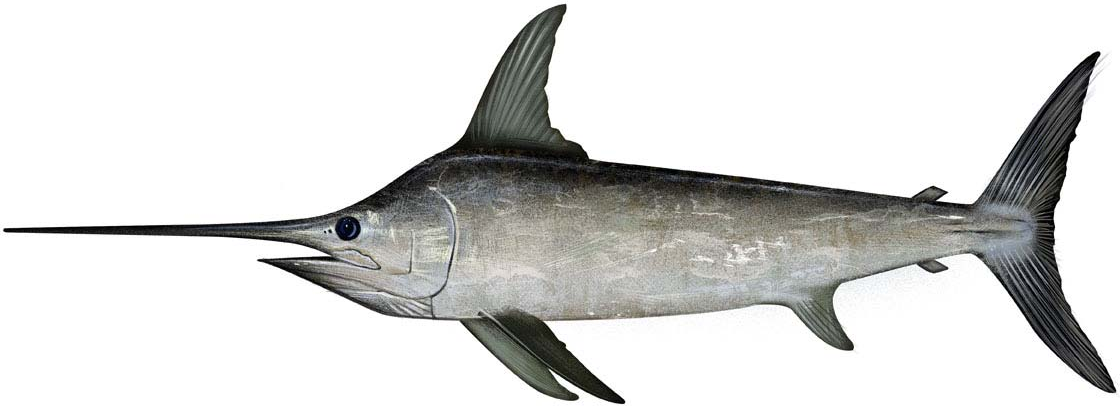
Draft Environmental Assessment,
Regulatory Impact Review,

and

Initial Regulatory Flexibility Analysis

for

Amendment 4 to the 2006 Consolidated Atlantic Highly Migratory Species Fishery Management Plan: U.S. Caribbean Management Measures



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

March 2012

ABSTRACT

Proposed Action:	Amendment 4 to the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP): U.S. Caribbean Management Measures
Type of statement:	Environmental Assessment (EA), Regulatory Impact Review (RIR), and Initial Regulatory Flexibility Analysis (IRFA)
Lead Agency:	National Marine Fisheries Service (NMFS): Office of Sustainable Fisheries
For further information:	Highly Migratory Species Management Division (F/SF1) 263 13th Avenue South St Petersburg, FL 33701 Phone: (727)-824-5399; Fax: 727-824-5398
Abstract:	This EA analyzes the potential environmental impacts of several alternatives including the action in the proposed rule to implement Amendment 4 to the 2006 Consolidated HMS FMP for Atlantic HMS fishery management measures in the U.S. Caribbean territories including Puerto Rico and the U.S. Virgin Islands (USVI). There are substantial differences between some segments of the U.S. Caribbean HMS fisheries and the HMS fisheries that occur off the mainland of the United States, including, but not limited to: small-scale commercial fishermen in the Caribbean that may not be currently operating within the HMS fishing and dealer permit requirements; smaller vessels; limited availability of processing and cold storage facilities; shorter trips; limited profit margins; and, high local consumption of catches. These differences have resulted in current federal HMS fishery regulations that do not address the needs of the traditional Caribbean small-scale commercial fisheries. NMFS is proposing management measures via rulemaking that would amend the HMS fishery management regulations in the U.S. Caribbean territories of Puerto Rico and the USVI to better manage the traditional small-scale commercial HMS fishing fleet in the U.S. Caribbean Region, enhance fishing opportunities and improve profits for the fleet, and to provide NMFS with an improved capability to monitor and sustainably manage those fisheries. The proposed action is development of Caribbean-specific management measures for small-scale HMS commercial fishermen that include the creation of a new Caribbean permit, specific authorized species and

retention limits, modification of reporting requirements, authorization of specific gears, small-scale fishing vessel size restrictions, and consideration of mandatory workshop training.

DRAFT FINDING OF NO SIGNIFICANT IMPACT

Draft Finding of No Significant Impact for a Proposed Rule to amend the 2006 Consolidated Highly Migratory Species Fishery Management Plan.

The Highly Migratory Species (HMS) Management Division of the Office of Sustainable Fisheries submits the attached Environmental Assessment (EA) for Atlantic HMS fisheries for Secretarial review under the procedures of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This EA analyzes the ecological, social, and economic impacts of four alternatives that are intended to increase the participation of small-scale commercial Caribbean fishermen within the HMS permitting and reporting regime in order to better collect catch and effort data and provide for sustainably managed fisheries. 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/SF1
National Marine Fisheries Service
263 13th Avenue South
St Petersburg, FL 33701
Phone: (727)-824-5399
or
http://www.nmfs.noaa.gov/sfa/hms

This proposed action is development of Caribbean-specific management measures for small-scale HMS commercial fishermen that include: the creation of a new Caribbean permit, specific authorized species and retention limits, modification of dealer and commercial vessel reporting requirements, modification of authorized gears, small-scale fishing vessel size restrictions, and consideration of mandatory workshop training.

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

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

No. The primary target species that are evaluated for this proposed action include bigeye, albacore, yellowfin and skipjack (BAYS) tunas, North Atlantic swordfish (SWO), and Atlantic sharks. The proposed HMS Caribbean Small Boat Commercial Permit (CSBP) would only be

valid for fishing within the Federal Exclusive Economic Zone (EEZ) of the U.S. Caribbean Region, as defined in the Code of Federal Regulations (CFR) at 50 CFR §622.2. The Caribbean small-scale commercial HMS fishery fleet is limited in number, the vessels are limited in range and hold capacity, and implementation of the proposed action is not expected to produce increased fishing effort or substantially increase landings of HMS. In 2010, there were 92 vessels with Atlantic Tunas General category permits in Puerto Rico and 10 vessels in the USVI. In 2010, there were 23 vessels with HMS Charter/Headboat permits in Puerto Rico and 21 vessels in the USVI. NMFS anticipates that the universe of fishermen who might purchase and fish under a CSBP would likely include approximately 100 vessels in the U.S. Caribbean Region with some potential shift of fishermen that currently hold HMS Angling and HMS Charter/Headboat permits to the CSBP. These fishermen may only hold one type of HMS permit, however, so this action is not expected to result in a substantial increase in effort beyond what currently exists in the fishery within the U.S. Caribbean Region. In addition, due to economic barriers created by the high cost of existing limited-access HMS permits there is probably some portion of the Caribbean small-scale HMS fleet that is not in compliance with existing permitting requirements. Therefore, some additional entrants to the HMS fishery may be expected as some existing unpermitted HMS fishermen come into compliance. Fishermen that obtain a CSBP, but that did not previously hold an Atlantic HMS fishing permit, are expected to be island residents utilizing small vessels that fish with the fishing gears proposed in the EA, thus NMFS believes that HMS landings will not substantially increase as a result of the proposed action. This proposed action would also include adaptive management measures to allow NMFS to adjust retention limits in response to changes in stock status and management restrictions (*e.g*. International Committee for the Conservation of Atlantic Tunas (ICCAT) recommendations, U.S. quota allocations, and changes in U.S. law).

The upper end of the analyzed range of allowable harvest mirrors the current maximum charter vessel recreational retention limit for yellowfin tuna (YFT) under current management requirements and is not anticipated to substantially increase landings of any species in the BAYS tunas complex. Allowing small-scale commercial HMS fishermen in the Caribbean Region to use their traditional free-floating handlines (buoy gear) to target BAYS tunas has been requested for many years. Because harvest using this type of gear usually results in few individual tuna harvested per trip, NMFS believes the proposed action will not substantially increase the harvest of any tuna species in the Caribbean region

According to the most recent stock assessment (SCRS, 2009), the swordfish (SWO) stock is fully rebuilt and overfishing is not occurring. Moreover, the United States has been harvesting less than 50 percent of its adjusted SWO quota allocated by ICCAT in recent years. The maximum retention limit of SWO being considered under this proposed action is consistent with the current open access HMS Charter/headboat category retention limit for a vessel with 6 paying passengers onboard. The number of new entrants into the fishery will likely be few and the resulting effort and increase in SWO landings will be very limited. Therefore, NMFS believes the proposed action will not substantially increase the harvest of SWO in the Caribbean Region.

The stock status of non-sandbar large coastal sharks (LCS), small coastal sharks (SCS), and pelagic sharks vary, but management measures will reflect the status of the stocks to minimize potential adverse impacts on shark stocks. Under the proposed action retention limits of shark

stocks that are declared to be overfished could be reduced to 0. The shark retention limits considered in this action range between 0 to 3 non-sandbar LCS and from 0 to 16 SCS and pelagic sharks combined. The high end of the retention limit ranges considered in this proposed action reflect the incidental trip limit currently employed for the non-sandbar LCS limited access fishery. Therefore, this proposed action is not expected to have substantial adverse impacts to any Caribbean shark population or otherwise jeopardize the sustainability of shark species that are made available for harvest.

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

No. The action is not expected to jeopardize the sustainability of any non-target fish species or bycatch because it is not expected to result in a change in fishing effort compared to levels already analyzed in the 2006 Consolidated HMS FMP and associated Biological Opinions. Current Atlantic tunas General Category permit holders (~102 vessels in 2010) in the U.S. Caribbean Region are expected to purchase the new permit, as it will allow them the opportunity to harvest BAYS tunas as well as an opportunity to harvest SWO and shark. Opportunities to harvest SWO and sharks are not anticipated to have significant ecological impacts because any increases in fishing effort are expected to be de minimis due to the small number of new permits that are anticipated to be applied for as evidenced by the small number of existing HMS permits in the U.S. Caribbean Region, the limited vessel size requirements of the permit, and the limited size and remoteness of the U.S. Caribbean Region.

Some Charter/headboat category fishermen may choose to purchase the new permit, but the trip limit for the Charter/headboat category is higher than those being explored for the CSBP, and as a condition of purchasing a CSBP, fishermen may only hold one type of HMS permit. Therefore, the overall amount of effort is not expected to change substantially under this proposed action. The impact of the effort for handgear, as analyzed in the 2006 Consolidated HMS FMP, associated EIS, and relevant BiOps, was not expected to jeopardize the sustainability of any non-target species.

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

No. NMFS anticipates that the proposed action would have a low level of adverse environmental impacts due to the limited geographic area of the Caribbean small-scale commercial HMS fishery, small size of the vessels involved, the relatively low number of known participants, and the use of traditional handgears which have negligible impacts to ocean and coastal habitats, including benthic habitats.

Unattached handlines have traditionally been used in the Caribbean small-scale commercial HMS fishery; however, unattached handlines were redefined as “buoy gear” by NMFS in the 2006 Consolidated HMS FMP and limited to use for commercial swordfishing with only specific limited access permits. This has been problematic for fishermen operating in the Caribbean HMS fishery because the high cost of the limited access permits presented a barrier to small scale fishermen that prevented them from entering the fishery. As described in

Amendment 1 to the 2006 Consolidated HMS FMP, NMFS concluded in the 2006 Consolidated HMS FMP that most HMS gears have minimal to no impact on HMS EFH or to other species' EFH. Since most HMS gears, including "buoy gear" or "unattached handlines" (discussed above) are fished in the upper water column, the potential impacts to EFH are generally considered to be negligible. HMS gears do not normally affect the physical characteristics that define HMS EFH, and EFH identified in other FMPs, such as salinity, temperature, dissolved oxygen, and depth.

Therefore the proposed action is not expected to increase overall fishing effort or result in increased adverse gear impacts on any EFH.

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

No. The proposed action includes the modification of several Caribbean management measures to increase reporting of catch and effort data, and to provide additional fishing opportunities that are not otherwise cost-prohibitive to small-scale fishermen. Opportunities to harvest BAYS tunas, SWO, and sharks are not anticipated to have significant ecological impacts because any increases in fishing effort are expected to be de minimis due to the small number of new permits that are anticipated to be applied for as evidenced by the small number of existing HMS permits in the U.S. Caribbean Region, the limited vessel size requirements of the permit, and the limited size and remoteness of the U.S. Caribbean Region. Fishing patterns and behavior in the target fisheries are not expected to change as a result of this action, therefore it is not expected to have substantial adverse impacts on public health and safety.

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

No. NMFS believes there would be no additional negative ecological impacts to non-target species or other habitats, including species protected by the ESA and MMPA, beyond those impacts currently occurring under the status quo. This proposed action is not expected to adversely affect any endangered or threatened species, or any marine mammals. All handgears and green-stick gear are tended closely by the fishing vessel so unwanted bycatch can be released quickly. A 2001 BiOp concluded that the HMS handgear fishery did not jeopardize any endangered species, and the 2006 Consolidated HMS FMP authorized the use of buoy gear for commercial SWO fishing in part because of low interactions with non-target species. The Southeastern U.S. Atlantic, Gulf of Mexico, and Caribbean commercial hook and line fishery (including rod and reel, handlines, greenstick, bandit gear, and buoy gear) are considered a Category III fishery under the MMPA, those with remote likelihood of causing serious injury or mortality to marine mammals. In the commercial fishing context, this gear type is not expected to interact with or cause serious injury or mortality of marine mammals.

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

No. A 2001 BiOp concluded that the HMS handgear fishery did not jeopardize any endangered species. A 2008 NMFS Memorandum determined that authorizing green-stick gear for the harvest of Atlantic tunas was not likely to adversely affect listed species. The proposed action utilizes fishing gear that is closely tended, and allows unmarketable species or bycatch to be dehooked and released quickly. Because the CSBP will only be valid for fishing within the U.S. Caribbean Region and may be restricted to vessels under a certain size, overall impacts are not anticipated to be substantial to biodiversity or ecosystem function.. Further, because this proposed action is not anticipated to result in increased adverse gear impacts on any EFH, it is not anticipated to impact benthic productivity. Finally, NMFS does not anticipate any substantial change to the existing numbers of individual species harvested under the proposed action, therefore no potential adverse impacts to predator-prey relationships or to ecosystem function are anticipated.

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

No. There are no anticipated significant natural or physical environmental effects associated with the proposed action and no significant social or economic impacts interrelated with natural or physical environmental effects that would result from the action. The proposed action is expected to have largely neutral environmental effects. This is because no change in fishing effort is expected, as approximately the same amount of fishermen will obtain the CSBP permit as are already estimated to participate in the Atlantic tunas General Category fishery under the 2006 Consolidated HMS FMP. Opportunities to harvest BAYS tunas, SWO, and sharks are not anticipated to have significant ecological impacts because any increases in fishing effort are expected to be de minimis due to the small number of new permits that are anticipated to be applied for as evidenced by the small number of existing HMS permits in the U.S. Caribbean Region, the limited vessel size requirements of the permit, and the limited size and remoteness of the U.S. Caribbean Region. Some Charter/headboat category fishermen may choose to purchase the new permit, but the trip limit for the Charter/headboat category is higher than those being explored for the CSBP, and as a condition of purchasing a CSBP, fishermen may only hold one type of HMS permit. Therefore, the overall amount of effort is not expected to change significantly under this proposed rulemaking. This action would afford the small-scale HMS fishermen in the Caribbean Region access to the federal commercial SWO fishery and will likely produce a moderate economic gain. Currently, entrance to the federal limited access commercial SWO fishery has been difficult for small-scale commercial fishermen as limited access permits are cost prohibitive. This action may also afford the small-scale fishermen in the U.S. Caribbean Region access to the commercial federal shark fisheries, contingent upon the health of the respective shark stocks (non-sandbar LCS, SCS, and pelagic sharks). Further, the action is consistent with the 2006 Consolidated HMS FMP including objectives to monitor and control all components of fishing mortality, both directed and incidental, so as to ensure the long-term sustainability of HMS stocks, and to provide the data necessary for assessing HMS fish stocks and managing HMS, including addressing any inadequacies in current data collection and the ongoing collection of social, economic, and bycatch data in Atlantic HMS fisheries. Section 6 of the EA provides an analysis of the predicted economic impacts of the proposed action to Caribbean fisheries and small business entities and it suggests generally positive social and economic benefits.

8. To what degree are the effects on the quality of the human environment expected to be highly controversial?

The effects of this action on the human environment are not expected to be highly controversial. NMFS has worked extensively with the HMS Advisory Panel (HMS AP), Caribbean Fishery Management Council (CFMC), territorial governments, local fishermen, and Non-Governmental Organizations (NGOs) through the National Environmental Policy Act (NEPA) scoping and preliminary rulemaking processes to identify the needs of the Caribbean small-scale commercial HMS fishery. During this extensive public outreach effort there have been no issues identified that would result in public or scientific controversy over the effects of the proposed action on the quality of the human environment.

In 2007, NMFS began consideration of a potential amendment to the 2006 Consolidated HMS FMP to develop and implement management measures for HMS fisheries in the Caribbean region. Pre-scoping for the amendment commenced in the winter of 2007/2008. NMFS published a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) in the Federal Register on May 27, 2008 (73 FR 30381) to initiate NEPA scoping. The NOI indicated that the EIS would address issues regarding authorized fishing gear and fishing vessel and dealer permitting in the Caribbean Region, as well as examine management alternatives to improve vessel and dealer reporting, data collection, and Agency outreach. On July 14, 2008, NMFS announced the availability in the Federal Register (73 FR 40301) of an "issues and options" document describing potential measures for such management in Amendment 4 to the 2006 Consolidated HMS FMP (Amendment 4). In the same announcement, NMFS provided details for scoping meetings and requested comments on the issues and options document. The comment period was open until October 31, 2008. NMFS presented the issues and options paper for Amendment 4 to the Caribbean, Gulf of Mexico, South Atlantic, Mid-Atlantic, and New England Fishery Management Councils. Additionally, NMFS presented the Amendment 4 issues and options presentation and a summary of the comments received during scoping to the HMS AP at its September 2008 meeting. A summary of the scoping comments was released on January 15, 2009. A predraft of Amendment 4, including potential management alternatives, was made available to the public on August 21, 2009.

After consideration of information gathered during the NEPA and preliminary rulemaking scoping process, including the lack of public or scientific controversy about the potential impacts of the proposed action on the human environment, NMFS made a preliminary decision that it would be appropriate to analyze the proposed action in an EA rather than an EIS as originally proposed in 2008. Therefore, on July 13, 2011, NMFS published a NOI to prepare an EA for Amendment 4 (76 FR 41216).

This action is expected to address numerous issues in Caribbean fisheries management, and has been developed with the cooperation of the HMS AP, the CFMC, territorial governments, local fishermen, and NGOs. It is not expected to be controversial.

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

No. This action would not result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas because the proposed action would occur in open areas of the ocean. In addition, there is no park land, prime farmlands, wetlands, or wild and scenic rivers within the action area so there would be no impacts on these areas.

10. Are the 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 and not beyond those effects analyzed in similar actions since 1999, some of which have been considered in the Final Environmental Impact Statement (FEIS) prepared for the 2006 Consolidated HMS FMP. None of the previous actions resulted in highly uncertain effects or unique or unknown risks. The proposed action would increase the participation of small Caribbean fishing vessels into the HMS permitting and reporting regime in order to better collect fishery catch and effort data, provide benefits to the small-scale commercial HMS fishermen, and help NMFS improve HMS fishery management in the U.S. Caribbean Region.

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

No. NMFS does not anticipate there to be any significant cumulative ecological, economic, and social impacts. The proposed action would modify existing management measures to provide small-scale fishermen access to Caribbean BAYS fisheries, provide increased opportunities for U.S. Caribbean fishermen to harvest the domestic SWO quota, and provide for future opportunities for U.S. Caribbean fishermen to participate in sustainable shark fisheries using uniform conservation and management measures developed and implemented through an FMP in accordance with the procedures set forth in the Magnuson-Stevens Act. The management measures are not expected to create changes in overall fishing effort or fishery landings, or cause significant ecological, economic, or social impacts. The proposed action would continue to prevent overfishing without jeopardizing the sustainability of BAYS tunas, SWO, or shark fisheries. Providing small-scale fishermen with additional opportunities to harvest BAYS tunas, SWO, and sharks is not anticipated to have significant ecological impacts because any increases in fishing effort are expected to be de minimis due to the small number of new permits that are anticipated to be applied for as evidenced by the small number of existing HMS permits in the U.S. Caribbean Region, the limited vessel size requirements of the permit, and the limited size and remoteness of the U.S. Caribbean Region.

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

No. The proposed action would occur in offshore waters of the U.S. Caribbean Region 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.

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

No. The proposed action is not expected to result in any significant change to fishing patterns previously analyzed in the FEIS for the 2006 Consolidated HMS FMP. The total fleet of small-scale Caribbean HMS vessels is low in number (~100 commercial vessels), and these vessels are limited in range and hold capacity. The CSBP would only be valid for fishing within the U.S. Caribbean Region; because the current Caribbean small-scale HMS fishery participants utilize small vessels it is not expected that they would travel between ecologically different bodies of water or exchange ballast water. Thus, they would not likely contribute to the introduction or spread of non-indigenous species.

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

No. This action addresses important issues identified in the Caribbean small-scale commercial HMS fishery that will improve data collection on fishing effort and landings in the region. Increased participation in the NMFS permitting system would help NMFS better identify the universe of small-scale HMS fishermen in the U.S. Caribbean Region and would likely lead to improved data collection, more accurate stock assessments, and better quota management. It would also authorize the use of traditional free-floating handlines (buoy gear), locally often called "yo-yo gear" in the Caribbean fisheries; similar gear has already been authorized in other HMS fisheries. The retention limits being considered in this proposed action are within the range of retention limits already established in the existing management measures for the BAYS tunas, SWO, and shark fisheries. Additionally, this action includes mechanisms by which retention limits can be adjusted by regulation as NMFS collects more data on regional participants, catches, and discards in the CSBP fishery.

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

No. The action would be consistent with the Magnuson-Stevens Fishery Conservation and Management Act, the Atlantic Tunas Convention Act, and the regulations at 50 CFR 635. NMFS has preliminarily determined that the action would be implemented in a manner consistent with the enforceable policies of those coastal states on the Atlantic (including the GOM and Caribbean) that have approved coastal zone management programs. Letters will be sent to the relevant states asking for their concurrence when the proposed rule is filed with 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.

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

No. The action is not expected to result in cumulative adverse effects that could have a substantial effect on target species or non-target species. This action would enhance the ability of Caribbean fishermen and dealers to participate in the NMFS permitting system, which would help NMFS better identify the universe of small-scale HMS commercial fishermen the U.S.

Caribbean Region and would likely lead to improved data collection, more accurate stock assessments, and better quota management. Implementation of this proposed action is not expected to change current fishing behavior nor substantially change the total overall amount of fishing effort or fishery harvest by small-scale commercial HMS fishermen in the U.S. Caribbean Region.

DETERMINATION

In view of the information presented in this document and the analysis contained in the attached EA that was prepared to address the proposed changes to Caribbean HMS fisheries management, particularly the small-scale fisheries that target BAYS tunas (and that could successfully target SWO and shark if provided the opportunity), it is hereby determined that this action would not have a significant impact on the quality of the human environment as described above and in the EA. In addition, all impacts to potentially affected areas, including national, regional, and local, have been addressed to reach the conclusion of no significant impact. Accordingly, preparation of an EIS for this action is not necessary.

