

ISSUES AND OPTIONS PAPER
FOR
REVISED MANAGEMENT OF HIGHLY MIGRATORY SPECIES
IN THE U.S. CARIBBEAN

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1.0 PURPOSE OF THIS DOCUMENT AND THE SCOPING PROCESS

The National Marine Fisheries Service (NOAA Fisheries) intends to amend the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) (Consolidated HMS FMP) to address several issues in the U.S. Caribbean. This amendment will examine management alternatives that aim to improve permitting and data collection, enhance enforcement of regulations, and maintain the United States' compliance with multilateral treaties relating to HMS.

This scoping or comment phase is an integral first step in informing the public of management issues and soliciting public comment on possible future regulatory actions. Involving the public, to the greatest extent practicable, is paramount to achieving appropriate regulatory actions and measures that best serve the public's interests. This issues and options document describes relevant issues related to HMS, current management and legal requirements, and some possible options being considered to address the identified issues.

Public input is critical during the FMP Amendment process and is one way to ensure that a full range of alternatives to current management measures and regulations is explored. NOAA Fisheries is cognizant of the fact that the views of commercial fishing, recreational fishing, conservation, academia, Regional Fishery Management Councils, states, and the general public are important for attaining appropriate management of HMS. NOAA Fisheries seeks and encourages comments from these parties via the circulation of this issues and options document. NOAA Fisheries anticipates that additional issues and options will be identified during the public scoping meetings (see Table 1). These additional issues and options will also be considered when developing the Draft Amendment 4 to the Consolidated HMS FMP and its proposed rule (see Table 2).

Table 1 Scoping Schedule.

Date	Time	Meeting Locations	Address
August 14, 2008	5:30 pm - 7:30 pm	St. Thomas, VI	USVI Department of Planning and Natural Resources, Cyril E. King Airport, Terminal Building 2 nd Floor, St. Thomas, VI 00802
September 8, 2008	3 pm – 5 pm	San Juan, PR	Biblioteca Carnegie, Ave. Ponce de León #7, San Juan, PR 00901-2010

Date	Time	Meeting Locations	Address
September 9, 2008	4 pm – 6 pm	Fajardo, PR	Salón Centro de Usos Múltiples de Fajardo, Estacionamiento Municipal, Último Piso, Esquina de Calle Dr. López y Calle Celis Aguilera, Fajardo, PR 00738 (Detrás de la Plaza del Mercado de Fajardo) For additional location information call the Servicio de Extensión Agrícola at 787-863-0352
September 10, 2008	2 pm – 4 pm	Ponce, PR	Servicio de Extensión Agrícola, 2440 Ave. Las Americas, Ste. 208, Centro Gubernamental, Ponce, PR 00717-2111
September 11, 2008	7 pm – 9 pm	Mayagüez, PR	University of Puerto Rico, Mayagüez Campus, Physics Building, Room 310, Mayagüez, PR 00680

Table 2 Preliminary Schedule for the Development of Amendment 4 to the Consolidated HMS FMP.

Date	Action
May 27, 2008	Publication of the Notice of Intent to Prepare the Amendment/Environmental Impact Statement in the <u>Federal Register</u> (73 FR 30381)
October 31, 2008	End of the Comment Period of Notice of Intent
August - September, 2008	Scoping Meetings
September, 2008	HMS Advisory Panel Meeting, Silver Spring, MD
Summer 2009	Draft Amendment and Proposed Rule Published
Fall 2009	End of Comment Period on Proposed Rule and Draft Amendment
Winter 2010	Final Amendment Published
Spring 2010	Final Rule Published and Effective

2.0 MANAGEMENT HISTORY

2.1. Highly Migratory Species 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 tuna and other HMS 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 these HMS to NOAA Fisheries. In 1996, Congress amended the Magnuson Act with the Sustainable Fisheries Act, re-naming it the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), to require that NOAA Fisheries establish advisory panels (APs) to assist in the development of FMPs and FMP amendments for Atlantic HMS. As a result, NOAA Fisheries established the HMS and Billfish APs and, in 1999, finalized and implemented the 1999 Fishery Management Plan for Atlantic Tunas, Swordfish, and Sharks (1999 FMP) and Amendment 1 to the Atlantic Billfish FMP. In 2003, NOAA Fisheries amended the 1999 FMP. In 2006, NOAA Fisheries published the 2006 Consolidated HMS FMP which consolidated the 1999 FMP and the Atlantic Billfish FMP and their amendments and combined the two separate APs into a single panel. The 2006 Consolidated HMS FMP has since been amended by Amendment 2 to the Consolidated HMS FMP in 2008, which focuses on shark management measures. NOAA Fisheries is currently working on Amendment 1 to the Consolidated HMS FMP, which focuses on essential fish habitat. NOAA Fisheries is also working on Amendment 3 to the Consolidated HMS FMP which will focus on management measures for small coastal sharks. The regulations for Atlantic HMS can be found at 50 CFR part 635.

