultation process, if a federal agency determines its action is likely to adversely affect a species or destroy or adversely modify critical habitat, the agency engages in formal consultation with NMFS. At the conclusion of formal consultation, NMFS issues a biological opinion, which analyzes the effects of the action. If NMFS concludes the action will jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat, NMFS specifies Reasonable and Prudent Alternatives to the proposed action. If NMFS concludes the action will not jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat, NMFS specifies required Reasonable and Prudent Measures and Terms and Conditions, to mitigate the effects of the action, and authorizes any allowable "incidental take" of the species.

Effects on ESA-listed species for most handgears were analyzed under a Biological Opinion issued on June 14, 2001, entitled "Reinitiation of Consultation on the Atlantic HMS FMP and its Associated Fisheries." The June 14, 2001 Biological Opinion found that the continued operation of harpoon, hand gear, and rod and reel fisheries in the Atlantic Ocean may adversely affect but are not likely to jeopardize the continued existence of the right, humpback, fin, or sperm whales, or Kemp's ridley, green, loggerhead, hawksbill, or leatherback sea turtles. In response, NMFS adheres to the measures identified in the Biological Opinion. As indicated in the June 14, 2001 Biological Opinion, the potential for take in these fisheries (i.e., harpoon/handgear fisheries, hook & line, etc.) is very low (no more than three sea turtles, of any species, in combination, per calendar year). This action is not anticipated to affect the above-referenced ESA-listed species in any way not previously analyzed for existing regulations and there is no new information that would alter this conclusion.

In July 2014, NMFS published a final rule that, among other things, listed the Central and Southwest Atlantic Distinct Population Segment of scalloped hammerhead sharks as a threatened under the ESA (79 FR 38214, July 3, 2014). In September 2014, NMFS listed as threatened five new Caribbean species of corals and maintained the threatened listing for two other Caribbean coral species (79 FR 53851, September 10, 2014). On January 10, 2020, NMFS released a Biological Opinion for all Atlantic HMS fisheries except pelagic longline, which stated that the continued operation of these fisheries (including handgear fisheries) is not likely to jeopardize the continued existence of sea turtles, sawfish, Atlantic sturgeon, scalloped hammerhead shark (Central and Southwest Atlantic Distinct Population Segment), oceanic whitetip shark, and giant manta ray. NMFS is implementing the Reasonable and Prudent Measures and Terms and Conditions of the 2020 Biological Opinion for Atlantic HMS fisheries except pelagic longline. This action is not anticipated to affect the above-referenced ESA-listed species in any way not previously analyzed for existing regulations, including the provision for exempted fishing activities, and there is no new information that would alter this conclusion. Any of the covered ESA-listed species taken with handgear would be considered against the Incidental Take Statement in the 2020 Biological Opinion for the Atlantic HMS fisheries except pelagic longline, as long as the operations are consistent with the Reasonable and Prudent Measures in that Biological Opinion, namely: any protected resources caught while engaging in research activities must be safely handled, resuscitated, and released; and all protected resource interactions must be reported to NMFS.

The MMPA established a national policy to prevent marine mammal species and population stocks from declining beyond the point where they ceased to be significant functioning elements of the ecosystems of which they are a part. The MMPA prohibits, with certain exceptions, the "take" of marine mammals in U.S. waters and by U.S. citizens on the high seas, and the importation of marine mammals and marine mammal products into the U.S. Under MMPA requirements, NMFS produces an annual List of Fisheries that classifies domestic commercial fisheries, by gear type, relative to their rates of incidental mortality or serious injury of marine mammals. The List of Fisheries includes three classifications:

- Category I fisheries are those with frequent serious injury or mortality to marine mammals;
- Category II fisheries are those with occasional serious injury or mortality; and
- Category III fisheries are those with remote likelihood of serious injury or mortality to marine mammals.

Fishermen participating in Category I or II fisheries are required to be registered under MMPA and, if selected, to accommodate an observer aboard their vessels. Vessel owners or operators, or fishermen, in Category I, II, or III fisheries must report all incidental mortalities and injuries of marine mammals during the course of commercial fishing operations to NMFS. There are currently no regulations requiring recreational fishermen to report takes, nor are they authorized to have incidental takes (i.e., they are illegal). NMFS does require reporting and authorizes takes by charter/headboat fishermen (considered “commercial” by MMPA), and no takes in Atlantic HMS fisheries have been reported to NMFS to date.

Commercial swordfish and shark landings under the HMS Commercial Caribbean Small Boat permit and swordfish landings under the Swordfish General Commercial permit are from handgear fisheries. The commercial handgear fishery is currently listed as a Category II fishery under MMPA. The swordfish harpoon fishery and the for-hire handgear fishery are currently listed as Category III fisheries under MMPA. Strict control and operations through the regulations of these fishing gears means these gear types are not likely to result in mortality or serious injury of marine mammals.

Please refer to Sections 3.8 and 3.9.9 of the 2006 Consolidated Atlantic HMS FMP and Chapter 8 of the 2018 HMS SAFE Report for additional information on the protected species and marine mammals in the area of Atlantic HMS fisheries.

4.0 Environmental Consequences of Alternatives

As described earlier, NMFS has developed management measures in this EA to modify swordfish retention limits for vessels possessing an HMS Commercial Caribbean Small Boat permit, Swordfish General Commercial permit, or vessels with an HMS Charter/Headboat permit on a commercial trip, and shark retention limits for vessels possessing an HMS Commercial Caribbean Small Boat permit. This rulemaking also modifies mechanisms to carry out inseason adjustments to the swordfish and shark retention limits of the HMS Commercial Caribbean Small Boat permit (Table 2.1, Table 2.2 and Table 2.3). This chapter details the environmental effects of the alternatives.

4.1 Impacts of Mechanisms to Adjust Retention Limits

NMFS is analyzing three alternatives that consider modifying the mechanism to adjust swordfish and shark retention limits for the HMS Commercial Caribbean Small Boat permit and meet the objectives stated in Chapter 1.0.

Ecological Evaluation

Alternative A1-No Action

Under this alternative, NMFS would maintain the current requirement to adjust the regional swordfish retention limits for vessels possessing the HMS Commercial Caribbean Small Boat permit only through framework adjustments. This alternative addresses the administrative process NMFS would use to adjust any of the retention limits for the HMS Commercial Caribbean Small Boat permit. Since the HMS Commercial Caribbean Small Boat permit was implemented, the retention limits have not changed. For example, the current limit of two swordfish per vessel per trip remains the same now as it did when the rule was first implemented. Under this alternative, NMFS would need to adjust any retention limits through a full framework adjustment, rather than a more timely inseason action. As a result, the retention limits would likely continue to remain at the same level throughout a year or from year to year. This administrative process is different than what is in place for the Swordfish General Commercial permit and HMS Charter/Headboat permit, where inseason actions can quickly adjust the retention limits. Maintaining this administrative process is not expected to have any impact on the current level of fishing, catch rates, or distribution of fishing effort. Thus, Alternative A1 would likely have neutral direct and indirect ecological impacts in the short- and long-term.

Alternative A2 (*Preferred Alternative*)

Under this alternative, the HMS Commercial Caribbean Small Boat permit retention limit could be modified within a range, as described in Alternatives B1 to B4, through inseason adjustment procedures identical to those codified at 50 CFR 635.24 (b)(4)(iv). Before making any inseason adjustments to regional retention limits, NMFS would consider the following criteria and other relevant factors:

A. The usefulness of information obtained from biological sampling and monitoring of the North Atlantic swordfish stock;

B. The estimated ability of vessels participating in the fishery to land the amount of swordfish quota available before the end of the fishing year;
C. The estimated amounts by which quotas for other categories of the fishery might be exceeded;
D. Effects of the adjustment on accomplishing the objectives of the FMP and its amendments;
E. Variations in seasonal distribution, abundance, or migration patterns of swordfish;
F. Effects of catch rates in one region precluding vessels in another region from having a reasonable opportunity to harvest a portion of the overall swordfish quota; and;
G. Review of dealer reports, landing trends, and the availability of swordfish on the fishing grounds.

The inseason adjustment procedures under this alternative would be more flexible and timely compared to the existing adjustment process (i.e., framework adjustment), resulting in the ability to change the retention limit more quickly and easily throughout the year, if needed, and thus, providing additional fishing opportunities to the U.S. Caribbean region when other factors, such as availability of fish on the grounds and available quota, support such an increase. Because this is a new regulatory process that would not change the North Atlantic commercial quotas or fishing effort, we expect no adverse ecological impacts under the new regulatory procedure for the HMS Commercial Caribbean Small Boat permit. Thus, Alternative A2 would likely have neutral direct and indirect ecological impacts in the short- and long-term.

Alternative A3 (*Preferred Alternative*)

Under this alternative, the HMS Commercial Caribbean Small Boat permit default shark retention limit could be modified within a range, as described in Alternatives C1 to C3, through inseason adjustment procedures like those codified at 50 CFR 635.24(a)(8). Before making any adjustments to regional retention limits, NMFS would consider the following criteria and other relevant factors:

A. The amount of remaining shark quota in the relevant area or region, to date, based on dealer reports;
B. The catch rates of the relevant shark species/complexes, to date, based on dealer reports;
C. Estimated date of fishery closure based on when the landings are projected to reach 80 percent of the quota given the realized catch rates;
D. Effects of the adjustment on accomplishing the objectives of the 2006 Consolidated Atlantic HMS FMP and its amendments;
E. Variations in seasonal distribution, abundance, or migratory patterns of the relevant shark species based on scientific and fishery-based knowledge; and/or,
F. Effects of catch rates in one part of a region precluding vessels in another part of that region from having a reasonable opportunity to harvest a portion of the relevant quota.

The inseason adjustment procedures under this alternative would be more flexible and timely compared to the existing adjustment process (i.e., framework adjustment), resulting in the ability to change the retention limit more quickly and easily throughout the year, if needed, and thus, providing additional fishing opportunities to the U.S. Caribbean region when other factors, such as availability of fish on the grounds and available quota, support such an increase.

Because this is a new regulatory process that would not change the Atlantic commercial shark quotas or fishing effort, we expect no adverse ecological impacts under the new regulatory procedure for the HMS Commercial Caribbean Small Boat permit. Thus, Alternative A3 would likely have neutral direct and indirect ecological impacts in the short- and long-term.

Social and Economic Impacts

Alternative A1-No Action

Under this alternative, NMFS would maintain the current process of adjusting the regional retention limits for vessels possessing the HMS Commercial Caribbean Small Boat permit only through framework adjustments. As described above, maintaining this process would likely result in the retention limit remaining at the default level throughout a year, just as it has since its implementation. Alternative A1 would likely result in neutral direct and indirect socioeconomic impacts in the short- and long-term because swordfish fishing would continue to operate under current conditions, with HMS Commercial Caribbean Small Boat permit holders continuing to fish at similar rates and under similar trip limits. However, it is important to note that, in order to change the trip limit, this alternative would have additional administrative burden and time costs associated with conducting a full rulemaking for a framework adjustment to change the trip limit for the HMS Commercial Caribbean Small Boat permit.

Alternative A2 (*Preferred Alternative*)

Under this alternative, the HMS Commercial Caribbean Small Boat permit retention limit could be modified within a specified range. Before making any inseason adjustments to regional retention limits, NMFS would consider the seven criteria previously mentioned and other relevant factors (Chapter 2.2).

Under this alternative, the adjustment process would be more flexible and could adjust the retention limit more quickly, compared to the existing adjustment process. This alternative could result in an increased likelihood that the retention limit would be adjusted as needed throughout the year, reducing administrative costs and potentially providing more timely management changes to swordfish fishermen. Alternative A2 would likely result in neutral direct and indirect socioeconomic impacts in the short- and long-term as HMS Commercial Caribbean Small Boat permit holders would continue to fish at similar rates and under similar trip limits.

Alternative A3 (*Preferred Alternative*)

Under this alternative, the HMS Commercial Caribbean Small Boat permit shark retention limit could be modified within a specified range. Before making any inseason adjustments to regional retention limits, NMFS would consider the six criteria previously mentioned and other relevant factors (Chapter 2.2).

Under this alternative, the adjustment process would be more flexible and could adjust the retention limit more quickly, compared to the existing adjustment process. This alternative could result in an increased likelihood that the retention limit would be adjusted as needed throughout the year, reducing administrative costs and potentially providing more timely management changes to shark fishermen. Overall, the increase would not be significant, because it would only affect a few fishermen, and they would only be catching up to 3 sharks per trip, so any potential impacts probably would be similar and neutral. Thus, Alternative A3 would likely result in neutral direct and indirect socioeconomic impacts in the short- and long-term as HMS Commercial Caribbean Small Boat permit holders would continue to fish at similar rates and under similar trip limits.

4.2 Swordfish Retention Limit Alternatives

NMFS is analyzing four alternatives that would modify swordfish retention limits and retention limit ranges for the HMS Commercial Caribbean Small Boat permit, Swordfish General Commercial permit, or vessels with an HMS Charter/Headboat permit on a commercial trip and meet the objectives stated in Chapter 1.0.

It is important to note that for the HMS Commercial Caribbean Small Boat permit, alternatives B2 through B4 would establish and codify a default swordfish retention limit and retention limit range for this permit. These alternatives are analyzed assuming Alternative A2 has been applied to the HMS Commercial Caribbean Small Boat permit. However, the effects of adding inseason adjustment to the HMS Commercial Caribbean Small Boat permit are discussed under Alternatives A1 and A2 whereas Alternatives B1 through B4 focus on the effects of modifying the retention limits within an established trip limit range.

Ecological Evaluation

Alternative B1-No Action

Under Alternative B1, the No Action alternative, NMFS would maintain the existing swordfish retention limits within the swordfish management regions (Figure 1.3) for all vessels possessing an HMS Commercial Caribbean Small Boat permit, a Swordfish General Commercial permit, or an HMS Charter/Headboat permit on a commercial trip. For vessels possessing a Swordfish General Commercial permit or vessels with an HMS Charter/Headboat permit on a commercial trip, the current range of swordfish retention limits is zero to six swordfish per vessel per trip for all regions with the default retention limits listed above. For the HMS Commercial Caribbean Small Boat permit, the retention limit is two swordfish per vessel per trip. The retention limit cannot be raised or lowered without a framework adjustment.

Direct Impacts to Atlantic Swordfish by Swordfish General Commercial Permit holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Alternative B1, the No Action alternative, would maintain the existing swordfish retention limits for all swordfish management regions for vessels possessing any of the two commercial swordfish permits above. As described in Chapter 1, the current swordfish retention limits for all existing and new vessels issued a Swordfish General Commercial permit and HMS Charter/Headboat permit holders with a commercial sale endorsement were implemented under Amendment 8 to provide more fishing opportunities to harvest the U.S. swordfish quota while minimizing any ecological impacts to protected resources and marine mammals. Because Alternative B1 would not change fishing effort or catch rates, Alternative B1 is anticipated to have neutral direct ecological impacts in the short- and long-term to the U.S. swordfish stock.

Direct Impacts to Atlantic Swordfish by HMS Commercial Caribbean Small Boat Permit Holders

Alternative B1, the No Action alternative, is anticipated to have no change in ecological impacts from Commercial Caribbean Small Boat permit holders. Under this alternative, all existing and new HMS Commercial Caribbean Small Boat permit holders would continue to be restricted by the same swordfish retention limits currently in place. As such, there would be no expected changes to the allowable level of fishing pressure within the fisheries themselves. Therefore, Alternative B1 is anticipated to have neutral direct ecological impacts to the U.S. swordfish stock in the short- and long-term, as the retention limits would remain unchanged, and thus there would be no change in the allowable fishing pressure, catch rates, or distribution of effort.

Indirect Impacts of Alternative B1

Because Alternative B1 would not change fishing effort or catch rates, the alternative would likely have neutral indirect ecological impacts in the short- and long-term for the entirety of the ecosystem.

Alternative B2 (*Preferred Alternative*)

Under Alternative B2, the Preferred Alternative, NMFS would increase the default swordfish retention limit for vessels possessing the Swordfish General Commercial permit and HMS Charter/Headboat permit holders with a commercial sale endorsement from three to six swordfish per vessel per trip for all regions except for the Florida Management Region, which would remain at zero. For the HMS Commercial Caribbean Small Boat permit, NMFS would establish a swordfish retention limit range of zero to six swordfish per vessel per trip with a default retention limit of six swordfish per vessel per trip.

Direct Impacts to Atlantic Swordfish by Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Under Alternative B2, the Preferred Alternative, the retention limit for vessels possessing the Swordfish General Commercial permit and HMS Charter/Headboat permit holders with a commercial sale endorsement could continue to be raised or lowered in each region in season

within the same retention limit range of zero to six swordfish per vessel per trip. As described in Chapter 1, NMFS has consistently adjusted the retention limit for the Swordfish General Commercial permit upward from the default limit in the U.S. Caribbean, Gulf of Mexico, and Northwest Atlantic management regions per trip to the maximum of six swordfish per vessel per trip in each of the past six years that the permit has been in existence. The adjustments were made to provide fishermen additional opportunities to harvest the U.S. swordfish quota given that the U.S quota is currently underharvested. Because the fishermen with these permits already fish under the default retention limit preferred here, NMFS does not anticipate any changes to current fishing practices or bycatch mortality rates not previously analyzed in Amendment 8, and NMFS does not anticipate this alternative to have any adverse ecological impacts. Thus, Alternative B2, would have neutral direct ecological impacts on the U.S. swordfish stock in the short- and long-term.