DRAFT

_____ _____

Carrie D. Selberg Date
Acting Director, Office of Sustainable Fisheries, NMFS

TABLE OF CONTENTS

ABSTRACT 3

DRAFT FINDING OF NO SIGNIFICANT IMPACT 5

1.0 Introduction 17

1.1 Purpose and Need 17

1.1.1 Scope of the National Environmental Policy Act (NEPA) Analysis 19

1.2 Background on the Development of this Amendment 20

1.3 Objectives 21

1.4 Brief Management History 21

1.4.1 BAYS Tunas 23

1.4.2 Atlantic Swordfish 24

1.4.3 Atlantic Sharks 25

2.0 Summary of NEPA Alternatives 27

3.0 Affected Environment 35

3.1 Stock Status of Target Species Relevant to the Proposed Action 35

3.1.1 Atlantic BAYS Tunas and North Atlantic Swordfish 36

3.1.2 Atlantic Sharks of the Caribbean Region 41

3.2 Fishery Participants and Gears in the U.S. Caribbean Region 44

3.2.1 Description of the BAYS Tunas Fisheries in the U.S. Caribbean 44

3.2.2 Description of the Swordfish Fishery in the U.S. Caribbean 46

3.2.3 Atlantic Shark Fisheries in the U.S. Caribbean 47

3.3 Habitat 48

3.4 Economic and Social Aspects of HMS Fisheries in the U.S. Caribbean 49

3.4.1 Social and Economic Characteristics of Commercial Fisheries in Puerto Rico 49

3.4.2 Social and Economic Characteristics of Commercial Fisheries in the USVI 51

4.0 Environmental Consequences of NEPA Alternatives 52

4.1 Environmental Effects 53

4.2 Social and Economic Impacts 57

4.3 Mitigation Measures 59

4.4 Comparison of NEPA Alternatives 60

4.5 Cumulative Impacts 62

5.0 Regulatory Impact Review 63

5.1 Description of Management Objectives 64

5.2 Description of Fishery 64

5.3 Statement of the Problem 64

5.4 Description of Each Alternative 65

5.5 Economic Analysis of Expected Effects of Each Alternative Relative to the Baseline 65

5.6 Conclusion 73

6.0 Initial Regulatory Flexibility Analysis 73

6.1 Description of the Reasons Why Action is Being Considered 73

6.2 Statement of the Objectives of, and Legal Basis for, the Proposed Rule 74

6.3 Description and Estimate of the Number of Small Entities to Which the Proposed Rule Will Apply 74

6.4 Description of the Projected Reporting, Record-Keeping, 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 74

6.5 Identification of all Relevant Federal Rules which may Duplicate, Overlap, or Conflict with the Proposed Rule 74

6.6 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 75

7.0 Literature Cited 79

1.0 INTRODUCTION

Atlantic Highly Migratory Species (HMS[1]) are managed under the dual authority of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Atlantic Tunas Convention Act (ATCA). Under the Magnuson-Stevens Act, the National Marine Fisheries Service (NMFS) must, consistent with the National Standards, manage fisheries to maintain optimum yield (OY) by rebuilding overfished fisheries and preventing overfishing. Under ATCA, NMFS is authorized to promulgate regulations, as may be necessary and appropriate, to implement the recommendations from the International Commission for the Conservation of Atlantic Tunas (ICCAT). The management measures proposed for this amendment (Amendment 4) to the 2006 Consolidated Atlantic HMS Fishery Management Plan (FMP) and associated rulemaking would be taken under the authority of both the Magnuson-Stevens Act and ATCA. In addition to these two laws, the regulations to implement 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 (CZMA).

As required by NEPA, Section 2 of this EA document provides a description of the alternatives considered, Section 3 provides a description of the affected environment of the fishery, and Section 4 analyzes the potential ecological, social, and economic impacts of the 4 alternatives. Sections 5 and 6 analyze the economic impacts of the alternatives and address the requirements of a Regulatory Impact Review (RIR) and Initial Regulatory Flexibility Analysis (IRFA).

NMFS is proposing management measures that would amend the HMS fishery management regulations specifically to address issues in HMS fisheries in the U.S. Caribbean Region. Changes to Caribbean-specific management measures could include the creation of a new permit, specific authorized species and retention limits, modification of dealer and commercial vessel reporting requirements, authorization of specific gears, small-scale vessel size restrictions, and consideration of mandatory workshop training.

1.1 Purpose and Need

This FMP amendment addresses HMS fishery management measures in the U.S. Caribbean Region, as defined in the Code of Federal Regulations (CFR) at 50 CFR §622.2 (see Figure 1.1).

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*) codified @16 U.S.C. 1802(14). 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*) codified@ 16 U.S.C. 1802(27).

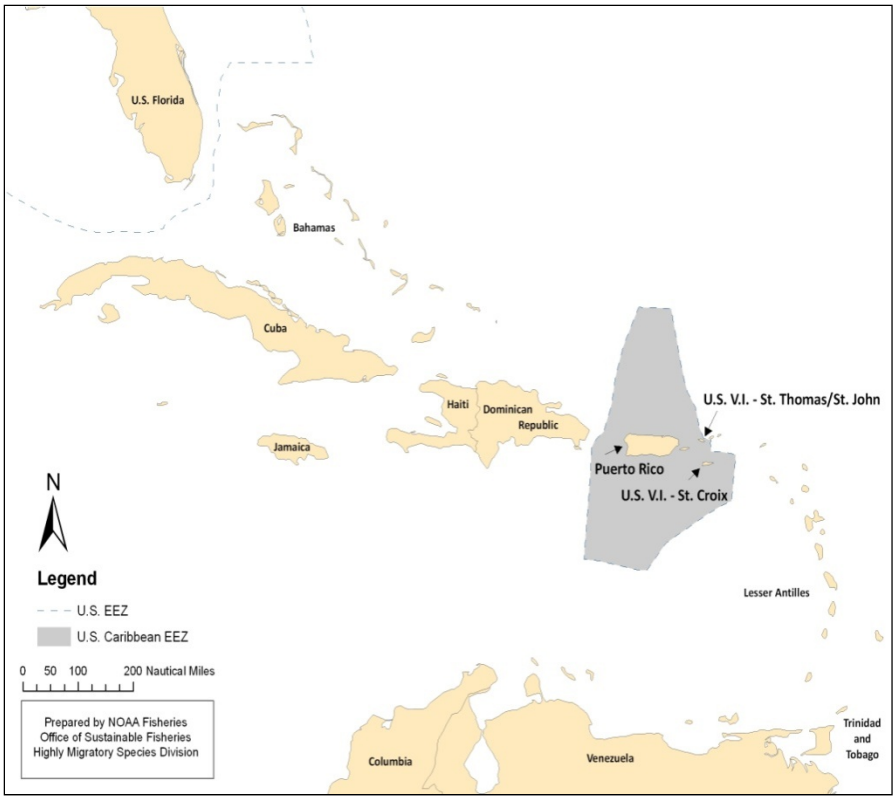


Figure 1.1 Chart showing the location of the U.S. Caribbean Region.

There are substantial differences between some segments of the U.S. Caribbean HMS fisheries and the HMS fisheries that occur off the mainland of the United States, including: small-scale commercial fishermen in the Caribbean that may not be operating within the HMS fishing and dealer permit requirements; smaller vessels; limited availability of processing and cold storage facilities; shorter trips; limited profit margins; and, high local consumption of catches. These differences have resulted in current federal HMS fishery regulations that do not address the needs of the traditional Caribbean small-scale fisheries. Fishermen in the region often find these factors difficult to overcome given the limited local infrastructure and small market for their catches.

Currently, there are no HMS limited access fishing permits (LAPs) held in the U.S. Caribbean and only a small number of HMS open access fishing permits and dealer permits. This is likely due to numerous factors including the high costs typically associated with obtaining HMS LAPs (some valued at up to $30,000.00) and owning/operating a commercial vessel, relatively low catch volume and revenue, the low number of HMS LAPs that were initially issued to residents of the U.S. Caribbean Region, language barriers, and a general lack of awareness of HMS fishing regulations due to the region being geographically isolated, among others. The low number of LAPs initially issued to fishermen in the region may have be due to local fishermen not meeting previous qualification requirements or because they failed to apply for LAPs during the issuance process. The small number of HMS dealer permits may be a result of limited processing and cold storage facilities, and the customary sales and distribution system

for seafood in the U.S. Caribbean, among others. The low number of HMS fishing and dealer permits has resulted in limited catch and landings data reported from the U.S. Caribbean HMS fisheries, even though NMFS is aware that there are small-scale fishermen targeting HMS, particularly yellowfin tuna (YFT). The limited amount and incomplete nature of catch and landings data limits the effectiveness of fishery management efforts in the region. In some cases, traditional fishing gears and economically necessary practices utilized by local small-scale fishermen, such as targeting both pelagic and reef fish species with multiple gear types during a single trip, may diverge from fishing practices in U.S. mainland fisheries. Therefore, NMFS is proposing this action to specifically address the unique characteristics of small-scale fishermen participating in the HMS fishery in the U.S. Caribbean Region.

NMFS has benefited from receiving various recommendations to improve management of the HMS permitting program and U.S. Caribbean HMS fisheries from the HMS Advisory Panel (HMS AP), Caribbean Fishery Management Council (CFMC), territorial governments, local fishermen, and Non-Governmental Organizations (NGOs). Some suggested improvements to management of U.S. Caribbean HMS fisheries received to date include: creating a new commercial Caribbean HMS permit; combining Caribbean vessel and dealer permits (thereby allowing small-scale vessels to retail/wholesale catch); modifying authorized gears; limiting small-scale vessel size, and providing additional training and outreach for compliance with regulations, species identification, and proper reporting.

Based on discussions with the HMS AP, CFMC, and the territorial governments, NMFS believes that the depletion of some reef fishes may be increasing local interest in exploiting HMS resources in some areas. As local fishermen have become more dependent on offshore fishery resources and increased HMS fishing effort, there is an increased need for NMFS to implement HMS management measures that include all of the small-scale Caribbean fishermen in the HMS permitting and reporting regime in order to collect better catch and effort data and provide for sustainably-managed fisheries.

This proposed action is needed to implement management measures specific to the unique characteristics of small-scale fishermen participating in the HMS fishery in the U.S. Caribbean Region. The purpose of this action is to amend the HMS fishery management regulations in the U.S. Caribbean territories of Puerto Rico and the USVI to better manage the traditional fishing fleet in the U.S. Caribbean Region, enhance fishing opportunities and improve profits for the fleet, and provide NMFS with an improved capability to monitor and sustainably manage the fishery.

1.1.1 Scope of the National Environmental Policy Act (NEPA) Analysis

This EA describes the NMFS proposed action of amending the 2006 Consolidated HMS FMP to increase the participation of Caribbean small-scale commercial fishing vessels within the HMS permitting and reporting regime in order to better collect catch and effort data and provide for sustainably managed fisheries. The EA analyzes the potential, direct, indirect, and cumulative ecological, social, and economic impacts associated with four different alternative suites of management measures that are described in Section 2.

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

Under NEPA, NMFS prepares an EA to determine if the proposed action may cause any potentially significant environmental impacts. If the EA analysis demonstrates that there are no potential significant impacts, a Finding of No Significant Impacts (FONSI) is prepared to document the NMFS decision to approve the proposed action. If at any time during preparation of the EA it appears that potentially significant impacts would result from the proposed action, the Agency would halt development of the EA and begin preparation of an Environmental Impact Statement (EIS) to more thoroughly evaluate the potential impacts and potential ways to reduce or mitigate those impacts.

1.2 Background on the Development of this Amendment

In 2007, NMFS initiated a potential amendment to the 2006 Consolidated HMS FMP to develop and implement management measures for HMS in U.S. Caribbean Region. Pre-scoping for the amendment commenced in the winter of 2007/2008. NEPA scoping was initiated by publishing a Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) in the Federal Register on May 27, 2008 (73 FR 30381). The NOI indicated that the EIS would address issues regarding authorized fishing gear and fishing vessel and dealer permitting in Puerto Rico and the USVI, as well as examine management alternatives to improve vessel and dealer reporting, data collection, and agency outreach.

On July 14, 2008, NMFS announced the availability in the Federal Register (73 FR 40301) of an "issues and options" document describing potential measures for inclusion in a potential Amendment 4 to the 2006 Consolidated HMS FMP. In the same announcement, NMFS provided details for scoping meetings and requested comments on the issues and options document. The comment period was open until October 31, 2008. NMFS presented the issues and options paper for Amendment 4 to the Caribbean, Gulf of Mexico, South Atlantic, Mid-Atlantic, and New England Fishery Management Councils. Additionally, NMFS presented the Amendment 4 issues and options presentation and a summary of the comments received during scoping to the HMS AP at its September 2008 meeting. A summary of the scoping comments was released on January 15, 2009.

A predraft of Amendment 4, including specific management alternatives, was made available to the public on August 21, 2009. Simultaneously, NMFS released draft versions of a Caribbean HMS Identification Guide and a Caribbean HMS Outreach Brochure (both in Spanish and in English). These documents were presented to the Caribbean Fishery Management Council and the HMS AP during August and September, 2009. The finalized outreach documents were mass-produced and distributed to outreach partners throughout the U.S. Caribbean Region.

On July 13, 2011 (76 FR 41216), NMFS published an NOI to prepare an Environmental Assessment (EA) for Amendment 4. After consideration of substantive comments received through formal scoping and other means, NMFS has preliminarily determined that an EA would

provide an appropriate level of NEPA review for Amendment 4 and that preparation of an EIS is not necessary. NMFS anticipates that the proposed action will have a low level of potential adverse environmental impacts due to the limited geographic area of the Caribbean small-scale commercial HMS fishery, small size of the vessels involved, the relatively low number of known participants, and the use of traditional handgears. Additionally, any potential adverse impacts to protected species are expected to be minimal.

1.3 Objectives

Consistent with the 2006 Consolidated HMS FMP objectives, the Magnuson-Stevens Act, and other relevant federal laws, the specific objectives for this action are to:

- Increase participation in the HMS federal fishery management program in the U.S. Caribbean Region;
- Expand regional HMS permit availability and increase permitting program awareness, participation, and compliance in the U.S. Caribbean region;
- Improve regional HMS catch and fishing effort data;
- Examine and implement regionally tailored HMS management strategies, as appropriate;
- Provide targeted training and outreach to Caribbean HMS fishery participants; and,
- Improve NMFS' capability to monitor and sustainably manage U.S. Caribbean HMS fisheries.

1.4 Brief Management History

This section provides a brief overview of HMS management.

Prior to 1990, the five Atlantic Regional Fishery Management Councils (New England, Mid-Atlantic, South Atlantic, Gulf of Mexico, and Caribbean) had authority to manage Atlantic HMS in their regions. In 1985, those councils implemented the original Swordfish FMP and, in 1988, the original Billfish FMP.

On November 28, 1990, the President of the United States signed into law the Fishery Conservation Amendments of 1990. This law amended the Magnuson Act and gave the Secretary of Commerce the authority to manage Atlantic tunas, SWO, billfish (BLF), and sharks in the exclusive economic zone (EEZ) of the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea (16 U.S.C. 1811 and 16 U.S.C. 1854(f)(3)). The Secretary subsequently delegated this authority to manage Atlantic HMS to NMFS. The HMS Management Division within NMFS develops regulations for HMS fisheries, although some actions (*e.g.*, Large Whale Take Reduction Plan) are taken by other NMFS offices if the primary legislation (*e.g.*, Marine Mammal Protection Act) driving the action is not the Magnuson-Stevens Act or ATCA. NMFS manages Atlantic HMS at the international and national levels given the highly migratory nature of these species.

In 1996, Congress amended the Magnuson Act with the Sustainable Fisheries Act, re-naming it the Magnuson-Stevens Fishery Conservation and Management Act, to require that NMFS establish advisory panels (APs) to assist in the development of FMPs and FMP amendments for Atlantic HMS. As a result, NMFS established the HMS and Billfish APs and, in 1999, finalized and implemented the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks (1999 FMP) and Amendment 1 to the Atlantic Billfish FMP (NMFS, 1999; NMFS, 1999a). In 2003, NMFS amended the 1999 FMP to address shark management issues (NMFS, 2003). In 2006, NMFS published the 2006 Consolidated HMS FMP, which combined the 1999 FMP, the Atlantic Billfish FMP, and their amendments, and also combined the two separate APs into a single HMS AP (NMFS, 2006). The 2006 Consolidated HMS FMP has since been amended by Amendment 1 to the 2006 Consolidated HMS FMP (NMFS, 2009), which focused on essential fish habitat; Amendment 2 to the 2006 Consolidated HMS FMP in 2008 (NMFS, 2008), which focused on large coastal shark management measures; and Amendment 3 to the 2006 Consolidated HMS FMP (NMFS, 2010), which focused on management measures for small coastal sharks, pelagic sharks, and smooth dogfish. The regulations for Atlantic HMS can be found at 50 CFR part 635. Detailed descriptions of domestic management measures can be found in the 2006 Consolidated HMS FMP and the HMS commercial and recreational compliance guides. These documents are available on the NMFS HMS website (http://www.nmfs.noaa.gov/sfa/hms).

Since 1966, ICCAT has been responsible for international conservation and management of tuna and tuna-like species. ICCAT currently includes 48 contracting parties, including the United States, and its stated objective is to "cooperate in maintaining the populations of these fishes at levels which will permit the maximum sustainable catch for food and other purposes." Atlantic tunas, SWO, and Atlantic billfish are subject to ICCAT management authority. ICCAT also assesses the stock status of some pelagic shark species. Recommendations adopted by ICCAT implemented, as necessary and appropriate, by regulation in the United States under ATCA, which was signed in 1975 (16 U.S.C. 971).

Under the Magnuson-Stevens Act, NMFS must maintain OY of each fishery by preventing overfishing and rebuilding overfished stocks. To do this, NMFS must, among other things, consider the National Standards, including using the best available scientific information as well as the potential impacts on residents of different States, efficiency, costs, fishing communities, bycatch, and safety at sea (16 U.S.C. §1851 (a)(1-10)). The Magnuson-Stevens Act also has a specific section that addresses preparing and implementing FMPs for Atlantic HMS (16 U.S.C. §1854 (g)(1)(A-G)). In summary, the section includes, but is not limited to the following requirements:

- Consult with and consider the views of affected Councils, Commissions, and advisory groups;

- Evaluate the likely effects of conservation and management measures on participants and minimize, to the extent practicable, any disadvantage to U.S. fishermen in relation to foreign competitors;

- Provide fishing vessels with a reasonable opportunity to harvest any allocation or quota authorized under an international fishery agreement;

- Diligently pursue comparable international fishery management measures; and,

- Ensure that conservation and management measures promote international conservation of the affected fishery, take into consideration traditional fishing patterns of fishing vessels, are fair and equitable in allocating fishing privileges among U.S. fishermen and promote, to the extent practicable, implementation of scientific research programs that include the tagging and release Atlantic HMS.

1.4.1 BAYS Tunas

Bigeye (BET), albacore (ALB), yellowfin (YFT), and skipjack (SKJ) tunas (collectively referred to as BAYS tunas) are managed under the 2006 Consolidated HMS FMP, consistent with relevant ICCAT recommendations.

1.4.1.1 Bigeye Tuna

The number of ICCAT recommendations directly affecting U.S. participation in the Atlantic BET fishery is limited. In 1998, ICCAT adopted Recommendation 98-03 limiting the number of fishing vessels over 24 m that could participate in the Atlantic BET fishery, with an exception for ICCAT contracting parties (CPCs) identified as minor harvesters. The United States was exempted from the restriction as a minor harvester. In 2004, ICCAT adopted Recommendation 04-01, which established a TAC of 90,000 mt ww and allocated specific catch limits to six CPCs considered to be major harvesters. The United States was not provided a specific allocation. In 2004, ICCAT repealed a minimum size limit for BET, which had been in effect since 1980; the United States maintained the minimum size limit for BET and YFT due to misidentification issues with juvenile BFT. In 2011, ICCAT adopted Recommendation 11-01, which establishes a comprehensive, multi-year (2012-2015) conservation management plan for BET. Recommendation 11-01 included a TAC of 85,000 mt ww for BET and provisions that would expand reporting of catch, observer coverage, and the need for Parties to submit a list of vessels greater than 20 m LOA authorized to fish for BET. Domestically, the United States has permitting, gear restrictions, minimum size restrictions, and reporting requirements in place for BET.

1.4.1.2 Northern Albacore Tuna

In 1998, ICCAT adopted Recommendation 98-08 limiting fishing capacity for North Atlantic ALB to the average number of vessels fishing for that species during the period 1993-1995, exclusive of recreational vessels. In 2003, ICCAT adopted a TAC of 34,500 mt ww, with the United States being allocated 607 mt ww. The TAC was reduced to 30,200 in 2007 with the U.S. share being reduced to 538 mt ww. In 2009, ICCAT established a rebuilding plan with a TAC for 2010 and 2011 of 28,000 mt ww, of which the United States was allocated 527 mt ww. Domestically, the United States has permitting requirements, reporting requirements, and gear restrictions in place among other regulations, but does not have bag or trip limits in place.

1.4.1.3 Yellowfin Tuna

ICCAT Recommendation 93-04 limits the level of effective effort exerted on YFT to 1992 levels. As with BET, ICCAT repealed a minimum size limit for YFT in 2005 that had been

in effect since 1973. There are no country-specific TACs in effect, and no quota limit for the United States. The United States implemented a domestic minimum size limit for YFT in 1999 to comply with the now repealed ICCAT minimum size. The United States maintained the minimum size limit for BET and YFT due to misidentification issues with juvenile BFT. In 2011, ICCAT adopted Recommendation 11-01, which establishes a comprehensive, multi-year (2012-2015) conservation management plan for YFT. Recommendation 11-01 included a TAC of 110,000 mt ww for YFT and provisions that would expand reporting of catch, observer coverage, and the need for Parties to submit a list of vessels greater than 20 m LOA authorized to fish for YFT. Domestically, the United States has permitting, gear restrictions, minimum size restrictions, recreational retention limits, and reporting requirements in place for YFT.

1.4.1.4 Atlantic Skipjack Tunas

There are no ICCAT recommendations in effect for SKJ. Domestically, fishermen fishing for or retaining SKJ are subject to permitting and reporting requirements and gear restrictions.

1.4.2 Atlantic Swordfish

The U.S. Atlantic SWO fishery is managed under the 2006 Consolidated HMS FMP under the authority of the Magnuson-Stevens Act and ATCA. There are two distinct management units for SWO in the Atlantic Ocean, north and south, divided at 5° N latitude. Because the southern stock is located south of 5° N latitude, South Atlantic SWO are not within the management authority of the Magnuson-Stevens Act. However, the stock and its fishery are included in the 2006 Consolidated HMS FMP because South Atlantic SWO are managed by ICCAT and because there are U.S. fishermen who have traditionally fished in the South Atlantic.

The first Atlantic SWO 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 a minimum size limit, commercial quota changes, and a prohibition on driftnets for SWO.

In 1999, ICCAT established a 10-year rebuilding plan, reducing the TAC to 10,400 mt ww over a three-year period while maintaining the U.S. quota share at 29 percent of the overall TAC. The United States completed development of a domestic rebuilding plan for North Atlantic SWO in 2000. In 2002, after limited stock increases, ICCAT increased the overall TAC to 14,000 mt and increased the U.S. allocation to 30.49 percent. In 2006, the United States began providing 1,345 mt of its North Atlantic SWO underharvest on a temporary basis to CPCs attempting to develop North Atlantic SWO fisheries. North Atlantic SWO were last assessed in 2009 and, according to the SCRS, the results of the assessment suggest that there is greater than 50% probability that the stock is at or above $B_{msy,}$ and thus the Commission's rebuilding objective has been achieved. The SCRS also noted that catches have been below the TACs since 2003. The 2009 North Atlantic SWO assessment found the stock to be fully rebuilt with no

overfishing occurring. In 2010, ICCAT established a catch limit of 3,907 mt ww for the United States for 2011. In 2011, Recommendation 11-02 was adopted which replaced 10-02. The two year measure (2012 and 2013) maintains the TAC at 13,700 mt ww. The SCRS indicated that if this TAC is maintained, the biomass of North Atlantic SWO will remain above B_{msy}, with greater than 50 percent probability. The United States quota of 3,907 mt ww was maintained.