Since 1966, the International Commission for the Conservation of Atlantic Tunas (ICCAT) has been responsible for international conservation and management of tuna and tuna-like species. ICCAT currently includes 46 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, swordfish, and billfish are subject to ICCAT management authority. ICCAT also assesses the stock status of some pelagic shark species.

Recommendations adopted by ICCAT are promulgated in the United States under the Atlantic Tunas Convention Act (ATCA), which was signed in 1975 (16 U.S.C. 971) and authorizes the Secretary of Commerce to administer and enforce all provisions of ICCAT.

2.2. Atlantic Tunas

Management History

Bluefin tuna (BFT) are managed under the Consolidated HMS FMP. ICCAT determines quotas for BFT based on recommendations from its Standing Committee on Statistics and Research (SCRS), and NOAA Fisheries implements the quotas pursuant to ATCA. In 1998, ICCAT adopted a recommendation for a rebuilding program for western Atlantic BFT with the goal of reaching stock levels to support maximum sustainable yield (MSY) in 20 years. The annual western Atlantic BFT total allowable catch (TAC) of approximately 2,100 metric tons (mt) whole weight (ww) is shared between the United States, Japan, Canada, the United Kingdom territory of Bermuda, the French territories of St. Pierre and Miquelon, and Mexico. The BFT rebuilding program provides NOAA Fisheries with flexibility to alter the TAC, the MSY target, and/or the rebuilding period based on scientific advice.

All tuna species comprising the bigeye (BET), albacore (ALB), yellowfin (YFT), and skipjack (SKJ) complex (referred to as BAYS tunas) are also managed under the Consolidated HMS FMP and are subject to ICCAT and ATCA provisions. Detailed information regarding the management history of BFT and BAYS tunas is provided in the Consolidated HMS FMP and the 2007 Stock Assessment and Fishery Evaluation (SAFE) report.

Description of the Atlantic Tunas Fisheries

In the United States, Atlantic tuna permits are currently issued in seven categories: General, Angling, Charter/Headboat, Harpoon, Purse Seine, Longline, and Trap. The Purse Seine category has been managed under an Individual Transferable Quota (ITQ) system since 1982. After issuance of the 1999 FMP, the Angling and Charter/Headboat categories were changed from tuna-specific to all HMS. The HMS Angling category permit is required to fish for sharks, swordfish, billfish, and/or tunas recreationally, and the HMS Charter/Headboat permit is required for vessels that are for-hire and target HMS. The Longline category permit is only valid if the vessel owner also holds both an Atlantic swordfish and an Atlantic shark limited access permit (LAP). The General, Trap, and Harpoon category permits are open access and only allow for the harvest of tunas. Federal dealers for HMS are also required to have a Federal dealer permit.

As of May 2008, there were approximately 33,627 vessels permitted to participate in the Atlantic tuna fisheries, including: 25,356 Angling category vessels; 3,906 General category vessels; 4,097 Charter/Headboat category vessels; 230 Longline category vessels; 25 Harpoon category vessels; 9 Trap category vessels; and 4 Purse Seine category vessels. Of these permits, 99 General, 21 Charter/Headboat, and 805 Angling category permits were held by fishermen in Puerto Rico; 6 General, 10 Charter/Headboat, and 28 Angling category permits were held by fishermen in St. Thomas; 13 General, 4 Charter/Headboat, and 26 Angling category permits were held by fishermen in St. Croix; and 1 General, 7 Charter/Headboat, and 2 Angling category permits were held by fishermen in St. John.

As of May 2008, there were approximately 349 BAYS and 320 BFT dealer permits issued. Of those permits, 6 BAYS and 1 BFT dealer permit were issued to businesses in Puerto Rico; 1 BAYS and 1 BFT dealer permit were issued to businesses in St. Thomas; 2 BAYS dealer permits were issued to businesses in St. Croix; and 1 BAYS dealer permit was issued to a business in St. John.

In the Caribbean, commercial tuna fishermen primarily use pelagic longline, rod and reel, and handline gears. In 2006, vessels fishing in the Caribbean landed approximately 188.0 mt of YFT, 18.2 mt of SKJ, 11.0 mt of BET, and 10.9 mt of ALB. Of the 228.1 mt of tunas landed, 201.7 mt was reported as captured with pelagic longline (PLL) gear (NOAA Fisheries, 2007). Since no Longline category 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 26.4 mt of tunas were reported as harvested with handline and rod and reel gears (NOAA Fisheries, 2007). The handline and rod and reel landings were likely reported by Caribbean fishermen fishing under General or Charter/Headboat category permits.

2.3. Atlantic Swordfish

Management History

The U.S. Atlantic swordfish fishery is managed under the Consolidated HMS FMP under the authority of the Magnuson-Stevens Act and ATCA. There are two distinct management units for swordfish 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 swordfish are not within the management authority of the Magnuson-Stevens Act. However, the stock and its fishery are included in the Consolidated HMS FMP because South Atlantic swordfish are managed by ICCAT and because there are U.S. fishermen who fish in the South Atlantic.

