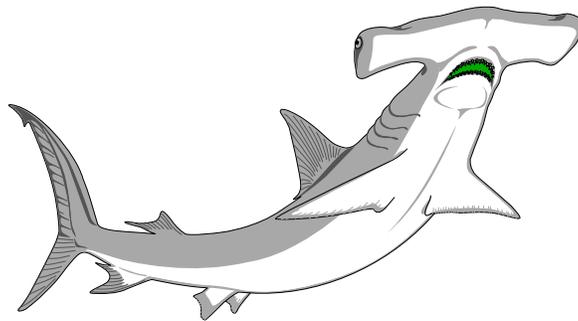


*Draft Environmental Assessment,
Regulatory Impact Review,
and
Initial Regulatory Flexibility Analysis*

for a Proposed Rule to

**Implement the 2010 International
Commission for the Conservation of Atlantic
Tunas Recommendations on Sharks**



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

Proposed Action: Implement the 2010 International Commission for the Conservation for Atlantic Tunas (ICCAT) Recommendations on Sharks.

Type of statement: Draft Environmental Assessment (EA), Regulatory Impact Review (RIR), and Initial Regulatory Flexibility Analysis (IRFA)

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Abstract: In October 2006, NMFS finalized the Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) and issued implementing regulations for Atlantic HMS to meet the requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This proposed action is necessary to implement recommendations of the International Commission for the Conservation of Atlantic Tunas (ICCAT) pursuant to the Atlantic Tunas Convention Act (ATCA) and to achieve domestic management objectives under the Magnuson-Stevens Act. This action would implement two recommendations adopted at the 2010 annual meeting of ICCAT. Recommendation 10-07 prohibits the retention, transshipping, landing, storing, or selling of oceanic whitetip sharks. Recommendation 10-08 prohibits the retention, transshipping, landing, storing, or selling of hammerhead sharks in the family *Sphyrnidae*, except for *Sphyrna tiburo*, taken in the Convention area in association with ICCAT fisheries. These measures would be consistent with the 2006 Consolidated HMS FMP.

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1.0 PURPOSE AND NEED FOR ACTION

1.1 Management History

The Atlantic shark fisheries are managed under the authority of the Magnuson-Stevens Act. In 1999, NMFS revised the 1993 Atlantic shark fishery management plan (FMP) and included swordfish and tunas in the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks (1999 FMP) (NMFS 1999). The 1999 FMP was amended in 2003, and in 2006, NMFS consolidated the Atlantic tunas, swordfish, and shark FMP and its amendments and the Atlantic billfish FMP and its amendments in the 2006 Consolidated Atlantic HMS FMP (NMFS 2006). The 2006 Consolidated HMS FMP and its amendments are implemented by regulations at 50 CFR part 635. The 2006 Consolidated HMS FMP combined all HMS management into one FMP, changed certain management measures for various HMS, adjusted the regulatory framework measures, and continued the process for updating HMS Essential Fish Habitat (EFH). Measures that are specific to the shark fisheries included mandatory workshops and certifications for all vessel owners and operators that have pelagic longline (PLL) or bottom longline (BLL) gear on their vessels and that have been issued or are required to be issued any of the HMS limited access permits (LAPs) to participate in HMS longline and gillnet fisheries. Additional measures specific to sharks included the differentiation between PLL and BLL gear based upon the species composition of the catch onboard or landed, the requirement that the second dorsal fin and the anal fin remain on all Atlantic sharks through landing, and a new prohibition making it illegal for any person to sell or purchase any HMS that was offloaded from an individual vessel in excess of the retention limits specified in § 635.23 and 635.24. The 2006 Consolidated HMS FMP also implemented complementary HMS management measures in Madison-Swanson and Steamboat Lumps Marine Reserves and established criteria to consider when implementing new time/area closures or making modifications to existing time/area closures.

Atlantic tunas and tuna-like species are managed under the dual authority of the 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) on a continuing basis while 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 considered for this proposed rule affecting Atlantic sharks and fisheries associated with ICCAT are taken under the dual authority of ATCA and the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). In addition to the Magnuson-Stevens Act, 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). This document is prepared, in part, to comply with NMFS' responsibilities under NEPA, as implemented by the regulations published by the Council on Environmental Quality, 50 C.F.R. Parts 1501-1508 (CEQ Regs), and NOAA Administrative Order 216-6 (NAO 216-6).