In recent years, management measures other than quota changes have been implemented that affect commercial SWO fishermen. These measures include: time/area closures; mandatory use of circle hooks in the pelagic longline (PLL) fishery; bait restrictions; gear requirements; mandatory workshop training; mandatory vessel monitoring systems (VMS); and, changes to authorized gears and vessel upgrading restrictions.

1.4.3 Atlantic Sharks

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 (LCS), small coastal sharks (SCS), and pelagic sharks (NMFS, 1993) (Table 1.1). This 1993 FMP implemented commercial quotas for LCS and pelagic sharks and established recreational retention limits for all sharks, consistent with the LCS rebuilding program. As a result of the 1996 amendments to the Magnuson-Stevens Act, the 1999 FMP 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 LCS, and a LAP 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 (BLL), and PLL fishermen to attend workshops on the safe handling and release of protected resources.

Table 1.1 Common names of shark species included within the four species management units under the purview of NMFS.

Management Unit	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,

Management Unit	Shark Species Included
	dusky, night, bignose, Galapagos, Caribbean reef, narrowtooth, longfin mako, bigeye thresher, sevengill, sixgill, bigeye sixgill, Caribbean sharpnose, smalltail, and Atlantic angel sharks

*sandbar sharks can only be retained commercially within a shark research fishery, and cannot be retained by recreational anglers

**silky sharks cannot be retained by recreational anglers or in ICCAT fisheries.

***hammerhead and oceanic white tip sharks caught in association with ICCAT fisheries cannot be retained, transshipped, landed, stored, or sold per ICCAT recommendations 10-07 and 10-08.

In the 2008 Amendment 2 to the 2006 Consolidated HMS FMP, NMFS focused on additional shark management measures based on the 2005/2006 LCS stock assessment, 2006 dusky shark stock assessment, and 2005 porbeagle shark stock assessment (Gibson and Campana, 2005; NMFS, 2006a; NMFS, 2008). These included, but were not limited to: removing sandbar sharks from the LCS complex and establishing a non-sandbar LCS complex; setting new sandbar, non-sandbar LCS, and porbeagle shark commercial quotas; establishing a sandbar shark research fishery with prohibition on the retention of sandbar sharks outside the shark research fishery; creating one region for SCS, sandbar, and pelagic sharks and two regions (Gulf of Mexico and Atlantic regions) for non-sandbar LCS; prohibiting shark BLL gear in eight marine protected areas as requested by the SAFMC; establishing new non-sandbar LCS retention limits for directed and incidental shark permit holders; establishing a fishing year for sharks that begins on January 1 of each year; limiting the carryover of underharvest to 50 percent of the base quota for shark stocks whose status are healthy and prohibiting the carryover of underharvest for shark stocks whose status are overfished, experiencing overfishing, or are determined to be unknown; deducting overharvests from the following fishing year, or multiple years (up to five year maximum), based on the level of overharvest; requiring HMS dealer reports to be received by NMFS within 10 days of the end of a reporting period; requiring sharks to be offloaded with all fins naturally attached; and, distributing unclassified sharks proportionally among each shark species/complex based on observer and dealer reports.

On June 1, 2010, NMFS published a final rule for Amendment 3 to the 2006 Consolidated HMS FMP (June 1, 2010, 75 FR 30484) for small coastal sharks (SCS), pelagic sharks, and smooth dogfish (NMFS, 2010). The final rule and amendment implemented measures consistent with the 2007 SCS stock assessment and 2008 shortfin mako shark stock assessment (NMFS 2007; SCRS 2008). These measures included, but were not limited to: establishing a rebuilding plan for blacknose sharks; establishing a new non-blacknose SCS quota and a new blacknose-specific shark quota; modifying the Atlantic HMS management unit to include smooth dogfish; taking action at the international level to end overfishing of shortfin mako sharks; and promoting the live release of shortfin mako sharks in the domestic recreational and commercial shark fisheries. The amendment also created the smoothhound shark management complex, which consists of smooth dogfish (*Mustelus canis*) and Florida smoothhound (*Mustelus norrisi*) sharks. Conservation and management measures to be implemented through the amendment for smoothhounds include a requirement to offload smoothhounds with their fins naturally attached, federal dealers to report landings of

smoothhounds, and a federal permit requirement for the commercial and recreational retention of smoothhound sharks. However, NMFS no longer anticipates that management measures will be effective before the 2012 fishing season (November 10, 2011, 76 FR 70064). Instead, the effective date will be the same as the forthcoming final rule to implement the smoothhound shark provisions in the 2010 Shark Conservation Act and only after the required Endangered Species Act Section 7 consultation is completed.

NMFS is currently developing 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. On September 16, 2011, NMFS also published a notice of intent to prepare an Environmental Impact Statement (EIS) and FMP Amendment that would consider implementation of catch shares in the Atlantic shark fisheries (September 16, 2011, 76 FR 57709).

2.0 SUMMARY OF NEPA ALTERNATIVES

This section provides a summary of the alternatives that NMFS considered for this draft NEPA analysis. The following alternatives represent a range of options that NMFS has considered to implement management measures that better correspond with the traditional operation of the small-scale fishing fleet in the U.S. Caribbean Region as well as provide NMFS with an improved capability to monitor and sustainably manage those fisheries (Table 2.1). The ecological, economic, and social impacts of these alternatives are discussed in Section 4.

In this EA, NMFS considered four alternatives ranging from maintaining the status quo to creating a permit valid only in the U.S. Caribbean Region which could allow fishing for and sales of BAYS tunas, SWO, and Atlantic sharks (excluding sandbar) under specific limitations. This draft EA assesses the impacts of the alternatives, which are composed of various suites of measures addressing seven key topics: permitting/workshop certification; authorized species; retention limit ranges; reporting; authorized gears; vessel size restrictions; and, the specific geographic region addressed in this EA. Instead of analyzing a range of alternatives under individual topics, this document analyzes four alternatives that are composed of various suites of measures under the seven key topics.

In the final EA, NMFS may select the preferred alternative in this draft EA or NMFS may modify the proposed action after considering public comment or other information. NMFS requests public comments on other alternatives NMFS should consider that are not included in this EA. NMFS invites suggestions from the public on other alternatives that may include any of the seven key topics that are part of the suite of management measures under consideration to address Caribbean small-scale commercial HMS fishing.

Alternative 1: Status quo

This alternative would, among other things, maintain current Atlantic HMS vessel and dealer permits structure including: SWO, Atlantic shark, and tuna LAPs; the current open access tuna category permits; and, the SWO, Atlantic shark, and tuna dealer permit structure. Under this alternative, current vessel upgrading restrictions would be maintained for certain individual LAPs. The individual LAP upgrade restrictions include limitations on vessel length;

horsepower; and net and gross tonnage. Alternative 1 would maintain the current authorized species and gear possession structure, gear deployment restrictions and closed areas, as well as current retention limits and allowable landing forms for various HMS. Additionally current observer and vessel and dealer reporting requirements would remain in place. The current specific management measures for HMS are codified in the Code of Federal Regulations (CFR) at 50 CFR Part 635. These regulations are also summarized in the HMS Compliance Guides which can be found at: http://www.nmfs.noaa.gov/sfa/hms/Compliance_Guide/index.htm.

Alternative 2: **Create a Caribbean Small Boat Commercial Permit (CSBP) allowing fishing for and sales of BAYS tunas and SWO; Codify retention limits for BAYS tunas and SWO; collect landings data through cooperative agreements with existing territorial government programs; authorize the possession of rod and reel, handline, harpoon, bandit gear, green-stick, and buoy gear; restrict the size of vessels eligible to be issued a CSBP to those 45 feet or less in length overall (LOA); limit the CSBP to be valid only for fishing in the U.S. Caribbean Region; stipulate that the CSBP may not be held in combination with any other HMS permit.**

This alternative would create an open access commercial vessel permit that would authorize fishing for and sales of BAYS tunas and SWO in the U.S. Caribbean Region. CSBP holders would not be required to sell catches only to HMS permitted dealers and could retail their HMS catch, provided that specified reporting requirements are met. CSBP holders would be required to physically possess their permit, or a copy of their permit, at any point of HMS sale. The CSBP would not be valid for fishing or sales outside of the U.S. Caribbean Region. The CSBP could not be held on a vessel in combination with any other HMS permit. The CSBP would be a commercial-only permit and, as such, would not allow the retention of billfish. Vessels issued a CSBP would be authorized to possess rod and reel, handline, harpoon, bandit gear, green-stick, and buoy gear. Under this alternative, rod and reel, handline, harpoon, bandit gear, green-stick gear, and buoy gear would be authorized for the harvest of BAYS tunas. Rod and reel, handline, harpoon, bandit gear, and buoy gear would be authorized for the harvest of SWO.

Under this alternative, retention limits for BAYS tunas could be set between 0 and 24 fish per vessel per trip and 0 to 6 SWO per vessel per trip. For both BAYS and SWO, the current size limits and landing restrictions at 50 CFR §635.20 and §635.30 would apply. Landings data for vessels issued CSBPs would be collected through the territorial government fisheries data collection programs, as specified by those programs. The cooperative program with individual territorial governments would be responsible for supplying these data to the NMFS Southeast Fisheries Science Center and meeting requirements determined to be appropriate by NMFS.

Under Alternative 2, NMFS requests specific comment on a retention limit of 10 BAYS tunas and 2 SWO per vessel per trip. The retention limits fall within the ranges discussed above, and could be adjusted in the future through the framework procedures codified at 50 CFR §635.34(b).

The regulations at 50 CFR §635.34(b) state:

> In accordance with the framework procedures in the Highly Migratory Species Fishery Management Plan, NMFS may establish or modify for species or species groups of Atlantic HMS the following management measures: maximum sustainable yield or optimum yield based on the latest stock assessments or updates in the Stock Assessment and Fishery Evaluation (SAFE) report; domestic quotas; recreational and commercial retention limits, including target catch requirements; size limit; fishing years or fishing seasons; shark fishing regions or regional quotas; species in the management unit and the specification of the species groups to which they belong; species in the prohibited shark species group; classification system within shark species groups; permitting and reporting requirements; workshop requirements; Atlantic tunas Purse Seine category cap on bluefin tuna quota; time/area restrictions; allocations among user groups; gear prohibitions, modifications, or use restriction; effort restrictions; essential fish habitat; and actions to implement ICCAT recommendations, as appropriate.

Alternative 3: **(*Preferred*) Create a CSBP allowing fishing for and sales of BAYS tunas, SWO, and non-prohibited Atlantic sharks (excluding sandbar); Codify retention limits for BAYS tunas, SWO and Atlantic sharks collect landings data through cooperative agreements with existing territorial government programs; authorize the possession of rod and reel, handline, harpoon, bandit gear, green-stick, and buoy gear; restrict the size of vessels eligible to be issued a CSBP to those 45 feet or less (LOA); limit the CSBP to be valid only for fishing in the U.S. Caribbean Region; stipulate that the CSBP may not be held in combination with any other HMS permit.**

Similar to Alternative 2, Alternative 3 would include creation of a CSBP as described above, require possession of the permit (or a copy) at any point of HMS sale, collect landings data through the cooperative program with territorial governments, limit eligible vessels to 45 feet or less LOA, and restrict the permit to only being valid in the U.S. Caribbean Region. Unlike Alternative 2, Alternative 3 could allow for the retention of Atlantic sharks if certain management measures are implemented in the future. Vessels issued a CSBP would be authorized to possess rod and reel, handline, harpoon, bandit gear, green-stick, and buoy gear. Under this alternative, rod and reel, handline, harpoon, bandit gear, green-stick gear, and buoy gear would be authorized for the harvest of BAYS tunas. Rod and reel, handline, harpoon, bandit gear, and buoy gear would be authorized for the harvest of SWO, and rod and reel, handline, and bandit gear would be authorized for the harvest of Atlantic sharks.

Under Alternative 3, retention limits for BAYS tunas would be set between 0 to 24 fish per vessel per trip, 0 to 6 SWO per vessel per trip, 0 to 3 non-sandbar LCS per vessel per trip, and 0 to 16 SCS and pelagic sharks (combined) per vessel per trip. For both BAYS and SWO, the current size limits and landing restrictions at 50 CFR §635.20 and §635.30 would apply. For sharks, there would be no size limits, as there is no current commercial size limit; however, current landing restrictions at 50 CFR §635.30 would apply.

Under Alternative 3, NMFS is proposing to require applicants for a CSBP to first complete a NMFS Atlantic Shark Identification Workshop and submit a copy of a valid workshop certificate with their permit application package to obtain a CSBP if shark trip limits are set above 0 in future rulemaking. Additionally, NMFS is proposing to require CSBP holders to possess a valid NMFS Atlantic Shark Identification Workshop certificate (or a copy) at any point of shark sale. NMFS would conduct rulemaking to implement these requirements through the framework procedures at the time that the shark trip limits are adjusted.

Under Alternative 3, NMFS requests specific comment on a retention limit of 10 BAYS tunas, 2 SWO, and 0 sharks per vessel per trip. The retention limits fall within the ranges discussed above, and could be adjusted in the future through the framework procedures codified at 50 CFR §635.34(b), as discussed above.

Alternative 4: **Create a CSBP allowing fishing for and sales of BAYS tunas, SWO, and non-prohibited Atlantic sharks (excluding sandbar); Codify retention limits for BAYS tunas, SWO, and Atlantic sharks; collect landings data through cooperative agreements with existing territorial government programs; authorize the possession of rod and reel, handline, harpoon, bandit gear, green-stick, and buoy gear; do not restrict the size of vessels eligible to be issued a CSBP; limit the CSBP to be valid only for fishing in the U.S. Caribbean Region; stipulate that the CSBP may not be held in combination with any other HMS permit.**

Similar to Alternative 3, Alternative 4 would include creation of a CSBP as described above, require possession of the permit (or a copy) at any point of HMS sale, collect landings data through the cooperative program with territorial governments, and restrict the permit to only being valid in the U.S. Caribbean Region. This alternative would not restrict the size of vessel eligible to be issued a CSBP. Vessels issued a CSBP under Alternative 4 would be authorized to possess rod and reel, handline, harpoon, bandit gear, green-stick, and buoy gear. Under this alternative, rod and reel, handline, harpoon, bandit gear, green-stick gear, and buoy gear would be authorized for the harvest of BAYS tunas. Rod and reel, handline, harpoon, bandit gear, and buoy gear would be authorized for the harvest of SWO, and rod and reel, handline, and bandit gear would be authorized for the harvest of Atlantic sharks.

Under Alternative 4, retention limits for BAYS tunas would be set between 0 and an unlimited number of fish per vessel per trip, 0 to an unlimited number of SWO per vessel per trip, 0 to 33 non-sandbar LCS per vessel per trip, and 0 to no limit for SCS and pelagic sharks (combined) per vessel per trip. For both BAYS tunas and SWO, the current size limits and landing restrictions at 50 CFR §635.20 and §635.30 would apply. For sharks, there would be no size limits, as there is no current commercial size limit; however, current landing restrictions at 50 CFR §635.30 would apply.

As discussed under Alternative 3, NMFS is proposing to require applicants for a CSBP to first complete a NMFS Atlantic Shark Identification Workshop and submit a copy of a valid workshop certificate with their permit application package to obtain a CSBP if shark trip limits

are set above 0 in future rulemaking. Additionally, NMFS is proposing to require CSBP holders to possess a valid NMFS Atlantic Shark Identification Workshop certificate (or a copy) at any point of shark sale. NMFS would conduct rulemaking to implement these requirements through the framework procedures at the time that the shark trip limits are adjusted.

Under Alternative 4, NMFS requests specific comment on retention limits of 24 BAYS tunas, 6 SWO, 1 non-sandbar LCS, and 2 SCS or pelagic sharks (combined) per vessel per trip. The retention limits fall within the ranges discussed above, and could be adjusted in the future through the framework procedures codified at 50 CFR §635.34(b), as discussed above.

Table 2.1 Summary of NEPA Alternatives in the EA.

NEPA Alternative	Vessel/Dealer Permits/Workshop Certifications	Authorized Species	Retention Limit Ranges	Reporting	Gear	Vessel Size	Regions in which New Permit Applies
1 – Status Quo	-Current vessel and dealer permits and structure; including that permitted fishermen must sell catch to an HMS permitted dealer.	-Current authorized species and gear structure	-Current retention limits based on existing vessel permits	-Current observers & logbooks requirements -Current dealer reports *received* within 10 days of the end of a reporting period	Current authorized gears	Current upgrading restrictions	N/A
2 – HMS CSBP for BAYS tunas and SWO	-HMS CSBP holders authorized to retail catch and do not have to sell only to an HMS permitted dealer. Must physically possess permit or a copy at point of sale -CSBP permit may not be held in combination with any other HMS permit.	-BAYS tunas and SWO	-0 - 24 fish retention limit range for BAYS, current size limits and landing restrictions apply; **initial limit set at 10 BAYS per trip** -0 - 6 fish retention limit range for SWO, current size limits and landing restrictions apply; **initial limit set at 2 SWO per trip**	-Vessel/dealer reports would be collected through cooperative territorial/NMFS data collection efforts	-BAYS - Rod and reel, handline, harpoon, bandit gear, green-stick gear, and buoy gear -SWO - Rod and reel, handline, harpoon, bandit gear, and buoy gear	< 45 ft length	CSBP valid only in U.S. Caribbean Region

NEPA Alternative	Vessel/Dealer Permits/Workshop Certifications	Authorized Species	Retention Limit Ranges	Reporting	Gear	Vessel Size	Regions in which New Permit Applies
3 – HMS CSBP for BAYS tunas, SWO & sharks	-HMS CSBP holders authorized to sell catch. Must physically possess permit (or a copy) and Shark Dealer Workshop certificate at point of sale when shark trip limits set above 0 through future rulemaking -Submission of valid Shark Dealer Workshop certificate (or a copy) required to apply for a CSBP when shark trip limits set above 0 through future rulemaking. -CSBP permit may not be held in combination with any other HMS permit.	-BAYS tunas, SWO & non-prohibited Atlantic sharks (excluding sandbar)	-0 – 24 fish retention limit range for BAYS, current size limits and landing restrictions apply; **initial limit set at 10 BAYS per trip** -0 – 6 fish retention limit range for SWO, current size limits and landing restrictions apply; **initial limit set at 2 SWO per trip** -A range of 0 – 3 non-sandbar LCS/trip & 0-16 SCS/pelagic sharks/trip (combined), no size limits, current landing restrictions apply. **Initial shark limit set at 0**	-Vessel/dealer reports would be collected through cooperative territorial/NMFS data collection efforts	-BAYS - Rod and reel, handline, harpoon, bandit gear, green-stick gear, and buoy gear -SWO - Rod and reel, handline, harpoon, bandit gear, and buoy gear -SHK – Rod and reel, handline, bandit gear	< 45 ft length	CSBP valid only in U.S. Caribbean Region

NEPA Alternative	Vessel/Dealer Permits/Workshop Certifications	Authorized Species	Retention Limit Ranges	Reporting	Gear	Vessel Size	Regions in which New Permit Applies
4. HMS CSBP for BAYS tunas, SWO & sharks	-HMS CSBP holders authorized to sell catch. Must physically possess permit (or a copy) and Shark Dealer Workshop certificate at point of sale when shark trip limits set above 0 through future rulemaking -Submission of valid Shark Dealer Workshop certificate (or a copy) required to apply for a CSBP when shark trip limits set above 0 through future rulemaking. -CSBP permit may not be held in combination with any other HMS permit.	-BAYS tunas, SWO & non-prohibited Atlantic sharks (excluding sandbar)	-No retention limit for BAYS, current size limits and landing restrictions apply; **initial limit set at 24 BAYS per trip** -No retention limit for SWO, current size limits and landing restrictions apply; **initial limit set at 6 SWO per trip** - A range of 0 – 33 non-sandbar LCS/trip & no trip limit for SCS/pelagic sharks/trip, no size limits, current landings restrictions apply. **Initial shark limits set at 1 non-sandbar LCS, and 2 SCS or pelagic sharks (combined) per trip**	-Vessel/dealer reports would be collected through cooperative territorial/NMFS data collection efforts	-BAYS - Rod and reel, handline, harpoon, bandit gear, green-stick gear, and buoy gear -SWO - Rod and reel, handline, harpoon, bandit gear, and buoy gear -SHK – Rod and reel, handline, bandit gear	**Unlimited**	CSBP valid only in U.S. Caribbean Region

3.0 AFFECTED ENVIRONMENT

3.1 Stock status of Target Species Relevant to the Proposed Action

The thresholds used to determine the status of Atlantic HMS are fully described in Chapter 3 of the 1999 FMP and Amendment 1 to the Billfish FMP, and are presented in Figure 3.1. These thresholds were incorporated into the 2006 Consolidated HMS FMP. These thresholds are based on the thresholds described in a paper providing technical guidance for implementing National Standard 1 of the Magnuson-Stevens Act (Restrepo et *al*., 1998).

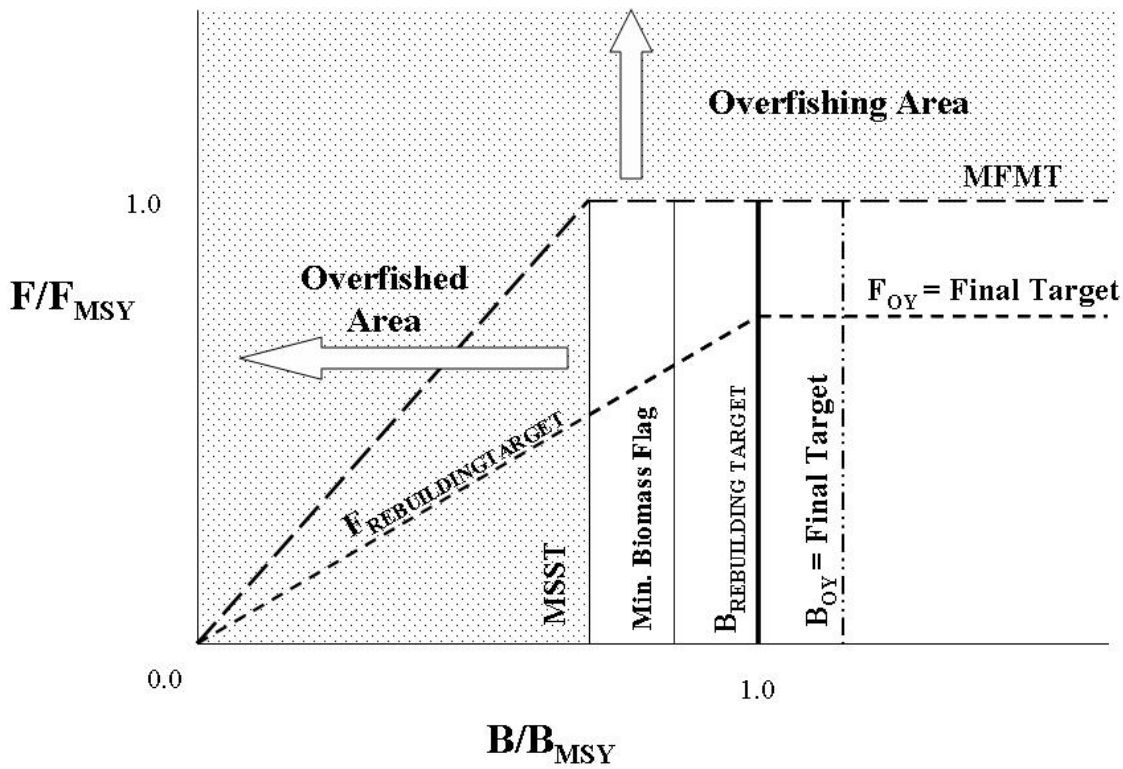


Figure 3.1 Illustration of the status determination criteria and rebuilding terms.