The first Atlantic swordfish FMP was completed and implemented in 1985 by the South Atlantic Fishery Management Council in cooperation with other Atlantic 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 NOAA Fisheries in 1991. Since that time, numerous management initiatives have been implemented including a minimum size limit, commercial quotas changes, and a prohibition on drift gillnets for swordfish.

In response to a 1996 stock assessment that indicated that biomass was only 58 percent of that needed to support MSY, ICCAT further reduced North Atlantic swordfish quotas for 1997 through 1999, although the TAC still exceeded replacement yield. In 1997, the SCRS determined that the failure to achieve significant overall reductions in North Atlantic fishing mortality, due in part to non-compliance by some fishing nations, resulted in the need for more severe reductions to achieve the recovery of this over-

exploited species. Also in 1997, as a result of changes to the Magnuson-Stevens Act, NOAA Fisheries began the process of establishing a rebuilding plan for North Atlantic swordfish. This process was completed in 2000, with the publication of the 1999 FMP and a 2000 rulemaking, that revised quotas for swordfish, established size and retention limits, enacted bycatch reduction measures, and initiated swordfish LAPs. Since that time, other management measures affecting commercial swordfish fishermen have been implemented, including: time/area closures and mandatory use of circle hooks in the PLL fishery; bait restrictions; gear requirements; mandatory workshop training; mandatory vessel monitoring systems (VMS); and, changes to authorized gears and vessel upgrading restrictions. The implementation of these measures has resulted in the North Atlantic swordfish stock being almost fully rebuilt ($B = 0.99 B_{msy}$) as of 2007. However, the numbers of active participants and permit holders in the pelagic longline fishery have declined significantly over the past decade.

Description of the Swordfish Fishery

The U.S. directed fishery for North Atlantic swordfish is limited by regulation to two gear types: longline and handgear. Pelagic longlining accounts for the majority of U.S. swordfish 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 NOAA Fisheries in 1999. Also in 1999, NOAA Fisheries limited access to the commercial fishery. Incidental catches by fishing gears other than pelagic longline and handgear are restricted by incidental commercial retention limits of 15 to 30 swordfish per trip depending on gear type and are counted against the incidental catch quota. As of May 2008, there were a total of 171, 72, and 79 LAPs issued for directed, incidental, and handgear swordfish fishing, respectively. Currently, no LAPs allowing commercial swordfish fishing are held by residents of Puerto Rico or the USVI. One swordfish dealer permit is issued to a business in Puerto Rico. In 2006, 88.9 mt of swordfish were reported as harvested from the Caribbean (NOAA Fisheries, 2007). All of those landings were reported as harvested with pelagic longline gear and likely by vessels not based in Caribbean ports.

The recreational swordfish fishery interacted with few Atlantic swordfish in the past. However, the 1999 FMP required that all recreational swordfish landings be subtracted from the U.S. incidental quota, and mortality be reported to ICCAT. One objective of the 1999 FMP was to rebuild the swordfish stock such that recreational fishermen may enjoy an enhanced recreational experience through higher interactions with swordfish. As the North Atlantic swordfish stocks rebuilt, the recreational swordfish fishery became very popular. In 2007, recreational fishermen reported 716 swordfish harvested in the recreational non-tournament swordfish fishery. An additional 274 swordfish were harvested in recreational fishing tournaments and reported to NOAA Fisheries through the Recreational Billfish Survey. In 2007, no recreationally landed swordfish were reported from Puerto Rico or the USVI.

Swordfish may be retained on recreational vessels permitted in the HMS Angling or Charter/Headboat category. As discussed above, as of May 2008, there were 25,356 Angling and 4,097 Charter/Headboat category permits issued. Of those 29,453 permits,

805 Angling and 21 Charter/Headboat category permits were issued to fishermen in Puerto Rico; 28 Angling and 10 Charter/Headboat category permits were issued to fishermen in St. Thomas; 26 Angling and 4 Charter/Headboat category permits were issued to fishermen in St Croix; and 2 Angling and 7 Charter/Headboat category permits were issued to fishermen in St John.

Detailed information on swordfish landings can be found in the Consolidated HMS FMP and the 2007 SAFE Report.

2.4. Atlantic Sharks

Management History

Sharks have been managed by the Secretary of Commerce since 1993. At that time, NOAA Fisheries 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. 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 bag limit, a new rebuilding plan for LCS, and a limited access program for the commercial fishery.

In 2002, based on new stock assessments for LCS and SCS, NOAA Fisheries began the process to develop Amendment 1 to the 1999 FMP. Final Amendment 1 and its implementing regulations were published in late 2003 and included: aggregating the LCS complex, using maximum sustainable yield as a basis for setting commercial quotas, eliminating the commercial minimum size, establishing regional commercial quotas and trimester commercial fishing seasons, adjusting the recreational bag and size limits, establishing gear restrictions to reduce bycatch and bycatch mortality, establishing a time/area closure off the coast of North Carolina, removing the deepwater/other sharks from the management unit, establishing a mechanism for changing species on the prohibited species list, updating essential fish habitat identifications for five species of sharks, and changing the administration for issuing permits for display purposes.