Direct Impacts to Atlantic Swordfish by HMS Commercial Caribbean Small Boat Permit Holders

Under Alternative B2, the HMS Commercial Caribbean Small Boat permit swordfish retention limit could be raised or lowered in season within the retention limit range of zero to six swordfish per vessel per trip starting with a default limit of six swordfish per vessel per trip. This alternative would be a change from the current swordfish retention limit of two swordfish per vessel per trip. The fishermen who use this permit are authorized to use bandit, handline, harpoon, rod and reel, and buoy gear. An increase in fishing effort with these gear types is unlikely to affect the sustainability of the North Atlantic swordfish stock. As outlined in Chapter 3, the North Atlantic swordfish stock is rebuilt and domestic harvest levels have been below the ICCAT-allocated quota. The North Atlantic swordfish stock can support higher removal levels within established quotas without jeopardizing the sustainability of the stock. This action would not affect or alter the science-based quotas for the North Atlantic swordfish. Any additional landings would continue to be monitored to ensure that they remain within the ICCAT-recommended U.S. North Atlantic swordfish quota. Thus, NMFS expects this alternative to have neutral direct ecological impacts on the U.S. swordfish stock in the short- and long-term.

Indirect Impacts of Alternative B2

Alternative B2 is anticipated to have similar indirect ecological impacts as Alternative B1. Gears authorized for use with a Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. Gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Gears authorized for use with a HMS Commercial Caribbean Small Boat permit are bandit, handline, harpoon, rod and reel, and buoy gear. Each of these is a tended gear that rarely interacts with the benthic habitat, and has low bycatch and bycatch mortality, so an increase in the use of these gears is unlikely to adversely impact protected species, incidentally-caught species, or EFH. In addition, this alternative would continue to set the swordfish retention limit within the existing authorized retention limit range for the Swordfish General Commercial permit and HMS Charter/Headboat permit holders with a commercial sale endorsement , and thus NMFS does not anticipate any impacts on protected species or marine mammals. Thus, Alternative B2 would likely have neutral indirect ecological impacts in the short- and long-term for the entirety of the ecosystem.

Alternative B3

Under Alternative B3, the retention limit range would be increased for Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement , from zero to six swordfish per vessel per trip to zero to 18 swordfish per vessel per trip for all regions with the same default retention limits as Alternative B2. For the HMS Commercial Caribbean Small Boat permit, NMFS would establish a swordfish retention limit range of zero to 18 swordfish per vessel per trip with a default retention limit of six swordfish per vessel per trip.

Direct Impacts to Atlantic Swordfish by Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Under Alternative B3, the retention limit could be raised or lowered in each region in season within the zero to 18 swordfish per vessel per trip range. As described in Chapter 1, NMFS has consistently adjusted the retention limit for the Swordfish General Commercial permit upward from the default limit in the U.S. Caribbean, Gulf of Mexico, and Northwest Atlantic management regions per trip to the maximum of six swordfish per vessel per trip in each of the past six years that the permit has been in existence. Alternative B3 would increase the retention limit range. While the fishery has been operating under what would become the default retention limit, this Alternative could result in that retention limit being adjusted during the season up to 18 swordfish per trip after considering the seven inseason adjustment criteria (see section 2.1). Such an increase in the retention limit could increase fishing effort for swordfish. The gears authorized for use with a Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. The gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Any increase in fishing effort with these handgears is unlikely to affect the sustainability of the North Atlantic swordfish stock. As outlined in Chapter 3, the North Atlantic swordfish stock is rebuilt and domestic harvest levels have been below the ICCAT-allocated quota. The North Atlantic swordfish stock can support higher removal levels within established quotas without jeopardizing the sustainability of the stock. This action would not affect or alter the science-based quotas for the North Atlantic swordfish. Any additional landings would continue to be monitored to ensure that they remain within the ICCAT-recommended U.S. North Atlantic swordfish quota. Thus, Alternative B3 would likely have neutral direct ecological impacts in the short- and long-term to Atlantic swordfish.

Direct Impacts to Atlantic Swordfish by HMS Commercial Caribbean Small Boat Permit Holders

Under Alternative B3, the retention limit could be raised or lowered in season within the zero to 18 swordfish per vessel per trip range. Currently, there are few landings of HMS Commercial Caribbean Small Boat permit holders harvesting swordfish (Table 3.6). It is possible that increasing the retention limit could make harvesting swordfish with this permit more attractive and that swordfish landings could increase. However as described above, an increase in fishing effort is unlikely to affect the sustainability of the North Atlantic swordfish stock. As outlined in Chapter 3.0, the North Atlantic swordfish stock is rebuilt and domestic harvest levels have been below the ICCAT-allocated quota. The North Atlantic swordfish stock can support higher removal levels without jeopardizing the sustainability of the stock. In addition, the HMS Commercial Caribbean Small Boat permit is only valid in the U.S. Caribbean

on vessels less than 45 feet, and larger vessels cannot enter the fishery, minimizing the chance of any over capitalization from "new," larger vessels entering the regional fishery from the mainland. Any additional landings would continue to be monitored to ensure that they remain within the ICCAT-recommended U.S. North Atlantic swordfish quota. Thus, Alternative B3 would likely have neutral direct ecological impacts in the short- and long-term to Atlantic swordfish.

Indirect Impacts of Alternative B3

As mentioned previously in Alternatives B1 and B2, gears authorized for use with a Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. Gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Gears authorized for use with a HMS Commercial Caribbean Small Boat permit are bandit, handline, harpoon, rod and reel, and buoy gear. Each of these is a tended gear that rarely interacts with the benthic habitat, and has low bycatch and bycatch mortality, so an increase in the use of these gears is unlikely to adversely impact protected species, incidentally-caught species, or EFH. Thus, Alternative B3 would likely have neutral indirect ecological impacts in the short- and long-term on the entirety of the ecosystem.

Alternative B4

Under Alternative B4, NMFS would increase the retention limit range to zero to 18 swordfish per vessel per trip for all regions (i.e., Florida Swordfish Management area, and the U.S. Caribbean, the Gulf of Mexico, and the Northwest Atlantic regions) for all three swordfish commercial permits. The default swordfish retention limit for these permit holders in all regions would be set at 18 swordfish per vessel per trip, except for the Florida Swordfish Management Area, which would have a default swordfish retention limit of zero. For the HMS Commercial Caribbean Small Boat permit, NMFS would establish a swordfish retention limit range of zero to 18 swordfish per vessel per trip with a default retention limit of 18 swordfish per vessel per trip.

Direct Impacts to Atlantic Swordfish by Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

The retention limit in each region could be raised or lowered in season, within the zero to 18 swordfish per vessel per trip range. Currently, the range is zero to six swordfish per vessel per trip, so Alternative B4 would be an increase in the retention limit range to 18 swordfish per vessel per trip. The effects of an increase in the retention limit range and the default retention limit are likely to be similar to Alternative B3. The North Atlantic swordfish stock can handle higher removal levels without jeopardizing the sustainability of the stock. Any additional landings would be monitored to ensure that they remain within the ICCAT-recommended U.S. North Atlantic swordfish quota. Many vessels that hold a Swordfish General Commercial permit focus on short swordfish trips and are often smaller than vessels that hold a limited access Swordfish Directed or Incidental permit. Due to this smaller vessel size, it is likely that there is a limit to the number of swordfish that can be safely retained on the vessel. At minimum, 18 dressed swordfish would weigh approximately 600 lb (18 swordfish x 33 lb equivalent minimum weight = 594 lb), which may be more weight than the smaller vessels can generally hold safely. Therefore, an increase in fishing effort up to 18 swordfish per vessel per trip is unlikely. Thus,

Alternative B4 would likely have neutral direct ecological impacts in the short- and long-term to Atlantic swordfish.

Direct Impacts to Atlantic Swordfish by HMS Commercial Caribbean Small Boat Permit Holders

Currently, there are few landings of HMS Commercial Caribbean Small Boat permit holders harvesting swordfish (Table 3.6). It is possible that increasing the retention limit range and default could make harvesting swordfish with this permit more attractive and that swordfish landings could increase. However, an increase in fishing effort is unlikely to affect the sustainability of the North Atlantic swordfish stock. As outlined in Chapter 3, the North Atlantic swordfish stock is rebuilt and domestic harvest levels have been below ICCAT allocated quota. The North Atlantic swordfish stock can handle higher removal levels without jeopardizing its sustainability. In addition, the HMS Commercial Caribbean Small Boat permit is only valid in the U.S. Caribbean on vessels less than 45 feet (generally with small operational range and hold capacity), and larger vessels cannot enter the fishery. Furthermore, as described in Alternatives B1, B2, and B3, swordfish commercial vessels would continue to be restricted to using selected low bycatch gears (i.e., handgear and greenstick) and by swordfish retention limits. Any additional landings would be monitored to ensure that they remain within the ICCAT-recommended U.S. North Atlantic swordfish quota. Due to the vessel length limit, it is likely that there is a limit to the number of swordfish that can be safely retained on the vessel. At minimum, 18 dressed swordfish would weigh approximately 600 lb (18 swordfish x 33 lb equivalent minimum weight = 594 lb), which may be more weight than the smaller vessels can generally hold safely. Therefore, vessels may not harvest the maximum trip limit. Thus, Alternative B4 would likely have neutral direct ecological impacts in the short- and long-term.

Indirect Impacts of Alternative B4

Gears authorized for use with a Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. Gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Gears authorized for use with a HMS Commercial Caribbean Small Boat permit are bandit, handline, harpoon, rod and reel, and buoy gear. Each of these is a tended gear that rarely interacts with the benthic habitat, and has low bycatch and bycatch mortality, so an increase in the use of these gears is unlikely to adversely impact protected species, incidentally-caught species, or EFH. Thus, Alternative B4 would likely have neutral indirect ecological impacts in the short- and long-term on the entirety of the ecosystem.

Social and Economic Impacts

Alternative B1-No Action

As described above, under Alternative B1, the No Action alternative, NMFS would maintain the existing swordfish retention limits within the swordfish management regions (Figure 1.3) for all vessels possessing an HMS Commercial Caribbean Small Boat permit, a Swordfish General Commercial permit, or an HMS Charter/Headboat permit on a commercial trip.

Direct Impacts to Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Alternative B1, the No Action alternative, would maintain the existing swordfish retention limits for all swordfish management regions for vessels possessing Swordfish General Commercial permits or HMS Charter/Headboat permits on a commercial trip. In the Florida Swordfish Management Area, the default retention limit would remain at zero where NMFS has not increased the retention limit in the area due to gear conflict concerns. NMFS has consistently increased the retention limit in the Northwest Atlantic, Gulf of Mexico, U.S. Caribbean regions to six swordfish per vessel per trip every year since the implementation of the swordfish retention limits under Amendment 8 to the 2006 Consolidated Atlantic HMS FMP. Since NMFS has already been increasing the swordfish retention limit, through inseason adjustments to six swordfish per vessel per trip, no change in socioeconomic impacts are anticipated under this alternative, as fishermen would continue to fish at similar rates and under the previously-analyzed (i.e., Amendment 8) and implemented trip limits. If all of the 24 active Swordfish General Commercial vessels in 2019 landed the maximum trip limit and take an average of 18 trips per year (Table 3.4), they could realize an annual revenue between $286,156 and $429,235, depending on the region the fishing took place (Table 4.2). Similarly, if all of the active 23 HMS Charter/Headboat vessels in 2019 were on a commercial trip landing the maximum trip limit and take an average of 26 trips (Table 3.4), they could realize an annual revenue between $396,115 and $594,172, depending on the region the fishing took place (Table 4.2). However, the No Action alternative would maintain management measures that may be restricting NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase. For the reasons stated above, Alternative B1 would likely have neutral direct socioeconomic impacts to the Swordfish General Commercial permit holders and the HMS Charter/Headboat permit holders with a commercial sale endorsement in the short- and long-term.

Direct Impacts to HMS Commercial Caribbean Small Boat Permit Holders

Alternative B1, the No Action alternative, would maintain the current HMS Commercial Caribbean Small Boat permit swordfish retention limit of two swordfish per vessel per trip. Ex-vessel revenues produced by this alternative are estimated at $662 ex-vessel for the two swordfish limit. If all of the five active HMS Commercial Caribbean Small Boat vessels that landed swordfish in 2019, landed the maximum trip limit and take an average of four trips per year (Table 3.4), they could realize an annual revenue of up to $13,248 (Table 4.2). However, the no action alternative would maintain management measures that may be restricting NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase. For the reasons stated above, Alternative B1 would likely have neutral direct socioeconomic impacts to HMS Commercial Caribbean Small Boat permit holders in the short- and long-term, as HMS Commercial Caribbean Small Boat permit holders would continue to fish at similar rates and under current trip limits.

Indirect Impacts of Alternative B1

Alternative B1 would likely result in neutral indirect socioeconomic impacts in the short- and long-term. Businesses supporting the Swordfish General Commercial permit, HMS

Charter/Headboat, and HMS Commercial Caribbean Small Boat fisheries (e.g., dealers and tackle/bait/ice suppliers) are unlikely to be affected by Alternative B1, as this alternative would not change current fishing effort or catch.

Table 4.1 Average Weight, Average Ex-Vessel Revenue, and Ex-Vessel Value of Swordfish based on Commercial Landings Data by HMS Permit for Alternative B1 to B4

Alternative	Permit	Swordfish Management Region	A Swordfish Retention Limit Per Vessel Per Trip (retention limit range)	B Swordfish Retention Limit in Weight (lb dw) [A x 69 lb dw] (retention limit range in weight)	C Average Ex-Vessel Revenue [B x $4.80] (range in average ex-vessel revenue)
B1	HMS Commercial Caribbean Small Boat	Caribbean	2 (none)	138	$662.40
	Swordfish General Commercial/ HMS Charter/Headboat (with a commercial sales endorsement)	Northwest Atlantic	3 (0-6)	207 (0-414)	$993.60 ($0.00-$1,987.20)
		Gulf of Mexico			
		Caribbean	2 (0-6)	138 (0-414)	$662.40 ($0.00-$1,987.20)
		Florida Management Area	0 (0-6)	0 (0-414)	$0.00
B2	HMS Commercial Caribbean Small Boat	Caribbean	6 (0-6)	414 (0-414)	$1,987.20 ($0.00-$1,987.20)
	Swordfish General Commercial/ HMS Charter/Headboat (with a commercial sales endorsement)	Northwest Atlantic			
		Gulf of Mexico			
		Caribbean			
		Florida Management Area	0 (0-6)	0 (0-414)	$0.00
B3	HMS Commercial Caribbean Small Boat	Caribbean	6 (0-18)	414 (0-1,242)	$1,987.20 ($0.00-$5,961.60)
	Swordfish General Commercial/ HMS Charter/Headboat (with a commercial sales endorsement)	Northwest Atlantic	18 (0-18)	1,242 (0-1,242)	$5,961.60 ($0.00-$5,961.60)
		Gulf of Mexico			
		Caribbean			
		Florida Management Area	0 (0-18)	0 (0-1,242)	$0.00
B4	HMS Commercial Caribbean Small Boat	Caribbean	18 (0-18)	1,242 (0-1,242)	$5,961.60 ($0.00-$5,961.60)
	Swordfish General Commercial/ HMS Charter/Headboat (with a commercial sales endorsement)	Northwest Atlantic			
		Gulf of Mexico			
		Caribbean			
		Florida Management Area	0 (0-18)	0 (0-1,242)	$0.00

Table 4.2 Total Annual Revenue for Swordfish per HMS Commercial Caribbean Small Boat (CCSB), Swordfish General Commercial (SGC), and HMS Charter/Headboat (CHB) Permits Under Alternatives B1 to B4

Alternative	Permit	Swordfish Retention Limit per vessel per trip	Ex-Vessel Revenue (Table 4.1; Column C)	Average Number of Trips (Table 3.4)	2019 Number of Active Vessels (Table 3.4)	Total Annual Revenue
	A	B	C	D	E	F = C*D*E
B1	CCSB	2	$662.40	4	5	$13,248.00
	SGC	2-3	$662.40-$993.60*	18	24	$286,156.80 - $429,235.20
	CHB	2- 3	$662.40-$993.60*	26	23	$396,115.20 - $594,172.80
B2	CCSB	6	$1,987.00	4	5	$39,740.00
	SGC	6	$1,987.00	18	24	$858,384.00
	CHB	6	$1,987.00	26	23	$1,188,226.00
B3	CCSB	6	$1,987.00	4	5	$39,740.00
	SGC	18	$5,961.60	18	24	$2,575,411.20
	CHB	18	$5,961.60	26	23	$3,565,036.80
B4	CCSB	18	$5,961.60	4	5	$119,232.00
	SGC	18	$5,961.60	18	24	$2,575,411.20
	CHB	18	$5,961.60	26	23	$3,565,036.80

* Reflects the ex-vessel range in revenue among regions. U.S. Caribbean region has a 2 swordfish limit, whereas the NW Atlantic and Gulf of Mexico have a 3 swordfish limit under Alternative B1.