In summary, a species is considered overfished when the current B is less than the minimum stock size threshold ($B < B_{MSST}$). The minimum stock size threshold (MSST) is determined based on the natural mortality of the stock and B_{MSY}. MSY is the maximum long-term average yield that can be produced by a stock on a continuing basis. The biomass can be lower than B_{MSY}, and the stock not be declared overfished as long as the biomass is above B_{MSST}.

Overfishing may be occurring on a species if the current fishing mortality (F) is greater than the fishing mortality at MSY (F_{MSY}) ($F > F_{MSY}$). In the case of F, the maximum fishing mortality threshold (MFMT) is F_{MSY}. Thus, if F exceeds F_{MSY}, the stock is experiencing overfishing. If a species is declared overfished or has overfishing occurring, action to rebuild the stock and/or prevent further overfishing is required by law. A species is considered rebuilt when B is equal to or greater than B_{MSY} and F is less than F_{MSY}. A species is considered healthy when

B is greater than or equal to the biomass at optimum yield (B_{OY}) and F is less than or equal to the fishing mortality at optimum yield (F_{OY}).

3.1.1 Atlantic BAYS Tunas and North Atlantic Swordfish

All text, figures and tables for this section are from the Standing Committee on Research and Statistics (SCRS) 2011 Report and the 2011 U.S. to ICCAT (NMFS 2011; SCRS, 2011). All weights are reported as whole weights unless otherwise indicated.

Table 3.1 Stock assessment summary table for Atlantic tunas and swordfish relevant to the proposed action. Source: SCRS, 2011.

Species	Current Relative Biomass Level	Minimum Stock Size Threshold	Current Relative Fishing Mortality Rate	Maximum Fishing Mortality Threshold	Outlook – From Status of Stocks for U.S. managed species
Atlantic Bigeye Tuna	B_{10}/B_{MSY} = 1.01 (0.72-1.34)	0.6 B_{MSY} (253,578t)	F_{09}/F_{MSY} = 0.95 (0.65-1.55)	F_{MSY} = 0.17	Not overfished (Rebuilding); overfishing not occurring.
Atlantic Yellowfin Tuna	B_{10}/B_{MSY} = 0.85 (0.61-1.12)	0.5 $B_{MSY\ (age\ 2+)}$	$F_{current}/F_{MSY}$ = 0.87 (0.68-1.40)*	F_{MSY}	Not overfished; overfishing not occurring.
North Atlantic Albacore Tuna	B_{07}/B_{MSY} = 0.62 (0.45-0.79)	.07 B_{MSY} (120,680t; based on B_{MSY}) (40,719t) based on SSB_{MSY})	F_{07}/F_{MSY} = 1.05 (0.85-1.23)	F_{MSY} = 0.17	Overfished; overfishing is occurring.
West Atlantic Skipjack Tuna	B_{08}/B_{MSY}: most likely>1	*Unkown*	F_{08}/F_{MSY}: most likely <1	F_{MSY}	Unknown
North Atlantic Swordfish	B_{09}/B_{MSY} = 1.05 (0.94-1.24)	0.8 B_{MSY}; (B_{MSY} = 61,860t)	F_{08}/F_{MSY} = 0.76 (0.67-0.96)	F_{MSY} = 0.22 (0.14-0.27)	Not overfished; overfishing not occurring

*Fcurrent refers to F2010 in the case of ASPIC, and the geometric mean of F across 2003 - 2006 in the case of VPA.

Atlantic Bigeye Tuna

A summary of the status of BET is found in Table 3.1.

The 2010 stock assessment was conducted using similar assessment models to those used in 2007, but with updated data and a few new relative abundance indices and data. In general, data availability has continued to improve, notably with the addition of relative abundance indices for an increasing number of fleets. There are still missing data on detailed fishing and fish size from certain fleets. In addition, there are a number of data gaps on the activities of

illegal unregulated and unreported (IUU) fleets (*e.g.*, size, location and total catch). All these problems forced the SCRS to assume catch-at-size for an important part of the overall catch.

Three types of indices of abundance were used in the assessment. A number of indices were directly developed by national scientists for selected fleets for which data was available at greater spatial and or temporal resolution to that available in the ICCAT databases. These indices represented data for seven different fleets, all of them longline fleets, except for one baitboat fleet. Other indices were estimated by the committee from data available within the ICCAT databases. These two types of indices were used for age-structured assessment models. Finally, a series of combined indices were calculated by the committee by synthesizing the information existing in individual indices for the seven fleets mentioned above. The later were used to fit production models.

Consistent with previous assessments of Atlantic BET, the results from non-equilibrium production models are used to provide the basic characterization of the status of the resource. Results were sensitive to the combined abundance index trends assumed. As the relative likelihoods of each trend could not be estimated, results were developed from the joint distribution of model run results using each of three alternative combined indices. The plausible range of MSY estimated from the joint distribution using three types of abundance indices was between 78,700 and 101,600 tons (80% confidence limits) with a median MSY of 92,000 t. In addition, these estimates reflect the current relative mixture of fisheries that capture small or large bigeye tuna; MSY can change considerably with changes in the relative fishing effort exerted by surface and longline fisheries. Historical estimates show large declines in biomass and increases in fishing mortality, especially in the mid 1990s when fishing mortality exceeded F_{MSY} for several years. In the last five or six years there have been possible increases in biomass and declines in fishing mortality. The biomass at the beginning of 2010 was estimated to be at between 0.72 and 1.34 (80% confidence limits) of the biomass at MSY, with a median value of 1.01 and the 2009 fishing mortality rate was estimated to be between 0.65-1.55 (80% confidence limits) with a median of 0.95. The replacement yield for the year 2011 was estimated to be about MSY.

The SCRS noted, as it did in previous assessments, that there is considerable uncertainty in the assessment of stock status and productivity for BET. There are many sources of uncertainty including which method represents best the dynamics of the stock, which method is supported more by the available data, which relative abundance indices are appropriate to be used in the assessment, and what precision is associated with the measurement/calculation of each of the model inputs. In general, data availability has improved since 2007, but there is still a lack of information regarding detailed fishing effort and catch-at-size data from certain fleets. This, combined with the lack of detailed historical information on catch and fishing activities of IUU fleets (*e.g.*, size, location and total catch), forced the SCRS to make many assumptions about the catch-at-size for an important part of the overall catch. In order to represent this uncertainty the SCRS decided to combine sensitivity runs from a range of method/data combinations. There are differences in the estimates of management benchmarks, including the estimates of the current biomass and fishing mortality, depending on both the method used as well as the input data used.

The modeled probabilities of the stock being maintained at levels consistent with the Convention Objective (MSY) over the next five years are about 60% for a future constant catch of 85,000 t. Higher odds of rebuilding to and maintaining the stock at levels that could produce MSY are associated with lower catches and lower odds of success with higher catches than such constant catch. It needs to be noted that projections made by the SCRS assume that future constant catches represent the total removals from the stock, and not just the TAC of 85,000 t established by ICCAT [Rec. 09-01]. Catches made by other fleets not affected by [Rec. 09-01] need to be added to the 85,000 t for comparisons with the future constant catch scenarios. Furthermore, any future changes in selectivity due to changes in the ratios of relative mortality exerted by the different fleets - such as an increase in the relative mortality of small fish - will change and add to the uncertainty of these projections.

North Atlantic Albacore Tuna

A summary of the status of northern ALB is found in Table 3.1.

A thorough revision of North Atlantic Task I and Task II data was conducted and a more robust method for catch-at-size analyses was implemented for the SCRS 2009 assessment session similar to that used in the 2007 assessment. In addition, catch rate analyses were improved and updated with new information for the northern ALB fisheries and substantial effort was undertaken by SCRS to implement assessment methods which do not assume that catch-at-age is perfectly known. The analyses were also conducted to incorporate longer time-series of catch, effort and size information into the assessment to guide the evaluation. The approach provided the opportunity to evaluate a range of hypothesis about how the fisheries operated over time and their impact on the population. The results of these efforts are reflected in the following summaries of stock status that analyzed data through 2007.

The catch per unit of effort (CPUE) trends for the various surface fleets, based upon the most recent available 2007 data showed somewhat different patterns from each other. This was also the case for the different longline fleets. The Spanish age two troll CPUE series showed evidence of a relatively strong 2003 year class entering the fishery. For the Spanish age three troll CPUE series, the age signal is not as strong, leading to uncertainty about the possibility of a good year class. For the longline fleets, the general trend in CPUE indices is a decline over time, with varying rates. Given the variability associated with these catch rate estimates, definitive conclusions about recent trends could not be reached just by examining the CPUE trends alone which represent different parts of the population.

The data sets used for the analyses from 1930 to 2007 were compiled during the July 2009 SCRS stock assessment meeting. The data was classified into 10 fishery units using the same definitions as those used in the 2007 stock assessment. The basic input data, catch, effort and catch-at-size were revised due to updates in the ICCAT Task I and Task II database. Model specification for the base case was identical to the 2007 assessment. Different hypothesis on the dynamics of the northern ALB stock were tested and those with clearly unrealistic outputs were discarded.

Based on the present assessment which considers catch and effort since the 1930s and size frequency since 1959, the view of the northern ALB resource status is that spawning stock

size has declined and in 2007 was about one third of the peak levels estimated for the late-1940s. Estimates of recruitment to the fishery, although variable, have shown generally higher levels in the 1960s and earlier periods with a declining trend thereafter until 2007. The most recent recruitment is estimated to be the lowest for all the years of the evaluation although the magnitude of this year-class is highly uncertain in the latest year. The 2009 current assessment indicated that the stock has remained below B_{MSY} (current SSB_{2007} is approximately 62 percent of SSB at MSY) since the late 1960. Corresponding fishing mortality rates have been above F_{MSY} (current F_{2007}/F_{MSY} ratio is 1.05 which is only slightly higher than F_{MSY}).

The trajectory of fishing mortality and spawning stock biomass relative to MSY reference points for the majority of the time series shows that $F/F_{MSY} > 1$ and $SSB/SSB_{MSY} < 1$. This could indicate the northern ALB stock has been overfished ($SSB/SSB_{MSY} < 1$) since the mid-1980s.

Atlantic Yellowfin Tuna

A summary of the status of Atlantic YFT is found in Table 3.1.

A full stock assessment was conducted for YFT in 2011, applying both an age-structured model and a non-equilibrium production model to the available catch data through 2010. As has been done in previous stock assessments, stock status was evaluated using both production and age structured models. Models used were similar in structure to those used in the previous assessment; however, other alternative model structures of the production model and the VPA were explored in sensitivity runs. These runs confirmed that some of the estimated benchmarks obtained from production models are somewhat sensitive to the assumption used that MSY is obtained at half of the virgin biomass. This assumption was used in the production models that contributed to benchmark estimates found in the SCRS report.

The estimate of MSY (~144,600 t) may be below what was achieved in past decades because overall selectivity has shifted to smaller fish; the impact of this change in selectivity on estimates of MSY is clearly seen in the results from age structured models. Bootstrapped estimates of the current status of YFT based on each model reflect the variability of the point estimates given assumptions about uncertainty in the inputs. When the uncertainty around the point estimates from both models is taken into account, there was only an estimated 26 percent chance that the stock was not overfished and overfishing was not occurring in 2010.

In summary, 2010 catches are estimated to be well below MSY levels, stock biomass is estimated to most likely be about 15 percent below the Convention Objective and fishing mortality rates most likely about 13 percent below F_{MSY}. The recent trends through 2010 are uncertain, with the age-structured models indicating increasing fishing mortality rates and decline in stock levels over the last several years, and the production models indicating the opposite trends.

Projections were made considering a number of constant catch scenarios, and the results from all models are summarized to produce estimated probabilities of achieving ICCAT objective ($B>B_{MSY}$, $F<F_{MSY}$), for a given level of constant catch, for each year up to 2025. Maintaining current catch levels (110,000 t) is expected to lead to a biomass somewhat above

B_{MSY} by 2016 with a 60 percent probability. Higher catch levels would have a lower probability of achieving that goal and may require a longer time frame for rebuilding.

The overall catches of YFT estimated for 2008-2010 were about 10 percent or more higher than the recent low of 2007. The relative contribution of purse seine gear to the total catch has increased by about 20 percent since 2006, which is related to the increasing purse seine effort trend. Estimates of fishable biomass trends from production modeling indicate a slow, continued rebuilding tendency, but estimates of spawning stock and total biomass trends from the age-structured assessment indicates recent decline and corresponding increasing F. In either case, continued increasing catches are expected to slow or reverse rebuilding.

West Atlantic Skipjack Tuna

A summary of the status of west Atlantic SKJ is found in Table 3.1.

In all the oceans and consequently in all the tuna RFMOs, the traditional stock assessment models have been difficult to apply to SKJ because of their particular biological and fishery characteristics (on the one hand, continuous spawning, areal variation in growth and non-directed effort, and on the other, weak identified cohorts). In order to overcome these difficulties, several different assessment methods which accommodate expert opinion and prior knowledge of the fishery and biological characteristics of SKJ have been carried out on the two stocks of Atlantic SKJ. Several fishery indictors were also analyzed to carry out a follow up of the development in the state of the stock over time.

Although the fisheries operating in the east have extended towards the west beyond 30°W longitude, the SCRS decided to maintain the hypothesis in favor of two distinct stock units, based on available scientific studies. However, taking into account the state of current knowledge of SKJ migrations and the geographic distances between the various fishing areas, the use of smaller stock units continues to be the envisaged working hypothesis.

Using the reference points calculated by the current base case assessment model done in 2009, projections indicate that constant catches above 28,000 t will not result in stock rebuilding to ICCAT convention standards by 2020. Since 2008, catches have been lower than 28,000 t.

Western stock

The standardized CPUEs of Brazilian baitboats remain stable while that of Venezuelan purse seiners and USA rod and reel decreased in recent years. This decrease, also observed in the CPUE time series for Venezuelan purse seine fisheries, could be linked to specific environmental conditions (high surface temperatures, lesser accessibility of prey). The average weight of SKJ caught in the western Atlantic is higher than in the east (3 to 4.5 kg vs. 2 to 2.5 kg), at least for the Brazilian baitboat fishery.

The assessment model from catches estimated MSY at around 30,000 t (similar to the estimate provided by the Grainger and Garcia approach) and the Bayesian surplus model (Schaefer formulation) at 34,000 t.

The Group attempted several sensitivity analyses for values of natural mortality with Multifan-CL. For this stock only the three fisheries mentioned above were considered. The final estimate of MSY converges also at about: 31,000-36,000 t. It must be stressed that all of these analyses correspond to the current geographic coverage of this fishery (*i.e.*, relatively coastal fishing grounds due to the deepening of the thermocline and of the oxycline to the East).

For the western Atlantic stock, in the light of the information provided by the trajectories of B/B_{MSY} and F/F_{MSY}, it is unlikely that the current catch is larger than the current replacement yield.

North Atlantic Swordfish

A summary of the status of north Atlantic SWO is found in Table 3.1.

Based on the base case production model, the estimated relative biomass trend shows a consistent increase since 2000. The current results indicate that the stock is at or above B_{MSY}. The relative trend in fishing mortality shows that the level of fishing peak in 1995, followed by a decrease until 2002, followed by small increase in the 2003-2005 period and downward trend since then. Fishing mortality has been below F_{MSY} since 2005. The results suggest that there is greater than 50 percent probability that the stock is at or above B_{MSY}, and thus the ICCAT's rebuilding objective Rec. 99-02 has been achieved. However, it is important to note that since 2003 overall catches have been below the TAC, greatly increasing the chances for a fast recovery. Overall, the stock was estimated to be somewhat less productive than the previous assessment, with the intrinsic rate of increase, *r*, estimated at 0.44 compared to 0.49 in 2006.

Other analyses conducted by the SCRS (Bayesian surplus production modeling, and VPA) generally support the results described for the base case surplus production model mentioned above.

The base production model was projected to the year 2018 under constant TAC scenarios of 10, 11, 12, 13, 14, and 15 thousand tons. Catch in year 2009 was assumed to be the average of the last three years (2006-08) (11,515 t). The actual reported landings in 2009 were 12,655 t. Median trajectories for biomass and fishing mortality rate for all of the future TAC scenarios have been plotted.

3.1.2 Atlantic Sharks of the Caribbean Region

This section briefly discusses the stock status of the Atlantic shark species/complexes that the proposed rule would affect (shark species in the LCS complex, specifically tiger, blacktip, lemon, nurse and great hammerhead sharks; Pelagic shark species, specifically blue, common thresher, and oceanic whitetip sharks) based on their ecology and geographical range. With the exception of large and small coastal Atlantic sharks, stock assessments for Atlantic HMS are conducted by ICCAT's SCRS. Atlantic shark stock assessments for sharks are completed by the NMFS Southeast Data, Assessment, and Review (SEDAR) process and the SCRS. For more information regarding management and status of shark species managed by NMFS, please refer to section 1.4 of this document and Section 2.0 of the 2011 SAFE Report (NMFS, 2011b). All SCRS final stock assessments reports can be found at www.iccat.int/assess.htm.

Table 3.2 summarizes stock assessment information and the current status of Atlantic shark species in the Caribbean Region as of October 2011.

Table 3.2 Stock assessment summary table for Atlantic sharks in the Caribbean Region. Sources: SCRS, 2008; NMFS, 2006.

Species	Current Relative Biomass Level	Minimum Stock Size Threshold	Current Relative Fishing Mortality Rate	Maximum Fishing Mortality Threshold	Outlook
LCS Complex	*Unknown*	1-M B_{msy}	*Unknown*	*Unknown*	*Unknown*
Gulf of Mexico Blacktip	SSF_{04}/SSF_{MSY} = 2.54-2.56	(1-M) B_{msy} (0.99-1.07E+07)	F_{04}/F_{MSY} = 0.03–0.04	0.20	Not overfished; overfishing not occurring
Atlantic Blacktip	*Unknown*	1-M B_{msy}	*Unknown*	*Unknown*	*Unknown*
Pelagic Sharks	*Unknown*	*Unknown*	*Unknown*	*Unknown*	*Unknown*
Blue Sharks	B_{07}/B_{MSY} = 1.87-2.74	1-M B_{msy}	F_{07}/F_{MSY} = 0.13-0.17	0.15	Not overfished; overfishing not occurring

Large Coastal Sharks

LCS Complex

The 2005/2006 stock assessment for LCS conducted under the SEDAR process and became available on July 24, 2006 (71 FR 41774) (NMFS, 2006a). Unlike past assessments, the 2005/2006 LCS stock assessment determined that it is inappropriate to assess the LCS complex as a whole due to the variation in life history parameters, different intrinsic rates of increase, and different catch and abundance data for all species included in the LCS complex (silky, tiger, blacktip, bull, spinner, lemon, nurse, smooth, scalloped, and great hammerhead sharks). Based on these results, NMFS changed the status of the LCS complex from overfished to unknown and is continuing to examine viable options to assess shark populations (November 7, 2006; 71 FR 65086).

3.1.2.1.1 Blacktip Sharks

The 2005/2006 stock assessment assessed blacktip sharks for the first time as two separate populations: a Gulf of Mexico and an Atlantic population. The results indicate that the Gulf of Mexico stock is not overfished and overfishing is not taking place (November 7, 2006, 71 FR 65086), but the assessment panel did not accept the absolute estimates of the stock status.

The three abundance indices believed to be most representative of the stock were consistent with each other, suggesting that stock abundance has been increasing over a period of declining catch during the past 10 years. Based on life history characteristics, blacktip sharks are a relatively productive shark species, and a combination of these characteristics and recent increases in the most representative abundance indices, suggested that the blacktip stock is relatively healthy. There was no scientific basis, however, for NMFS to consider increasing the catch or quota.

This assessment also indicated that the current status of the blacktip shark population in the South Atlantic region is unknown. The assessment scientists were unable to provide estimates of stock status or reliable population projections, but indicated that current catch levels should not change. Based on this, NMFS has declared the status of the South Atlantic blacktip shark population to be unknown (November 7, 2006, 71 FR 65086).

Small Coastal Sharks

Almost all small coastal shark species, as defined in the 1993 Shark FMP, can be found in the U.S. Caribbean Region. These species include Atlantic sharpnose (can only distinguish from the Caribbean sharpnose on the basis of vertebral counts), the Caribbean sharpnose, blacknose, bonnethead, finetooth, and smalltail sharks. In 1999, NMFS added Caribbean sharpnose, and smalltail sharks to the prohibited species list (May 28, 1999, 64 FR 29090). The addition of these species was in part due to the inability to assess the species ability to withstand directed fishing pressure as a result of limited catch and landings data. On December 2003, NMFS published a final rule that implemented criteria that allow for the addition or removal of species on the prohibited species list (68 FR 74746). Thus, if it can be shown that Caribbean sharpnose and smalltail sharks do not meet the criteria, these sharks could be removed from the prohibited species list and placed back in the SCS complex at some point in the future. The SCS not on the prohibited species list (e.g., Atlantic sharpnose, blacknose, bonnethead, and finetooth sharks) can all be landed assuming the fishermen are following the appropriate commercial and recreational requirements including quotas, trip limits, and size limits.

Pelagic Sharks

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. The SCRS decided to conduct an assessment of Atlantic pelagic sharks beginning in 2004, with emphasis placed on blue sharks and shortfin mako sharks. All SCRS stock assessments can be found at http://www.iccat.es/assess.htm.

2008 ICCAT Shark Stock Assessment

Ecological risk assessments (ERA) were conducted by the SCRS for nine additional priority species of pelagic elasmobranchs, for which available data are very limited. The ERAs conducted by the SCRS for eleven priority species of sharks (including blue shark) caught in ICCAT fisheries, demonstrated that most Atlantic pelagic sharks have exceptionally limited biological productivity and, as such, can be overfished even at very low levels of fishing

mortality. Specifically, the analyses indicated that bigeye thresher, longfin mako, and shortfin mako sharks have the highest vulnerability (and lowest biological productivity) of the shark species examined (with bigeye thresher being substantially less productive than the other species). All species considered in the ERA, particularly smooth hammerhead, longfin mako, bigeye thresher, and crocodile sharks, are in need of improved biological data to evaluate their biological productivity more accurately and thus specific research projects should be supported to that end. The SCRS recommended that ERAs be updated with improved information on the productivity and susceptibility of these species.

In 2008, an updated stock assessment for blue and shortfin mako sharks was conducted by ICCAT's SCRS (SCRS, 2008). The SCRS determined that while the quantity and quality of the data available for use in the stock assessment had improved since the 2004 assessment, they were still uninformative and did not provide a consistent signal to inform the models used in the 2008 assessment. The SCRS noted that if these data issues could not be resolved in the future, their ability to determine stock status for these and other species will continue to be uncertain. The SCRS assessed blue and shortfin mako sharks as three different stocks, North Atlantic, South Atlantic, and Mediterranean. However, the Mediterranean data was considered insufficient to conduct the quantitative assessments for these species.