In the Consolidated HMS FMP, NOAA Fisheries, among other things, required that sharks be landed with their second dorsal and anal fin still attached, required shark dealers to attend shark identification workshops, and required gillnet, bottom longline, and pelagic long fishermen to attend workshops on the safe handling and release of protected resources.

In Amendment 2 to the Consolidated HMS FMP, NOAA Fisheries focused on additional shark management measures. 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; creating eight marine protected areas as requested by the South Atlantic Fishery Management Council to prohibit the use bottom longline gear in those areas; 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 carry over of underharvest to 50 percent of the base quota for shark stocks whose status are healthy and prohibiting the carry over 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 NOAA Fisheries within 10 days of the end of a reporting period; requiring sharks to be landed with fins on; and, proportioning unclassified sharks out among each shark species/complex based on observer and dealer reports.

Description of the Atlantic Shark Fisheries

The Atlantic commercial shark fisheries primarily use bottom longline, pelagic longline, and gillnet gears. Prior to the implementation of Amendment 2 to the Consolidated HMS FMP in 2008, the primary target species in the fisheries were sandbar and blacktip sharks, although many other shark species are caught as well. In May 2008, 207 vessels were permitted to directly fish for sharks and another 274 vessels had incidental shark LAPs. In May 2008, no shark LAPs or shark dealer permits were held by residents of Puerto Rico, St. Thomas, St. Croix, or St. John.

Recreational fishing for Atlantic sharks takes place from New England to the Caribbean Sea and is increasing in popularity 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 becoming increasingly popular. Currently, 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 can not retain any prohibited species, sandbar, or silky sharks. Recreational anglers can land one shark from the above list with a minimum fork length 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 permitted in the HMS Angling or Charter/Headboat categories. Please see the number of HMS Angling and Charter/Headboat permits discussed in the recreational swordfish section above.

Puerto Rico reported approximately 10.1 mt of commercial shark landings for 2006 (PR DNER, 2007). It is not clear what portion of these landings or what species were harvested from Federal waters. Additional information on recreational and commercial Atlantic shark landings is provided in Amendment 2 to the Consolidated HMS FMP and the 2007 SAFE Report.

2.5. Atlantic Billfish

Management History

The Atlantic billfish complex includes Atlantic blue marlin, Atlantic white marlin, west Atlantic sailfish, and longbill spearfish. Billfish present unique challenges for fisheries management in the United States due to their distributional and behavioral patterns. Atlantic billfish management strategies are guided by international and national mechanisms. International management is required because Atlantic billfish are widely distributed throughout the Atlantic as well as the U.S. EEZ. Atlantic billfish have historically been landed as the incidental catch of foreign and domestic commercial pelagic longline vessels, or in directed recreational and subsistence handline fisheries. On the national level, revisions to the Magnuson-Stevens Act in 1996 prompted NOAA Fisheries to initiate rebuilding schemes for overfished stocks of Atlantic blue marlin, Atlantic white marlin, and west Atlantic sailfish. Atlantic billfish are currently managed under the Consolidated HMS FMP under the authority of the Magnuson-Stevens Act and ATCA.

In 1997, ICCAT made its first binding recommendation for Atlantic blue and white marlin, requiring reductions in landings and noting the need for improvements in data and monitoring. The United States sponsored a resolution at the 1998 ICCAT meeting resulting in a recommendation that the SCRS develop stock recovery scenarios following stock assessments for Atlantic blue marlin and Atlantic white marlin in 2000 and 2002, respectively. In November 2000, ICCAT adopted a two-phased marlin rebuilding program. Phase I of the plan required, among other things, that countries reduce landings of white marlin from pelagic longline and purse seine fisheries by 67 percent and blue marlin landings by 50 percent from 1999 levels; the United States had previously prohibited commercial retention of billfish in the 1988 Atlantic Billfish FMP. For its recreational fishery, the United States has agreed to limit annual landings to 250 Atlantic blue and white marlin, combined, annually through 2010. In addition, over the past decade, marlin bycatch has been reduced as a result of reductions in ICCAT's commercial North Atlantic swordfish quotas.

The 1999 Billfish FMP amendment included measures to: address overfished populations of Atlantic blue and white marlin; reduce bycatch and discard mortality of billfish; comply with 1997 ICCAT recommendations to reduce landings, improve monitoring and data collection; and determine the status of sailfish and spearfish populations. The current size limits (Atlantic blue marlin, 99 inches (251 cm) lower jaw fork length (LJFL); Atlantic white marlin, 66 inches (168 cm) LJFL; west Atlantic sailfish, 63 inches (160 cm) LJFL) are intended to provide an increase in reproductive potential, and thus, lead to a long-term benefit for the Atlantic-wide stock. To facilitate compliance with the ICCAT rebuilding plan, NOAA Fisheries implemented regulations effective March 2003, requiring (1) an Atlantic HMS recreational angling permit, (2) mandatory self-reporting of all non-tournament landings of billfish, and (3) reporting of tournament landings via the Recreational Billfish Survey. Effective January 2008, in an effort to reduce post-release mortality of Atlantic billfish, NOAA Fisheries required anglers fishing from HMS

permitted vessels and participating in billfish tournaments to use only non-offset circle hooks when deploying natural bait or natural bait/artificial lure combinations.