Alternative B2 (*Preferred Alternative*)

Under Alternative B2, the Preferred Alternative, NMFS would adjust the default swordfish retention limit for Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement. NMFS would also establish a swordfish retention limit range of zero to six swordfish per vessel per trip with a default retention limit of six swordfish per vessel per trip for HMS Commercial Caribbean Small Boat permit holders.

Direct Impacts to Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Under Alternative B2, the Preferred Alternative, the retention limit could be raised or lowered in each region in season within the zero to six swordfish per vessel per trip retention limit range. Currently, the maximum swordfish retention limit is six swordfish per vessel per trip, with a default limit of three swordfish per vessel per trip, in the Northwest Atlantic and Gulf of Mexico regions and two swordfish per vessel per trip in the U.S. Caribbean region. NMFS has had to adjust swordfish retention limits every year in order to provide additional fishing opportunities to harvest the U.S. swordfish quota, which is currently underharvested. Since NMFS has increased the swordfish retention limit each year since implementation, through inseason adjustments to six swordfish per vessel per trip, no change in socioeconomic impacts are anticipated under this alternative. If all of the 24 active Swordfish General Commercial vessels in 2019 landed the maximum trip limit and take an average of 18 trips per year (Table 3.4), they could realize an annual revenue between $858,384 (Table 4.2). Similarly, if all of the active 23 HMS Charter/Headboat permit holders with a commercial sale endorsement in 2019 where on a commercial trip landing the maximum trip limit and take an average of 26 trips (Table 3.4), they could realize an annual revenue of 1,188,226 (Table 4.2). Thus, this alternative would result in neutral direct socioeconomic impacts to the Swordfish General Commercial permit holders and the HMS Charter/Headboat permit holders with a commercial sale endorsement in the short- and long-term.

Direct Impacts to HMS Commercial Caribbean Small Boat Permit Holders

Under Alternative B2, the Preferred Alternative, the retention limit could be raised or lowered in each region in season within the zero to six swordfish per vessel per trip retention limit range. Currently, there are few landings of HMS Commercial Caribbean Small Boat permit holders harvesting swordfish (Table 3.13), but an increase in the retention limit may entice additional entries into the U.S. Caribbean swordfish fishery. If NMFS increases the retention limit to six swordfish per vessel per trip, fishermen would realize higher trip revenues since they could sell up to four additional swordfish per trip. Table 4.1 summarizes the potential increase in revenue. These additional swordfish could increase ex-vessel revenue from $662 to $1,987 per trip (Table 4.1). If all of the five active HMS Commercial Caribbean Small Boat permit holders that landed swordfish in 2019 land six swordfish per trip and take an average of four trips per year (Table 3.4), the permit holders could realize a minor increase in annual ex-vessel revenues of $39,740 (Table 4.2). This alternative could result in neutral direct socioeconomic impacts to the HMS Commercial Caribbean Small Boat permit holders in the short- and long-term as any increase in annual ex-vessel revenue would be relatively minor.

Indirect Impacts of Alternative B2

Alternative B2 would likely result in neutral indirect socioeconomic impacts in the short- and long-term. Businesses supporting the Swordfish General Commercial, HMS Charter/Headboat, and HMS Commercial Caribbean Small Boat fisheries (e.g., dealers and tackle/bait/ice suppliers) are unlikely to be affected by the potential increase in fishing effort or catch resulting from this alternative because any potential increase in effort would likely be minor.

Alternative B3

Under Alternative B3, NMFS would increase the retention limit range and adjust the default swordfish retention limit for the Swordfish General Commercial permit, HMS Commercial Caribbean Small Boat permit, and HMS Charter/Headboat permit holders with a commercial sale endorsement .

Direct Impacts to Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Under this alternative, the retention limit could be raised or lowered in each region between zero and 18 swordfish per vessel per trip. Economic impacts to Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement would vary by region. In the Florida Swordfish Management Area, the default retention limit would stay at zero swordfish and NMFS has not increased the retention limit in the area due to gear conflict concerns. Thus, in the Florida Swordfish Management Area, Alternative B3 would likely have neutral direct socioeconomic impacts in the short- and long-term. In the Northwest Atlantic and Gulf of Mexico regions, the maximum retention limit would be set at 18 swordfish per vessel per trip with a default limit of 18 swordfish per vessel per trip. Currently, the maximum retention limit is six swordfish per vessel per trip with a default limit of three swordfish per vessel per trip, however, NMFS has increased the retention limit in the Northwest Atlantic and Gulf of Mexico regions to six swordfish per vessel per trip every year since the implementation of the Swordfish General Commercial permit. If NMFS does not adjust the default retention limit under Alternative B3, there would be no economic impacts. However, if NMFS increases the retention limit to 18 swordfish per vessel per trip, fishermen would realize higher trip revenues because they would have more swordfish to sell. Table 4.1 summarizes the potential increase in revenue. Eighteen swordfish is estimated to be worth $5,961 ex-vessel, whereas six swordfish per vessel per trip is worth approximately $1,987 ex-vessel (Table 4.1). If all of the 24 active Swordfish General Commercial permit holders (that do not also hold an HMS Charter/Headboat permit) in 2019 landed the maximum trip limit and take an average of 18 trips per year (Table 3.4), they could realize an increase in annual revenue of up to $2,575,411 (Table 4.2). Similarly, if all of the active 23 HMS Charter/Headboat permit holders with a commercial sale endorsement (that do not also hold a Swordfish General Commercial permit) in 2019 land the maximum trip limit while on a commercial trip and take an average of 26 trips (Table 3.4), the permit holders could realize an increase in annual ex-vessel revenue of up to $3,565,036 (Table 4.2). Assuming a vessel is able to retain the maximum trip limit, more fishermen may choose to obtain the Swordfish General Commercial permit and conduct a greater number of trips or longer trips. This increase in per trip and annual ex-vessel

revenue would result in minor beneficial direct socioeconomic impacts in the short- and long-term.

Some concern has been expressed that an increase in the Swordfish General Commercial permit retention limit could negatively affect the value of the Swordfish Directed, Incidental, or Handgear Limited Access permits. The Swordfish Directed permit has no retention limit and the Swordfish Incidental permit has a 30 swordfish retention limit, both of which are higher than the proposed Swordfish General Commercial retention limit. More importantly, fishermen using pelagic longline gear to target and retain HMS must have either a Swordfish Directed or Incidental permit as part of the "tri-pack" permit requirement. Since the Swordfish Directed and Incidental permits are required for the use of pelagic longline in HMS fisheries, the value of these permits is likely to be unaffected. In the case of the Swordfish Handgear Limited Access permit, some constituents have expressed concern that fishermen may opt for the inexpensive open access Swordfish General Commercial permit over the expensive Swordfish Handgear Limited Access permit sold on the private market. However, this situation is unlikely to occur because of differences in the gear and locations fished with each of these permits. First, buoy gear is an authorized gear under the Swordfish Handgear Limited Access permit, but not under the open access Swordfish General Commercial permit, which could help maintain the desirability of the handgear permit. Second, and more importantly, the use of each permit does not geographically overlap. The retention limit for Swordfish General Commercial permit holders in the Florida Swordfish Management Area (which includes the southern half of the Florida east coast, the Florida Keys, and the southern tip of Florida) is zero. Consequently, the permit may not be used to commercially fish for swordfish in that area. The Swordfish Handgear Limited Access permit, though, can be used in those areas and, in fact, is almost exclusively used in those areas, likely because swordfish are located close to shore there. Between 2014 and 2018, only one percent of Swordfish Handgear permit landings occurred outside of the Florida Swordfish Management Area (HMS eDealer Landings Database). Purchasing and holding a Swordfish Handgear Limited Access permit gives the holder the ability to use buoy gear to target swordfish and to fish in the Florida Swordfish Management Area where swordfish are available close to shore with low transit times to the fishing area. Due to these two advantages, the limited access swordfish handgear permit is likely to maintain its value and thus this alternative would like not have any effect on the value of the Swordfish Handgear Limited Access permit.

Direct Impacts to HMS Commercial Caribbean Small Boat Permit Holders

Under this alternative, the retention limit could be raised or lowered in each region between zero and 18 swordfish per vessel per trip. Currently, there are few landings of HMS Commercial Caribbean Small Boat permit holders harvesting swordfish, but an increase in the retention limit may entice additional entries into the U.S. Caribbean swordfish fishery (Table 3.6). The current HMS Commercial Caribbean Small Boat permit swordfish retention limit is two swordfish per vessel per trip, with no mechanism for inseason changes. If NMFS increases the retention limit above the default limit, though, fishermen would realize higher trip revenues since they would have more swordfish to sell. This is assuming a vessel is able to retain the maximum trip limit, and therefore more fishermen may conduct a greater number of trips or longer trips. Table 4.1 summarizes the potential increase in revenue, which range from $662 under a two swordfish limit to $1,987 under a 6 swordfish limit. If all of the five active HMS

Commercial Caribbean Small Boat vessels in 2019 landed the maximum trip limit and take an average of four trips per year (Table 3.4), the permit holders could realize an increase in annual ex-vessel revenue of up to $39,740 (Table 4.2). This increase in per trip and annual ex-vessel revenue would result in minor beneficial direct socioeconomic impacts to the HMS Commercial Caribbean Small Boat permit holders in the short- and long-term.

Indirect Impacts of Alternative B3

Alternative B3 would likely result in neutral indirect socioeconomic impacts in the short- and long-term. Businesses supporting the Swordfish General Commercial, HMS Charter/Headboat, and HMS Commercial Caribbean Small Boat fisheries (e.g., dealers and tackle/bait/ice suppliers) are unlikely to be affected by the potential increase in fishing effort or catch resulting from this alternative because any potential increase in effort would likely be minor.

Alternative B4

Under Alternative B4, NMFS would increase the retention limit range and adjust the default swordfish retention limit for the Swordfish General Commercial permit, HMS Commercial Caribbean Small Boat permit, and vessels with an HMS Charter/Headboat permit on a commercial trip.

Direct Impacts to Swordfish General Commercial Permit Holders and HMS Charter/Headboat Permit Holders on Commercial Trips

Under this alternative, the retention limit could be raised or lowered in each region between zero and 18 swordfish per vessel per trip. Economic impacts to Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement would vary by region. In the Florida Swordfish Management Area, the default retention limit would stay at zero swordfish and NMFS has not increased the retention limit in the area due to gear conflict concerns. Thus, in the Florida Swordfish Management Area, Alternative B4 would likely have neutral direct socioeconomic impacts in the short- and long-term. In all other swordfish management regions, the maximum swordfish retention and default limit would be set at 18 swordfish. Currently, the maximum is six swordfish with a default limit of three swordfish per vessel per trip in the Northwest Atlantic and Gulf of Mexico regions, and two swordfish per vessel per trip in the U.S. Caribbean Region, however, NMFS has increased the swordfish retention limit in the Northwest Atlantic, the Gulf of Mexico, and the U.S. Caribbean regions to six swordfish per vessel per trip every year since the implementation of the Swordfish General Commercial permit. Thus, Alternative B4 would increase the retention limit from six to 18 in the Northwest Atlantic and Gulf of Mexico and fishermen would realize higher trip revenues since they would have more swordfish to sell. Table 4.1 summarizes the potential increase in revenue, which would be approximately $5,961 per vessel per trip under an 18 swordfish limit, as compared to $1,987 under a six swordfish limit. Similarly to Alternative B3, if all of the 24 active Swordfish General Commercial vessels in 2019 landed the maximum trip limit and take an average of 18 trips per year (Table 3.4), the permit holders could realize an increase in annual ex-vessel revenue of up to $2,575,411 (Table 4.2). Similarly, if all of the 23 active HMS Charter/Headboat permit holders with a commercial sale endorsement (that do not also hold a Swordfish General Commercial permit) in 2019 land the maximum trip limit while

on a commercial trip and take an average of 26 trips (Table 4.3), the permit holders could realize an increase in annual ex-vessel revenue of up to $3,565,036 (Table 4.2). This increase in per trip and annual ex-vessel revenue would result in minor beneficial direct socioeconomic impacts in the short- and long-term.

As described in Alternative B3, changes to the Swordfish General Commercial permit swordfish retention limits are unlikely to affect the value of the Swordfish Directed, Incidental, or Handgear Limited Access permits.

Direct Impacts to HMS Commercial Caribbean Small Boat Permit Holders

Under this alternative, the retention limit could be raised or lowered in season between zero and 18 swordfish per vessel per trip. Currently, there are few reports of HMS Commercial Caribbean Small Boat permit holders harvesting swordfish, but an increase in the retention limit may entice additional entries into the U.S. Caribbean swordfish fishery. The current HMS Commercial Caribbean Small Boat permit swordfish default retention limit is two swordfish per vessel per trip with no mechanism for inseason changes. If NMFS increases the retention limit to 18 swordfish per trip, though, fishermen would realize higher trip revenues since they would have more swordfish to sell. If all of the five active HMS Commercial Caribbean Small Boat vessels in 2019 landed the maximum trip limit and take an average of four trips per year (Table 3.4), they could realize an increase in annual ex-vessel revenue of up to $119,232 (Table 4.2). This increase in per trip and annual ex-vessel revenue would result in minor beneficial direct socioeconomic impacts in the short- and long-term.

Indirect Impacts of Alternative B4

Alternative B4 would likely result in neutral indirect socioeconomic impacts in the short- and long-term. Businesses supporting the Swordfish General Commercial, HMS Charter/Headboat, and HMS Commercial Caribbean Small Boat fisheries (e.g., dealers and tackle/bait/ice suppliers) are unlikely to be affected by the potential increase in fishing effort or catch resulting from this alternative because any potential increase in effort would likely be minor.

4.3 Shark Retention Limit Alternatives

NMFS is analyzing three alternatives that would modify shark retention limits and retention limit ranges for the HMS Commercial Caribbean Small Boat permit and meet the objectives stated in Chapter 1.0.

It is important to note that for the HMS Commercial Caribbean Small Boat permit, alternatives C2 and C3 would establish and codify a default shark retention limit and retention limit range for this permit. These alternatives are analyzed assuming Alternative A3 has been applied to the HMS Commercial Caribbean Small Boat permit. However, the effects of adding inseason adjustment to the HMS Commercial Caribbean Small Boat permit are discussed under Alternatives A1 and A3 whereas Alternatives C1 through C3 focus on the effects of modifying the retention limits within an established trip limit range.

Ecological Evaluation

Alternative C1-No Action

Direct impacts to Atlantic Sharks by HMS Commercial Caribbean Small Boat Permit Holders

Under Alternative C1, the No Action alternative, NMFS would maintain the existing shark retention limit of zero sharks per vessel per trip for the HMS Commercial Caribbean Small Boat permit. As such, there would be no expected changes to the allowable level of fishing pressure within the fisheries themselves, and the ecological impacts would continue to be the same as the ones previously analyzed in Amendment 4 to the 2006 Consolidated Atlantic HMS FMP. As described in Amendment 4, the zero retention limit was set at zero sharks per vessel per trip in order to minimize any potential adverse effects to all shark species while some of the shark complexes recovered and NMFS had time to collect more data on regional participants, catches, and discards in the HMS Commercial Caribbean Small Boat fishery. However, the analysis in Amendment 4 determined that given the limited range and hold capacity of the small-scale vessels involved and remoteness of the U.S. Caribbean Region, even at the upper limits of the analyzed range of zero to three for non-prohibited large coastal sharks and zero to 16 for small coastal sharks/pelagics (combined) per vessel per trip, these retention limit ranges would not likely adversely affect shark populations. Therefore, Alternative C1 is anticipated to have neutral direct ecological impacts to shark stocks in the short- and long-term, as the quotas and retention limits would remain unchanged and would have no impact on the allowable fishing pressure, catch rates, or distribution of effort.

Indirect Impacts of Alternative C1

Alternative C1 would likely result in neutral indirect ecological impacts in the short- and long-term. Under this alternative, the indirect ecological impacts are expected to be the same as the ones previously analyzed in Amendment 4. Handgears used to target HMS in most other regions outside of the U.S. Caribbean have been documented to have very low bycatch and bycatch mortality of ESA-listed species, including sea turtles. Additionally, while sharks and other bycatch species may be caught during fishing activities targeting other species, the use of handgears in the small-scale fishery as authorized by the HMS Commercial Caribbean Small Boat permit would allow for a quick release of bycatch species, maximizing their post-release survival rate.