1.2 Need for Action and Objectives

ICCAT is responsible for the conservation of tunas and tuna-like species in the Atlantic Ocean and adjacent seas. ICCAT recommendations are binding on Contracting Parties unless they object per the treaty. ICCAT resolutions are non-binding and express the will of the Commission. All ICCAT recommendations and resolutions are available on the ICCAT website at <http://www.iccat.int/en/>.

At the 17th Annual Meeting of ICCAT from November 17 through 27, 2010, two recommendations were adopted that require the United States to initiate rulemaking in order to fulfill obligations as a Contracting Party to the Convention. Recommendation 10-07, “on the Conservation of Oceanic Whitetip Sharks Caught in Association with Fisheries in the ICCAT Convention Area,” prohibits the retention, transshipping, landing, storing, or selling of oceanic whitetip sharks (*Carcharhinus longimanus*). The recommendation cites the fact that oceanic whitetip sharks are one of five species with the highest degree of risk based on an ecological risk assessment, their high at-vessel survival rates and ease of identification, and the high proportion of juvenile fish that are caught.

Recommendation 10-08, “on Hammerhead Sharks (Family *Sphyrnidae*) Caught in Association with Fisheries Managed by ICCAT,” prohibits the retention, transshipping, landing, storing, or selling of hammerhead sharks in the family *Sphyrnidae*, except for bonnethead sharks (*Sphyrna tiburo*), taken in the Convention area in association with ICCAT fisheries. The recommendation cites sustainability concerns for scalloped and smooth hammerhead sharks, difficulty in identifying the three species (scalloped, smooth, and great) without bringing them onboard, and issues with Contracting Parties’ obligations to report Task I and Task II data.

These recommendations were adopted by ICCAT to reduce fishing mortality of oceanic whitetip and hammerhead sharks caught in association with ICCAT fisheries. In this proposed action, NMFS considers changes to the HMS regulations at 50 CFR 635 to implement the ICCAT recommendations. NMFS proposes to implement the ICCAT shark recommendations for vessels that catch sharks in association with tuna and tuna-like species, including commercial vessels that deploy PLL gear or that hold an HMS Angling/Charter Headboat permit and are fishing and retaining billfish, swordfish, and tunas. This proposed action is necessary to implement ICCAT recommendations and to reduce mortality of oceanic whitetip and hammerhead sharks. NMFS is not proposing to prohibit retention by recreational gear entirely because there is a recreational fishery targeting sharks that is not associated with ICCAT fisheries. While oceanic whitetip sharks and hammerhead sharks could be caught on bottom longline or gillnet gear, these gears target sharks and are not used in association with ICCAT fisheries; therefore, NMFS is not prohibiting the retention of oceanic whitetip and hammerhead sharks from these gears. In compliance with the ATCA, NMFS is required to implement domestic regulations consistent with recommendations adopted by ICCAT as necessary and appropriate, through regulations.

2.0 SUMMARY OF THE ALTERNATIVES

This section provides a summary of the alternatives considered in this rulemaking to meet the obligations of the National Environmental Policy Act (NEPA), the Magnuson-Stevens Act, and ATCA while implementing Recommendations 10-07 and 10-08 in the portion of the ICCAT Convention Area that includes the U.S. Exclusive Economic Zone (EEZ).

Alternative 1: No Action

This alternative would maintain the status quo and would not implement ICCAT shark recommendations 10-07 and 10-08. Under this alternative, vessels fishing with PLL gear onboard or in possession of HMS Angling and/or HMS Charter/Headboat permits would continue to be able to possess hammerhead sharks (great, smooth, and scalloped hammerhead sharks) and oceanic whitetip sharks subject to existing regulations. A summary of some of the existing regulations for oceanic whitetip and hammerhead sharks is provided below. Additional detail can be found at 50 CFR Part 635.

Oceanic Whitetip

Commercial Fishery

- Shark Directed or Shark Incidental permit required
- Quota (base): 488 metric tons (mt) dressed weight (dw) (combined for shortfin mako, oceanic whitetip, and common thresher sharks)
- Retention Limits: None for directed (shark) permit holders, 16 vessel/trip (combined with Small Coastal Sharks (SCS)) for incidental permit holders
- Authorized Gear: Bottom Longline, Pelagic Longline, Rod and Reel, Gillnet, Handline, and Bandit Gear
- Season: Variable. Typically opens on/around January 1 every year and closes 5 days after filing with the Federal Register that 80 percent of the quota has been harvested

Recreational Fishery

- HMS Angling or Charter/Headboat permit required. 1 shark (could be oceanic whitetip shark) per vessel per trip, minimum size is 54" Total Length (TL).