Additionally, it is illegal to sell Atlantic billfish. This prohibition on sale precludes the possession of Atlantic billfish by commercial fishermen, seafood dealers, and restaurants with the intent to sell. While billfish are still caught incidentally in commercial fishing operations, the sale prohibition has ended directed fishing effort on these species, which supports rebuilding.

On September 4, 2001, NOAA Fisheries received a petition to list the Atlantic white marlin as endangered or threatened throughout its range, and to designate critical habitat under the Endangered Species Act (ESA). NOAA Fisheries conducted a status review of Atlantic white marlin in 2002 and a determination was published that listing was not warranted (67 FR 57204; September 9, 2002). As a result of subsequent litigation and a settlement agreement with the Center for Biological Diversity, NOAA Fisheries agreed to initiate a status review following the 2006 stock assessment by the ICCAT. In 2007, NOAA Fisheries conducted a status review of Atlantic white marlin and a determination was published indicating again that listing was not warranted (73 FR 843; January 4, 2008). While Atlantic white marlin was determined not to be endangered or threatened throughout its range, NOAA Fisheries retains Atlantic white marlin on the Species of Concern list.

Description of Billfish Fisheries

NOAA Fisheries authorizes only recreational anglers to target and harvest Atlantic billfish. Billfish caught in the Atlantic pelagic longline and shark fisheries cannot be retained and are considered bycatch. Post-release survival rates are identified as a critical data need for Atlantic billfish management. Atlantic blue marlin and white marlin seasons generally begin in May, although tournaments in warmer-water areas start in March. Marlins move up along the coast of the United States as waters warm during the summer, with relatively more white marlin traveling farther north and caught off mid-Atlantic and southern New England during July to September. The Atlantic marlin season generally ends by October for the continental United States, but fish are still caught past October in the warm Caribbean waters off Puerto Rico and the U.S. Virgin Islands. Currently, minimum size limits (lower jaw fork length) of 99 inches, 66 inches, and 63 inches are in place for blue marlin, white marlin, and sailfish, respectively, with a ban on harvest of longbill spearfish. All tournament and non-tournament landings must be reported and, under an ICCAT recommendation, up to 250 blue and white marlin (combined) may be harvested annually in the United States.

Billfish may be retained on recreational vessels permitted in the HMS Angling or Charter/Headboat category. Please see the number of HMS Angling and Charter/Headboat permits discussed in the recreational swordfish section above.

In 2007, 5 Atlantic blue marlin, 4 Atlantic white marlin, and 101 west Atlantic sailfish were reported to NOAA Fisheries by fishermen participating in the recreational non-tournament billfish fishery. Of those landings, 2 Atlantic blue marlin were reported from

Puerto Rico. An additional 42 Atlantic blue marlin, 31 Atlantic white marlin, and 1 west Atlantic sailfish were harvested in recreational fishing tournaments and reported to NOAA Fisheries through the Recreational Billfish Survey. Of those landings, 6 Atlantic blue marlin were reported from Puerto Rico.

2.6. Status of Stocks

The methods used to determine the status of HMS are fully described in the Consolidated HMS FMP. In summary, a species is considered overfished when the current biomass (B) is less than the minimum stock size threshold. The minimum stock size threshold is determined based on the natural mortality of the stock and the biomass at Maximum Sustainable Yield (B_{MSY}). The MSY is the maximum long-term average yield that can be produced by a stock on a continuing basis. Overfishing is occurring on a species if the current fishing mortality (F) is greater than the fishing mortality at MSY (F_{MSY}). When a species is declared overfished, a rebuilding plan is needed within one year. A species is considered rebuilt when B is greater than B_{MSY} and F is less than F_{MSY} . A species is considered healthy when B is equal to the biomass at optimum yield (B_{OY}) and F is equal to the fishing mortality at optimum yield (F_{OY}).

Stock assessments for Atlantic tunas, swordfish, and billfish are conducted by ICCAT's SCRS. Stock assessments for Atlantic sharks have traditionally been done by NOAA Fisheries; however, ICCAT's SCRS has conducted stock assessments on some species of pelagic sharks that are caught throughout the Atlantic basin. Table 3 and Table 4 present data on the current status of HMS species that are extracted from the 2007 SAFE Report. For further information on status of stocks and landings, please see the 2007 SAFE Report and the Consolidated HMS FMP.