Alternative C2 (*Preferred Alternative*)

Direct impacts to Atlantic Sharks by HMS Commercial Caribbean Small Boat Permit Holders

Under Alternative C2, the Preferred Alternative, NMFS would establish a retention limit range of zero to three smoothhounds and/or tiger sharks (combined) per vessel per trip, with a default retention limit of three sharks per vessel per trip. The retention of any other shark species is not allowed under this alternative. This alternative would have similar ecological impacts as Alternative C1 discussed above and would not likely adversely affect shark populations, for several reasons. First, the high end of this range is a conservative limit that is analogous to the lowest retention limit of the existing HMS permits that allow retention and sales of Atlantic sharks (i.e., Shark Incidental Limited Access permit). Second, as outlined in Chapter 3, the smoothhound shark stock is healthy, not overfished with no overfishing occurring. The tiger

shark stock is part of the non-prohibited aggregated large coastal shark stocks. The non-prohibited large coastal shark stock status is unknown. However, tiger shark landings have been below the allocated shark quotas for the non-prohibited large coastal shark management group. In addition, the non-prohibited large coastal shark quotas have not been fully harvested in recent years and we are not expecting increased landings of tiger sharks to adversely affect the stocks. Therefore, both of these shark species can handle higher removals within the established quotas and proposed retention limits without jeopardizing the sustainability of the stocks. Third, the quotas for smoothhound and non-prohibited large coastal sharks are not being modified in this rulemaking and fishermen would continue to be limited to the total amount of sharks that can be harvested, as well as by seasonal closures when the shark quotas have reached or are projected to reach 80 percent of the relevant quota or are projected to reach 100 percent of the relevant quota by the end of the fishing season. Fourth, shark landings will continue to be carefully monitored through the HMS e-Dealer reporting system and via the existing territorial reporting system ensuring timely quota monitoring. Fifth, both of these species have unique physical features that make them easy to distinguish from other shark species, regardless of whether and to what extent the carcass has been processed. For instance, smoothhound sharks are the only commonly encountered shark species that has an interdorsal ridge that extends forward of the first dorsal fin, forming a "pre-dorsal ridge." This pre-dorsal ridge can be used for positive species identification, regardless of the condition of the carcass, as long as some portion of this pre-dorsal area is intact, as in the case of most dressed sharks. Tiger sharks are also easily recognizable by the dark stripes that run up and down along their sides as well as the distinct shape of its nose, which is wide and blunt relative to other shark species. Therefore, for all the reasons highlighted above, Alternative C2 is anticipated to have neutral direct ecological impacts to shark stocks in the short- and long-term.

Indirect Impacts of Alternative C2

Alternative C2 would likely result in neutral indirect ecological impacts in the short- and long-term. Under Alternative C2, NMFS would establish a retention limit range of zero to three smoothhounds and/or tiger sharks (aggregate) per vessel per trip, with a default retention limit of three sharks per vessel per trip. This alternative would have similar ecological impacts as Alternative C1 discussed above. While other bycatch species may be caught during fishing activities targeting smoothhounds and/or tiger sharks, the use of handgears in the small-scale fishery as authorized by the HMS Commercial Caribbean Small Boat permit would allow for a quick release of bycatch species, maximizing their post-release survival rate. It is anticipated that fishermen using handgear would have no adverse impacts on ESA-listed species, including marine mammals and sea turtles, in excess of the impacts analyzed in the 2004 Biological Opinion which concluded that the HMS handgear fishery will not jeopardize any ESA-listed species. In addition, in 2014, NMFS issued a final determination to list four separate Distinct Population Segments (DPS) of the scalloped hammerhead shark (*Sphyrna lewini*) under the ESA (79 FR 38214; July 3, 2014). The DPSs are the Eastern Atlantic and Eastern Pacific DPSs, which are listed as endangered, and the Central and Southwest Atlantic (which includes the U.S. Caribbean) and Indo-West Pacific DPSs, which are listed as threatened. The Central and Southwest Atlantic DPS of scalloped hammerhead shark occurs within the boundary of Atlantic HMS commercial and recreational fisheries. On October 30, 2014, based on the new listings, NMFS requested reinitiation of ESA Section 7 consultation on the continued operation and use of HMS gear types (including gillnet, bottom longline, and rod and reel gear) and associated fisheries management

actions in the 2006 Consolidated Atlantic HMS FMP and its amendments. NMFS determined that the ongoing operation of the fisheries is consistent with the 2012 Biological Opinion and is not likely to jeopardize the continued existence of the Central and Southwest DPS of scalloped hammerhead shark. For the reasons stated above, we expect this alternative to result in neutral indirect ecological impacts.

Alternative C3

Direct impacts to Atlantic Sharks by HMS Commercial Caribbean Small Boat Permit Holders

Under Alternative C3, NMFS would establish a retention limit range of zero to six non-prohibited large coastal, small coastal, pelagic and/or smoothhound sharks (combined) per vessel per trip, with a default retention limit of six sharks per vessel per trip. Alternative C3 would have similar ecological impacts as Alternative C2 discussed above. Under this alternative, the range analyzed is a conservative limit that is within the range analyzed in Amendment 4 to the 2006 Consolidated Atlantic HMS FMP and determined not to adversely affect shark populations. The trip limit under this alternative is also considerably lower than the previously analyzed trip limit of up to 55 large coastal sharks (other than sandbar sharks) and unlimited for small coastal and pelagic sharks (combined) for existing HMS permits that allow the retention and sales of Atlantic sharks (i.e., Amendment 6 to the 2006 Consolidated Atlantic HMS FMP). Therefore, Alternative C3 is anticipated to have neutral direct ecological impacts to shark stocks in the short- and long-term, as the quotas for the different shark management groups are not being modified and fishermen would continue to be limited by the established shark quotas and a conservative trip limit. In addition, the proposed retention limits would not likely increase landings to a level that may adversely affect shark populations given the limited range and hold capacity of the small-scale vessels involved, and remoteness of the U.S. Caribbean Region.

Indirect Impacts of Alternative C3

Alternative C3 would likely result in neutral indirect ecological impacts in the short-term. Under Alternative C3, NMFS would establish a retention limit range of zero to six non-prohibited large coastal, small coastal, pelagic, and/or smoothhound sharks (combined) per vessel per trip, with a default retention limit of six sharks per vessel per trip. This alternative would have similar ecological impacts as Alternative C2 discussed above. While other bycatch species may be caught during fishing activities targeting sharks, the use of handgears in the small-scale fishery as authorized by the HMS Commercial Caribbean Small Boat permit would allow for a quick release of bycatch species, maximizing their post-release survival rate. However, because of the higher retention limits and the allowance of harvest of all non-prohibited sharks under federal management, this alternative may potentially result in minor adverse indirect ecological impacts to scalloped hammerhead shark, which has been determined to be threatened under the ESA in the U.S. Caribbean, and slow down the rebuilding of overfished stocks, especially if there is a lack of timely reporting of landings, in the long-term.

Social and Economic Impacts

Alternative C1-No Action

Under Alternative C1, the No Action alternative, NMFS would maintain the existing shark retention limit of zero sharks per vessel per trip for the HMS Commercial Caribbean Small Boat permit. Currently, fishermen wishing to land and sell smoothhound sharks must have a commercial smoothhound shark permit and sell to a federally permitted shark dealer, and fishermen wishing to land tiger sharks, a large costal shark, would need a Shark Directed or Incidental Limited Access permit, because there is a zero retention limit under the HMS Commercial Caribbean Small Boat permit. The high cost of limited access permits for these fisheries makes participation in the fisheries extremely difficult. In addition, there are currently no permitted shark dealers in the U.S. Caribbean. Thus, if the retention limit remains the same, there would be neutral direct socioeconomic impacts to HMS Commercial Caribbean Small Boat permit holder in the short- and long-term because the No Action alternative would maintain management measures currently in place. However, this alternative may not be addressing multiple requests (see Chapter 1) by commercial shark fishermen to land a limited number of sharks, restricting NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase. Thus, Alternative C1 could likely result in potential positive social and economic benefits not being realized.

Alternative C2 (*Preferred Alternative*)

Under Alternative C2, the Preferred Alternative, NMFS would establish a retention limit range of zero to three smoothhounds and/or tiger sharks (combined) per vessel per trip, with a default retention limit of three sharks per vessel per trip. The retention limit could be raised or lowered in the region inseason within the zero to three sharks per vessel per trip range. Currently, there are few landings of state and territorial commercial shark fishermen harvesting sharks (Table 3.7, Table 3.8, Table 3.11 and Table 3.12), with some of the most commonly landed sharks being smoothhounds and tiger sharks (R. Espinosa, personal communication, May 22 and September 5, 2019).

Under this alternative, permitted HMS Commercial Caribbean Small Boat permit holders would be able to land and sell smoothhound and tiger sharks. Thus, this allowance as well as the increase in the retention limit may provide fishing opportunities to fishermen in the Caribbean region who have been requesting to land a limited number of sharks. If NMFS increases the retention limit to three sharks per vessel per trip, fishermen would potentially realize higher trip revenues since they would have sharks to sell, however it is not known if the small-scale fleet has the ability to hold and market this amount of sharks. Table 4.3 summarizes the potential increase in annual ex-vessel revenue based on average weight and price data of smoothhound and tiger sharks. If a fisherman lands the maximum trip limit, with only tiger sharks being caught, and takes two trips per month (24 trips per year), then that fisherman could see approximately $4,455 in annual ex-vessel revenues. If the fisherman lands the full trip limit and conducts two trips per month (24 trips per year) with only smoothhound sharks being caught, then that fisherman's annual ex-vessel revenue would be $733. Because NMFS would have the authority to adjust the shark retention limit from zero to three, the annual ex-vessel revenue

estimates could vary from $0 (under a status quo) to as much as $733 to $4,455, depending on the species composition of the catch. This minor increase in per trip and annual revenue would result in neutral direct socioeconomic impacts in the short- and long-term to the HMS Commercial Caribbean Small Boat permit holders because any potential increase would be relatively minor.

Table 4.3 Annual Ex-Vessel Revenue of Atlantic Shark Landings from HMS Commercial Caribbean Small Boat permit under Alternative C2

Shark Species	(A) Retention Limit (number)	(B) Number of sharks landed/year	(C) Average Dressed Weight (lb dw)	(D) Price per pound ($)	(E) Annual Ex-Vessel Revenue (B*C*D)
Smoothhound	3	72	5.6	1.82	$733
Tiger	3	72	34	1.82	$4,455

Source: Southeast Fisheries Science Center, and Caribbean government trip-ticket data

Alternative C3

Under Alternative C3, NMFS would establish a retention limit range of zero to six non-prohibited large coastal, small coastal, pelagic, and/or smoothhound sharks (combined) per vessel per trip, with a default retention limit of six sharks per vessel per trip. Table 4.4 summarizes the potential increase in annual ex-vessel revenue based on average weight and price data of non-prohibited large coastal, small coastal, pelagic, and smoothhound sharks. Assuming a successful trip and two trips per month, the annual revenue per vessel associated with fishermen landing the full trip limit of either non-prohibited large coastal, small coastal, pelagic or smoothhound sharks would be $8,910, $5,110, $11,269, and $1,468 respectively. Because NMFS would have the authority to adjust the shark retention limit from zero to six, the annual ex-vessel revenue estimates could vary from $0 (under a zero fish limit) to as much as $1,468 to $11,269, depending on the species composition of the catch. This minor increase in per trip, and annual revenue would result in neutral direct socioeconomic impacts in the short- and long-term to the HMS Commercial Caribbean Small Boat permit holders because any potential increase would be relatively minor. Once again, it is not known if the small vessels can hold and safely transport six sharks to port.

Table 4.4 Annual Ex-Vessel Revenue of Atlantic Shark Landings from HMS Commercial Caribbean Small Boat permit under Alternative C3

Shark Management Group/Species	(A) Retention Limit (number)	(B) Number of sharks landed per year	(C) Average Dressed Weight (lb dw)	(D) Price per pound ($)	(E) Annual Ex-Vessel Revenue (B*C*D)
Large coastal shark	6	144	34	1.82	$8,910
Small coastal shark	6	144	3.25	1.82	$5,110
Pelagic shark	6	144	43	1.82	$11,269
Smoothhound shark	6	144	5.6	1.82	$1,468

Source: Southeast Fisheries Science Center, and Caribbean government trip-ticket data

Summary

NMFS prefers to adopt inseason adjustment criteria to adjust the regional swordfish and shark retention limits for the Swordfish General Commercial permit, HMS Commercial Caribbean Small Boat permit, and HMS Charter/Headboat permit while on a commercial trip (Alternatives A2 and A3). Currently, NMFS prefers Alternative B2, which would to increase the default retention limit to six swordfish per vessel per trip and modify the retention limit range to zero to six swordfish per vessel per trip for permit holders possessing the Swordfish General Commercial permit, HMS Commercial Caribbean Small Boat permit, and HMS Charter/Headboat permit while on a commercial trip in the Northwest Atlantic, Gulf of Mexico, and U. S Caribbean regions. The retention limit for the Florida Swordfish Management Area would remain at zero swordfish per vessel per trip (Alternative B2). NMFS also prefers Alternative C2, which would establish a default retention limit of three sharks (tiger and/or smoothhound sharks combined) per vessel per trip that can be adjusted within a retention limit range of zero to three sharks per vessel per trip for vessels possessing the HMS Commercial Caribbean Small Boat permit. NMFS believes this combination of alternatives would have neutral ecological impacts to the swordfish and shark stocks, and neutral to minor beneficial economic impacts to commercial swordfish and shark fishermen. These alternatives help meet the need and goals of this rule by providing consistency between the three open access swordfish handgear permits, all of which allow similar gears to be used within U.S. Atlantic and Caribbean waters, and to provide increased fishing opportunities for swordfish and sharks in the U.S. Caribbean. Furthermore, this proposed action would increase administrative efficiencies and increase management flexibility by managing these swordfish commercial permits in the two regions similarly with the goal of more fully utilizing available swordfish quota, while also avoiding overharvest in these fisheries.

NMFS does not prefer the No Action Alternatives (Alternatives A1, B1, and C1) since these alternatives do not meet the objectives of the rule, and would restrict NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase. At this time, NMFS does not prefer Alternatives B3, B4, and C3. With regard to Alternatives B3 and B4, it is not yet clear

that Swordfish General Commercial permit holders or HMS Commercial Caribbean Small Boat permit holders would benefit from a retention limit range of zero to 18 swordfish per vessel per trip or if a default retention limit of six to 18 swordfish per trip is appropriate for the U.S. Caribbean. With regards to Alternative C3, it is also not clear if HMS Commercial Caribbean Small Boat permit holders would benefit from a retention limit range of zero to six shark per vessel per trip (non-prohibited large coastal, small coastal, pelagic, and smoothhound sharks, combined) or if a default retention limit of six sharks is appropriate for the U.S. Caribbean.

4.4 Essential Fish Habitat

Pursuant to 16 U.S.C. 1855(b)(1), and as implemented by 50 CFR 600.815, the Magnuson-Stevens Act requires NMFS to identify and describe EFH for each life stage of managed species and to evaluate the potential adverse effects of fishing activities on EFH, including the cumulative effects of multiple fisheries activities. If NMFS determines that fishing gears are having an adverse effect on HMS EFH, or other species' EFH, then NMFS must include management measures that minimize adverse effects to the extent practicable.

In the 2006 Consolidated Atlantic HMS FMP and Amendment 1 to the 2006 Consolidated Atlantic HMS FMP (Amendment 1; NMFS, 2009), NMFS reviewed the various HMS gear types with the potential to affect EFH and, based on the best information available at that time, NMFS determined that there is no evidence that physical effects caused by any authorized HMS gears were affecting EFH for targeted or non-targeted species, to the extent that physical effects can be identified on the habitat or the fisheries. NMFS conducted a literature review as part of Draft Amendment 10 to the 2006 Consolidated Atlantic HMS FMP (81 FR 62100, September 8, 2016). NMFS completed the Atlantic HMS EFH 5-Year Review in 2015 to investigate additional impacts of HMS fishing gears on Atlantic HMS EFH since Amendment 1. NMFS did not find any significant changes in effects to HMS EFH from HMS and non-HMS fishing gears. NMFS found no new information that any authorized HMS gear would have adverse effects on EFH. The Final Amendment 10 (82 FR 42329) was published on September 7, 2017. The proposed rule measures are not expected to change the fishing gears authorized relative to the status quo. Therefore, the proposed action in the context of the fishery as a whole will not have an adverse impact on EFH; therefore, an EFH consultation is not required.

4.5 Comparison of NEPA Alternatives

Table 4.5 provides a qualitative comparison of the impacts associated with the various alternatives considered in this rulemaking. This table summarizes the impacts that were discussed in detail in Chapters 4.1–4.4.

Table 4.5 Comparison of Alternatives Considered

Alternative	Ecological	Protected Resources	Socioeconomic
Alternative A1	Neutral	Neutral	Neutral
Alternative A2 ***(Preferred Alternative)***	Neutral	Neutral	Neutral
Alternative A3 ***(Preferred Alternative)***	Neutral	Neutral	Neutral
Alternative B1	Neutral	Neutral	Neutral
Alternative B2 **(*Preferred Alternative*)**	Neutral	Neutral	Neutral
Alternative B3	Neutral	Neutral	Neutral to Minor Beneficial
Alternative B4	Neutral	Neutral	Neutral to Minor Beneficial
Alternative C1	Neutral	Neutral	Neutral
Alternative C2 **(*Preferred Alternative*)**	Neutral	Neutral	Neutral
Alternative C3	Neutral	Neutral to Minor Adverse	Neutral

4.6 Cumulative Impacts

Under NEPA, a cumulative impact is an impact on the environment that results from the incremental impact of the final action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR 1508.7). Cumulative impacts may also include the effects of natural processes and events, depending on the specific resource in question. Cumulative impacts include the total of all impacts to a particular resource that have occurred, are occurring, and would likely occur as a result of any action or influence, including the direct and reasonably foreseeable indirect impacts of a federal activity. The goal of this section is to describe the cumulative ecological, economic, and social impacts of past, present, and reasonably foreseeable future actions on swordfish and shark fishermen and the environment, with regard to the management measures presented in this document.