Blue Sharks

With regard to North and South Atlantic blue sharks, the 2007 stock assessment determined that the biomass is estimated to be above the biomass that would support MSY. Similar to the results of the 2004 assessment, in many of the model runs, stock status appeared to be close to the unfished biomass levels (B_{2007}/B_{msy} = 1.87 - 2.74) and fishing mortality rates were well below those corresponding to the level at which MSY is reached (F_{msy} = 0.15). Most of the models used in the assessment consistently predicted that blue shark stocks in the Atlantic are not overfished and overfishing is not occurring (SCRS, 2008). Given these results, NMFS has determined that blue sharks are not overfished with no overfishing occurring.

3.2 Fishery Participants and Gears in the U.S. Caribbean Region

3.2.1 Description of the BAYS Tunas Fisheries in the U.S. Caribbean

In the United States, seven categories of Atlantic tuna permits are currently issued: Atlantic Tunas General, HMS Angling, HMS Charter/Headboat, Atlantic Tunas Harpoon, Atlantic Tunas Purse Seine, Atlantic Tunas Longline, and Trap. In 2003, the Angling and CHB permits were changed from tuna-specific to all HMS. The HMS Angling permit is required to fish for HMS recreationally and the sale of fish is prohibited under this permit. The HMS CHB permit is required for for-hire vessels that target HMS. Atlantic tunas may be sold with an HMS CHB permit. The Atlantic tunas Longline permit is valid only if the vessel owner also holds both an Atlantic SWO and an Atlantic shark LAP. The Atlantic Tunas General, Harpoon, and Trap permits are open access and only allow for the harvest of tunas. Federal dealers for HMS are also required to have federal dealer permits.

In 2010, there were 33,087 vessel permits issued in the Atlantic tuna fisheries, including: 24,723 HMS Angling permits; 3,876 Atlantic Tunas General permits; 4,190 HMS CHB permits;

280 Atlantic Tunas Longline permits; 9 Atlantic Tunas Harpoon permits; 6 Trap permits; and 3 Atlantic Tunas Purse Seine permits. The distribution of HMS permits in Puerto Rico and the USVI in 2010 is shown in Table 3.3

Table 3.3 Distribution of HMS permits among Puerto Rico and the USVI in 2010.

Permit Type	Puerto Rico	St. Thomas	St. Croix	St. John
Atlantic Tunas General	92	4	6	0
HMS CHB	23	10	7	4
HMS Angling	770	24	20	0
Atlantic Tunas Trap	1	0	0	0

* There are no other HMS fishing permits held in the U.S. Caribbean.

In 2010, there were 386 BAYS tunas dealer permits issued in the United States. Of those permits, 7 BAYS dealer permits were issued to businesses in Puerto Rico; 2 BAYS dealer permits were issued to businesses in St. Thomas; 3 BAYS dealer permits were issued to businesses in St. Croix; and, no tuna dealer permits were issued to businesses in St. John.

In the Caribbean, commercial tuna fishermen primarily use pelagic longline (PLL), rod and reel, and handline gears. In 2010, vessels fishing in the Caribbean landed approximately 189.8 mt of YFT, 6.6 mt of SKJ, 5.1 mt of BET, and 104.35 mt of ALB. Of the 305.9 mt of BAYS tunas landed in the U.S. Caribbean in 2010, 189.2 mt were reported as captured with PLL gear (NMFS, 2011). Since no Atlantic Tunas Longline permits are held by residents of Puerto Rico or the USVI, it can be assumed that these tuna landings were reported by vessels fishing in the Caribbean but based out of other U.S. ports. Approximately 116.7 mt of tunas were reported as harvested with handline and rod and reel gears. The handline and rod and reel landings were likely reported by Caribbean fishermen fishing under Atlantic Tunas General or HMS CHB permits. See Table 3.4 for Caribbean landings of HMS from 2006 – 2010.

Table 3.4 Catches and Landings of HMS in the Caribbean Reported from 2006 – 2010 in mt (NMFS, 2011)

	2006	2007	2008	2009	2010
YFT					
PLL	179.7	255.6	107.1	136.7	183.4
Trap	0.4	0	0	0	0
Gillnet	0	0	0.04	0.04	0
Handline	7.8	9.1	3.7	3.3	1.9
Rod and Reel*	0.0	12.4	9.7	3.5	4.5

Total	187.9	277.1	120.54	143.54	189.8
SKJ					
PLL	0.2	0.02	1.3	0.05	0
Trap	0.05	0	0	0	0
Gillnet	0.02	0	0.01	0.6	0
Handline	10.0	13.7	16	8.8	6.2
Rod and Reel*	7.7	0.2	11.3	4.3	0.4
Total	17.97	13.92	28.61	13.75	6.6
BET					
PLL	10.5	3.4	8.9	3.8	5.1
Rod and Reel	0	0	0	0	0
Total	10.5	3.4	8.9	3.8	5.1
ALB					
PLL	10.5	1.2	0.4	0.3	0.7
Rod and Reel*	0	0	0	0	103.6
Handline	0.4	0.2	0.4	0.003	0.05
Total	10.9	1.4	0.8	0.303	104.35
BFT					
All Gears	0	0	0	0	0
Total	0	0	0	0	0
SWO					
PLL**	88.9	27.8	57.9	22.6	41.4
Handline	0	0	0	3.0	0
Rod and Reel*	0	0	0	0	0
Total	88.9	27.8	57.9	25.6	41.4

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

**Statistics include landings and estimated discards from scientific observer and logbook sampling programs

3.2.2 Description of the Swordfish Fishery in the U.S. Caribbean

The U.S. directed fishery for North Atlantic SWO is limited by regulation to two gear types: longline and handgear. Pelagic longlining accounts for the majority of U.S. SWO landings; however, there is increasing effort in the commercial handgear and recreational fisheries. Driftnets were allocated two percent of the U.S. North Atlantic directed fishery quota in the past; however, this gear was prohibited by NMFS in 1999. The 1999 FMP established a LAP program for the commercial Atlantic SWO and shark fisheries to rationalize harvesting capacity with the available quota and reduce latent effort while preventing further overcapitalization. Incidental catches by fishing gears other than PLL and handgear are restricted by incidental commercial retention limits of 15 to 30 SWO per trip depending on gear type and are counted against the incidental catch quota. In 2010, there were a total of 231, 77, and 86 LAPs issued for directed, incidental, and handgear SWO fishing, respectively. Currently, no LAPs allowing commercial SWO fishing and no SWO dealer permits are held by residents of Puerto Rico or the USVI. In 2009, 25.6 mt of SWO were reported as harvested from the Caribbean (NMFS, 2011a). Of those SWO landings reported, 22.6 mt of those were reported as harvested with PLL gear and likely by vessels not based in Caribbean ports. In 2009, three mt were reported as landed with handgears. In 2010, all of the 41.4 mt of SWO reported as landed in the Caribbean were harvested with PLL gear.

One objective of the 1999 FMP, that was maintained by the 2006 Consolidated HMS FMP, was to manage Atlantic HMS fisheries for continuing optimum yield so as to provide the greatest overall benefit to the Nation including, among other things, providing recreational opportunities. The 1999 FMP required that all recreational SWO landings be subtracted from the U.S. incidental quota, and mortality be reported to ICCAT. Recently, as the North Atlantic SWO stock has rebuilt, the recreational SWO fishery has experienced resurgence. In 2009, recreational fishermen and tournament operators reported 425 SWO harvested in the recreational SWO fishery. Of those landings, one SWO was reported from the USVI.

Swordfish may be retained on recreational vessels issued an HMS Angling or HMS CHB permit. The distribution of those HMS permits in Puerto Rico and the USVI are shown in Table 3.3. Detailed information on SWO landings can be found in the 2006 Consolidated HMS FMP (NMFS, 2006) and the 2011 SAFE Report (NMFS, 2011b).

3.2.3 Atlantic Shark Fisheries in the U.S. Caribbean

The Atlantic shark fisheries primarily use BLL, PLL, and gillnet gears, with the majority of small-scale commercial vessels participating in HMS fisheries in the Caribbean Region using handgear (handline, rod and reel). Prior to the implementation of Amendment 2 to the 2006 Consolidated HMS FMP in 2008, the primary target species in the fisheries were sandbar and blacktip sharks, although many other shark species were caught as well. In May 2009, 222 vessels were permitted to directly fish for sharks and another 280 vessels had incidental shark LAPs. In 2010, no shark LAPs were held by residents of Puerto Rico, St. Thomas, St. Croix, or St. John. One shark dealer permit was held by a resident of Puerto Rico.

Recreational fishing for Atlantic sharks takes place from New England to the Caribbean Sea and is popular due to the accessible nature of the resources. Sharks can be caught virtually anywhere in salt water, from the surf to offshore areas. Charter vessel fishing for sharks is also popular. Currently, subject to certain restrictions and limitations , including those specified at 50

CFR §635.22(a)(2), federal regulations state that recreational anglers can retain blacktip, spinner, bull, lemon, nurse, great hammerhead, smooth hammerhead, scalloped hammerhead, tiger, bonnethead, Atlantic sharpnose, finetooth, blacknose, porbeagle, common thresher, shortfin mako, oceanic whitetip, and blue sharks. Recreational anglers cannot retain any prohibited species, sandbar, or silky sharks. Recreational anglers can land one shark from the above list with a minimum fork length (FL) of 54 inches per vessel per trip, in addition to one Atlantic sharpnose (no minimum size) and one bonnethead shark (no minimum size) per person per trip.

Sharks may be retained on recreational vessels issued an HMS Angling or HMS CHB permit. The distribution of those HMS permits in Puerto Rico and the USVI are shown in Table 3.3. Puerto Rico reported approximately 10.1 mt of commercial shark landings for 2006 (PR DNER, 2007). Puerto Rico reported approximately 11.8 mt of commercial shark landings for 2010 (David Gloeckner, pers. comm.). However, it is not clear what portion of these landings or what species were harvested from federal waters. Currently, little information is available regarding shark catches in the USVI, however less than one mt was reported by St. Thomas and St. John (combined) in 2010 (David Gloeckner, pers. comm.). Additional information on recreational and commercial Atlantic shark landings is provided in Amendment 2 to the 2006 Consolidated HMS FMP and the 2011 SAFE Report (NMFS, 2008; NMFS, 2011b).

The limited possession of fishing permits and dealer permits and reporting of recreational catch has resulted in limited catch and landings data from the U.S. Caribbean fisheries. However, some of these fishermen have federal permits for other species (*i.e.*, snapper, grouper, pelagics) and are required to report all landings, including shark, due to the regulations of these fisheries. Trip-ticket data from Puerto Rico and the USVI offers the best source of shark landings data, specifically in the U.S. Caribbean fisheries, where sharks are rarely targeted, but rather caught as bycatch. NOAA's Southeast Fishery Science Center is currently working on estimating the Caribbean commercial and recreational data sets from Puerto Rico and USVI. Commercial and recreational catch and landings data will be updated if it becomes available for the Final Environmental Assessment for the proposed action.

3.3 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 C.F.R. §800.815), and to evaluate the potential adverse effects of fishing activities on EFH, including the cumulative effects of multiple fisheries activities (50 C.F.R §800.815(a) (2)). Habitats that satisfy the criteria in the Magnuson-Stevens Act have been identified and described as EFH in the 1999 FMP and in Amendment 1 to the 1999 FMP (NMFS, 2003).

In 2009, NMFS completed the five year review and update of EFH for Atlantic HMS with the publication of Amendment 1 to the Consolidated HMS FMP (June 12,2009, 74 FR 28018) (NMFS, 2009). As a result of the 2009 Amendment 1 to the Consolidated HMS FMP, EFH was updated for all federally-managed Atlantic HMS. This amendment updated and revised EFH boundaries for HMS, designated a new habitat area of particular concern (HAPC) for bluefin tuna in the Gulf of Mexico, and analyzed fishing and non-fishing impacts on EFH. As described in Amendment 1 to the Consolidated HMS FMP, there is no evidence that physical effects caused by any authorized HMS gears (*i.e.*, handgear) are adversely affecting EFH for

targeted or non-targeted species, to the extent that physical effects can be identified on the habitat or the fisheries. As such, the actions analyzed in this EA are not expected to increase gear impacts on any EFH beyond those impacts that have already been analyzed in Amendment 1 to the 2006 Consolidated HMS FMP or any EFH designated by any other FMP for species in the U.S. Caribbean Region. EFH for spiny lobster, queen conch, reef fish, and corals in the U.S. Caribbean Region is available in the November 2011 Five-Year Review of EFH in the U.S. Caribbean found at http://sero.nmfs.noaa.gov/hcd/efh.htm.

3.4 Economic and Social Aspects of HMS Fisheries in the U.S. Caribbean

The U.S. Caribbean commercial and recreational HMS fisheries operate differently than fisheries that occur off the mainland of the United States. The HMS U.S. Caribbean fisheries are mostly an opportunistic small-scale fishery, lacking any vessels larger than 45 feet. In most cases, small-scale fishermen use a mutli-gear, multi-fishery approach to target both pelagic and reef fish species, with the majority of the catch consisting of non-HMS target species (*i.e.*, snapper-grouper species, lobster, conch). These fisheries yield smaller revenues and/or their seafood processors are small-scale producers. As previously mentioned in the purpose and need Section and Section 3.2 of this document, the low number of HMS fishing and dealer permits has resulted in limited catch and landings data from the U.S. Caribbean fisheries. As such, this section will primarily describe the general social and economic characteristics of commercial and recreational fisheries operating in Puerto Rico and the USVI. This section may be updated in the Final Environmental Assessment if more information becomes available.

The following information describing commercial and recreational fisheries in the U.S. Caribbean was obtained from the Final Environmental Impact Statement (FEIS) prepared for Amendment 2 to the Fishery Management Plan of Puerto Rico and the U.S. Virgin Islands (NMFS, 2011a), and from the Report on Entangled Communities: Socioeconomic profiles of fishers, their Communities, and their Responses to Marine Protective Measures in Puerto Rico (Griffith *et al*., 2007).

3.4.1 Social and Economic Characteristics of Commercial Fisheries in Puerto Rico

Puerto Rico's commercial fishery is primarily small-scale in nature, lacking many vessels larger than 40 feet in length, with most between 18 and 25 feet in length. Commercial fishing effort is highest during the months of May through July and lowest in October and November, although average fishing effort only ranges from 15 to 18 days per month.

The commercial fishery is a multi-gear, multi-species fishery, with nearly two-thirds regularly using at least three gear types. The three most common primary gear types are hooks & lines, fish traps, and gill nets. The most common species captured with these gear types are snapper-grouper species (reef fish) and lobster, which together account for more than half of the total landings.

Most of Puerto Rico's fishing occurs in the insular shelf (area of 6,050 km^2), which is the platform that extends from the coastline to the 100-fathom (600 feet or about 183 meters) isobaths, with the majority of the fishing occurring in Territorial waters (area of 13,160km^2).

About 4.7 percent of the fishable area is in the U.S. Caribbean EEZ. The west coast has consistently been the most productive area. For instance, the Mona Passage, along the west coast, is one of the primary fishing grounds where snapper, sea basses, grouper, trunkfish, and pelagic species of tuna, jacks, king mackerel, marlin, sailfish, and SWO are caught.

Puerto Rico's commercial fishers have shown that they operate in more than one location, and they shift locations over time. In addition, commercial fishing vessels in Puerto Rico tend to be small, landing up to but usually less than 50 pounds per day, while it costs $20 to $30 to fuel the boat for that day.

Fishing provides the sole income for around 40 to 45 percent of commercial fishing families, yet nearly half of commercial fishers were found to work outside of fishing. The majority of commercial fishers work outside of fishing at some time during their lifetime.

Numbers of commercial active fishers fluctuate between 1,500 and 2,500. The most recent census of commercial fishers included 1,132 fishers.

Most commercial fisheries and charter boat operators have one to two crew members and most of these members are friends or family. Crews of two per trip are most common, usually consisting of the owner of the vessel and equipment and a hired hand who works for a share (usually one-third) of the catch.

Puerto Rican commercial fishers use different methods to market their catch: selling to a fish buyer/house, restaurant, their own fish house, association and/or to others while walking. Most commercial fishers contribute economically to their communities in their purchases of locally constructed vessels, gear, and bait, and in vessel and gear maintenance. Commercial fishers also generate local employment through hiring crew and through the use of family members and others in seafood markets and restaurants.

Based on landings data from 1999 to 2003, the commercial fisheries of Puerto Rico landed 14,313,149 pounds of fish and shellfish worth an estimated $32,489,237. This constitutes an annual average estimate of between 2.8 and 2.9 million pounds with an ex-vessel value of around $6.5 million.

Numbers of recreational fishers in Puerto Rico have been growing over the past few years and current estimates place them at around 160,000 to 170,000. The most recent estimate placed numbers of resident recreational fishers is 141,000, down from 185,000 in 2003. An additional 25,000 to 35,000 recreational fishers from outside Puerto Rico fish in Puerto Rican waters.

Puerto Rico's recreational fishers range from professional charter boat captains to individuals fishing with a hand line wound around a can. The charter boat industry is unevenly spread over the island, with the San Juan area, the Northeast, and the Southwest regions supporting the most charter boats and other regions witnessing an occasional fisher entering the industry seasonally or on a temporary basis, often supplementing commercial fishing. There are at least 15 Club Nauticos (nautical clubs for recreational fishers and boaters) around the islands that sponsor tournaments, and these are important to the recreational fishing community politically.

3.4.2 Social and Economic Characteristics of Commercial Fisheries in the USVI

The average commercial fisher in the St. Thomas/St. John District makes 2.6 fishing trips per week, each on average 8.3 hours long (with an average total of 21.6 hours per week). Similarly, the average St. Croix commercial fisher makes 3.3 trips per week, each of an average duration of 6.7 hours for an average weekly total of 22.1 hours. The range of the duration of trips varies substantially across districts. While St. Croix commercial fishers report trips varying from one to 13 hours long, those in the St. Thomas / St. John District report trips varying from 2 to 60 hours long, with few in St. Thomas / St. John fishers making overnight trips.

In 2003, there were 360 registered boats owned by commercial fishers in the USVI; 135 in St. Thomas / St. John and 225 in St. Croix. Most USVI commercial fishers own one boat, with a few owning more than 3 vessels. Most USVI commercial fishing vessels are no more than 25 feet long.

USVI commercial fishers tend not to derive all of their income from fishing. The majority of St. Thomas / St. John's commercial fishers obtain more than half of their income from fishing, while 54 percent of St. Croix commercial fishers are similarly reliant on fishing.

USVI commercial fishers target more than one fish. However, USVI fishermen target reef fish more than any other category of fish, followed by deepwater snapper and conch.

Several USVI commercial fishers use multiple landings sites. In St. Croix, commercial fishers land their catch in at least 18 different sites on the island. The majority of St. John commercial fishers land their catches at either Cruz Bay or Coral Bay. No commercial fishers from St. John report landing their catch outside the island. The top six landing sites in St. Thomas are Frenchtown, Hull Bay, Benner Bay, Seaside Inn at Benner Bay, Water Bay, and Krum Bay. Some St. Thomas commercial fishers land catch in St. John and Puerto Rico.

USVI commercial fishers usually sell the fish whole, gutted, or iced in a cooler. Fishermen in the USVI generally market their product directly to the consumer or to restaurants (*i.e.*, wholesale or quasi-retail), with some selling their catch at the landing site. The majority of St. Croix fishers bring their catch home relative to fishers in St. Thomas / St. John, suggesting the presence of subsistence fishing in St. Croix.

St. Thomas / St. John fishers commonly use fish traps, modified lobster traps, and plastic lobster traps to target fish and lobster, and to a lesser extent vertical setlines, gill and trammel nets, and SCUBA. In St. Croix, instead of commonly using traps, fishers diversify into other gears such as multi-hook vertical setlines, gill and trammel nets, and SCUBA. Hand lines and rods and reels are also used.

The annual per capita consumption of fish and shellfish for human food is higher in the USVI than in Puerto Rico, averaging 29.6 pounds, as opposed to 1.8 pounds in Puerto Rico.

In St. Croix, most recreational fishing activities take place on the shoreline, whereas in

St. Thomas and St. John most recreational fishermen use boats. The number of shore and boat-based fishers was estimated to be approximately 11,000 in 2000, and of those fishers, approximately 2,509 were estimated to be boat-based. Around half of recreational fishers in the USVI fish in territorial waters.

The USVI does not require a permit for recreational fishing. Sale of catch by recreational fishers is prohibited, and recreational fishers are not allowed to use the following gears: pots, traps, haul seines, and set-nets, the latter of which are a type of gill net consisting of a wall of fine mesh held up by a float line and anchored on the sea floor.

The major participants in sport fishing are tourists who target migratory species, and sportfishing tournaments are popular. There are five types of USVI sportfishing tournaments: shore-based handline, boat-based handline, offshore coastal pelagic, offshore pelagic, and marlin. The numbers and types of fishing tournaments tend to differ between the islands of St. Thomas and St.Croix.

4.0 ENVIRONMENTAL CONSEQUENCES OF NEPA ALTERNATIVES

NMFS considered four alternatives ranging from maintaining the status quo to creating a permit valid only in the U.S. Caribbean Region which could allow fishing for and sales of BAYS tunas, SWO, and Atlantic sharks (excluding sandbar) under specific limitations. NMFS assessed the potential impacts of the alternative suites of management measures that are components of the four alternatives analyzed in this EA. Each of the four alternatives is composed of seven key topics including: permitting/workshop certification; authorized species; retention limit ranges; reporting; authorized gears; vessel size restrictions; and, regions. Instead of analyzing a range of alternatives under the seven individual topics, this document analyzes a number of alternatives composed of suites of the seven key topics (see Section 2 for more a more detailed description).

Alternative 1 would, among other things, maintain current Atlantic HMS vessel and dealer permits structure, current LAP upgrading restrictions, current authorized species and gear structure, current retention limits, and, current observer and reporting requirements. Alternative 2 would create a permit (CSBP) allowing fishing for and sales of BAYS tunas and Atlantic SWO under specific limitations. Alternative 3 would create a permit (CSBP) allowing fishing for and sales of BAYS tunas, Atlantic SWO, and Atlantic sharks, under specific limitations. Alternative 3 differs from Alternative 2 in that it could also allow for the retention of Atlantic sharks. Alternative 4 would create a permit (CSBP) allowing fishing for and sales of BAYS tunas, Atlantic SWO, and Atlantic sharks, under specific limitations. Alternative 4 differs from Alternative 3 in that it could allow for higher retention limits of BAYS tunas, Atlantic SWO, Atlantic sharks, and it differs from Alternatives 2 and 3 in that it would not limit issuance of a CSBP to vessels below a specific size.

In this section, NMFS analyzes the ecological, social, and economic impacts associated with the different NEPA alternatives described below (see Section 2 for descriptions of key topics).