Table 3 Tuna, Swordfish, and Billfish Stock Assessment Summary.

Species	Current Relative Biomass Level	Minimum Stock Size Threshold	Current Relative Fishing Mortality Rate	Maximum Fishing Mortality Threshold	Outlook
West Atlantic Bluefin	SSB ₀₄ /SSB _{MSY} = 0.41 (0.29-0.54) SSB ₀₄ /SSB ₁₉₇₅ = 0.18	0.86SSB _{MSY}	F ₀₄ /F _{MSY} = 1.7 (low recruitment) F ₀₄ /F _{0.1} = 3.1 (high recruitment)	F _{year} /F _{MSY} = 1.00	Overfished; overfishing is occurring
East Atlantic Bluefin	SSB ₀₄ /SSB ₇₄ = 0.48	<i>Not Estimated</i>	F ₀₄ /F _{max} = 3.1	<i>Not Estimated</i>	Overfished; overfishing is occurring
Atlantic Bigeye Tuna	B ₀₆ /B _{MSY} = 0.92 (0.85-1.07)	0.6B _{MSY} (age 2+)	F ₀₅ /F _{MSY} = 0.87 (0.70-1.24)	F _{year} /F _{MSY} = 1.00	Rebuilding; overfishing is occurring.
Atlantic Yellowfin Tuna	B ₀₁ /B _{MSY} = 0.73 - 1.10	0.5B _{MSY} (age 2+)	F ₀₁ /F _{MSY} = 0.87- 1.46	F _{year} /F _{MSY} = 1.00	Approaching an overfished condition.
North Atlantic Albacore Tuna	B ₀₅ /B _{MSY} = 0.81 (0.68-0.97)	0.7B _{MSY}	F ₀₅ /F _{MSY} = 1.5 (1.3-1.7)	F _{year} /F _{MSY} = 1.00	Overfished; overfishing is occurring.
South Atlantic Albacore Tuna	B ₀₅ /B _{MSY} = 0.91 (0.71-1.16)	<i>Not estimated</i>	F ₀₅ /F _{MSY} = 0.63 (0.47-0.9)	<i>Not estimated</i>	Overfished; overfishing not occurring.
West Atlantic Skipjack Tuna	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	F _{year} /F _{MSY} = 1.00	Unknown
North Atlantic Swordfish	B ₀₆ /B _{MSY} = .99 (0.87-1.27)	<i>Unknown</i>	F ₀₅ /F _{MSY} = 0.86	F _{year} /F _{MSY} = 1.00	Rebuilding; overfishing not occurring
South Atlantic Swordfish	Likely >1	<i>Unknown</i>	Likely <1	F _{year} /F _{MSY} = 1.00	Unknown
Blue Marlin	B ₀₄ <B _{MSY} ; Yes	0.9B _{MSY}	F ₂₀₀₄ >F _{MSY} ; Yes	F _{year} /F _{MSY} = 1.00	Overfished; overfishing is occurring
White Marlin	B ₀₄ <B _{MSY} ; Yes	0.85B _{MSY}	F ₂₀₀₄ >F _{MSY} ; Possibly	F _{year} /F _{MSY} = 1.00	Overfished; overfishing is occurring
West Atlantic Sailfish	<i>Unknown</i>	0.75B _{MSY}	<i>Unknown</i>	<i>Not estimated</i>	Overfished: Overfishing is occurring
Spearfish	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Not estimated</i>	<i>Unknown</i>

Table 4 Shark Stock Assessment Summary.

Species	Current Relative Biomass Level	Minimum Stock Size Threshold	Current Relative Fishing Mortality Rate	Maximum Fishing Mortality Rate	Outlook
LCS	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>
Sandbar	$SSF_{04}/SSF_{MSY} = 0.72$	4.75-5.35E+05	$F_{04}/F_{MSY}=3.72$	$F_{MSY} = 0.015$	Overfished; Overfishing is occurring
Gulf of Mexico Blacktip	$SSF_{04}/SSF_{MSY} = 2.54-2.56$	0.99-1.07E+07	$F_{04}/F_{MSY}=0.03-0.04$	$F_{MSY} = 0.20$	Not overfished; overfishing not occurring
Atlantic Blacktip	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>
Dusky Sharks	$B_{2003}/B_{MSY} = 0.15 - 0.47$	<i>Unknown</i>	$F_{03}/F_{MSY}=1.68-1,810$	$F_{MSY} = 0.00005 - 0.0115$	Overfished; Overfishing is occurring
SCS	$N_{2005}/N_{MSY} = 1.69$	2.1 E + 07	$F_{2005}/F_{MSY} = 0.25$	$F_{MSY} = 0.091$	Not overfished; overfishing not occurring
Bonnethead Sharks	$SSF_{2005}/SSF_{MSY} = 1.13$	1.4 E+ 06	$F_{2005}/F_{MSY} = 0.61$	$F_{MSY} = 0.31$	Not overfished; overfishing not occurring
Atlantic Sharpnose Sharks	$SSF_{2005}/SSF_{MSY} = 1.47$	4.09 E + 06	$F_{2005}/F_{MSY} = 0.74$	$F_{MSY} = 0.19$	Not overfished; overfishing not occurring
Blacknose Sharks	$SSF_{2005}/SSF_{MSY} = 0.48$	4.3 E + 05	$F_{2005}/F_{MSY} = 3.77$	$F_{MSY} = 0.07$	Overfished; Overfishing is occurring
Finetooth Sharks	$N_{2005}/N_{MSY} = 1.80$	2.4 E + 06	$F_{2005}/F_{MSY} = 0.17$	$F_{MSY} = 0.03$	Not overfished; overfishing not occurring
Pelagic sharks (SCRS)	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>	<i>Unknown</i>
Porbeagle Sharks (COSEWIC)	$SSN_{2004}/SSN_{MSY} = 0.15 - 0.32$	<i>Unknown</i>	$F_{2004}/F_{MSY} = 0.83$	$F_{MSY} = 0.033 - 0.065$	Overfished; overfishing is not occurring