Hammerhead Sharks (Scalloped, Smooth, and Great)

Commercial Fishery

- Shark Directed or Shark Incidental permit required
- Quota (base): 627.8 mt dw (combined for all non-sandbar Large Coastal Sharks (LCS); Gulf of Mexico and Atlantic regions)
- Retention Limits: Outside Shark Research Fishery: 33 non-sandbar LCS/vessel/trip for directed permit holders, 3 non-sandbar LCS for incidental permit holders
- Authorized Gear: Bottom Longline, Pelagic Longline, Rod and Reel, Gillnet, Handline, and Bandit Gear

- Season: Variable, depending on region, quota available, public comment, and other considerations. Season opening dates published in the preceding year and seasons close 5 days after filing with the Federal Register that 80 percent of the quota has been harvested

Recreational Fishery

- HMS Angling or Charter/Headboat permit required. 1 shark (could be hammerhead shark) per vessel per trip, minimum size is 54” Total Length (TL)

Alternative 2 (*Preferred Alternative*): Implement the ICCAT shark recommendations in the commercial pelagic longline fishery for tuna and tuna-like species

This alternative would implement ICCAT recommendations 10-07 and 10-08, which prohibit the retention, transshipping, landing, storing, selling or purchasing of oceanic whitetip and scalloped, smooth and great hammerhead sharks caught in association with tuna and tuna-like fisheries. Therefore, under this alternative, NMFS would prohibit retention of oceanic whitetip and hammerhead sharks on vessels targeting tuna and tuna-like species with PLL gear onboard. Commercial vessels using other authorized gear that do not target tuna and tuna-like species (BLL, gillnet, rod and reel, handline, and bandit gear) would still be authorized to fish for, and land oceanic whitetip and these three species of hammerhead sharks subject to existing commercial regulations.

Alternative 3 (*Preferred Alternative*): Implement the ICCAT shark recommendations in the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species

As with alternative 2, this alternative would implement ICCAT recommendations 10-07 and 10-08, which prohibit the retention, transshipping, landing, storing, selling or purchasing of oceanic whitetip sharks and scalloped, smooth, and great hammerhead sharks caught in association with tuna and tuna-like fisheries. Under this alternative, NMFS would prohibit retention of oceanic whitetip and hammerhead sharks on vessels in possession of an HMS Angling or HMS Charter/Headboat permit where tunas, swordfish, and billfish are also possessed. Similarly, NMFS would prohibit the retention of tunas, swordfish, and billfish onboard HMS Angling and Charter/Headboat vessels that also possess oceanic whitetip and hammerhead sharks.

3.0 DESCRIPTION OF AFFECTED ENVIRONMENT

This section includes a brief summary of the status of the stocks, fishery participants and gear types, and affected area including habitat and protected species. For a complete description of the biology and status of HMS and the Atlantic PLL and recreational fisheries, including operations, catches, and discards, please see the 2010 HMS Stock Assessment and Fishery Evaluation (SAFE) Report (NMFS 2010). Also, for information on interactions and concerns with protected species and the Atlantic PLL fishery, please see the *2004 Final Supplemental Environmental Impact Statement (FSEIS) for a Final Rule to Implement Management Measures to Reduce Bycatch and Bycatch Mortality of Atlantic Sea Turtles in the Atlantic Pelagic Longline Fishery* (NMFS 2004). The action area is the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea.

Great (*Sphyrna mokarran*), scalloped (*S. lewini*), and smooth (*S. zygaena*) hammerhead sharks are managed in the U.S. Atlantic Ocean, Gulf of Mexico, and Caribbean Sea. The majority of hammerhead sharks landed in Atlantic HMS fisheries are by directed shark permit holders using BLL gear. However, to a lesser degree, hammerhead sharks are caught incidentally in the PLL fisheries for tuna and tuna-like species. Currently, directed and incidental shark permit holders using PLL gear are authorized to retain these species of hammerhead sharks as part of the non-sandbar LCS complex. The non-sandbar LCS quota is 627.8 mt dw (Gulf of Mexico = 439.5 mt dw; Atlantic = 188.3 mt dw). Retention limits for vessels operating outside the shark research fishery is 33 non-sandbar LCS/vessel/trip for directed permit holders and 3 non-sandbar LCS/vessel/trip for incidental permit holders. There are also landings of these hammerhead sharks by HMS Angling and HMS Charter/Headboat permit holders. In the recreational fishery, only one shark, greater than 54" total length (TL) can be retained per vessel per trip. That one shark could be a scalloped, smooth, or great hammerhead shark.