As discussed above, the management measures considered above would provide more flexibility and efficiency in how NMFS manages the swordfish fishery in different regions and increased fishing opportunities for swordfish and shark fishermen to harvest the swordfish and shark commercial quotas. Since swordfish and shark have been federally managed, there have been many changes to the regulations and major rules either through FMP amendments or regulatory amendments to increase fishing opportunities that would allow fishermen to fully utilize the North Atlantic swordfish quota and available shark quotas. Despite these efforts, the North Atlantic quota continues to be underharvested and some of the shark quotas are either underharvested and/or species can handle higher removals within the established quotas and proposed retention limits without jeopardizing the sustainability of the stocks. The preferred alternatives would streamline HMS regulations in order to adjust existing retention limits under swordfish and shark commercial permits within the season, providing swordfish and shark fishermen with increased fishing opportunities to harvest the swordfish and shark commercial quotas in a timely, efficient manner throughout the fishing season.

Overall, the preferred alternatives in this EA would have neutral cumulative ecological impacts for swordfish and shark fisheries, based on the detailed discussions of the ecological impacts of each of the preferred actions above. Additionally, as discussed above, the preferred alternatives would simultaneously have largely neutral cumulative ecological impacts overall, with minimal impacts on protected species and marine mammals. The neutral ecological impacts associated with the preferred alternatives makes these actions favorable, given their associated economic benefits to swordfish and shark fishermen. The preferred alternatives would likely have no impact on the overall fishing effort or fishing rates, bycatch, or bycatch rates in the long-term beyond what was previously analyzed in Amendments 4, 8, and 9. Additionally, there would be no major impacts on EFH, and the preferred actions would both maintain sustainable swordfish and shark fisheries and maintain the status quo for species currently under a rebuilding timeframe. NMFS is not aware of any reasonably foreseeable future actions that would impact the swordfish or shark fisheries or have impacts in the areas affected by this rule.

4.7 Protected Resources

None of the retention limit alternatives considered in this action are expected to impact protected resources relative to the status quo. The gear types affected by this action are all tended gears with a low potential to harm protected resources. Gears authorized for use with a

Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. Gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Gears authorized for use with an HMS Commercial Caribbean Small Boat permit are bandit, handline, harpoon, rod and reel, and buoy gear. Protected resources such as sea turtles, marine mammals, or sharks listed under the ESA or marine mammals protected by the MMPA have a low likelihood of interacting with these gear types. If an individual of one of these species were to be captured or hooked, it would be quickly removed and released since each of these gears is actively tended. Thus, each of the retention limit alternatives would have neutral direct and indirect impacts in the short- and long-term on protected resources.

The inseason adjustment alternatives are administrative in nature and would not affect fishing effort, practices, techniques, or location. Thus, each of the inseason adjustment alternatives would have neutral direct and indirect impacts in the short- and long-term on protected resources.

4.8 Environmental Justice Concerns

Executive Order 12898 requires agencies to identify and address disproportionately high and adverse environmental effects of its regulations on minority and low-income populations. To determine whether environmental justice concerns exist, the demographics of the affected geographic area should be examined to ascertain whether minority populations and low-income populations are present. If so, a determination must be made as to whether implementation of the alternatives may cause disproportionately high and adverse human health or environmental effects on these populations.

Community profile information is available in the 2006 Consolidated Atlantic HMS FMP (Chapter 9), a recent report by MRAG Americas, and Jepson (2008) titled "Updated Profiles for HMS Dependent Fishing Communities" (Appendix E of Action 2 to the 2006 Consolidated Atlantic HMS FMP), and in the 2015 HMS SAFE Report. The 2015 HMS SAFE Report and MRAG report updated community profiles presented in the 2006 Consolidated Atlantic HMS FMP, and provided new social impacts assessments for HMS fishing communities along the Atlantic and Gulf of Mexico coasts. The 2011 and 2012 SAFE Reports (NMFS 2011 and NMFS 2012) include updated census data for all coastal Atlantic states, and some selected communities that are known centers of HMS fishing, processing, or dealer activity. Demographic data indicate that coastal counties with fishing communities are variable in terms of social indicators like income, employment, and race and ethnic composition.

The preferred alternatives were selected to minimize ecological and economic impacts and provide for the sustained participation of fishing communities. The preferred alternatives would not have any effects on human health nor are they expected to have any disproportionate social or economic effects on minority and low-income communities.

4.9 Coastal Zone Management Act

The Coastal Zone Management Act (CZMA, 1972; reauthorized in 1996) requires that federal actions be consistent, to the extent practicable, with the enforceable policies of all state coastal zone management programs. This action proposes to revise current regulations for North

Atlantic swordfish retention limits in U.S. Atlantic, Gulf of Mexico, and Caribbean waters and Atlantic shark retention limits in the U.S. Caribbean. Overall, this action explores alternatives that would modify the swordfish and shark retention limits for existing swordfish and shark commercial permits and add regulatory criteria for inseason adjustment to adjust the swordfish and shark retention limit of the HMS Commercial Caribbean Small Boat permit. The goals of this proposed rule are to increase fishing opportunities, as well as flexibility and consistency of swordfish retention limits, for commercial swordfish fishermen fishing with similar gears within U.S. Atlantic and Caribbean waters, and to increase administrative efficiencies by managing the swordfish fishery in two regions with one action as needed (i.e., inseason adjustment). NMFS finds the alternatives analyzed in this action to be consistent to the maximum extent practicable with the enforceable policies of states that have approved coastal zone management programs. NMFS is seeking concurrence with respect to the preferred alternatives and will ask for states' agreement with this determination during the proposed rule stage.

4.10 References

Coastal Zone Management Act,16 U.S.C. §§ 1451 et seq.

Espinosa, Raimundo. (2019, May 22 and September 5). Personal interview with Delisse Ortiz.

MRAG, Americas, Inc., and M. Jepson. 2008. Updated Profiles for HMS Dependent Fishing Communities: Social Impact Assessment Services for HMS Fishing Communities. Solicitation Number: DG133F06RQ0381, 84 pp.

NMFS. 2006. Final Consolidated Atlantic Highly Migratory Species Fishery Management Plan. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, 1315 East West Highway, Silver Spring, MD. Public Document. 1600 pp.

NMFS. 2011. Stock Assessment and Fishery Evaluation (SAFE) Report for Atlantic Highly Migratory Species, 2011. Silver Spring MD: U.S. Department of Commerce, National Marine Fisheries Service. 294 pp.

NMFS. 2012. Stock Assessment and Fishery Evaluation (SAFE) Report for Atlantic Highly Migratory Species, 2011. Silver Spring MD: U.S. Department of Commerce, National Marine Fisheries Service. 203 pp.

NMFS. 2018. Stock Assessment and Fishery Evaluation (SAFE) Report for Atlantic Highly Migratory Species, 2017. Silver Spring MD: U.S. Department of Commerce, National Marine Fisheries Service. 250 pp.

NMFS. 2020. 2019 Stock Assessment and Fishery Evaluation Report for Atlantic Highly Migratory Species. Silver Spring MD: U.S. Department of Commerce, National Marine Fisheries Service. 280 pp.

5.0 Mitigation and Unavoidable Adverse Impacts

Mitigation is an important mechanism that federal agencies can use to minimize, prevent, or eliminate damage to the human and natural environment associated with their actions. As described in the CEQ regulations, agencies can use mitigation to reduce environmental impact in several ways. Mitigation may include one or more of the following: avoiding the impact by not taking a certain action or parts of an action; minimizing impacts by limiting the degree or magnitude of the action and its implementation; rectifying the impact by repairing, rehabilitating, or restoring the affected environment; reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and compensating for the impact by replacing or providing substitute resources or environments. The mitigation measures discussed in an EA must cover the range of impacts of the proposal and must be considered even for impacts that by themselves would not be considered "significant." If a proposed action is considered as a whole to have significant effects, all of its specific effects on the environment must be considered, and mitigation measures must be developed where it is feasible to do so. NMFS may consider mitigation, provided that the mitigation efforts do not circumvent the goals and objectives of the rulemaking or the mandate to rebuild fisheries under the Magnuson-Stevens Act.

Preferred Alternatives A2 and A3 would establish criteria to adjust the HMS Commercial Caribbean Small Boat permit swordfish and shark retention limits on an inseason basis. Preferred Alternative B2 would keep the current default swordfish retention limit for the Florida Swordfish Management Area, and increase the default swordfish retention limit to six swordfish per vessel per trip for all other regions for all vessels possessing a Swordfish General Commercial permit, or vessels with an HMS Charter-Headboat permit on a commercial trip and establish a default retention limit of six swordfish per vessel per trip within a zero to six limit range for the HMS Commercial Caribbean Small Boat permit. Preferred Alternative C2 would establish a default shark retention limit of three sharks (only smoothhound and tiger sharks, combined) per vessel per trip, within a zero to three limit range for the HMS Commercial Caribbean Small Boat permit. These increases in the swordfish and shark retention limits and retention limit ranges might result in an increase in fishing effort and ex-vessel revenues particularly for the HMS Commercial Caribbean Small Boat permit. However, this increase in fishing effort is likely to be small, and is unlikely to affect the sustainability of the North Atlantic swordfish stock or the smoothhound and non-prohibited large costal shark (tiger sharks are part of this management group) stocks. As outlined in Chapter 3, the North Atlantic swordfish stock is rebuilt and domestic harvest levels have been below the ICCAT-allocated quota; the smoothhound shark stock is not overfished, with no overfishing occurring; and the harvest of large coastal shark (tiger shark are part of this management group) is well below the harvest levels of its allocated commercial quota. Therefore, no adverse socioeconomic impacts are anticipated under any of the alternatives because fishermen could potentially benefit from the higher revenues from each trip under a higher retention limit, as well as faster management changes to respond to the needs of the swordfish and shark fisheries. Thus, these alternatives as a whole would likely have neutral ecological impacts and neutral to beneficial socioeconomic effects. As such, the proposed actions in this EA are not anticipated to have unavoidable adverse impacts and would not need to be mitigated.

5.1 Unavoidable Adverse Impacts

In general, there are no unavoidable adverse ecological impacts expected as a result of the preferred alternatives. The measures in this action focus on increasing opportunities and flexibility for U.S. swordfish and shark fishermen.

5.2 Irreversible and irretrievable commitment of resources

No irreversible or irretrievable commitments of resources are expected as a result of the preferred alternatives.

6.0 Regulatory Impact Review

The National Marine Fisheries Service conducts a Regulatory Impact Review for all regulatory actions that are of public interest, to comply with E.O. 12866. The Regulatory Impact Review provides, for each alternative, an analysis of the economic benefits and costs to the applicable fishery(ies) and the nation as a whole. The information contained in Chapter 6, taken together with the data and analyses incorporated by reference, comprise the complete Regulatory Impact Review for this proposed action.

The requirements for all regulatory actions specified in E.O.12866 are summarized in the following statement from the order:

> *In deciding whether and how to regulate, agencies should assess all costs and benefits of available regulatory alternatives, including the alternative of not regulating. Costs and benefits should be understood to include both quantifiable measures (to the fullest extent that these can be usefully estimated) and qualitative measures of costs and benefits that are difficult to quantify, but nonetheless essential to consider. Further, in choosing among alternative regulatory approaches, agencies should select those approaches that maximize net benefits (including potential economic, environmental, public health and safety, and other advantages; distributive impacts; and equity), unless a statute requires another regulatory approach.*

E.O. 12866 further requires Office of Management and Budget review of proposed regulations that are considered to be "significant." A significant regulatory action is one that is likely to:

- 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, competition, jobs, the environment, public health or safety, or State, local, or tribal governments of communities;
- Create a serious inconsistency or otherwise interfere with an action taken or planned by another agency;
- Materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the rights and obligations of recipients thereof; or
- Raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in this Executive Order.

6.1 Description of Management Objectives

Please see Chapter 1 for a description of the objectives of this rulemaking.

6.2 Description of Fishery

Number of Vessel and Dealer Permit Holders

In order to examine the baseline universe of entities potentially affected by the preferred alternatives, NMFS analyzed the number of HMS Commercial Caribbean Small Boat, Swordfish General Commercial, HMS Charter/Headboat, and HMS swordfish dealer permits. As of December 2019, there were a total of 35 HMS Commercial Caribbean Small Boat permit holders, 667 Swordfish General Commercial permit holders, 3,769 HMS Charter/Headboat permit holders, and 200 HMS swordfish dealers (Table 6.1). Of those 667 Swordfish General Commercial permit holders, 24 landed swordfish in 2019. Of 35 HMS Commercial Caribbean Small Boat permit holders, five landed swordfish in 2019. Of the 3,769 HMS Charter/Headboat vessels, 23 had an active commercial endorsement, and landed swordfish in 2019. The 2018 SAFE Report provides a summary of these permit holders since 2011. Further detail regarding commercial swordfish permit holders is provided in Chapter 3.0 of this document.

Table 6.1 2015-2018 HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat permit holders

Year	Number of HMS Commercial Caribbean Small Boat	Number of Swordfish General Commercial	Number of HMS Charter/Headboat*
2015	20	623	3,663
2016	39	613	3,594
2017	39	613	3,618
2018	40	723	3,635*
2019	35	667	3,769*

* For 2018 and 2019, Number of HMS Charter/Headboat with a commercial sale endorsement

As of December 2019, there were a total of 200 Atlantic swordfish dealer permit holders. Table 6.2 provides a summary of swordfish dealer permit holders by year. Further detail regarding swordfish dealer permit holders is provided in the 2006 Consolidated Atlantic HMS FMP and its amendments. All dealer permit holders are required to submit reports detailing the nature of their business. Since 2013, swordfish dealers must submit weekly electronic dealer reports on all HMS, other than bluefin tuna, that they purchase. To facilitate quota monitoring, "negative reports" are also required from swordfish dealers when no purchases are made (*i.e.*, NMFS can determine who has not purchased fish versus who has neglected to report).

Table 6.2 2015 to 2019 Number of Swordfish Dealer Permits Issued*

Year	Swordfish Dealers	Shark Dealers
2015	184	102
2016	182	111
2017	189	113
2018	193	108
2019	200	104

* The actual number of permits per region may change as permit holders move or sell their businesses.

Gross Revenue of the Swordfish Landings by Permit Type

Table 6.3 provides data on the prices swordfish fishermen received at the dock. The average values for ex-vessel prices and the estimated swordfish landings for the HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat permits are from the HMS eDealer database.

Table 6.3 2018 Total Ex-Vessel Revenues of North Atlantic Swordfish Landings from HMS Commercial Caribbean Small Boat permit, Swordfish General Commercial, and HMS Charter/Headboat Permit Holders

Permit Type	(A) Average Ex-Vessel Price*	(B) Total Landings (lb dw)	(C) Total Ex-Vessel Revenue (A x B)
HMS Commercial Caribbean Small Boat	$4.80	2,412	$11,578
Swordfish General Commercial	$4.80	2,997	$14,385
HMS Charter/Headboat with a commercial sale endorsement	$4.80	3,491	$16,756

Source: eDealer database.

*Average price of swordfish from all three of the handgear affected by this rule.

6.3 Statement of Problem

Please see Chapter 1 for a description of the problem and need for this rulemaking.

6.4 Description of Each Alternative

Please see Chapter 2.0 for a summary of each alternative suite and Chapter 4.0 for a complete description of each alternative and its expected ecological, social, and economic impacts. Chapters 3.0 and 6.0 provide additional information related to the economic impacts of the alternative suites.

6.5 Economic Analysis of Expected Effects of Each Alternative Relative to the Baseline

Table 6.4 summarizes the net economic benefits and costs of each of the alternatives analyzed in this EA. Additional details and more complete analyses are provided in Chapter 4.

6.6 Conclusion

As noted above, under E.O. 12866, a regulation is a "significant regulatory action" if it is likely to: (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, competition, jobs, the environment, public health or safety, or State, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; (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 this Executive Order. Pursuant to the procedures established to implement section 6 of E.O. 12866, the Office of Management and Budget has determined that this action is not significant. A summary of the expected net economic benefits and costs of each alternative, which are based on supporting text in Chapter 4, can be found in Table 6.4.

Table 6.4 Net Economic Benefits and Costs of Alternatives.