3.0 ISSUES AND OPTIONS: VESSEL PERMITTING

3.1. Description of the Issue

The 1999 FMP established a LAP program for the commercial Atlantic swordfish and shark fisheries to rationalize harvesting capacity with the available quota and reduce latent effort while preventing further overcapitalization. To assist with enforcement and management of the program, permit restrictions were also placed on vessels fishing for Atlantic tunas with pelagic longline gear. Implementation of the HMS LAP program has been ongoing since the implementation of the 1999 FMP and is executed via issuance of permits to eligible recipients in the commercial shark, swordfish, and tuna longline

fisheries. Currently, many eligible vessels may be required to obtain up to three separate LAPs to fish for, or retain, HMS. Since implementation, HMS LAPs have increased in value. Limited availability and high LAP values may present a significant barrier to entry into some segments of the HMS fisheries. As such, there are few HMS LAPs currently held by fishermen in the Caribbean region.

Based on discussions with the Caribbean Fishery Management Council and the territorial governments, NOAA Fisheries believes that the depletion of continental shelf fishery resources may be increasing local interest in HMS resources as an alternate catch. As local fishermen become more dependent on offshore fishery resources and increase effort on HMS, there is increased need for NOAA Fisheries to modify the current HMS permitting regime to include Caribbean vessels and better collect catch and effort data.

3.2. Options Available for Consideration

1. Maintain current LAP program (Status quo)
2. Create a Caribbean handgear permit valid for commercial swordfish and shark fishing – limited to vessels under a certain length
3. Create a Caribbean handgear permit valid for commercial swordfish, shark, and tuna fishing – limited to vessels under a certain length
4. Create a Caribbean HMS permit valid for commercial swordfish, shark, and tuna fishing which allows all authorized gears and is not limited by vessel size
5. Other

4.0 ISSUES AND OPTIONS: DEALER PERMITTING

4.1. Description of the Issue

As of May 2008, there was one dealer authorized to purchase swordfish, no dealers authorized to purchase shark, and seven dealers authorized to purchase tunas in Puerto Rico. Additionally, there were no dealers authorized to purchase swordfish, no dealers authorized to purchase shark, and five dealers authorized to purchase tunas in the USVI. The limited number of Federal dealers in the Caribbean likely limits the ability of commercial fishermen to sell their catches or does not match the current practices in the region. Current Federal regulations require that all HMS harvested from the management unit be sold to a Federally permitted dealer. During discussions with the Caribbean Fishery Management Council and the territorial governments, NOAA Fisheries learned that some fishermen may not be selling HMS to Federally permitted dealers. These fishermen are likely selling their catches directly to restaurants or individuals. By not selling catches to dealers, fishermen are not only in violation of Federal regulations, but they are limiting the amount of landings information provided to NOAA Fisheries from dealers through dealer reports. NOAA Fisheries relies on dealer reported data for domestic quota monitoring, international reporting, and stock assessments.

4.2. Options Available for Consideration

1. Maintain current dealer permitting regime - separate swordfish, shark, and tunas dealer permits (Status quo)
2. Create a single Caribbean HMS dealer permit allowing the purchase and sale of swordfish, shark, and tunas
3. Allow Caribbean handgear permit holders to wholesale/retail catches
4. Other

5.0 ISSUES AND OPTIONS: COMMERCIAL REPORTING

5.1. Description of the Issue

Dealers and fishermen provide fishery dependent information that is essential to the management of HMS fisheries. Data on landings and sales provided by dealers and information on catch, landings, location, and effort provided by fishermen are used for biological, social, and economic analyses necessary for fisheries management. Data collection requirements and needs frequently vary from fishery to fishery. As a result, dealers and fishermen may be required to report data about different species on different NOAA Fisheries forms to more than one NOAA Fisheries office. Different types of information may be collected using different methodologies such as vessel logbooks or dealer reports.