Oceanic whitetip sharks are managed as part of the pelagic shark species complex. The annual quota for sharks managed in this complex (common thresher, oceanic whitetip, and shortfin mako sharks) is 488 mt dw. Blue sharks and porbeagle sharks are also considered pelagic sharks for management purposes; however, separate quotas exist for those species. Directed shark permit holders are not subject to a retention limit for pelagic sharks while incidental permit holders can retain a total of 16 pelagic or SCS (combined) per vessel per trip. The majority of oceanic whitetip sharks are caught incidentally in the PLL fishery for tuna and tuna-like species. Landings of oceanic whitetip sharks in the recreational fishery are quite rare. In the recreational fishery, only one shark, greater than 54" total length (TL) can be retained per vessel per trip. That one shark could be an oceanic whitetip shark. All sharks, including hammerhead sharks and oceanic whitetip sharks, must be landed with all fins naturally attached by all HMS fishery participants in the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea.

3.1 Status of the Stocks

Oceanic whitetip sharks have not been assessed domestically; therefore their stock status is currently unknown. However, in 2010, the United States formally submitted a proposal at the Convention on International Trade in Endangered Species of Wild Fauna and Flora's (CITES)

Fifteenth meeting of the Conference of Parties for the inclusion of oceanic whitetip on Appendix II. The United States determined that globally, the oceanic whitetip shark qualified for listing in Appendix II as per criterion A in Annex 2a which states that it is known, or can be inferred or projected, that the regulation of trade in the species is necessary to avoid it becoming eligible for inclusion in Appendix I which would ban international trade of this species. Depending on the area and study, oceanic whitetip shark populations have experienced declines of 60-70% in the northwest and central Atlantic Ocean. Abundance trend analyses of catch-rate data have reported large declines in abundance for some populations. In the northwest and western central Atlantic regions, analysis of logbook data indicated declines of 60-70% since 1992 (Baum et al 2003). A standardized catch-rate analysis of data from U.S. PLL surveys in the mid-1950s, and U.S. PLL observer data in the late-1990s in the Gulf of Mexico estimated a decline of 99% over four generations for this species (Baum and Meyers 2004). Additional details on the U.S. oceanic whitetip CITES Appendix II proposal can be found at, <http://www.cites.org/eng/cop/15/prop/E-15-Prop-16.pdf>. While the U.S. CITES proposal covered scientific information on the oceanic whitetip in the Atlantic and Pacific Oceans, there have been no formal NMFS or peer-reviewed stock assessments for Atlantic oceanic whitetip sharks that have been determined to be appropriate for management action under the Magnuson-Stevens Act. Given the declining abundance of oceanic whitetip sharks globally and the unknown status of the stock, the implementation of the ICCAT oceanic whitetip recommendation could benefit the status of this stock by reducing mortality in the Atlantic Ocean.

In October 2009, Hayes *et al.* (2009) published in the North American Journal of Fisheries Management a stock assessment of the Atlantic population of scalloped hammerhead sharks in U.S. waters. Based on this paper, in 2005, the population was estimated to be at 45 percent of the biomass that would produce the maximum sustainable yield (MSY), and fishing mortality was estimated to be 129 percent of fishing mortality associated with MSY. The stock is estimated to be depleted by approximately 83 percent of virgin stock size (i.e., the current population is only 17 percent of the virgin stock size). In addition, it was estimated that a total allowable catch (TAC) of 2,853 scalloped hammerhead sharks per year (or 69 percent of 2005 catch) would allow a 70 percent probability of rebuilding within 10 years. NMFS has reviewed this paper and concluded that: the assessment is complete; the assessment is an improvement over a 2008 aggregated species assessment for hammerhead sharks; and the assessment is appropriate for U.S. management decisions. Based on the results of this paper, NMFS recently made the determination that scalloped hammerhead sharks are overfished and experiencing overfishing. Based on this stock status determination, NMFS will be initiating an amendment to the 2006 Consolidated HMS FMP in order to implement regulations to end overfishing and rebuild the scalloped hammerhead shark stock within two years as mandated under the Magnuson-Stevens Act. Therefore, implementation of the ICCAT hammerhead recommendation could help to reduce mortality of scalloped hammerhead and contribute to the rebuilding of this species.