Alternatives	Economic Benefits	Economic Costs
Alternative A1: No action	None.	This alternative could continue to cause confusion among permit holders if the retention limits in different regions and for different permit holders are not changed at the same time.
Alternative A2 *Preferred Alternative*	This alternative could provide some additional fishing opportunities to the U.S. Caribbean region when other factors, such as availability of fish on the grounds and available quota, support such an increase. It would also reduce administrative costs and allow NMFS to be more responsive to the changes needed in the swordfish fishery within the fishing season.	None.
Alternative A3 *Preferred Alternative*	This alternative could provide some additional fishing opportunities to the U.S. Caribbean region when other factors, such as availability of fish on the grounds and available quota, support such an increase. It would also reduce administrative costs and allow NMFS to be more responsive to the changes needed in the shark fishery within the fishing season.	None.
Alternative B1: No action	None.	This alternative would continue to maintain management measures that may not be addressing the current needs (i.e., increasing retention limits), restricting NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase.
Alternative B2 *Preferred Alternative*	Because this alternative would allow for some increases in retention limits, under this alternative, fishermen could land additional fish. The additional revenue per vessel depends on the increase above the default swordfish retention limit, which could range from $662 under a two swordfish limit to $1,987 under a six swordfish limit. In total, this could have an annual benefit of $39,740, $858,384, and $1,188,226 for HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat (with a commercial sale endorsement) permit holders, respectively.	None.
Alternative B3	Similar to Alternative B2. The additional revenue per vessel depends on the increase above the default swordfish retention limit, which could range from $1,987 under a 6 swordfish limit to $5,961 under an 18 swordfish limit. In total, this could have an annual benefit of $39,740, $2,575,411, and $3,565,036 for HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat (with a commercial sale endorsement) permit holders, respectively.	None.
Alternative B4	Similar to Alternative B2. The potential increase in revenue would be approximately $5,961 per vessel per trip. In total, this could have an annual benefit of $119,232, $2,575,411, and $3,565,036 for HMS Commercial Caribbean Small Boat, Swordfish General Commercial, and HMS Charter/Headboat (with a commercial sale endorsement) permit holders, respectively	None.
Alternative C1: No action	None.	This alternative would continue to maintain management measures that may not be addressing the current needs (i.e., increasing retention limits), restricting NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase.
Alternative C2 *Preferred Alternative*	Because this alternative would increase the shark retention limit, under this alternative, fishermen could land additional fish. This increase in the retention limit could, depending on the retention limit, result in revenues of $0 (under a status quo) to as much as $733 to $4,455, depending on the species composition of the catch.	None.
Alternative C3	Similar to Alternative C2. This increase in the retention limit could, depending on the retention limits, result in revenues of $0 (under a zero fish limit) to as much as $1,468 to $11,269, depending on the species composition of the catch.	This alternative could potentially slow down the rebuilding of overfished stocks, especially if there is a lack of timely reporting of landings. This alternative could also have minor adverse ecological impacts to scalloped hammerhead sharks, which have been determined to be threatened under the ESA in the Caribbean.

7.0 Initial Regulatory Flexibility Act

This Initial Regulatory Flexibility Analysis (IRFA) is conducted to comply with the Regulatory Flexibility Act (5 U.S.C. 601 et seq.) (RFA). The goal of the RFA is to minimize the economic burden of federal regulations on small entities. To that end, the RFA directs federal agencies to assess whether a proposed regulation is likely to result in significant economic impacts to a substantial number of small entities, and identify and analyze any significant alternatives to the proposed rule that accomplish the objectives of applicable statutes and minimize any significant effects on small entities. Certain data and analysis required in an IRFA are also included in other Chapters of this document. Therefore, this IRFA incorporates by reference the economic analyses and impacts in Chapter 4 of this document.

7.1 Description of the Reasons Why Action is Being Considered

Please see Chapter 1 for a description of the reasons why action is being considered for the proposed action.

7.2 Statement of the Objectives of, and Legal Basis for, the Proposed Rule

Section 603(b)(2) of the RFA requires Agencies to state the objective of, and legal basis, for the proposed action. Please see Chapter 1 for a full description of the objectives of, and legal basis for, this action.

7.3 Description and Estimate of the Number of Small Entities to Which the Proposed Rule Will Apply

Section 603(b)(3) of the Regulatory Flexibility Act requires Agencies to provide an estimate of the number of small entities to which the rule would apply. The Small Business Administration (SBA) has established size criteria for all major industry sectors in the United States, including fish harvesters. Provision is made under SBA's regulations for an agency to develop its own industry-specific size standards after consultation with Advocacy and an opportunity for public comment (see 13 CFR 121.903(c)). Under this provision, NMFS may establish size standards that differ from those established by the SBA Office of Size Standards, but only for use by NMFS and only for the purpose of conducting an analysis of economic effects in fulfillment of the agency's obligations under the RFA. To utilize this provision, NMFS must publish such size standards in the Federal Register (FR), which NMFS did on December 29, 2015 (80 FR 81194, December 29, 2015). In this final rule effective on July 1, 2016, NMFS established a small business size standard of $11 million in annual gross receipts for all businesses in the commercial fishing industry (NAICS 11411) for RFA compliance purposes. NMFS considers all HMS permit holders to be small entities because they had average annual receipts of less than $11 million for commercial fishing.

As discussed in Section 6.2.1, the proposed rule would apply to the 667 Swordfish General Commercial permit holders, 35 HMS Commercial Caribbean Small Boat permit holders, and 3,769 HMS Charter/Headboat permit holders with a commercial sale endorsement. Active permit holders are defined as those with valid permits that landed one swordfish based on HMS electronic dealer reports. Of those 667 Swordfish General Commercial permit holders, 24

landed swordfish in 2019. Of 35 HMS Commercial Caribbean Small Boat permit holders, five landed swordfish in 2019. Of the 3,769 HMS Charter/Headboat vessels, 23 had an active commercial sale endorsement, and landed swordfish in 2018. NMFS has determined that the proposed rule would not likely affect any small governmental jurisdictions. More information regarding the description of the fisheries affected, and the categories and number of permit holders can be found in Chapter 6.

7.4 Description of the Projected Reporting, Recordkeeping, and other Compliance Requirements of the Proposed Rule, including an Estimate of the Classes of Small Entities which will be Subject to the Requirements of the Report or Record

Section 603(b)(4) of the RFA requires Agencies to describe any new reporting, record-keeping and other compliance requirements. The action does not contain any new collection of information, reporting, or record-keeping requirements. The alternatives considered would modify the swordfish retention limits for existing swordfish commercial permits and add regulatory criteria for inseason adjustment of the HMS Commercial Caribbean Small Boat permit retention limits.

7.5 Identification of all Relevant Federal Rules which may Duplicate, Overlap, or Conflict with the Proposed Rule

Under section 603(b)(5) of the RFA, Agencies must identify, to the extent practicable, relevant federal rules which duplicate, overlap, or conflict with the proposed action. Fishermen, dealers, and managers in these fisheries must comply with a number of international agreements, domestic laws, and other fishery management measures. These include, but are not limited to, the Magnuson-Stevens Act, ATCA, the High Seas Fishing Compliance Act, MMPA, ESA, NEPA, the Paperwork Reduction Act, and the Coastal Zone Management Act. This proposed action has been determined not to duplicate, overlap, or conflict with any federal rules.

7.6 Description of any Significant Alternatives to the Proposed Rule that Accomplish the Stated Objectives of Applicable Statutes and that Minimize any Significant Economic Impact of the Proposed Rule on Small Entities

One of the requirements of an IRFA is to describe any significant alternatives to the proposed rule which accomplish the stated objectives of applicable statutes and which minimize any significant economic impact of the proposed rule on small entities. The analysis shall discuss significant alternatives such as:

1. Establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities;
2. Clarification, consolidation, or simplification of compliance and reporting requirements under the rule for such small entities;
3. Use of performance rather than design standards; and
4. Exemptions from coverage of the rule, or any part thereof, for small entities.

These categories of alternatives are described at 5 U.S.C. 603 (c)(1)-(4). NMFS examined each of these categories of alternatives. Regarding the first, second, and fourth categories, NMFS cannot establish differing compliance or reporting requirements for small entities or exempt small entities from coverage of the rule or parts of it because all of the businesses impacted by this rule are considered small entities and thus the requirements are already designed for small entities. NMFS does not know of any performance or design standards that would satisfy the aforementioned objectives of this rulemaking while, concurrently, complying with the Magnuson-Stevens Act. As described below, NMFS analyzed several different alternatives in this proposed rulemaking, and provides rationales for identifying the preferred alternatives to achieve the desired objectives.

The alternatives considered and analyzed are described below. The IRFA assumes that each vessel will have similar catch and gross revenues to show the relative impact of the proposed action on vessels.

Alternative A1 would maintain the current ability to adjust the regional swordfish retention limits for vessels possessing the HMS Commercial Caribbean Small Boat permit only through framework adjustment procedures. *See* 50 CFR 635.34(b). This alternative would not result in any change in economic impacts, and would have neutral economic impacts on HMS permit holders.

Alternative A2, the Preferred Alternative, would provide NMFS the ability to adjust the swordfish retention limit for the HMS Commercial Caribbean Small Boat fishery on an inseason basis, as needed. NMFS already has the ability to adjust the swordfish retention limits under the Swordfish General Commercial and HMS Charter/Headboat permits. Under this alternative, NMFS would have more flexibility in the regulations to be more responsive to the changes needed in the swordfish fishery within the fishing season. The alternative would provide for a new regulatory process that would not change the actual retention limits. Therefore, this alternative would have neutral economic impacts to HMS permit holders.

Alternative A3, the Preferred Alternative, would provide NMFS the ability to adjust the shark retention limit for the HMS Commercial Caribbean Small Boat fishery on an inseason basis, as needed. NMFS already has the ability to adjust the shark retention limits under shark inseason trip limit adjustment authorization criteria for commercial shark fishermen. Under this alternative, NMFS would have more flexibility in the regulations to be more responsive to the changes needed in the shark fishery within the fishing season. The alternative would provide for a new regulatory process that would not change the actual retention limits. Therefore, this alternative would have neutral economic impacts to HMS permit holders.

Under Alternative B1, the No Action alternative, NMFS would maintain the existing swordfish retention limits within the swordfish management regions for all vessels possessing an HMS Commercial Caribbean Small Boat permit, a Swordfish General Commercial permit, or an HMS Charter/Headboat permit on a commercial trip. For vessels possessing a Swordfish General Commercial permit or vessels with an HMS Charter/Headboat permit on a commercial trip, the current range of swordfish retention limits is zero to six swordfish per vessel per trip for all regions with the default retention limits (see Table 4.1) For the HMS Commercial Caribbean Small Boat permit, the retention limit is two swordfish per vessel per trip. As discussed in

Chapter 3, a single swordfish is estimated to be worth $331 (ex-vessel), on average, whereas six swordfish are estimated to be worth $1,987 (ex-vessel). Under this alternative, the potential gross revenue per trip for each HMS Commercial Caribbean Small Boat vessel landing the trip limit would be approximately $662 based on the average ex-vessel price of swordfish. Similarly, the potential gross revenue per trip for vessels possessing a Swordfish General Commercial permit or HMS Charter/Headboat permit on a commercial trip fishing in either the U.S. Caribbean, Northwest Atlantic or Gulf of Mexico and landing the full trip limit would be $1,987, with gross revenue from swordfish ranging from either $662 under a two swordfish limit or $993 under a three swordfish limit to $1,987 under a six swordfish limit. Alternative B1 would result in neutral economic impacts in the short- and long-term since there is no change in the management structure of the swordfish fishery.

Under Alternative B2, the Preferred Alternative, NMFS would maintain the default swordfish retention limit of zero swordfish per vessel per trip for the Florida Management Region and establish a default swordfish retention limit of six swordfish per vessel per trip for all other regions and for HMS Commercial Caribbean Small Boat and Swordfish General Commercial permit holders, and HMS Charter/Headboat permit holders with a commercial sale endorsement. For these permits holders in all regions, the retention limit range would be zero to six swordfish per vessel per trip. Under this alternative, the potential gross revenue per trip for each vessel that has landed the maximum allowed trip limit under either of the three swordfish commercial swordfish permits (HMS Commercial Caribbean Small Boat permit, Swordfish General Commercial permit, and HMS Charter/Headboat permit, on a commercial trip) and within the U.S. Caribbean, Northwest Atlantic, and Gulf of Mexico would be $1,987 per vessel per trip (Table 4.1). For example, for a vessel making ten trips per year and retaining the six swordfish limit each trip, the annual gross revenue derived from swordfish would generate up to $19,870. By having a higher default trip limit for swordfish, this alternative would continue to provide a seasonal, or secondary, fishery for most participants as well as new economic benefits to some fishermen as well as fishing tackle manufacturers and suppliers, bait suppliers, fuel providers, and swordfish dealers. Alternative B2 would likely result in overall neutral economic impacts in the short- and long-term. NMFS has increased the swordfish retention limit in the Northwest Atlantic and Gulf of Mexico, and the U.S Caribbean regions to six every year since the implementation of the Swordfish General Commercial permit, thus any economic impact would be neutral for Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement. For the HMS Commercial Caribbean Small Boat permit holders, there would be a minor increase in revenue, but this minor increase would not have significant economic impacts for the fishery overall.

Under Alternative B3, the retention limit range would be increased for Swordfish General Commercial permit holders and HMS Charter/Headboat permit holders with a commercial sale endorsement, from zero to six swordfish per vessel per trip to 0-18 swordfish per vessel per trip for all regions with the same default retention limits as Alternative B2. For the HMS Commercial Caribbean Small Boat permit, NMFS would establish a swordfish retention limit range of 0-18 swordfish per vessel per trip with a default retention limit of six swordfish per vessel per trip. Similar to Alternative B2, this alternative would establish a default swordfish retention limit of six swordfish per vessel per trip for the HMS Commercial Caribbean Small Boat permit holder within the U.S. Caribbean region. However, unlike Alternative B2, this alternative would increase the default swordfish retention limit from six swordfish per vessel per

trip to 18 swordfish per vessel per trip for vessels possessing a Swordfish General Commercial permit, or vessels with an HMS Charter/Headboat permit with a commercial sale endorsement within the Northwest Atlantic, Gulf of Mexico, and the U.S. Caribbean swordfish management regions. The default swordfish retention trip limit for the Florida Swordfish Management Area would remain at zero. Under this alternative, the potential gross revenue for each vessel that has landed the maximum allowed trip limit under an HMS Commercial Caribbean Small Boat permit within the U.S. Caribbean region would be $1,987 per vessel per trip with gross revenue per trip from swordfish ranging from $1,987 to $5,961 under a six and eighteen swordfish limit, respectively (Table 4.1). Similarly, the potential gross revenue per trip for vessels possessing a Swordfish General Commercial permit or vessels with an HMS Charter/Headboat permit on a commercial trip fishing in either the U.S. Caribbean, Northwest Atlantic or Gulf of Mexico swordfish management regions retaining the maximum allowed limit on each trip would be $5,961 per vessel per trip (Table 4.1). For example, for a vessel making ten trips per year and retaining the maximum allowable limit (i.e., an 18 swordfish retention limit) each trip, the annual gross revenue derived from swordfish would generate up to $59,616. By having a higher default trip limit for swordfish, this alternative would continue to provide a seasonal, or secondary, fishery for most participants as well as new economic benefits to some fishermen as well as fishing tackle manufacturers and suppliers, bait suppliers, fuel providers, and swordfish dealers. Alternative B3 would likely result in minor beneficial direct economic impacts on HMS Caribbean Commercial Small Boat permit holders, Swordfish General Commercial permit holders or HMS Charter/Headboat permit holders with a commercial sale endorsement in the short- and long-term since the retention limit is set above the default limit for all swordfish management region, resulting in fishermen potentially realizing higher trip revenues since fishermen would have more swordfish to sell.

Under Alternative B4, NMFS would increase the retention limit range to 0-18 swordfish per vessel per trip for all regions (i.e., Florida Swordfish Management area, and the U.S. Caribbean, the Gulf of Mexico, and the Northwest Atlantic regions) for all three swordfish commercial permits. The default swordfish retention limit for these permit holders in all regions would be set at 18 swordfish per vessel per trip, except for the Florida Swordfish Management Area, which would have a default swordfish retention limit of zero. As noted above, Alternative B3 would make the same modifications, but with a lower (six swordfish) default retention limit for the HMS Commercial Caribbean Small Boat permit within the U.S. Caribbean region. Similar to Alternative B3, the potential gross revenue per trip for each vessel that has landed the maximum allowed trip limit (i.e., an 18 swordfish retention limit) with an HMS Commercial Caribbean Small Boat permit, a Swordfish General Commercial permit, or a vessel with an HMS Charter/Headboat permit on a commercial trip fishing in either the U.S. Caribbean, the Northwest Atlantic or the Gulf of Mexico swordfish management regions would be $5,961 (Table 4.1). For example, for a vessel making ten trips per year and retaining the maximum allowable limit (i.e., an 18 swordfish retention limit) each trip, the annual gross revenue derived from swordfish would generate up to $59,616. Similar to Alternative B3, by having a higher default trip limit for swordfish, this alternative would continue to provide a seasonal, or secondary, fishery for most participants. Increasing the retention limit above the default limit for all swordfish management regions would realize higher trip revenues since fishermen would have more swordfish to sell. Alternative B4 would likely result in minor beneficial direct economic impacts on HMS Commercial Caribbean Small Boat permit holders, Swordfish General Commercial permit holders or HMS Charter/Headboat permit holders with a

commercial sale endorsement in the short- and long-term since the retention limit is set above the default limit for all swordfish management regions, resulting in fishermen potentially realizing higher trip revenues since fishermen would have more swordfish to sell.

Under Alternative C1, the No Action alternative, NMFS would maintain the current retention limit of zero sharks per vessel per trip for vessels issued an HMS Commercial Caribbean Small Boat permit. Thus, this alternative would result in neutral direct economic impacts to HMS Commercial Caribbean Small Boat permit holder in the short- and long-term. However, the No Action alternative would maintain management measures that may not be addressing multiple requests (see Chapter 1) by commercial shark fishermen to land a limited number of sharks, restricting NMFS' ability to provide additional fishing opportunities to fishermen when other factors, such as availability of fish on the grounds and available quota, support such an increase.