Alternative 1 Maintain existing HMS regulatory structure in the U.S Caribbean Region

Alternative 2 Create a CSBP allowing fishing for and sales of BAYS tunas and Atlantic SWO under specific limitations and place restrictions on vessel size

Alternative 3 (*Tentatively Preferred*) Create a CSBP allowing fishing for and sales of BAYS tunas, Atlantic SWO, and Atlantic sharks under specific limitations, and place restrictions on vessel size

Alternative 4 Create a CSBP allowing fishing for and sales of BAYS tunas, Atlantic SWO, and Atlantic sharks under specific limitations but do not limit vessel size

4.1 Environmental Effects

Alternative 1, the no action alternative, would maintain the existing regulatory structure in the U.S. Caribbean Region and likely result in negative ecological impacts by failing to address the lack of fisheries data available to fishermen, fish dealers, fishery scientists, and fishery managers. This continued data deficiency would negatively impact fishery management capabilities, which historically led to management measures that did not meet the needs of some fishermen in the U.S. Caribbean Region. The no action alternative would maintain the management measures that did not effectively address the needs of the small-scale commercial HMS fishermen in the region, maintain data collection programs that have not provided the information such as catch reports needed for stock assessments, and would continue to pose barriers to the United States fulfilling its international reporting requirements. For these reasons, the no action alternative is not preferred at this time.

Alternative 2, would allow small-scale fishermen in the U.S. Caribbean Region to fish for, retain, and sell BAYS tunas and SWO. Under Alternative 2, retention limits for BAYS tunas could be set between 0 and 24 fish per trip. The upper end of this range is equal to the current maximum recreational retention limit of YFT for an HMS charter vessel with 6 paying passengers and 2 crew members onboard. This retention limit is a conservative limit that is analogous to the lowest retention limit of the existing HMS permits that allow retention and sales of BAYS tunas. This upper limit would not result in a substantial increase in BAYS tunas complex landings compared to the no action alternative. The Caribbean small-scale tunas fishery has relatively few vessels that are limited in range and hold capacity. Further, these vessels generally fish single day trips and have a limited market for their catches. These vessels are currently allowed to harvest unlimited numbers of BAYS tunas if they possess an Atlantic Tunas General category permit. Thus, the effect of this alternative on BAYS tunas is anticipated to be de minimis. The primary target of this fishery, the YFT, has no overfishing occurring and NMFS believes the proposed action will not substantially increase landings.

Alternative 2 would also allow permit holders to retain and sell between 0 to 6 SWO per vessel per trip. This limit is equal to the current maximum SWO retention limit for the open access HMS Charter/Headboat permit with 6 paying passengers onboard. This retention limit is a conservative limit that is analogous to the retention limit for the existing HMS charter vessels that operate in the U.S. Caribbean Region. Currently, SWO are not overfished, and overfishing is not occurring. NMFS has received anecdotal information that SWO are being harvested by hook and line fishermen in the U.S. Caribbean Region. This alternative would afford the small-

scale fishermen in the U.S. Caribbean Region access to the federal commercial SWO fishery and allow them to legally market their catches. Currently, entrance to the limited access federal commercial SWO fishery has been difficult for small-scale HMS fishermen as permits are cost prohibitive (some valued at up to $30,000.00) given the low volume of their catches and resulting low profit.

In 2010 there were 92 vessels with Atlantic Tunas General category permits in Puerto Rico and 10 vessels in the USVI (size range: 14 to 52 feet LOA). In 2010 there were 23 vessels with HMS Charter/Headboat permits in Puerto Rico and 21 vessels in the USVI (size range: 19 to 48 feet LOA). NMFS anticipates that the universe of fishermen who might purchase and fish under a CSBP would likely be approximately 100 individuals in the U.S. Caribbean Region with some potential shift of fishermen that currently hold HMS Angling and HMS Charter/Headboat permits to the CSBP (Table 3.3). Some additional entrants to the HMS fishery may be expected as 100 percent permitting compliance is probably not currently occurring. Fishermen permitted under the CSBP would report their fishing activity and landings through territorial reporting mechanisms. This fishery information would be provided to NMFS for landings and quota management as well as stock assessments and international reporting requirements. A primary objective of the proposed action is to enhance permit and reporting compliance which is needed to obtain species-specific data from the small-scale commercial HMS fishermen operating in the U.S. Caribbean Region and Alternative 2 meets this objective.

Participation in the CSBP fishery under Alternative 2 would be limited to those vessels less than 45 feet LOA. During NEPA scoping and through comment on the predraft, the Agency received comment from regional fishermen worried about over capitalization from “new” vessels entering the regional fishery from the mainland or from larger vessels with greater ranges and fishing capacity entering the region. Larger vessels, such as those over 45 feet LOA, could significantly increase fishing effort under the CSBP which may negatively impact availability of HMS to small-scale fishermen in the region. Alternative 2 would limit vessel size to 45 feet LOA or less and is anticipated to limit new entrants and not allow large-scale fishing vessels to enter the regional HMS CSBP fishery.

Under Alternative 2, no negative ecological impacts are anticipated for other species beyond those currently occurring under the status quo because most of the approximately 100 individuals that might obtain a CSBP are already participating in Atlantic HMS fisheries and are expected to shift from other open access permit types to the CSBP. Fishermen that obtain a CSBP, but did not previously hold an Atlantic HMS fishing permit, are expected to be island residents with small vessels fishing with the specific fishing gears proposed under this alternative, thus there would be no substantial increase in HMS landings. Alternative 2 is not anticipated to have significant ecological impacts because any increases in fishing effort are expected to be de minimis due to the small number of existing HMS permits in the U.S. Caribbean Region, the limited vessel size requirement proposed for the CSBP, and the limited size and remoteness of the U.S Caribbean Region.

All handgears and green-stick gear are generally tended closely by the fishing vessel so any bycatch or unmarketable species captured on the fishing gears authorized under Alternative 2 can be dehooked and released quickly with a high chance of post-release survival. The status quo impacts were analyzed in the 2001 BiOp which concluded that the HMS handgear fishery

did not jeopardize any endangered species. Further, a 2008 NMFS Memorandum determined that authorizing green-stick gear for the harvest of Atlantic tunas was not likely to adversely affect listed species.

Under Alternative 2, NMFS requests specific comment on a retention limit of 10 BAYS tunas and 2 SWO per vessel per trip. These limits were identified due to comments received during NEPA scoping and comment on the Amendment 4 Pre-Draft. The retention limits fall within the ranges discussed under Alternative 2 above, and could be adjusted in the future through the framework regulatory procedures codified at 50 CFR §635.34(b), as discussed in Section 2.

Alternative 3, which is the tentatively preferred alternative, would have similar ecological impacts as Alternative 2 discussed above. Under this alternative, the range analyzed for BAYS tunas would be set between 0 and 24 fish. The upper end of this range is equal to the current maximum recreational retention limit of YFT for an HMS charter vessel with 6 paying passengers and 2 crew members onboard. As stated above, the vessels participating in the Caribbean small-scale commercial HMS fishery are small, limited in range, and limited in hold capacity. Further, these vessels generally fish single day trips and have a limited market for their catches. Because of vessel size and operations, NMFS does not anticipate any substantial increase in landings of BAYS tuna under this alternative.

Alternative 3 would also allow permit holders to retain and sell 0 to 6 SWO per vessel per trip as discussed in Alternative 2. This limit is equal to the current open access HMS Charter/Headboat permit retention limit. Currently, SWO are not overfished, and overfishing is not occurring. NMFS does not anticipate any substantial increase in SWO landings under this alternative.

Alternative 3 would allow Caribbean small-scale fishermen to participate in the federal commercial fishery for sharks. Under this alternative, shark retention limits would be set between 0 to 3 for non-sandbar LCS and 0 to 16 for SCS and pelagic sharks combined. The high end of this range mirrors the current federal limited access incidental retention limit for sharks. This retention limit 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. In order to minimize potential adverse impacts to all shark species, NMFS may set the initial shark retention limit at 0, with the ability to modify the limits through the framework regulatory process in the future once the shark complexes have recovered and the Agency has collected more data on regional participants, catches, and discards in the CSBP fishery. However, given the limited range and hold capacity of the small-scale vessels involved, even at the upper limits of the ranges for the shark species in this alternative, under existing stock conditions, the proposed action would not likely adversely affect shark populations.

Participation in the CSBP fishery under Alternative 3 would be limited to those vessels less than 45 feet LOA. During NEPA scoping and through comment on the predraft, the Agency received comment from regional fishermen worried about over capitalization from “new” vessels entering the regional fishery from the mainland or from larger vessels with greater ranges and fishing capacity entering the region. Larger vessels, such as those over 45 feet LOA, could significantly increase fishing effort under the CSBP which may negatively impact availability of

HMS to small-scale fishermen in the region. Alternative 3 would limit vessel size to 45 feet LOA or less and is anticipated to limit new entrants and not allow large-scale fishing vessels to enter the regional HMS CSBP fishery.

Similar to Alternative 2, Alternative 3 is not anticipated to have significant ecological impacts because any increases in fishing effort are expected to be de minimis due to the small number of existing HMS permits in the U.S. Caribbean Region, the limited vessel size requirement proposed for the CSBP, and the limited size and remoteness of the U.S Caribbean Region.

A primary objective of the proposed action is to enhance permit and reporting compliance which is needed to obtain species specific data from the small-scale fishermen in the U.S. Caribbean Region and Alternative 3 meets this objective.

Under Alternative 3, NMFS requests specific comment on a retention limit of 10 BAYS tunas, 2 SWO, and 0 sharks per vessel per trip and a permissible retention range of 0 to 24 BAYS tunas, 0 to 6 SWO, 0 to 3 non-sandbar LCS, and 0 to 16 SCS and pelagic sharks combined. These limits were identified due to comments received during NEPA scoping and comment on the Amendment 4 Pre-Draft. The retention limits fall within the ranges discussed under Alternative 3 above, and could be adjusted in the future through the framework regulatory procedures codified at 50 CFR §635.34(b), as stated above.

Alternative 4 would have similar ecological impacts as Alternative 3 discussed above. Under this alternative, the range analyzed for BAYS tunas would be set between 0 and an unlimited number of fish, potentially increasing the number of BAYS tunas harvested in the region and mirroring the retention limits currently authorized for the open access Atlantic tunas General category permit. However as stated above, the vessels participating in the Caribbean small-scale commercial HMS fishery are small, limited in range, hold capacity, bait, and crew. Further, these vessels generally fish single day trips and have a limited market for their catches. NMFS would not anticipate any substantial increase in landings of BAYS tuna under this alternative.

Alternative 4 would also allow permit holders to retain and sell 0 to an unlimited number of SWO per vessel per trip. This limit mirrors the current limited access SWO directed permit retention limit. As discussed above, SWO are not overfished, and overfishing is not occurring. NMFS has received anecdotal information that SWO are being harvested by handgear fishermen in the Caribbean Region. This alternative would afford the small-scale fishermen in the U.S. Caribbean Region access to the federal commercial SWO fishery and allow them to legally market their catches. Currently, entrance to the federal limited access commercial SWO fishery has been difficult for small-scale fishermen as permits are cost prohibitive because of small volume of catches and resulting low profit. Vessels fishing for SWO with a CSBP under this alternative would not be expected to harvest large numbers of SWO due to the regional fishery characteristics discussed above.

Similar to Alternative 3, this alternative would allow the potential for Caribbean small-scale fishermen to participate in the federal commercial fishery for sharks. Under this alternative, shark retention limits would be set between 0 to 33 for non-sandbar LCS and 0 to no

limit for SCS and pelagic sharks combined. The high end of this range mirrors the current federal limited access directed retention limit for sharks. To be conservative, under this alternative, NMFS is considering setting the initial shark retention limits at 1 non-sandbar LCS and 2 SCS or pelagic sharks combined, with the ability to modify these limits through the framework rulemaking process in the future once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery. Given the low initial retention limits considered under Alternative 4, the limited range and hold capacity of the small-scale vessels, this proposed action would not likely increase landings to a level that may adversely affect shark populations. However, at the upper limit of the retention range for LCS and no limit for SCS and pelagic sharks, in Alternative 4, under existing stock conditions, NMFS believes that there could be some potential for negative impacts to some populations of shark species in the region.

Participation in the CSBP fishery under Alternative 4 would not limit vessels to those less than 45 feet LOA. During NEPA scoping and through comment on the predraft, the Agency received comment from regional fishermen concerned about over capitalization from "new" vessels entering the regional fishery from the mainland or from larger vessels with greater ranges and fishing capacity entering the region. Larger vessels, such as those over 45 feet LOA, could significantly increase fishing effort under the CSBP which may negatively impact availability of HMS to small-scale fishermen in the region. Alternative 4 would not limit vessel size nor would it likely limit new entrants to the regional HMS fishery. This alternative could lead to local fishery over capitalization and may increase local fishing effort on HMS.

Under Alternative 4, NMFS requests specific comment on retention limits of 24 BAYS tunas, 6 SWO, 1 non-sandbar LCS, and 2 SCS or pelagic sharks (combined) per vessel per trip. These limits were identified due to comments received during NEPA scoping and comment on the Amendment 4 Pre-Draft. The retention limits fall within the ranges discussed under Alternative 4 above, and could be adjusted in the future through the framework rulemaking procedures codified at 50 CFR §635.34(b).

4.2 Social and Economic Impacts

Under Alternative 1, the no action alternative, NMFS anticipates negative social impacts on the small-scale fishermen in the Caribbean region. Specifically, the no action alternative would continue current prohibitions on the use of free floating (yo-yo) handlines (defined as buoy gear in the CFR) which were a primary gear in the BAYS tuna fishery in the region prior to the 2006 Consolidated HMS FMP, which defined buoy gear and authorized it for SWO only. Additionally, these fishermen are limited in their ability to gain access to the commercial limited access SWO and shark fisheries due to the high costs of obtaining permits. Currently limited access SWO handgear permits can cost upwards of $30,000.00 and shark permits can cost several thousand dollars. The costs of limited access SWO and shark permits greatly exceeds the potential revenues Caribbean fishermen can generate from the HMS fisheries in their region. Further, the lack of a dealer structure in the region limits where fishermen may legally sell their catches, thus forcing them to sell to non-dealers or to become individual dealers themselves. This requires some fishermen to shoulder the additional burden of maintaining dealer permits and completing the required dealer reports. Alternative 1 would maintain this regulatory environment which is difficult for regional fishermen to overcome given their limited local

infrastructure and small market for their catches. Thus Alternative 1 would likely result in potential positive social and economic benefits not being realized.

Under Alternative 1, NMFS does not anticipate any substantive change in economic impacts as many of the the small-scale HMS fishermen in the U.S. Caribbean Region are already operating under the current regulations and hold open access tunas permits.

Under Alternative 2, NMFS anticipates both positive social and economic impacts. Alternative 2 would allow small-scale Caribbean fishermen (in vessels limited to 45 feet LOA or less) to use specific handgear (including buoy gear) and green-stick gear to fish for, retain, and sell BAYS tunas and specific handgears to fish for, retain, and sell SWO. Allowing small-scale HMS fishermen in the region to once again use traditional free-floating handlines (buoy gear) to target BAYS tunas has been requested for many years. Analyzing a trip limit range of 0 to 24 BAYS tunas with an initial proposed limit of 10 BAYS tunas per trip would likely have positive social and economic impacts as 10 BAYS is reported to be a very successful trip for the small-scale fishermen (Lynn Rios, pers. comm.). According to Fisheries of the United States, 2010, YFT sells for approximately $1.75 per pound in Puerto Rico (this price likely includes lesser quality longline landings), however according to information provided by the USVI DPNR, YFT and "tunas" harvested in the handline fishery may sell for up to $7.00 per pound depending on quality and local demand (NMFS, 2011c). NMFS could modify CSBP trip limits for BAYS tunas within the analyzed range, if changes were warranted per the framework procedures codified at CFR §635.34(b).

The ability to legally land and sell SWO harvested from federal waters could greatly increase the profitability of the localized handgear fishery. Swordfish is currently selling for approximately $4.00 to $6.00 per pound in the Caribbean Region (Lynn Rios, pers. comm.). Analyzing a trip limit range of 0 to 6 for SWO with an initial proposed limit of 2 SWO per trip would likely result in both positive social and economic impacts for those fishermen able to target and store 1 or 2 SWO on their vessels. NMFS could modify CSBP trip limits for SWO within the analyzed range, if changes were warranted per the framework procedures codified at 50 CFR §635.34(b).

Alternative 3, which has been tentatively selected by NMFS as the preferred alternative, would have similar positive social and economic impacts as Alternative 2, that are discussed above. Alternative 3 proposes a range of 0 and 24 BAYS tunas per trip, and an initial proposed limit of 10 BAYS tunas per trip; proposes a trip limit range of 0 and 6 for SWO, with an initial proposed limit of 2 SWO per trip; and, provides the ability of small-scale HMS fishermen to participate in the federal commercial shark fishery in the future. Analyzing a trip limit range of 0 to 3 non-sandbar LCS and 0 to 16 SCS and pelagic sharks combined would likely result in both positive social and economic impacts. According to Fisheries of the United States, 2010, "shark" sells for approximately $1.57 per pound in Puerto Rico (this price likely includes lesser quality longline landings), however according to information provided by the USVI DPNR, "shark" harvested in the handline fishery may sell for up to $4.00 per pound depending on quality and demand (NMFS, 2011c).

To be conservative, NMFS is considering setting the initial shark trip limit at 0, which may result in initial negative social impacts, as regional small-scale HMS fishermen have

requested the ability to land limited numbers of sharks from federal waters without LAPs, however the Agency could have the ability to modify the trip limits through the framework regulatory procedures codified at 50 CFR §635.34(b) once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery.

Alternative 4 would likely have greater positive social and economic impacts than Alternative 3 discussed above due to the potential for greater revenues from increased landings. The Agency analyzing a range for BAYS tunas trip limits from 0 to an unlimited number of fish per trip, with an initial proposed limit of 24 BAYS tunas per trip; analyzing a trip limit range of 0 to an unlimited number of SWO, with an initial proposed trip limit of 6 SWO per trip; and, analyzing a trip limit range of 0 to 33 non-sandbar LCS and 0 to no limit for SCS and pelagic sharks combined.

As discussed under Alternative 2, a trip where 10 BAYS tunas are harvested in the Caribbean small-scale HMS fishery is considered to be very successful day. This alternative would increase the number of BAYS allowed to be harvested per trip to 24. This increased limit may result in additional positive social and economic impacts; however, it is not known if the fleet has the ability to hold and market this quantity of tunas. NMFS is interested in feedback from the fishing community and other constituents on this issue. Alternative 4 would also set the SWO trip limit at 6 per trip. Once again, it is not known if the small vessels can hold and safely transport 6 SWO to port. NMFS requests comment on this limit. Alternative 4 would establish a conservative initial shark trip limit at 1 non-sandbar LCS and 2 SCS or pelagic sharks combined. This limit has the potential to provide increased revenues for fishermen who catch sharks and who have or can create a market for them in the Caribbean Region. Under this alternative, NMFS would have authority to modify the BAYS tunas, SWO, and shark trip limits within the ranges identified above through the framework regulatory procedures codified at 50 CFR §635.34(b) and listed in Section 2.

Vessels participating in the Caribbean small-scale commercial HMS fishery are small, limited in range, hold capacity, bait, and crew, so these vessels generally fish single day trips and have a limited market for their catches. During NEPA scoping the Agency received comments from fishermen that raised concerns about the potential for over capitalization to develop in the fishery potentially leading to depressed market prices and other adverse socio-economic impacts that may negatively impact existing participants. Alternatives 2 and 3 limit vessel size to 45 feet LOA or less to address those overcapitalization concerns. Alternative 4 does not identify a vessel size limit. **NMFS requests specific input from the fishing community and other constituents on the vessel size restrictions in the various alternatives of this EA.**

4.3 Mitigation Measures

The small-scale fishermen potentially affected by these proposed regulations are likely to continue to derive their income predominantly from commercial fishing opportunities. The alternatives analyzed in this rulemaking may provide additional opportunities for fishermen in the Caribbean Region by allowing them affordable access to the federal commercial BAYS, SWO and shark fisheries. Currently, the high cost of limited access permits for these fisheries prohibits their participation. Increased participation in the NMFS permitting system could help

NMFS better identify the universe of small-scale fishermen fishing for HMS in the Caribbean Region and would likely lead to improved data collection, more accurate stock assessments, and better quota management. The HMS Amendment 4 process has proved to be a positive experience for Caribbean fishermen and NMFS fishery managers. It is anticipated that through this process the Agency will continue to improve communication with constituents in the region. This improved communication will provide small-scale fishermen with a better understanding of fishery regulations and how to better participate in the rulemaking process. This communication and improved data availability would improve regional fishery management and ensure the needs of small-scale HMS fishermen are recognized in future management actions.

4.4 Comparison of NEPA Alternatives

Based on the analyses discussed above, and graphically presented in Table 4.1, the no action alternative would likely result in perpetuated negative ecological impacts by contributing to a lack of fisheries data available to fishermen, fish dealers, fishery scientists, and fishery managers. This data deficiency negatively impacts fishery management capabilities and has historically led to management measures that don't meet the needs of fishermen in the U.S. Caribbean Region leading to negative socio-economic impacts. Improved communication and improved data availability would better ensure that the regional fishery management needs are recognized in the future. The no action alternative would maintain the management measures that poorly fit the needs of the small-scale HMS fishermen in the region, maintain ineffective data collection programs used in stock assessments, would not address incomplete reporting of catches, and would pose barriers to the United States fulfilling its international reporting requirements. Alternatives 2 and 3 would provide additional fishing opportunities for small-scale fishermen in the region, potentially providing positive economic impacts while allowing NMFS to collect more accurate data on the size of the U.S. Caribbean small-scale HMS fleet and their landings. Limiting the maximum size of vessels issued a CSBP under Alternatives 2 and 3 could limit effort and over capitalization. Larger vessels, such as those over 45 feet LOA, could significantly increase fishing effort which may negatively impact local availability of HMS to small-scale fishermen in the region. Alternative 4 would have similar economic impacts as Alternatives 2 and 3, however, vessels would be able to retain a limited number of sharks and vessel size would not be restricted. The vessels currently participating in the insular, small-scale Caribbean handgear fishery are small, limited in range, hold capacity, crew size, and market infrastructure. Further these vessels generally fish single day trips and have a limited market for their catches. Based on public comments received during scoping, NMFS anticipates that the current participants in the Caribbean small-scale commercial HMS fishery will strongly support vessel size limits to prevent overcapitalization, depressed market prices, and other potential adverse socio-economic impacts.