3.2 Fishery Participants, Gear Types, and Affected Area

HMS fishery participants that fish for tuna and tuna-like species commercially or recreationally with fishing gear that is authorized to incidentally retain sharks (i.e., PLL and handgear) are the affected fishery participants of this rulemaking. NMFS is incorporating by

reference the 2010 SAFE Report for Atlantic Highly Migratory Species (NMFS 2010), which describes these affected environments and provides a view of the current condition of these fisheries, the current landings of large coastal and pelagic sharks caught with PLL and recreational handgear, the marine ecosystems in the fishery management unit, the social and economic condition of the fishing interests, and fishing communities.

The PLL fishery is described in Chapter 4, Section 4.1 which includes a summary of the current management, recent catch and landings, protected species interactions, and international issues. The numbers of commercial permits for this fishery are described in Chapter 8, Section 8.1. The recreational handgear fishery is described in Chapter 4, Section 4.4 and also includes a summary of the current management, recent catch and landings in the recreational rod and reel fishery, bycatch issues, and international issues. The current number of Charter/Headboat and HMS Angling permits per state can be found in Chapter 8, Sections 8.2 and 8.3, respectively. Landings of HMS by species, including scalloped, great, smooth, and unidentified hammerhead and oceanic whitetip sharks can be found in Chapter 4, Section 4.10. Information on the economic status of commercial HMS fisheries including ex-vessel prices, revenues, operating costs, fish processing and wholesale sectors and international trade can be found in Chapter 5 of the 2010 SAFE Report. The 2010 SAFE Report can be accessed at the Atlantic HMS website, http://www.nmfs.noaa.gov/sfa/hms/hmsdocument_files/SAFEreports.htm

3.3 Habitat

The area in which this action is planned has been identified as Essential Fish Habitat (EFH) for species managed by the New England Fishery Management Council, the Mid-Atlantic Fishery Management Council, the South Atlantic Fishery Management Council, the Gulf of Mexico Fishery Management Council, the Caribbean Fishery Management Council, and the HMS Management Division of NMFS. Generally, the target species of the Atlantic HMS fisheries are associated with hydrographic structures of the water column, e.g., convergence zones or boundary areas between different currents. Because of the magnitude of water column structures and the processes that create them, there is little effect on habitat that can be detected from the HMS fishing activities.

3.4 Protected Species under the Endangered Species Act (ESA) and Marine Mammal Protection Act (MMPA)

The ESA is the primary Federal legislation governing interactions between fisheries and species whose continued existence is threatened or endangered. Through a consultative process, the ESA allows Federal agencies to evaluate proposed actions in light of the impacts they could have on these ESA-listed species. In the case of marine fisheries, the NMFS Office of Sustainable Fisheries consults with the Office of Protected Resources to determine what impacts major fishery management actions will have on endangered populations of marine species and what actions can be taken to reduce or eliminate negative impacts. Under the consultative process, NMFS issues a Biological Opinion (BiOp) which outlines expected impacts of the proposed action and specifies terms and conditions which must be met to mitigate impacts on ESA-listed species. The primary gear types considered in this rulemaking are recreational handgear (primarily rod and reel) and

commercial PLL gear. Handgear is covered under the 2001 BiOp for HMS fisheries and is not likely to jeopardize the continued existence of endangered or threatened species, including seas turtles. A 2004 BiOp determined that the continued operation of the PLL fishery is not likely to jeopardize the continued existence of loggerhead, green, hawksbill, Kemp's ridley, or olive ridley sea turtles, but is likely to jeopardize the continued existence of leatherback sea turtles. See Section 4.4 for further discussion of consultations and BiOps issued for HMS Fisheries.