Currently in HMS fisheries, all commercial fishing vessels and Charter/Headboat vessels are required to submit logbooks for all HMS trips, if they are selected for reporting. Permit holders selected for reporting include all shark and swordfish LAP permit holders as well as Atlantic Tunas Longline category fishermen. Currently, Charter/Headboat and General Category are not selected for submitting logbooks. These permit holders are required to submit logbooks to the Southeast Region of NOAA Fisheries.

All dealer permit holders are required to submit reports detailing the nature of their business. Swordfish, shark, and tuna dealer permit holders must submit bi-weekly dealer reports on all HMS they purchase. In addition, tuna dealers must submit, within 24-hours of the receipt of a BFT, a landing report for each BFT purchased from a U.S. fisherman. To facilitate quota monitoring, “negative reports” for shark and swordfish are required from dealers when no purchases are made during a reporting period.

Currently, the territorial governments collect some information on certain species, but there is no coordination between NOAA Fisheries or standardization in data collection between territories. The absence of HMS LAPs and the scarcity of HMS dealers in the U.S. Caribbean have hindered the collection of data necessary for the proper management of HMS. Thus, NOAA Fisheries is investigating ways to collect fishery data from Caribbean fishermen and dealers that will provide reliable fisheries data and that will work with Caribbean fishing practices.

In addition, NOAA Fisheries believes that the depletion of shelf resources in the Caribbean region has resulted in an increased reliance on HMS resources. One way to

efficiently target many HMS is to use fish aggregating devices (FADs). However, this activity has gone largely unmonitored in the Caribbean region. As such, NOAA Fisheries is considering ways to monitor these activities and the associated catch with FADs.

5.2. Options Available for Consideration

1. Maintain current reporting regulations (Status quo)
2. Collect catch and effort data from territorial governments
3. Require vessel logbooks for Caribbean handgear permit holders
4. Require vessel logbooks from Caribbean handgear permit holders and collect catch data from territorial governments – if permit holders are allowed to wholesale/retail catch
5. Require vessel logbooks and bi-weekly dealer report from Caribbean handgear permit holders – if allowed to wholesale/retail catch
6. Monitor fishing effort and catches near FADs (via a checkbox on dealer forms)
7. Other

6.0 ISSUES AND OPTIONS: RECREATIONAL REPORTING

6.1. Description of the Issue

Currently, few self-reported recreational landings reports for Atlantic blue marlin, white marlin, sailfish, or swordfish are received from anglers in Puerto Rico or the USVI. Federal regulations require owners of Angling and Charter/Headboat category vessels to report landings of recreationally harvested billfish, swordfish, or bluefin tuna to NOAA Fisheries within 24 hours of landing at the dock.

6.2. Options Available for Consideration

1. Maintain current recreational reporting requirements (Status quo)
2. Increase outreach and education regarding recreational reporting requirements
3. Establish mandatory HMS reporting stations in the U.S. Caribbean (dockside reporting)
4. Increase dockside intercept programs such as the Marine Recreational Fisheries Statistics Survey (MRFSS) in the region
5. Other

7.0 ISSUES AND OPTIONS: AUTHORIZED GEAR

7.1. Description of the Issue

Currently, some of the fishing gears used to fish for HMS, or possessed by Caribbean fishermen with HMS onboard, may not be allowable under Federal regulations. For example, recreational and commercial fishing for BAYS tunas with handlines that are not attached to a vessel is not authorized. Anecdotal information suggests that fishing for BAYS tunas with unattached handlines is common in the USVI. Additionally,

possession of HMS with any unauthorized gears onboard a vessel is prohibited. For instance, Caribbean fishermen setting and retrieving reef fish traps may not possess any HMS onboard if that gear is also onboard. Additionally, NOAA Fisheries is concerned about any potential negative impacts on HMS stocks by aggregating and fishing for HMS through the use of FADs.

7.2. Options Available for Consideration

1. Maintain current regulations regarding authorized gears (Status quo)
2. Authorize free-floating handlines (buoy gear) in Caribbean BAYS tuna fishery
3. Allow possession of HMS with non-authorized gears onboard (*e.g.*, reef fish traps or others)
4. Prohibit the possession of HMS in the vicinity of FADs
5. Other

8.0 REFERENCES CITED

NOAA Fisheries. 2007. National Report of the United States: 2007. 47 pp.

PR DNER. 2007. Puerto Rico/NMFS Cooperative Fisheries Statistics Program April 2007 – March 2007. NA04NMF4340063.

PUBLIC COMMENT

Comments may be submitted to Greg Fairclough, HMS Management Division, National Marine Fisheries Service, 263 13th Avenue South, Saint Petersburg, FL 33701 by October 31, 2008. Please mark the outside of the envelope “Comments on Amendment 4 to the Consolidated HMS FMP.” Comments can also be submitted via email at noi.hms.caribbean@noaa.gov, or via fax at (727) 824-5398. Include in the subject line of the email or fax comment the following identifier: NOI HMS Caribbean.