Table 4.1 Comparison of Social and Environmental Impacts of the Proposed Alternatives

Alternative	Quality	Timeframe	Environmental	Protected Resources	Socioeconomic
1: No Action. Maintain existing HMS regulatory	Direct	Short-term	⊙-	○	⊙-
		Long-term	⊙-	○	⊙-

Alternative	Quality	Timeframe	Environmental	Protected Resources	Socioeconomic
structure in the U.S Caribbean Region	Indirect	Short-term	○	○	○
		Long-term	○	○	○
	Cumulative	Short-term	⊘-	○	⊘-
		Long-term	⊘-	○	⊘-
2: Create a CSBP allowing fishing for and sales of 10 BAYS tunas and 2 Atlantic SWO under specific limitations; limit vessels to 45' or less	Direct	Short-term	⊙+	○	⊙+
		Long-term	⊙+	○	⊙+
	Indirect	Short-term	⊙+	○	⊙+
		Long-term	⊙+	○	⊙+
	Cumulative	Short-term	⊙+	○	⊙+
		Long-term	⊙+	○	⊙+
3: Create a CSBP allowing fishing for and sales of 10 BAYS tunas, 2 Atlantic SWO, and Atlantic sharks (initial limit set at 0) under specific limitations; limit vessels to 45' or less	Direct	Short-term	⊙+	○	⊙+
		Long-term	⊙+	○	⊙+
	Indirect	Short-term	⊙+	○	⊙+
		Long-term	⊙+	○	⊙+
	Cumulative	Short-term	⊙+	○	⊙+
		Long-term	⊙+	○	⊙+
4: Create a CSBP allowing fishing for and sales of 24 BAYS tunas, 6 Atlantic SWO, and Atlantic sharks (initial limit set at 1 non-sandbar LCS and 2 SCS or Pelagic sharks combined) under specific limitation; do not limit vessel size	Direct	Short-term	⊙+	○	⊘+
		Long-term	⊙+	○	⊙+
	Indirect	Short-term	⊙+	○	⊘+
		Long-term	⊙+	○	⊘+
	Cumulative	Short-term	⊙+	○	⊘+
		Long-term	⊙+	○	⊙-

Symbol Key:

A	Quality	Timeframe	Environmental	Protected Resources	Socioeconomic

○ Neutral Impacts

⊙+ Minor Beneficial Impacts

⊘+ Moderate Beneficial Impacts

⊙- Minor Adverse Impacts

⊘- Moderate Adverse Impacts

4.5 Cumulative Impacts

Under NEPA, cumulative impact is the impact on the environment which results from the incremental impact of the proposed 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. A cumulative impact includes the total effect on a natural resource, ecosystem, or human community due to past, present, and future activities or actions of Federal, non-Federal, public, and private entities. 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, or are occurring, and will likely occur as a result of any action or influence, including the direct and reasonably foreseeable indirect impacts of a federal activity. This section of the EA describes the cumulative ecological, economic, and social impacts of past, present, and reasonably foreseeable future actions within the proposed action area – in the geographic area where the small-scale vessels of the U.S. Caribbean small-scale HMS handgear fishery operate.

The HMS small-scale fishery operates in small-vessels in predominantly pelagic environments and has negligible adverse physical impacts on mid-water environments, the substrate, or any sensitive benthic habitats. As discussed under the proposed action, the ability to participate in fisheries that currently require limited access permits is anticipated to have positive social and economic impacts for small-scale fishermen in the Caribbean Region. When many of the HMS fisheries shifted to limited access only, it is believed that many of the small-scale HMS fishermen in the U.S. Caribbean Region either failed to qualify for limited access permits or were not well informed of the changes necessary to obtain permits through the permitting process. Additionally at the time when HMS fisheries shifted to limited access, the small-scale fishermen may have been less interested in HMS fisheries as they have traditionally targeted reef fish species. Currently there are substantial existing permit price barriers that are restricting small-scale Caribbean fishermen from entering into the federal SWO and shark fisheries because HMS limited access permits can be relatively expensive and would require a substantial investment by individual fishermen. The proposed action would provide a cost effective way for small-scale fishermen to enter the HMS fishery.

The proposed action would, in the U.S. Caribbean Region, address the handline definition change that was made in the 2006 Consolidated HMS FMP, which required that handlines be attached to a vessel. This requirement has disrupted the way many small-scale commercial fishermen fish for tunas in the U.S Caribbean Region with hand-set lines. NMFS anticipates that allowing CSBP holders to use unattached handlines (currently defined as buoy gear in the HMS

regulations) in the U.S. Caribbean Region would result in minor to moderate positive socio-economic impacts and it would allow regional fishermen to resume their traditional fishing practices while complying with HMS regulations and data collection requirements, and therefore minimizing the potential for adverse impacts to stocks.

Commercial HMS small-scale fishermen operating in the Caribbean have primarily targeted YFT. Atlantic YFT are currently designated as overfished but overfishing is not occurring. The SCRS stated that continuation of current catch levels is expected to lead to a biomass somewhat above B_{MSY} by 2016. NMFS has been actively working to revitalize the U.S. SWO fishery as the species populations have recovered and has worked diligently to provide increased opportunities for additional SWO fishing, especially with the use of gears that are low in bycatch and bycatch mortality. Nevertheless, the cumulative adverse impacts of this proposed action are expected to be minor or negligible because most of the 100 individuals that might obtain a CSBP are already participating in Atlantic HMS fisheries and are expected to shift from other open access permit types to the CSBP. Fishermen that obtain a CSBP, but that did not previously hold an Atlantic HMS fishing permit, are expected to be island resident, small-scale fishermen that utilize the proposed fishing gears, thus the additional HMS landings that may occur as a result of the proposed action are expected to primarily consist of the most commonly caught species, YFT. NMFS believes there would not be a substantial increase in YFT landings under any of the alternatives to a level that would cause adverse impacts to the YFT population.

Under the proposed action, NMFS anticipates that fishermen using handgear would have no adverse impacts on ESA-listed species in excess of the impacts analyzed in the 2001 BiOp which concluded that the HMS handgear fishery will not jeopardize any ESA-listed species. Handgears are used to target HMS in most other regions outside of the Caribbean where HMS are targeted and this small-scale gear has been documented to have very low bycatch and bycatch mortality of ESA-listed species, including sea turtles. Further, a 2008 NMFS Memorandum determined that authorizing green-stick gear for the harvest of Atlantic tunas was not likely to adversely affect ESA-listed species.

5.0 REGULATORY IMPACT REVIEW

The Regulatory Impact Review (RIR) is conducted to comply with Executive Order 12866 (E.O. 12866) and provides analyses of the economic benefits and costs of each alternative to the nation and the fishery as a whole. The information contained in Section 4, taken together with the data and analysis incorporated by reference, comprise the complete RIR.

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, local or tribal governments of communities;
- Create 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.

5.1 Description of Management Objectives

Please see Section 1 for a full description of the purpose and need for the proposed rule. This action is necessary to achieve domestic management objectives under the Magnuson-Stevens Act and the 2006 Consolidated HMS FMP. The objectives of this action are to:

- Increase participation in the HMS federal fishery management program in the U.S. Caribbean Region;
- Expand regional HMS permit availability and increase permitting program awareness, participation, and compliance in the U.S. Caribbean Region;
- Improve regional HMS catch and fishing effort data;
- Examine and implement regionally tailored HMS management strategies, as appropriate;
- Provide targeted training and outreach to Caribbean HMS fishery participants; and,
- Improve NMFS' capability to monitor and sustainably manage U.S. Caribbean HMS fisheries.

5.2 Description of Fishery

Please refer to Section 3 of this EA/RIR/IRFA for a description of the fishery and environment that could be affected by this rulemaking.

5.3 Statement of the Problem

Please see Section 1 for a full discussion of the problem and need for this management action. The purpose of the proposed action is to enact HMS management measures that better

correspond with the traditional operation of the fishing fleet in the Caribbean Region and to provide NMFS with an improved capability to monitor and sustainably manage those fisheries.

5.4 Description of Each Alternative

Please see Sections 2 and 4 for a summary of the preferred and No Action alternatives and a complete description of each alternative and its expected impacts.

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

NMFS estimates that the universe of fishermen who might purchase and fish under a CSBP would be approximately 100 individuals in the U.S. Caribbean Region with some potential shift of fishermen currently permitted in the Angling and Charter/Headboat sectors to the CSBP fishery.

Alternative 1

Alternative 1, the no action alternative, would maintain the existing regulatory structure in the U.S. Caribbean Region. Under Alternative 1, NMFS does not anticipate any substantive change in economic impacts as the small-scale fishermen in the Caribbean Region are already operating under the current regulations. However, this alternative may be contributing to a loss of potential income by small-scale fishermen in the Caribbean Region because these fishermen are limited in their ability to gain access to commercial limited access SWO and shark fisheries due to the high costs of obtaining permits. Additionally, the relative absence of a dealer structure in the U.S. Caribbean Region effectively restricts where fishermen may legally sell their catches, so they often sell to non-dealers or become individual dealers themselves.

Alternative 2

Alternative 2 would allow small-scale fishermen in the Caribbean Region to fish for, retain, and sell BAYS tunas and SWO. Retention limits for BAYS tunas could be set between 0 and 24 fish per trip. The upper end of this range is equal to the current maximum recreational retention limit of YFT for an HMS charter vessel with 6 paying passengers and 2 crew members onboard. NMFS is considering setting the initial limit at 10 BAYS tunas per trip. The Caribbean small-scale commercial tunas fishery is small, the vessels are limited in range and hold capacity, and are currently allowed to harvest unlimited numbers of BAYS tunas if they possess an Atlantic tunas General category permit. Alternative 2 would also allow permit holders to retain and sell 0 to 6 SWO per vessel per trip. This upper limit is equal to the current maximum SWO retention limit for the open access HMS Charter/Headboat permit with 6 paying passengers onboard. NMFS is considering setting the initial retention limit at 2 SWO per trip. In summary, NMFS would have framework adjustment authority under 50 CFR §635.34(b) to modify BAYS tunas and SWO limits in the future within the ranges identified above. Under Alternative 2, NMFS is considering establishing an initial proposed limit of 10 BAYS tunas per trip, and an initial proposed retention limit of 2 SWO per trip. Alternative 2 would limit the length of vessels eligible for the CSBP to 45 feet or less.

NMFS anticipates positive economic impacts for these fishermen under Alternative 2. Alternative 2 would allow small-scale Caribbean fishermen (vessels limited to 45 feet LOA or

less) to use specific handgears (including buoy gear) and greenstick gear to fish for and retain BAYS tunas and specific handgears to fish for and retain SWO. Allowing small-scale commercial fishermen in the U.S. Caribbean Region to use their traditional free-floating "yo-yo" handlines (buoy gear) to target BAYS tunas has been requested for many years. Establishing a trip limit range of 0 to 24 BAYS tunas with an initial proposed limit of 10 BAYS tunas per trip is expected to produce positive economic impacts because 10 BAYS is reported to be a very successful trip for the small-scale fishermen (Lynn Rios, pers. comm.). According to Fisheries of the United States, 2010, YFT sells for approximately $1.75 per pound in Puerto Rico (this price likely includes lesser quality longline landings), however according to information provided by the USVI DPNR, YFT and "tunas" harvested in the handline fishery may sell for up to $7.00 per pound depending on quality and local demand (NMFS, 2011c).

Using ICCAT conversions for YFT, a fish meeting the current U.S. minimum size (27 inches Curved Fork Length (CFL)) weighs approximately 14 lb. Therefore, if each fisherman conducted two BAYS tunas trips per month (24 trips/yr.), and landed 10 YFT on each trip (240 YFT/yr.), then the annual revenue per vessel associated with this activity would range from $5,880.00 (240 YFT x 14 lb x $1.75/lb) - $23,520.00 (240 YFT x 14 lb x $7.00/lb). These estimates are based upon the initial retention limit of 10 BAYS tunas that NMFS is considering under Alternative 2. Because NMFS would have authority to adjust the BAYS tunas retention limits from 0 to 24 fish under Alternative 2, the annual ex-vessel revenue estimates could vary from $0.00 (under a 0 fish limit) to as much as $14,112 (576 YFT x 14 lb x $1.75/lb) - $56,448 (576 YFT x 14 lb x $7.00/lb) under a 24 fish retention limit if the BAYS retention limit were to change. Also, it is important to reemphasize that a 10-fish trip is considered very successful and the likelihood that it would occur on multiple trips over an entire year is unknown. The small-scale commercial HMS fishery in the region consists primarily of small vessels that are limited by hold capacity, crew size, trip length, fishing gears, and market infrastructure. Improvements in data collection anticipated through this action will enable NMFS to better characterize the fishery and adjust management measures in the future.

The ability to legally land and sell SWO from federal waters under Alternative 2 could increase the profitability of the localized small-scale HMS fishery. Swordfish is currently selling for approximately $4.00 to $6.00 per pound in the Caribbean Region (Lynn Rios, pers. comm.). Analyzing a trip limit range of 0 to 6 for SWO per trip, and setting an initial proposed retention limit of 2 SWO per trip would likely result in positive economic impacts for those fishermen able to target and store 1 or 2 SWO on their vessels.

Using ICCAT conversions for SWO, a fish meeting the current U.S. minimum size (47 inches Lower Jaw Fork Length (LJFJ)) weighs approximately 44 lb. Therefore, if each fisherman conducted two SWO trips per month (24 trips/yr.), and landed 2 SWO on each trip (24 SWO/yr.), then the annual revenue per vessel associated with this activity would range from $4224.00 (24 SWO x 44 lb x $4.00/lb) - $6,336.00 (24 SWO x 44 lb x $6.00/lb). These estimates are based upon the initial proposed retention limit of 2 SWO that NMFS is considering under Alternative 2. Because NMFS would have authority to adjust the SWO retention limit under this alternative from 0 to 6 fish using the framework procedures codified at 50 CFR §635.34(b), the annual ex-vessel revenue estimates could vary from $0.00 (under a 0 fish limit) to as much as $25,344 (144 SWO x 44 lb x $4.00/lb) - $38,016 (144 SWO x 44 lb x $6.00/lb) under a 6-fish limit if the SWO limit were to change. Also, a 2-fish trip is considered very

successful and the likelihood that it would occur on multiple trips over an entire year is unknown. The small-scale commercial HMS fishery in the region consists primarily of small vessels that are limited by hold capacity, crew size, trip length, fishing gears, and market infrastructure. Improvements in data collection anticipated through this action will enable NMFS to better characterize the fishery and adjust management measures in the future.

Alternative 2 does not contain any new reporting requirements, but would require fishermen to apply for a CSBP in a manner similar to the way HMS permit holders apply for their current HMS permits, if they currently hold one. The relative absence of a dealer structure in the U.S. Caribbean Region restricts where fishermen may legally sell their catches, so they often sell catches to non-dealers or become individual dealers themselves. This alternative would simplify reporting requirements and better account for the business practices of small-scale Caribbean fishermen by allowing Caribbean fishermen with the CSBP 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 Southeast Fisheries Science Center (SEFSC).

Alternative 3

Alternative 3 would allow Caribbean small-scale fishermen to retain and sell from 0 and 24 BAYS tunas and from 0 – 6 SWO, which are the same ranges as discussed in Alternative 2. These retention limits could be adjusted using the framework procedures at 50 CFR §635.34(b). Under Alternative 3, NMFS is considering establishing an initial proposed limit of 10 BAYS tunas per trip, and an initial proposed retention limit of 2 SWO per trip which are the same as Alternative 2. This alternative could also allow for Caribbean small-scale fishermen to affordably participate in the commercial fishery for sharks. Under this alternative, shark retention limits could be set between 0 to 3 non-sandbar LCS and 0 to 16 SCS and pelagic sharks combined using the framework adjustment procedures at 50 CFR §635.34(b). To be conservative, NMFS is considering setting the initial shark trip limit at 0, with the ability to modify the limits using the framework adjustment procedures at 50 CFR §635.34(b) once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery. Alternative 3 would limit the length of vessels eligible for the CSBP to 45 ft. or less.

With regards to BAYS tunas and SWO, the initial proposed retention limits in Alternative 3 (10 BAYS & 2 SWO) would have the same positive economic impacts as Alternative 2 discussed above (BAYS: $5,880.00-$23,520.00; SWO: $4224.00-$6,336.00). Similarly, because NMFS would have authority to adjust the BAYS tunas retention limits from 0 to 24 fish under Alternative 3, the annual ex-vessel revenue estimates could vary from $0.00 (under a 0 fish limit) to as much as $14,112 (576 YFT x 14 lb x $1.75/lb) - $56,448 (576 YFT x 14 lb x $7.00/lb) under a 24 fish retention limit if the BAYS limit were to change. Also, because NMFS would have authority to adjust the SWO retention limit under this alternative from 0 to 6 fish using the framework procedures codified at 50 CFR §635.34(b), the annual ex-vessel revenue estimates could vary from $0.00 (under a 0 fish limit) to as much as $25,344 (144 SWO x 44 lb x $4.00/lb) - $38,016 (144 SWO x 44 lb x $6.00/lb) under a 6-fish limit if the SWO limit were to change.

The potential ability for small-scale Caribbean fishermen to participate in the federal commercial shark fishery under this alternative by analyzing a retention limit range of 0 to 3 non-sandbar LCS and 0 to 16 SCS and pelagic sharks combined would produce larger potential positive economic impacts than Alternatives 1 and 2. According to Fisheries of the United States, 2010, "shark" sells for approximately $1.57 per pound in Puerto Rico (this price likely includes lesser quality longline landings), however according to information provided by the USVI DPNR, "shark" harvested in the handline fishery may sell for up to $4.00 per pound depending on quality and demand (NMFS, 2011c).

NMFS is considering setting the initial proposed shark retention limit at 0 under Alternative 3. This would produce $0.00 in ex-vessel revenues. There is a potential for future revenue increases under this alternative because NMFS would have the ability to modify the limits once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery. The range of shark limits in Alternative 3 have the potential to provide increased revenues for fishermen who catch sharks and who have or can create a market for them in the U.S. Caribbean Region.

Using information from the Northeast Fisheries Science Center (Kohler *et al*., 1996), the average weight of a Caribbean non-sandbar LCS (*i.e.*, tiger, blacktip, lemon, nurse, great hammerhead) fish is approximately 95 lb (ww), and the average weight of a Caribbean pelagic shark (*i.e.*, common thresher, oceanic whitetip, blue) is approximately 150 lb (ww). For Caribbean SCS, a weight of 10 lb (ww) is assumed. Therefore, if each fisherman conducted two shark trips per month (24 trips/yr.), and landed 3 non-sandbar LCS and 16 SCS on each trip (72 LCS/yr. & 384 SCS), then the annual revenue per vessel associated with this activity would range from $16,768.00 (72 LCS x 95 lb x $1.57/lb + 384 SCS x 10 lb x $1.57/lb) - $42,720.00 (72 LCS x 95 lb x $4.00/lb + 384 SCS x 10 lb x $4.00/lb). These estimates are based upon the upper limit of 3 non-sandbar LCS and 16 SCS or pelagic sharks (combined) that NMFS could consider under Alternative 3. These estimates of annual revenues would be higher if more pelagic sharks were landed due to their larger average size. The likelihood that the limits would be reached on multiple trips over an entire year is unknown. The small-scale HMS fishery in the region consists primarily of small vessels that are limited by hold capacity, crew size, trip length, fishing gears, and market infrastructure. Improvements in data collection anticipated through this action will enable NMFS to better characterize the fishery and adjust management measures in the future.

Alternative 3 does not contain any new reporting requirements, but would require fishermen to apply for a CSBP in a manner similar to the way HMS permit holders apply for their current HMS permits, if they currently hold one. The relative absence of a dealer structure in the U.S. Caribbean Region restricts where fishermen may legally sell their catches, so they often sell them to non-dealers or become individual dealers themselves. This alternative would simplify reporting requirements and better account for the business practices of Caribbean fishermen by allowing small-scale fishermen with the CSBP 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 SEFSC.

Alternative 4

Alternative 4 would establish a range that could allow Caribbean small-scale fishermen to retain and sell from between 0 to an unlimited number of BAYS tunas, with an initial proposed retention limit of 24 BAYS tunas per trip. This could potentially increase the number of BAYS tunas harvested in the region. Alternative 4 would also establish a range that could allow permit holders to retain and sell from 0 to an unlimited number of SWO per vessel per trip, with an initial proposed retention limit of 6 SWO per trip. This could potentially increase the number of SWO harvested in the region. With regards to sharks, Alternative 4 could allow the potential for Caribbean small-scale fishermen to participate in the federal commercial fishery for sharks. Shark retention limits could be set between 0 to 33 non-sandbar LCS and from 0 to no limit for SCS and pelagic sharks combined. In summary, the Agency would have the ability to modify BAYS tunas, SWO, and shark trip limits within the identified ranges using the framework adjustment procedures at 50 CFR §635.34(b).

Under Alternative 4, NMFS is considering setting an initial proposed limit of 24 BAYS tunas per trip; an initial proposed retention limit of 6 SWO per trip; and, initial retention limits of 1 non-sandbar LCS and 2 SCS or pelagic sharks combined, with the ability to modify these retention limits using the framework adjustment procedures codified at 50 CFR §635.34(b) once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery. Alternative 4 would not limit the size of vessel allowed to be issued a CSBP. During NEPA scoping and through public comment on the Predraft, NMFS received comment from fishermen concerned about over capitalization leading to depressed market prices. Alternatives 2 and 3 would limit vessel size to 45 feet or less.

Alternative 4 could potentially have the largest positive economic impacts when compared with Alternatives 1, 2, and 3 discussed above; however, it could also result in local overcapitalization in the fishery, lead to depressed market prices, and other potential adverse economic impacts. It could increase the number of BAYS tunas harvested in the region and the range would mirror the trip limits currently authorized for the open access Atlantic tunas General category permit. As discussed under Alternative 2, a trip where 10 BAYS tunas are harvested in the Caribbean small-scale HMS fishery is considered a very successful day, this alternative could increase the number of BAYS allowed to be harvested to an unlimited amount. This increased retention limit may result in additional positive economic impacts, however it is not known if the small-scale fleet has the ability to hold and market this amount of tunas.

Using ICCAT conversions for YFT, a fish meeting the current U.S. minimum size (27 inches CFL) weighs approximately 14 lb. Therefore, if each fisherman conducted two BAYS tunas trips per month (24 trips/yr.), and landed 24 YFT on each trip (576 YFT/yr.), then the annual revenue per vessel associated with this activity would range from $14,112.00 (576 YFT x 14 lb x $1.75/lb) - $56,448.00 (576 YFT x 14 lb x $7.00/lb). These estimates are based upon the initial proposed retention limit of 24 BAYS tunas that NMFS is considering under Alternative 4. Because NMFS would have the ability to adjust the BAYS tunas retention limit from 0 to an unlimited amount under Alternative 4, the annual ex-vessel revenue estimates would vary from either $0.00 to an unlimited amount if the BAYS retention limit were to change from the initial proposed limit of 24 BAYS/trip. Also, it is important to reemphasize that a 10-fish trip is considered very successful and the likelihood that a 24 fish trip would occur on multiple trips over an entire year is unknown. The small-scale HMS fishery in the region consists primarily of small vessels that are limited by hold capacity, crew size, trip length, fishing gears, and market

infrastructure. Improvements in data collection anticipated through this action will enable NMFS to better characterize the fishery and adjust management measures in the future.

The unlimited upper end of the range being considered for SWO in Alternative 4 would be equal to the current limited access SWO directed permit retention limit. NMFS has received anecdotal information that SWO are being harvested by handgear fishermen in the Caribbean Region. Alternative 4 would provide small-scale fishermen in the Caribbean Region with access to the federal commercial SWO fishery and the ability to legally market their catches. Currently, entrance to the federal limited access commercial SWO fishery has been difficult for small-scale fishermen as permits are cost prohibitive. However as stated above, the vessels participating in the small-scale fishery are small, limited in range, and limited in hold capacity. It is not known if these small vessels can hold and safely transport an unlimited amount of SWO to port.

Using ICCAT conversions for SWO, a fish meeting the current U.S. minimum size (47 inches LJFL) weighs approximately 44 lb. Therefore, if each fisherman conducted two SWO trips per month (24 trips/yr.), and landed 6 SWO on each trip (144 SWO/yr.), then the annual revenue per vessel associated with this activity would range from $25,344.00 (144 SWO x 44 lb x $4.00/lb) - $38,016.00 (144 SWO x 44 lb x $6.00/lb). These estimates are based upon the initial retention limit of 6 SWO that NMFS is considering under Alternative 4. Because NMFS would have framework authority to adjust the SWO retention limit from 0 to an unlimited amount under Alternative 4, the annual ex-vessel revenue estimates would vary from $0.00 to an unlimited amount if the SWO limit were to change from 6 per trip. Also, a 2-fish trip is considered very successful and the likelihood that a 6-fish trip would occur on multiple trips over an entire year is unknown. The small-scale HMS fishery in the region consists primarily of small vessels that are limited by hold capacity, crew size, trip length, fishing gears, and market infrastructure. Improvements in data collection anticipated through this action will enable NMFS to better characterize the fishery and adjust management measures in the future.