Under Alternative C2, the Preferred Alternative, NMFS would establish a default shark retention limit of three smoothhound and/or tiger sharks (combined) per vessel per trip for the HMS Commercial Caribbean Small Boat permit holders. The retention limit range would be zero to three smoothhounds and/or tiger sharks (combined) per vessel per trip. The retention of any other shark species would not be allowed under this alternative. Table 4.3 summarizes the potential increase in annual ex-vessel revenue based on average weight and price data of smoothhound and tiger sharks. If a fisherman landed the maximum trip limit, with only tiger sharks being caught, and takes two trips per month (24 trips per year), then the annual revenue per vessel associated with this activity would be $4,455. If the vessel landed the full trip limit and conducted two trips per month (24 trips per year), with only smoothhound sharks being caught, then the annual revenue per vessel would be $733. Because the Agency would have the authority to adjust the shark retention limit from zero to three, the annual ex-vessel revenue estimates could vary from $0 (under a zero fish limit) to as much as $733 to $4,455, depending on the species composition of the catch. This minor increase in per trip and annual revenue would result in neutral economic impacts in the short- and long-term to the HMS Commercial Caribbean Small Boat permit holders because any potential increase would be relatively minor.

Under Alternative C3, NMFS would establish a default retention limit of six non-prohibited large coastal, small coastal, pelagic, and/or smoothhound sharks (combined) per vessel per trip for HMS Commercial Caribbean Small Boat permit holders. The retention limit range would be zero to six for non-prohibited large coastal, small coastal, pelagic, and smoothhound sharks (combined) per vessel per trip. Table 4.4 summarizes the potential increase in annual ex-vessel revenue based on average weight and price data of non-prohibited large coastal, small coastal, pelagic, and smoothhound sharks. If a fisherman landed the maximum trip limit, with only large coastal sharks being caught, and takes two trips per month (24 trips per year), then the annual revenue per vessel associated with this activity would be $8,9104 (Table 4.4). Assuming a successful trip and two trips per month, the annual revenue per vessel associated with fishermen landing the full trip limit of either, small coastal, pelagic or smoothhound sharks would be $5,110, $11,269, and $1,468, respectively. Because the Agency would have the authority to adjust the shark retention limit from zero to six, the annual ex-vessel revenue estimates could vary from $0 (under a zero fish limit) to as much as $1,468 to $11,269, depending on the species composition of the catch. This minor increase in per trip and annual revenue would result in neutral economic impacts to the HMS Commercial Caribbean Small

Boat permit holders in the short- and long-term because any potential increase would be relatively minor.

8.0 Applicable Law

8.1 Magnuson-Stevens Fishery Conservation and Management Act

NMFS has determined that this action is consistent with the Magnuson-Stevens Act and other applicable laws, and the analyses in this document are consistent with the Magnuson-Stevens Act National Standards (see 50 CFR Part 600, Subpart D for National Standard Guidelines), subject to further consideration after public comment.

National Standard 1 requires NMFS to prevent overfishing while achieving, on a continuing basis, optimum yield from each fishery for the U.S. fishing industry. As summarized in other chapters and in recent documents, over the past several years, NMFS has undertaken numerous management actions, including the 2006 Consolidated Atlantic HMS FMP (NMFS 2006), Amendment 2 to the 2006 Consolidated Atlantic HMS FMP (73 FR 40657, July 7, 2008), Amendment 3 to the 2006 Consolidated HMS FMP (76 FR 70064, November 10, 2011), Amendment 4 to the 2006 Consolidated HMS FMP (77 FR 59842, October 1, 2012), Amendment 5a to the 2006 Consolidated HMS FMP (78 FR 40317, July 3, 2013), Amendment 6 to the 2006 Consolidated HMS FMP (79 FR 30064; May 27, 2014), Amendment 8 to the 2006 Consolidated HMS FMP (78 FR 52011, August 21, 2013), and Amendment 9 to the 2006 Consolidated HMS FMP (79 FR 46217, August 7, 2014) to address the management of commercial swordfish within the swordfish management region and to address overfishing and to rebuild shark stocks. The preferred alternatives were specifically designed to be consistent with National Standard 1, by allowing more fishing opportunities for swordfish and sharks, and utilization of the North Atlantic swordfish and Atlantic shark quotas, and increasing flexibility in seasonal management of swordfish and sharks, while still preventing overfishing. The preferred alternatives are not expected to have significant impacts on the allowable level of fishing pressure, catch rates, or distribution of fishing effort.

National Standard 2 requires that conservation and management measures be based on the best scientific information available. The preferred alternatives in this document are consistent with National Standard 2. The preferred alternatives are based on retention limits and permit conditions previously analyzed in Amendment 4 (77 FR 59842, October 1, 2012), Amendment 6 (79 FR 30064; May 27, 2014), Amendment 8 (78 FR 52011, August 21, 2013), and Amendment 9 (79 FR 46217, August 7, 2014); the preferred alternatives consider the relevant shark and swordfish status information; and the data used for the analysis in the document consists of dealer reports and U.S. Caribbean trip ticket data from the last four years. Taken together, this information constitutes the best scientific information available. As such, the preferred alternatives are based on the best scientific information available.

National Standard 3 requires that, to the extent practicable, an individual stock of fish be managed as a unit throughout its range and interrelated stocks of fish be managed as a unit or in close coordination. The preferred alternatives in this document are consistent with National Standard 3. The preferred alternatives make management consistent throughout the range of the swordfish and shark stocks within the U.S. Exclusive Economic Zone and in state waters as a condition of federal HMS fishing permits, unless the state has measures that are more restrictive.

National Standard 4 requires that conservation and management measures do not discriminate between residents of different states. Furthermore, if it becomes necessary to allocate or assign fishing privileges among various U.S. fishermen, such allocation should be fair and equitable to all fishermen; be reasonably calculated to promote conservation; and should be carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges. The preferred alternatives in this document are consistent with National Standard 4. The preferred alternatives apply to permit holders across the entire Atlantic, Gulf of Mexico, and U.S. Caribbean Exclusive Economic Zone and set the same retention limits for swordfish and establish the same regulatory procedures (i.e., inseason adjustment authorization) across all swordfish management regions except the Florida Swordfish Management area, which would have a default retention limit of zero. The swordfish retention limit in the Florida Swordfish Management area is and would continue to be different than other areas because of gear conflict concerns due to high numbers of fishermen fishing in a small area.

National Standard 5 requires that conservation and management measures should, where practicable, consider efficiency in the utilization of fishery resources, with the exception that no such measure shall have economic allocation as its sole purpose. The preferred alternatives in this document are consistent with National Standard 5. The preferred alternatives have been designed to increase efficiency by providing for the modification of regional swordfish and shark retention limits, while allowing for inseason flexibility to adjust the HMS Commercial Caribbean Small Boat permit retention limit in order to maximize full quota utilization, while still preventing overfishing. As demonstrated in the EA, none of the preferred alternatives has economic allocation as its sole purpose.

National Standard 6 states that conservation and management measures shall take into account and allow for variations among, and contingencies in, fisheries, fishery resources, and catches. The preferred alternatives in this document are consistent with National Standard 6. Each of the preferred alternatives would implement measures that consider the variations among, and contingencies in, fisheries, fishery resources, and catches. They provide additional fishing opportunities while providing flexibility regarding when to increase the regional swordfish and shark retention limits for the HMS Commercial Caribbean Small Boat permit during the season.

National Standard 7 states that conservation and management measures shall, where practicable, minimize costs and avoid unnecessary duplication. The preferred alternatives in this document are consistent with National Standard 7. The preferred alternatives were chosen, in part, to minimize costs while meeting required conservation goals. The economic impacts section of the EA provides detailed analyses of the costs associated with each alternative. The preferred alternatives were also structured to avoid unnecessary duplication by taking into account the range of alternatives as well as existing requirements on the relevant fishery.

National Standard 8 states that conservation and management measures shall, consistent with the conservation requirements of the Magnuson-Stevens 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 provide for the sustained participation of such communities, and to the extent practicable, minimize adverse economic impacts on such communities. The preferred alternatives in this document are consistent with National Standard

8. The socioeconomic impacts of these alternatives on fishing communities are expected to be neutral to minor beneficial and were considered in Chapters 4, 6, and 7.

National Standard 9 states that conservation and management measures shall, to the extent practicable, minimize bycatch, and to the extent that bycatch cannot be avoided, minimize the mortality of such bycatch. The preferred alternatives in this document are consistent with National Standard 9. The preferred alternatives are not expected to cause significant changes in fishing effort, areas, or practices, and thus are not expected to lead to increases in potential bycatch or increased interactions with non-target, incidentally caught species, including protected species.

National Standard 10 states that conservation and management measures shall, to the extent practicable, promote the safety of human life at sea. The preferred alternatives in the document are consistent with National Standard 10. No impact to safety of life at sea is anticipated to result from these preferred alternatives. The preferred alternatives would not result in fishermen having to travel greater distances, fish in bad weather, or otherwise fish in an unsafe manner.

8.2 E.O. 13132: Federalism

This action does not contain regulatory provisions with federalism implications sufficient to warrant preparation of a Federalism Assessment under E.O. 13132.

8.3 References

NMFS. 2003. Final Amendment 1 to the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks, and Highly Migratory. NOAA, National Marine Fisheries Service, Highly Migratory Species Management Division, Silver Spring, MD. Public Document.

MRAG, Americas, Inc., and M. Jepson. 2008. Updated Profiles for HMS Dependent Fishing Communities: Social Impact Assessment Services for HMS Fishing Communities. Solicitation Number: DG133F06RQ0381, 84 pp.

NMFS. 2006. Final Consolidated Atlantic Highly Migratory Species Fishery Management Plan. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, 1315 East West Highway, Silver Spring, MD. Public Document. pp. 1600.

NMFS. 2012. Final Amendment 4 to the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks, and Highly Migratory. NOAA, National Marine Fisheries Service, Highly Migratory Species Management Division, Silver Spring, MD. Public Document.

NMFS. 2013. Final Amendment 8 to the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks, and Highly Migratory. NOAA, National Marine Fisheries Service, Highly Migratory Species Management Division, Silver Spring, MD. Public Document.

NMFS. 2020. 2019 Stock Assessment and Fishery Evaluation Report for Atlantic Highly Migratory Species. Silver Spring MD: U.S. Department of Commerce, National Marine Fisheries Service. 280 pp.

9.0 List of Agencies and Persons Consulted

This EA, Regulatory Impact Review, and Final Regulatory Flexibility Analysis were prepared by Nicolas Alvarado, Delisse Ortiz, Rick Pearson, Steve Durkee, George Silva, Ian Miller, Carrie Soltanoff, Karyl Brewster-Geisz, Randy Blankinship, and Peter Cooper from the HMS Management Division, Office of Sustainable Fisheries. Please contact the HMS Management Division for a complete copy of current regulations for the Atlantic HMS commercial and recreational fisheries.

Highly Migratory Species Management Division
NMFS SSMC3 F/SE1
1315 East-West Highway
Silver Spring MD, 20910
Phone: (301) 427-8503 Fax: (301) 713-1917

10.0 Draft Finding of No Significant Impact

Draft Finding of No Significant Impact for a proposed action to update and revise existing HMS regulations for North Atlantic swordfish and Atlantic sharks retention limits in U.S. Atlantic and Caribbean waters.

The Highly Migratory Species (HMS) Management Division of the Office of Sustainable Fisheries submits the attached EA for Atlantic HMS fisheries for Secretarial review under the procedures of the Magnuson-Stevens Act.

This draft EA analyzes the ecological, social, and economic impacts of the proposed action and was developed as an integrated document that includes a Regulatory Impact Review and Initial Regulatory Flexibility Analysis. The action proposes to streamline HMS regulations to align retention limits for commercial swordfish permits established for HMS Commercial Caribbean Small Boat permit holders under Amendment 4 with those established in Amendment 8 for Swordfish General Commercial permit holders as well as revise shark retention limits established for the HMS Commercial Caribbean Small Boat permit under Amendment 4.

The responses in the Finding of No Significant Impact statement are supported by the analyses in the EA as well as in the other National Environmental Policy Act (NEPA) documents referenced in the EA. Copies of the EA/Regulatory Impact Review/Initial Regulatory Flexibility Analysis are available at the following address:

Highly Migratory Species Management Division, F/SE1
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, Maryland 20910
Phone: (301)-427-8503
or
http://www.nmfs.noaa.gov/sfa/hmspg.html

The preferred alternatives of this action are:

- Alternative A2 (*Preferred Alternative*)**:** Adopt the Swordfish General Commercial Permit inseason adjustment authorization criteria to adjust the regional swordfish retention limit for the HMS Commercial Caribbean Small Boat permit.
- Alternative A3 (*Preferred Alternative*)**:** Adopt the shark inseason trip limit adjustment authorization criteria to adjust the regional shark retention limit for the HMS Commercial Caribbean Small Boat permit.
- Alternative B2 (*Preferred Alternative*): Maintain the default swordfish retention limit of zero swordfish per vessel per trip for the Florida Swordfish Management Region and establish a default swordfish retention limit of six swordfish per vessel per trip for all other regions and for HMS Commercial Caribbean Small Boat and Swordfish General Commercial permit holders, and HMS Charter/Headboat permit holders with a commercial sale endorsement. For all permits and regions, the retention limit range would be zero to six swordfish per vessel per trip.
- Alternative C2 (*Preferred Alternative*): Establish a default shark retention limit of three smoothhound and/or tiger sharks (combined) per vessel per trip for the HMS Commercial Caribbean Small Boat permit holders. The retention limit range would be zero to three smoothhounds and/or tiger sharks (combined) per vessel per trip. The retention of any other shark species is not allowed under this alternative.

CEQ regulations state that the determination of significance using an analysis of effects requires examination of both context and intensity, and lists ten criteria for intensity (40 CFR 1508.27). In addition, the Companion Manual for National Oceanic and Atmospheric Administration Administrative Order 216-6A provides sixteen criteria, the same ten as the CEQ Regulations and six additional, for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to the proposed action and considered individually as well as in combination with the others.

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

No. This proposed action is expected to have neutral impacts and no adverse impacts because the preferred alternatives are largely administrative in nature and provide only slight increases to the retention limit for swordfish and sharks. Any swordfish catches resulting from the modified swordfish retention limits or limit range will remain limited to the applicable, previously analyzed and implemented quota for North Atlantic swordfish, which is adjusted annually consistent with NMFS's obligations under ATCA, to promulgate such regulations as may be necessary and appropriate to carry out ICCAT recommendations. The proposed action would streamline the regulations to align swordfish retention limits for commercial swordfish permits established for HMS Commercial Caribbean Small Boat permit holders under Amendment 4 to the 2006 Consolidated Atlantic HMS FMP with those established in Amendment 8 to the 2006 Consolidated Atlantic HMS FMP for Swordfish General Commercial permit holders.

This action also considers modifying the swordfish and shark retention limits for existing swordfish commercial permits and adding regulatory criteria for inseason adjustment to adjust the retention limits of the HMS Commercial Small Boat permit. The ICCAT SCRS assessed North Atlantic swordfish and found that the North Atlantic swordfish stock was not overfished nor was overfishing occurring. The SCRS also indicated that the North Atlantic swordfish stock has been rebuilt since at least 2013. The United States has not fully harvested its swordfish quota in several years; therefore, there is a need to continue to provide additional opportunities for fishermen to catch the U.S. quota. The smoothhound shark stock is healthy, not overfished with no overfishing occurring. The tiger shark stock is part of the non-prohibited aggregated large coastal shark stocks. The non-prohibited large coastal shark stock status is unknown. However, tiger shark landings have been below the allocated shark quotas for the non-prohibited large coastal shark management group. Moreover, the non-prohibited large coastal shark quotas have not been fully harvested in recent years and NMFS is not expecting increased landings of tiger sharks to adversely affect the stocks. Therefore, both of these shark species can handle higher removals within the established quotas and proposed retention limits without jeopardizing the sustainability of the stocks.