The shark retention limits in the range for Alternative 4 have the potential to provide increased revenues for fishermen who catch sharks and who have or can create a market for them in the U.S Caribbean Region.

Using information from the Northeast Fisheries Science Center (Kohler *et al*., 1996), the average weight of a Caribbean non-sandbar LCS (*i.e.*, tiger, blacktip, lemon, nurse, great hammerhead) fish is approximately 95 lb (whole weight (ww)), and the average weight of a Caribbean pelagic shark (*i.e.*, common thresher, oceanic whitetip, blue) is approximately 150 lb (ww). For Caribbean SCS, a weight of 10 lb (ww) is assumed. Therefore, if each fisherman conducted two shark trips per month (24 trips/yr.), and landed 1 non-sandbar LCS and 2 SCS on each trip (24 LCS/yr. & 48 SCS), then the annual revenue per vessel associated with this activity would range from $4,296.00 (24 LCS x 95 lb x $1.57/lb + 48 SCS x 10 lb x $1.57/lb) - $11,040.00 (24 LCS x 95 lb x $4.00/lb + 48 SCS x 10 lb x $4.00/lb). These estimates are based upon the initial retention limit of 1 non-sandbar LCS and 2 SCS or pelagic sharks (combined) that NMFS is considering under Alternative 4. These estimates of annual revenues would be higher if more pelagic sharks were landed due to their larger average size. Because NMFS would have framework authority to adjust the retention limits from 0 to 33 non-sandbar LCS and from 0 to an unlimited amount of SCS or pelagic sharks (combined) under Alternative 4, the annual ex-vessel revenue estimates would vary from $0.00 to an unlimited amount if the

retention limits were to change. The likelihood that the retention limits would be reached on multiple trips over an entire year is unknown. The small-scale HMS fishery in the region consists primarily of small vessels that are limited by hold capacity, crew size, trip length, fishing gears, and market infrastructure. Improvements in data collection anticipated through this action will enable NMFS to better characterize the fishery and adjust management measures in the future.

Alternative 4 would not limit the size of vessel allowed to be issued a CSBP. During NEPA scoping and through public comment on the Predraft, the Agency received comments from fishermen concerned about over capitalization leading to depressed market prices. Alternatives 2 and 3 limit vessel size to 45 feet or less. Alternative 4 does not identify a vessel size limit and could result in local overcapitalization in the fishery, lead to depressed market prices, and other potential adverse economic impacts.

Alternative 4 does not contain any new reporting requirements, but would require fishermen to apply for a CSBP in a manner similar to the way HMS permit holders apply for their current HMS permits, if they currently hold one. The relative absence of a dealer structure in the U.S. Caribbean Region restricts where fishermen may legally sell their catches, so they often sell to non-dealers or become individual dealers themselves. This alternative would simplify reporting requirements and better account for the business practices of Caribbean fishermen by allowing small-scale fishermen with the CSBP 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 SEFSC.

The net economic costs and benefits of the alternatives can be seen in Table 5.1.

Table 5.1 Net Economic Costs and Benefits of Alternatives

Alternatives	Net Economic Benefits	Net Economic Costs
Alternative 1 No Action	No change in economic benefits.	There may be short-term and long-term economic costs if small-scale U.S. Caribbean fishermen are not provided opportunities to fish for, retain, and sell SWO and, potentially, sharks. Currently, permits for these species are difficult to obtain because of limited access.
Alternative 2 -Initial proposed limits of **10 BAYS** tunas/ trip, and **2 SWO/trip**. NMFS could adjust limits using framework procedures within the following ranges:	Positive economic benefits could potentially result if U.S. Caribbean fishermen are allowed to obtain the CSBP, and are allowed to retain up to 10 BAYS tunas and 2 SWO per trip. Estimated annual revenue increases for approximately 100 small scale Caribbean fishermen range from $5,880.00 - $23,520.00	There could be minor costs for Caribbean fishermen to obtain the new permit and to learn new requirements.

Alternatives	Net Economic Benefits	Net Economic Costs
-0 to 24 fish retention limit for BAYS, current size limits and landing restrictions apply; -0 to 6 fish retention limit for SWO, current size limits and landing restrictions apply.	for BAYS, and from $4,224.00 - $6,336.00 for SWO. These estimates would change if the trip limits change. Implementation of a new permit would assist in data collection.	
Alterative 3 -Initial proposed limits of **10 BAYS** tunas/ trip, **2 SWO/trip**, and **0 sharks/trip**. NMFS could adjust limits using framework procedures within the following ranges: -0 to 24 fish retention limit for BAYS, current size limits and landing restrictions apply; -0 to 6 fish retention limit for SWO, current size limits and landing restrictions apply; -0 to 3 non-sandbar LCS/trip & 0 to16 SCS/pelagic sharks/trip (combined), no size limits, current landing restrictions apply.	Positive economic benefits could potentially result if U.S. Caribbean fishermen are allowed to retain up to 10 BAYS tunas and 2 SWO per trip. Estimated annual revenue increases for approximately 100 small scale Caribbean fishermen range from $5,880.00 - $23,520.00 for BAYS, and from $4,224.00 - $6,336.00 for SWO. These estimates would change if the trip limits change. Alternative 3 could have larger economic benefits than Alternative 2 due to inclusion of sharks. Implementation of a new permit would assist in data collection.	There could be minor costs for Caribbean fishermen to obtain the new permit and to learn new requirements.
Alternative 4 -Initial proposed limits of **24 BAYS tunas/ trip**, **6 SWO/trip**, **1 non-sandbar LCS/trip**, and **2 SCS or pelagic sharks (combined)/trip.** NMFS could adjust limits using framework procedures within the following ranges: -No retention limit for BAYS, current size limits and landing restrictions apply; -No retention limit for SWO,	Positive economic benefits could potentially result if U.S. Caribbean fishermen are allowed to retain up to 24 BAYS tunas and 6 SWO per trip. Estimated annual revenue increases for approximately 100 small scale Caribbean fishermen range from $14,112.00-$56,448.00 for BAYS, and from $25,344.00 - $38,016.00 for SWO, and from $4,296.00 - $11,040.00 for sharks. These estimates would change if the trip limits change. Alternative 4 could have larger economic benefits than Alternatives 2 and 3 due to inclusion of sharks and higher potential trip limits. Implementation of a new	There could be minor costs for Caribbean fishermen to obtain the new permit and to learn new requirements.

Alternatives	Net Economic Benefits	Net Economic Costs
current size limits and landing restrictions apply; -0 to 33 non-sandbar LCS/trip & no trip limit for SCS/pelagic sharks/trip, no size limits, current landings restrictions apply.	permit would assist in data collection.	

5.6 Conclusion

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 obligation of recipients thereof; or (4) raise novel legal or policy issues arising out of legal mandates, the President's priorities, or the principles set forth in the Executive Order. The actions described in this draft EA/RIR/IRFA do not meet the above criteria. The economic impacts as reflected in this EA and the proposed rule are under the $100 million threshold (see Section 5.5). The alternatives would also not create an inconsistency or interfere with an action taken by another agency. Furthermore, the preferred alternatives would not materially alter the budgetary impact of entitlements, grants, user fees, the President’s priorities, or the principles set forth in E.O. 12866. Nor would the proposed regulations raise any unique legal or policy issues. The Secretary, through NMFS, has managed Atlantic HMS since 1990. In addition, NMFS has participated in international efforts to develop management measures for HMS stocks affected by multiple nations. None of the alternatives analyzed in this draft EA/RIR/IRFA materially depart from this management approach. Therefore, under E.O. 12866, the preferred alternatives described in this document have been determined to be not significant for the purposes of E.O. 12866. The Office of Management and Budget (OMB) concurred with this determination provided in the listing memo for this proposed rule.

6.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

The IRFA is conducted to comply with the Regulatory Flexibility Act (RFA) (5 USC 601 *et. seq*.). 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 the 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.

6.1 Description of the Reasons Why Action is Being Considered

Please see Section 1 for a full discussion of the need for action. Primarily, the purpose of the proposed action is to addresses HMS fishery management in the U.S. Caribbean territories

including Puerto Rico and the USVI by implementing measures that better correspond with the traditional operation of the small-scale commercial HMS fishing fleet in the Caribbean Region and to provide NMFS with an improved capability to monitor and sustainably manage those fisheries.

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

Please see Section 1 for a full description of the objectives of, and legal basis for, the proposed rule and draft EA/RIR/IRFA. The proposed measures would address HMS fishery management in the U.S. Caribbean territories including Puerto Rico and the USVI. The proposed rule is necessary and appropriate pursuant to ATCA and to achieve domestic management objectives under the Magnuson-Stevens Act.

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

The current Caribbean HMS small-scale fishery is partially comprised of fishermen who currently hold an Atlantic General category or a HMS Charter/headboat category permit and the related industries including processors, bait houses, and equipment suppliers, all of which NMFS considers to be small entities according to the size standards set by the SBA. There may also be a few new entrants to the Caribbean small-scale HMS fishery however the number of new entrants is expected to be low due to the isolated area, small vessels in the region, limited fishing area, and limited profit margins. The proposed rule would apply to small-scale commercial HMS vessels that fish in the Caribbean Region. In 2010 there were 92 vessels permitted in the Atlantic tunas General category in Puerto Rico and 10 in the USVI. In 2010 there were 23 vessels permitted in the Charter/headboat category in Puerto Rico and 21 in the USVI. NMFS anticipates that the universe of fishermen who might purchase and fish under a CSBP would likely be approximately 100 individuals in the U.S. Caribbean Region with some potential shift of fishermen currently permitted in the Angling and Charter/Headboat categories.

6.4 Description of the Projected Reporting, Record-Keeping, 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

The proposed rule does not contain any new reporting requirements, but would require fishermen to apply for a CSBP in a manner similar to the way HMS permit holders apply for their current HMS permits, if they currently hold one.

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

This proposed rule would not conflict, duplicate, or overlap with other relevant federal rules (5 U.S.C. 603(b)(5)). Fishermen, dealers, and managers in these fisheries must comply with a number of international agreements, domestic laws, and other FMPs. These include, but are not limited to, the Magnuson-Stevens Act, the Atlantic Tunas Convention Act, the High Seas Fishing Compliance Act, the Marine Mammal Protection Act, the Endangered Species Act, the National Environmental Policy Act, the Paperwork Reduction Act, and the Coastal Zone

Management Act. NMFS does not believe that the new regulations proposed to be implemented would duplicate, overlap, or conflict with any relevant regulations, federal or otherwise.

6.6 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 alternatives to the proposed rule which accomplish the stated objectives while minimizing any significant economic impacts. These impacts are discussed below and in Sections 3, 4, and 5 of this document. Additionally, the Regulatory Flexibility Act (5 U.S.C. §603 (c) (1)-(4)) lists four general categories of "significant" alternatives that would assist an agency in the development of significant alternatives. These categories of alternatives are:

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 for small entities.

In order to meet the objectives of this proposed rule, consistent with legal obligations, NMFS cannot exempt small entities or change the reporting requirements only for small entities. Thus, there are no alternatives discussed that fall under the first and fourth categories described above. In addition, none of the alternatives considered would result in additional reporting requirements (category two above). The relative absence of a dealer structure in the U.S. Caribbean region restricts where fishermen may legally sell their catches, so they often sell to non-dealers or become individual dealers themselves. This proposed action would modify existing requirements that may affect small entities and would simplify reporting requirements and better account for the business practices of Caribbean fishermen by allowing Caribbean small-scale fishermen with the CSBP 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. Small entities may not be exempted from the proposed reporting requirements if the objectives of this proposed rule are to be met, consistent with legal obligations.

NMFS considered and analyzed four alternatives in this draft EA. These alternatives ranged from maintaining the status quo to creating a permit (CSBP) valid only in the U.S. Caribbean Region which could allow fishing for and sales of BAYS tunas, SWO, and Atlantic sharks (excluding sandbar) under specific limitations. Three alternatives were analyzed that would allow NMFS to modify retention limits using the framework adjustment procedures codified at 50 CFR §635.34(b). NMFS assessed the impacts of the alternatives , which are composed of seven key topics including: permitting/workshop certification; authorized species; retention limit ranges; reporting; authorized gears; vessel size restrictions; and, regions. Instead

of analyzing a range of alternatives under individual topics, the IRFA analyzes a number of alternative suites that pull from a range of alternatives under all the topics.

Alternative 1 would, among other things, maintain current Atlantic HMS vessel and dealer permits structure, current upgrading restrictions, current authorized species and gear structure, current retention limits, and, current observer and reporting requirements. Alternative 2 would create a CSBP allowing fishing for and sales of BAYS tunas and Atlantic SWO under specific limitations. Alternative 3 would create a CSBP allowing fishing for and sales of BAYS tunas, Atlantic SWO, and Atlantic sharks, under specific limitations. Alternative 3 differs from Alternative 2 in that it could also allow for the retention of Atlantic sharks. Alternative 4 would create a CSBP allowing fishing for and sales of BAYS tunas, Atlantic SWO, and Atlantic sharks, under specific limitations. Alternative 4 differs from Alternative 3 in that it could allow for higher retention limits of BAYS tunas, Atlantic SWO, Atlantic sharks, and would not limit vessel size. Under alternatives 2 – 4, modifications to the initial proposed retention limits could be made using the adjustment procedures codified at 50 CFR §635.34(b).

Under Alternative 1, NMFS does not anticipate any substantive change in economic impacts as the small-scale fishermen in the Caribbean Region are already operating under the current regulations. However, this alternative may contribute to a loss of potential income by small-scale fishermen in the Caribbean Region, because these fishermen are limited in their ability to gain access to federal commercial limited access HMS fisheries due to the high costs of obtaining permits considering the low volume of their catch and resulting profit. The relative absence of a dealer structure may cause them to sell to non-dealers or to become individual dealers themselves, which may constitute additional financial burden with regards to the cost of a dealer permit.

Alternative 2 would allow small-scale fishermen in the Caribbean Region to fish for, retain, and sell BAYS tunas and SWO. This alternative would codify initial retention limits of 10 BAYS tunas/trip and 2 SWO/trip, but also provides for a defined range within which the retention limits can be adjusted according to specific management criteria (0 to 24 for BAYS and 0 to 6 for SWO). Alternative 2 would limit the length of vessels eligible for the CSBP to 45 ft. or less. Based on preliminary scoping for this rulemaking, a trip in which 10 BAYS and/or 2 SWO are captured is considered a very successful trip for the small-scale fishermen; thus, these were selected as initial retention limits for BAYS tuna and SWO under this alternative. Atlantic YFT and "tunas" harvested in the handline fishery may sell for between $1.75/lb and $7.00/lb, depending on quality and local demand. Using ICCAT conversions for YFT, a fish meeting the current U.S. minimum size (27 inches CFL) weighs approximately 14 lb. Therefore, if each fisherman conducted two BAYS tunas trips per month (24 trips/yr.), and landed 10 YFT on each trip (240 YFT/yr.), then the annual revenue per vessel associated with this activity would range from $5,880.00 (240 YFT x 14 lb x $1.75/lb) - $23,520.00 (240 YFT x 14 lb x $7.00/lb). Swordfish is currently selling for approximately $4.00 to $6.00 per pound in the Caribbean Region (Lynn Rios, pers. comm.). Using ICCAT conversions for SWO, a fish meeting the current U.S. minimum size (47 inches LJFL) weighs approximately 44 lb. Therefore, if each fisherman conducted two SWO trips per month (24 trips/yr.), and landed 2 SWO on each trip (24 SWO/yr.), then the annual revenue per vessel associated with this activity would range from $4,224.00 (24 SWO x 44 lb x $4.00/lb) - $6,336.00 (24 SWO x 44 lb x $6.00/lb). Because NMFS would have authority to adjust the BAYS tunas limits from 0 to 24 fish under Alternative

2, the annual ex-vessel revenue estimates would vary, either higher or lower, according to these calculations if the BAYS and SWO limits were to change. This alternative could result in positive economic impacts for Caribbean small-scale fishermen. The ability to land and sell SWO under Alternative 2 could increase the profitability of the localized fishery.

Alternative 3 could allow Caribbean small-scale fishermen to retain and sell from 0 to 24 BAYS tunas/trip and from 0 to 6 SWO/trip. This alternative also provides Caribbean small-scale fishermen the capacity to participate in the federal commercial fishery for sharks by establishing a retention limit range of 0 to 3 for non-sandbar LCS and 0 to 16 for SCS and pelagic sharks. To be conservative, NMFS is considering setting the initial proposed shark retention limit at 0, with the ability to modify the retention limits once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery.

With regard to BAYS tunas and SWO, Alternative 3 would have the same positive economic impacts as Alternative 2 discussed above (BAYS: $5,880.00-$23,520.00; SWO: $4224.00-$6,336.00). In the Caribbean, "shark" sells for between $1.57/lb and $4.00/lb depending on quality and demand. NMFS would set the initial shark retention limit at 0 under Alternative 3. This could potentially result in some initial negative economic impacts; however, sharks cannot legally be harvested from the U.S. EEZ without possessing a shark LAP. There is a potential for future revenue increases under this alternative because NMFS would have the ability to modify the retention limits once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery. Allowing CSBP fishermen the ability to participate in the federal commercial shark fishery under this alternative by analyzing a range of retention limits can potentially result in a larger positive economic impact than Alternatives 1 and 2 if a retention limit of greater than 0 is authorized.

Alternative 4 would allow Caribbean small-scale fishermen to retain and sell from between 0 to an unlimited number of BAYS tunas, 0 to an unlimited number of SWO, 0 to 33 sharks non-sandbar LCS, and from 0 to an unlimited number of SCS and pelagic sharks. Under Alternative 4, NMFS would set initial retention limits of 24 BAYS tunas per trip, 6 SWO per trip, and, 1 non-sandbar LCS and 2 SCS or pelagic sharks combined, with the ability to modify the retention limits once the shark complexes have recovered and the Agency has more data on regional participants, catches, and discards in the CSBP fishery. Additionally, this alternative would not limit the vessel size of participants in the CSBP fishery. If each fisherman conducted two BAYS tunas trips per month (24 trips/yr.), and landed 24 YFT on each trip (576 YFT/yr.), then the annual revenue per vessel associated with this activity would range from $14,112.00 (576 YFT x 14 lb (average weight of a landed YFT) x $1.75/lb) - $56,448.00 (576 YFT x 14 lb x $7.00/lb). If each fisherman conducted two SWO trips per month (24 trips/yr.), and landed 6 SWO on each trip (144 SWO/yr.), then the annual revenue per vessel associated with this activity would range from $25,344.00 (144 SWO x 44 lb x $4.00/lb) - $38,016.00 (144 SWO x 44 lb x $6.00/lb). If each fisherman conducted two shark trips per month (24 trips/yr.), and landed 1 non-sandbar LCS and 2 SCS on each trip (24 LCS/yr. & 48 SCS/yr.), then the annual revenue per vessel associated with this activity would range from $4,296.00 (24 LCS x 95 lb x $1.57/lb + 48 SCS x 10 lb x $1.57/lb) - $11,040.00 (24 LCS x 95 lb x $4.00/lb + 48 SCS x 10 lb x $4.00/lb). These estimates of annual revenues could be higher if more pelagic sharks were landed due to their larger average size. Because NMFS would have framework authority to adjust the trip limits for BAYS, SWO, and sharks within the range analyzed under Alternative 4,

this alternative could potentially have the largest positive economic impacts when compared with Alternatives 1, 2, and 3 discussed above; however, it could also result in local overcapitalization in the fishery, lead to depressed market prices, and other potential adverse economic impacts..

7.0 LITERATURE CITED

Gibson, A.J.A. and S.E. Campana. 2005. Status and Recovery Potential of Porbeagle Shark in the Northwest Atlantic. Canadian Science Adivosry Secretariat, Research Document 2005/053. 79 pp. http://www.dfo-mpo.gc.ca/csas.

Griffith, D., M.V. Pizzini, and C.J. Quijano. 2007. Entangled Communities: Socioeconomic Profiles of Fishers, their Communities and their Responses to Marine Protective Measures in Puerto Rico (Volume1: Overview). NOAA Tech Memo NMFS-SEFSC-556, 142 pp.

NMFS. 1993. Fishery Management Plan for Sharks of the Atlantic Ocean. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

Kohler, NE, Casey, JG, Turner PA. 1996. Length-length and length-weight relationships for 13 shark species from the Western North Atlantic. U.S. Department of Commerce, NOAA Tech Memo NMFS NE 110; 22 pp.

NMFS. 1999. Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 1999a. Amendment 1 to the Atlantic Billfish Fishery Management Plan. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 2003. Final Amendment 1 to the Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 2006. Consolidated Highly Migratory Species Fishery Management Plan. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 2006a. SEDAR 11 Stock Assessment Report: Large Coastal Shark Complex, Blacktip and Sandbar Shark. Highly Migratory Species Management Division, 1315 East West Highway, Silver Spring, MD 20910. 257 pp.

NMFS. 2007. SEDAR 13 Stock Assessment Report: Small Coastal Sharks, Atlantic Sharpnose, Blacknose, Bonnethead, and Finetooth Shark. Highly Migratory Species Management Division, 1315 East-West Highway, Silver Spring, MD 20910. 375 pp.

NMFS. 2008. Amendment 2 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 2009. Amendment 1 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan Essential Fish Habitat. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 2010. Amendment 3 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Silver Spring, MD.

NMFS. 2011. U.S. National Report to ICCAT, 2011. U.S. Department of Commerce, National Marine Fisheries Service, Office of Sustainable Fisheries, Silver Spring, MD.

NMFS. 2011a. Amendment 2 to the Fishery Management Plan for the Queen Conch Fishery of Puerto Rico and the U.S. Virgin Islands and Amendment 5 to the Reef Fish Fishery Management Plan of Puerto Rico and the U.S. Virgin Islands, National Marine Fisheries Service, Southeast Regional Office, St. Petersburg, FL

NMFS. 2011b. Stock Assessment and Fishery Evaluation Report for Atlantic Highly Migratory Species. Atlantic Highly Migratory Species Management Division, 1315 East West Highway, Silver Spring, MD 20910.

NMFS. 2011c Fisheries of the United States 2010, U.S. Department of Commerce, National Marine Fisheries Service, Office of Science and Technology, Silver Spring, MD.

PR DNER. 2007. Puerto Rico/NMFS Cooperative Fisheries Statistics Program April 2004 – March 2007. NA04NMFS4340063.

Restrepo, V. R., Thompson, G. G., Mace, P.M., Gabriel, W. L., Low, L. L., MacCall, A. D., Methot, R. D., Powers, J. E., Taylor, B. L., Wade, P. R., and Witzig, J. F. 1998. Technical guidance on the use of precautionary approaches to implementing National Standard 1 of the Magnuson – Stevens Fishery Conservation and Management Act. National Oceanic and Atmospheric Administration (US) Technical Memorandum NMFS-F/SPO-31. 54 pp.

SCRS. 2008. Report of the Standing Committee on Research and Statistics. ICCAT SCRS. Madrid, Spain, September 29-October 3, 2008. 238 pp.

SCRS. 2011. Report of the 2011 Meeting of the Standing Committee on Research and Statistics. International Commission for the Conservation of Atlantic Tunas SCRS. Madrid, Spain, October 1-7, 2011.