In addition, the quotas for smoothhound and non-prohibited large coastal sharks are not being modified in this rulemaking and fishermen would continue to be limited to the total amount of sharks that can be harvested, as well as by seasonal closures when the shark quotas have reached or are projected to reach 80 percent of the relevant quota or are projected to reach 100 percent of the relevant quota by the end of the fishing season. The proposed action is not expected to jeopardize the sustainability of the fully-rebuilt North Atlantic swordfish stock nor the smoothhound and aggregated large coastal shark (tiger sharks are part of this management group) stocks. Swordfish and shark landings will continue to be monitored carefully through the HMS e-Dealer reporting system and via the existing territorial reporting system. The action also includes adaptive management measures to allow NMFS to quickly adjust swordfish and shark retention limits regionally (down to zero fish, if necessary) in response to landings information, changes in North Atlantic swordfish stock status, and U.S. swordfish quota availability. Thus the proposed management measures are expected to have neutral impacts, as overall impacts to the fishery will remain unchanged.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

No. The proposed action considers modifying the swordfish and shark retention limits for existing swordfish commercial permits and adding regulatory criteria for inseason adjustment of those retention limits. The proposed modification of swordfish and shark management measures is to provide additional commercial fishing opportunities to small-scale swordfish and shark handgear fishermen. Therefore, no effects to public health and safety are anticipated from their implementation.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

No. This action would not result in substantial impacts to unique areas, such as historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas because fishing effort would occur in open areas of the Atlantic Ocean that do not contain such unique areas. In addition, the action area does not contain any park lands, prime farmlands, wetlands, or wild and scenic rivers, so there could be no impacts to these areas.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

No. This proposed action is not expected to have impacts on the quality of the human environment that are likely to be highly controversial. This action is responsive to repeated public requests from HMS Advisory Panel members at three HMS Advisory Panel meetings (September 2017, March 2018, and September 2019) requesting that NMFS increase the current swordfish retention limit for the HMS Commercial Caribbean Small Boat permit. Specifically, Advisory Panel members have requested NMFS increase the swordfish retention limit of the HMS Commercial Caribbean Small Boat permit from two to six swordfish per vessel per trip, similar to the current upper swordfish retention limit for the Swordfish General Commercial permit. Furthermore, additional outreach with the Caribbean Fishery Management Council, the territorial governments, and general discussions with commercial and recreational fishermen have shown interest in increasing the current swordfish retention limits for both the HMS Commercial Caribbean Small Boat permit and Swordfish General Commercial permits, with commenters requesting to increase the maximum retention limit beyond six swordfish to allow for the expanded use of the permits in areas that require longer transit times to reach fishing grounds. Within the Swordfish General Commercial permit fishery, NMFS anticipates that the factors that have supported upward adjustment of the swordfish retention limit will continue to be applicable into the foreseeable future.

Additionally, HMS Advisory Panel members and the Caribbean Fishery Management Council, territorial governments, and commercial and recreational fishermen have requested NMFS to increase the shark retention limits for the HMS Commercial Caribbean Small Boat.

There is a growing interest in harvesting sharks in the territories (i.e., Puerto Rico and the U.S. Virgin Islands) at incidental levels. Fishermen have requested that NMFS increase the default shark retention limit of the HMS Commercial Caribbean Small Boat permit from zero to three smoothhound and/or tiger sharks (combined) per vessel per trip, in order to retain sharks for personal consumption or sale at the local market. Thus, in this rule, NMFS would consider increasing the default swordfish and shark retention limit in order to allow constituents to retain and land more swordfish and smoothhound and tiger sharks while allowing adjustment of that retention limit through inseason adjustment authorization criteria. NMFS would also continue to monitor swordfish landings, and if needed in the future, could adjust retention limits downward if necessary to slow harvest rates and meet other FMP objectives consistent with the regulatory criteria. Thus, the effects of this action on the human environment are not expected to have highly controversial impacts on the quality of the human environment. However, the term "controversial" does not refer to the mere existence of opposition to, or interest in a proposed action; rather "controversial" refers to cases where a substantial dispute exists as to the size, nature, or effect of the major federal action. Such substantial dispute does not exist here, as the size, nature, and effect of the proposed action are well-defined by the preferred alternatives.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

No. Effects on the human environment would be similar to those effects analyzed in similar swordfish actions since 2013, some of which have been considered in the Final EIS prepared for the 2006 Consolidated Atlantic HMS FMP as well as the EISs for the Amendments to the 2006 Consolidated Atlantic HMS FMP. None of the previous actions resulted in highly uncertain effects or unique or unknown risks, and no highly uncertain or unique or unknown risks are anticipated for this action.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

No. The purpose of this rulemaking is to consider management measures for the North Atlantic swordfish and Atlantic shark fisheries that can be implemented to provide flexibility, consistency, and efficiency when managing three open access swordfish handgear permits, all of which allow similar gears to be used, among different regions, and to provide fishing opportunities for sharks in the U.S. Caribbean. It is NMFS's goal to implement management measures that will increase management flexibility to adapt to the changing needs of the North Atlantic swordfish and Atlantic shark fisheries, and achieve optimum yield while rebuilding overfished stocks and ending overfishing. This action does not set a precedent for any future actions or represent a formal policy direction.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

No. NMFS does not anticipate there to be any significant cumulative ecological, economic, or social impacts. Overall, the preferred alternatives in this rulemaking would have neutral cumulative ecological impacts, because it would have no significant impact on fishing effort or behavior beyond what was analyzed in Amendment 4, 8, and 9. The neutral ecological impacts associated with the proposed action make this action favorable, particularly given the associated economic benefits to both swordfish and shark fishermen. There would be no significant impacts on current fishing levels or fishing mortality. Additionally, there would be no major impacts to EFH, and the preferred actions would both maintain sustainable swordfish and shark fisheries and maintain the status quota for species currently under a rebuilding plan. Overall, the preferred alternatives in this action have a combination of neutral to minor beneficial socioeconomic impacts and would likely increase the efficiency and flexibility in managing these fisheries across different regions. This action is a continuation of the 2006 Consolidated HMS FMP and its amendments, which have been considered in this document. The environmental impacts of those prior actions were evaluated at the time of the actions, and the combination of those impacts and impacts form this draft EA are not expected to result in cumulative significant impacts,

8. Can the proposed action reasonably be expected 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?

No. The proposed action would occur in inshore and offshore waters of the Atlantic Ocean, and would not occur in any areas listed or eligible for listing in the National Register of Historic Places, and would not cause loss or destruction of significant scientific, cultural, or historical resources because there are no significant scientific, cultural, or historic resources within the action area.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

No. There would not be any negative ecological impacts to endangered or threatened species, or the critical habitat of these species beyond those impacts currently analyzed in the agency actions implementing North Atlantic swordfish or shark quotas. This action is not expected to adversely affect any endangered or threatened species. The effects on ESA-listed species for most handgears were analyzed under a Biological Opinion issued on June 14, 2001, entitled "Reinitiation of Consultation on the Atlantic Highly Migratory Species Fishery Management Plan and its Associated Fisheries." The June 14, 2001 Biological Opinion found that the continued operation of harpoon, hand gear, and rod and reel fisheries in the Atlantic Ocean may adversely affect but are not likely to jeopardize the continued existence of the right whale, humpback, fin, or sperm whales, or Kemp's ridley, green, loggerhead, hawksbill or leatherback sea turtles. In response, NMFS adheres to the measures identified in the Biological

Opinion. As indicated in the June 14, 2001 Biological Opinion, the potential for take in these fisheries (i.e., harpoon/handgear fisheries, hook & line, etc.) is very low (no more than three sea turtles, of any species, in combination, per calendar year). This action is not anticipated to affect the above-referenced ESA-listed species in any way not previously analyzed for existing regulations and there is no new information that would alter this conclusion.

In July 2014, NMFS published a final rule that, among other things, listed the Central and Southwest Atlantic Distinct Population Segment of scalloped hammerhead sharks as a threatened species under the ESA (79 FR 38214, July 3, 2014). In September 2014, NMFS listed as threatened five new Caribbean species of corals and maintained the threatened listing for two other Caribbean coral species (79 FR 53851, September 10, 2014). On January 10, 2020, NMFS released a Biological Opinion for all Atlantic HMS fisheries except pelagic longline, which stated that the continued operation of these fisheries (including handgear fisheries) is not likely to jeopardize the continued existence of sea turtles, sawfish, Atlantic sturgeon, scalloped hammerhead shark (Central and Southwest Atlantic Distinct Population Segment), oceanic whitetip shark, and giant manta ray. NMFS is implementing the Reasonable and Prudent Measures and Terms and Conditions of the 2020 Biological Opinion for Atlantic HMS fisheries except pelagic longline. This action is not anticipated to affect the above-referenced ESA-listed species in any way not previously analyzed for existing regulations, including the provision for exempted fishing activities, and there is no new information that would alter this conclusion. Any of the covered ESA-listed species taken with handgear would be considered against the Incidental Take Statement in the 2020 Biological Opinion for the Atlantic HMS fisheries except pelagic longline, as long as the operations are consistent with the Reasonable and Prudent Measures in that Biological Opinion, namely: any protected resources caught while engaging in research activities must be safely handled, resuscitated, and released; and all protected resource interactions must be reported to NMFS.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

No. The action would be consistent with the Magnuson-Stevens Act and the HMS regulations at 50 CFR part 635. NMFS has determined that the proposed measure is consistent to the maximum extent practicable with the enforceable policies of those coastal states in the Atlantic that have approved coastal zone management programs. Letters will be sent to those states requesting their concurrence when the proposed rule is filed with the Office of the Federal Register. The proposed action would not be expected to violate any federal, state, or local law or requirement imposed for the protection of the environment.

NMFS produces an annual List of Fisheries that classifies domestic commercial fisheries (i.e., Category I, II, or III), by gear type, relative to their rates of incidental mortality or serious injury of marine mammals. Fishermen participating in Category I or II fisheries are required to be registered under MMPA and, if selected, to accommodate an observer aboard their vessels. Vessel owners or operators, or fishermen, in Category I, II, or III fisheries must report all incidental mortalities and injuries of marine mammals during the course of commercial fishing operations to NMFS. There are currently no regulations requiring recreational fishermen to report takes, nor are they authorized to have incidental takes (i.e., they are illegal).

Commercial swordfish landings under the HMS Commercial Caribbean Small Boat and Swordfish General Commercial permits are from handgear fisheries. The commercial handgear fishery is currently listed as a Category II fishery under MMPA. The swordfish harpoon fishery and the for-hire handgear fishery are currently listed as Category III fisheries under MMPA. Strict control and operations through the regulations of these fishing gears means these gear types are not likely to result in mortality or serious injury of marine mammals or sea turtles.

11. Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act?

No. NMFS' annual List of Fisheries classifies domestic commercial fisheries, by gear type, relative to their rates of incidental mortality or serious injury of marine mammals. Commercial swordfish landings under the HMS Commercial Caribbean Small Boat and Swordfish General Commercial permits are from handgear fisheries. The commercial handgear fishery is listed as a Category II fishery under MMPA. The swordfish harpoon fishery, the for-hire handgear fishery and rod and reel gear are considered Category III fisheries under MMPA. Strict control and operations through the regulations of these fishing gears means these gear types are not likely to result in mortality or serious injury of marine mammals. The proposed management measures are not expected to alter fishing practices, techniques, or effort significantly and therefore should not have any further impacts on marine mammals.

12. Can the proposed action reasonably be expected to adversely affect managed fish species?

No. The action is not expected to result in adverse effects that could have a substantial effect on target species or non-target species. Currently, the swordfish retention limit range is zero to six swordfish per vessel per trip and NMFS has had to adjust swordfish retention limits every six months since the implementation of Amendment 8 to the 2006 Consolidated Atlantic HMS FMP. The adjustments were made because of the underharvest of U.S. swordfish quota and to provide fishing opportunities for U.S. fishermen to catch more swordfish and sharks. Since NMFS has already been operating with inseason adjustments to six swordfish per vessel per trip, and there is no change in existing management, there is no effect on the North Atlantic swordfish stock since the swordfish stock is fully rebuilt and overfishing is not occurring. The smoothhound shark stock is healthy, not overfished with no overfishing occurring. The tiger shark stock is part of the non-prohibited aggregated large coastal shark stocks. The non-prohibited large coastal shark stock status is unknown. However, tiger shark landings have been below the allocated shark quotas for the non-prohibited large coastal shark management group. In addition, the non-prohibited large coastal shark quotas have not been fully harvested in recent years and we are not expecting increased landings of tiger sharks to adversely affect the stocks. In addition, swordfish and shark landings will continue to be carefully monitored through the HMS e-Dealer reporting system and via the existing territorial reporting system ensuring timely quota monitoring. Therefore, both of these shark species can handle higher removals within the established quotas and proposed retention limits without jeopardizing the sustainability of the stocks. The quotas for smoothhound and non-prohibited large coastal sharks are not being modified in this rulemaking and fishermen would continue to be limited to the total amount of

sharks that can be harvested, as well as by seasonal closures when the shark quotas have reached or are projected to reach 80 percent of the relevant quota or are projected to reach 100 percent of the relevant quota by the end of the fishing season. Because the commercial quotas would remain unchanged for all commercial swordfish and shark fisheries and fishermen would continue to be quota-limited, there would likely be no impact on the allowable level of fishing pressure, catch rates, or distribution of fishing effort. The proposed action would align the swordfish retention limits for the HMS Commercial Caribbean Small Boat permit with the Swordfish General Commercial permit for the Caribbean region, with the addition of regulatory criteria for inseason adjustment to adjust the retention limits of the HMS Commercial Caribbean Small Boat permit. Because the commercial quotas would remain unchanged for the swordfish fishery and fishermen would continue to be quota-limited, there would likely be no impact on the allowable level of fishing pressure, catch rates, or distribution of fishing effort. Therefore, the preferred actions would simultaneously have largely neutral cumulative ecological impacts on managed fish species. Lastly, shark and swordfish fishermen would be using selective handgears that have low bycatch and bycatch mortality, such that an increase in the use of these gears is unlikely to adversely impact incidentally-caught species. As such, the action would have little to no additional effect on non-target species.

13. Can the proposed action reasonably be expected to adversely affect essential fish habitat (EFH) as defined under the Magnuson-Stevens Act?

No. Impacts to EFH due to actions in this EA would likely be neutral and have no adverse effects because the preferred alternatives A2 and A3 represent an administrative change for how NMFS would manage a fishery. Impacts to EFH due to changes to the existing HMS regulations for North Atlantic swordfish and Atlantic shark retention limits in U.S. Atlantic and Caribbean waters would also likely not have any adverse effects on EFH because the preferred alternatives B2 and C2 would not change the overall fishing effort on quota-limited commercial swordfish and shark fisheries. In addition, gears authorized for use with a Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. Gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Gears authorized for use with a HMS Commercial Caribbean Small Boat permit are bandit, handline, harpoon, rod and reel, and buoy gear. All handgears are constantly tended by the fishermen and monitored so that there is very little bycatch of unwanted fish and protected resources species and rarely interact with benthic habitat. Swordfish handgear is very selective because it is deployed at times, depths, and locations where swordfish, as opposed to other coastal species, are typically encountered. Thus, there is no evidence to suggest that implementing the preferred alternatives in this EA would adversely affect EFH.

14. Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?

No. The proposed action is not expected to adversely affect vulnerable marine or coastal ecosystems because the preferred alternatives represent minor changes in shark and swordfish retention limits of certain commercial swordfish and shark fishermen, and administrative changes for NMFS in managing the swordfish and shark fisheries. These preferred alternatives

are unlikely to change the overall fishing effort, quotas, or catch rates. In addition, gears authorized for use with a Swordfish General Commercial permit are bandit, handline, harpoon, rod and reel, and green stick gear. Gear authorized for use with an HMS Charter/Headboat permit with a commercial sale endorsement are handline and rod and reel. Gears authorized for use with a HMS Commercial Caribbean Small Boat permit are bandit, handline, harpoon, rod and reel, and buoy gear. All handgears and green-stick gear are constantly tended by the fishermen and monitored so that there is very little bycatch of unwanted fish and protected resources species and any bycatch or unmarketable species captured on the fishing gears authorized can be dehooked and released quickly with a high chance of post-release survival. Because these gears are closely tended and rarely interact with benthic habitat, with both shallow and deep water corals, NMFS does not anticipate any adverse effects on shallow or deep water coral from handgear and green-stick gear. Therefore, the proposed action is not expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems.

15. Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.)?

No. The preferred alternative is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area, because the preferred alternatives represent minor changes in shark and swordfish retention limits for certain commercial swordfish and shark fishermen (B2 and C2), and an administrative change for NMFS in managing the swordfish and shark fisheries (A2 and A3). The preferred alternatives are not expected to jeopardize the sustainability of the fully-rebuilt North Atlantic swordfish stock or shark stocks. Swordfish and shark landings will continue to be carefully monitored through the HMS e-Dealer reporting system and via the territories. The action also includes adaptive management measures to allow NMFS to quickly adjust swordfish and shark retention limits regionally (down to zero fish, if necessary) in response to landings information, changes in North Atlantic swordfish and shark stock status, and U.S. swordfish and shark quota availability. Thus the proposed management measures are expected to have neutral impacts as overall impacts to the fishery will remain unchanged. In addition, shark and swordfish fishermen would be using selective handgears that have low bycatch and bycatch mortality, such that an increase in the use of these gears is unlikely to adversely impact incidentally-caught species, and that rarely interact with benthic habitats. Hence, the proposed action as a whole is not likely to have substantial adverse impacts on biodiversity and/or ecosystem function within the Atlantic Ocean including the Gulf of Mexico and Caribbean Sea.

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

No. The proposed action is not expected to result in any change in fishing patterns or behaviors to those previously analyzed in Amendment 4 and Amendment 8 to the 2006 Consolidated Atlantic HMS FMP. Most vessels in the Atlantic swordfish fisheries are small vessels with limited range, hold capacity, and do not travel between ecologically different bodies

of water or exchange ballast water. Thus, they do not contribute to the introduction or spread of non-indigenous species.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting EA prepared for this Proposed Rule to modify the North Atlantic swordfish and shark retention limit in the U.S. Atlantic and Caribbean waters and inseason adjustment criteria authorization, it is hereby determined that this proposed action will not significantly impact the quality of the human environment as described above and in the supporting EA. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an environmental impact statement for this action is not necessary.

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Jennifer M. Wallace Date

Director (Acting), Office of Sustainable Fisheries, NOAA