The MMPA is one of the principal Federal statutes that guide marine mammal species protection and conservation policy. Under MMPA requirements, NMFS produces an annual List of Fisheries that classifies domestic commercial fisheries, by gear type, relative to their rates of incidental mortality or serious injury of marine mammals. The List of Fisheries includes three classifications:

- Category I fisheries are those with frequent serious injury or mortality to marine mammals (e.g., PLL);
- Category II fisheries are those with occasional serious injury or mortality (e.g., shark gillnet); and
- Category III fisheries are those with remote likelihood of serious injury or mortality to marine mammals (e.g., rod and reel, purse seine, harpoon).

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

The handgear (hook-and-line and harpoon) fishery is currently listed as a Category III fishery under the MMPA. Strict control and operations of these fishing gears means these gear types are not likely to result in mortality or serious injury of marine mammals or sea turtles. The PLL fishery is listed as a Category I fishery. As mentioned above, longline gear is known to present potential dangers to listed sea turtles and marine mammals, and the activity of the fishery is regulated by the terms of the BiOp dated June 1, 2004. On May 19, 2009 (74 FR 23349), NMFS published a final rule intended to reduce marine mammal takes by PLL vessels in the Atlantic.

Please refer to Sections 3.8 and 3.9.9 of the 2006 Consolidated HMS FMP for additional information on potential interactions of Atlantic HMS fisheries with protected species and marine mammals. Sections 3.9.9.1 and 3.9.9.2 specify the 22 cetacean species of concern that occur off the Atlantic and Gulf coasts, including six endangered whale species.

4.0 ENVIRONMENTAL CONSEQUENCES OF ANALYZED ALTERNATIVES

The impacts of alternatives identified in Section 2 are discussed separately in the following subsections by issue and in the context of the relevant Magnuson-Stevens Act National Standards and the objectives of the Consolidated HMS FMP. The economic impacts of each alternative are briefly summarized in the following sections, and are described more fully in Sections 6, 7 (RIR), and 8 (IRFA).

4.1 Alternative 1: No Action.

This alternative would maintain the status quo and would not implement the 2010 ICCAT shark recommendations. Under this alternative, vessels fishing with PLL gear onboard or that have been issued HMS Angling and/or HMS Charter/Headboat permits would continue to be able to retain, transship, land, store, and sell hammerhead sharks (great, smooth, and scalloped hammerhead sharks) and oceanic whitetip sharks subject to existing regulations.

Oceanic Whitetip

Ecological Impacts

Alternative 1 would continue to allow the retention, transshipping, landing, storing, and/or selling of oceanic whitetip sharks in the Atlantic HMS PLL, HMS Angling, and Charter/Headboat fisheries for tuna and tuna-like species. This alternative would not implement ICCAT Recommendation 10-07. An analysis of the 2005-2009 HMS logbook data, indicates that, on average, a total of 50 oceanic whitetip sharks are kept per year. An additional 147 oceanic whitetip sharks per year were caught (on average) and subsequently discarded (133 released alive and 14 discarded dead). Under this alternative, oceanic whitetip sharks could continue to be harvested by PLL fishermen. According to NMFS PLL observer program (POP) data from 2005 through 2009, 77 percent of oceanic whitetip sharks caught were alive when brought to the vessel. Thus, under this alternative, each year approximately 197 oceanic whitetip sharks could be caught and 64 (32%) sharks could die from being discarded dead or retained.

Under this alternative, fishermen on vessels issued an HMS Angling or Charter/Headboat permit would be authorized to possess oceanic whitetip sharks and tunas, swordfish, and/or billfish simultaneously. The Large Pelagics Intercept Survey (LPIS), which covers the areas from Virginia to Maine, only intercepted three trips that landed either an oceanic whitetip or hammerhead shark out of 18,626 intercepted trips from 2005 through 2009. Of those three trips, no other HMS species were reported caught. Over the same time series, the Marine Recreational Fisheries Statistics Survey (MRFSS), which covers the entire Atlantic and Gulf of Mexico (except for Texas), intercepted 29 angler trips that landed either an oceanic whitetip or hammerhead shark. Of those 29 trips only three landed additional HMS, although all of the additional HMS retained were sharks, not tuna or tuna-like species. NMFS used these raw, unweighted data from the LPIS and MRFSS because creating an expanded landings estimate using such a small number of intercepts for oceanic whitetip and hammerhead sharks would yield an estimate with extremely low precision. Therefore, NMFS

concluded that because there are limited reported occurrences of oceanic whitetip or hammerhead sharks landed along with tuna or tuna-like HMS on the same recreational fishing trip, this scenario rarely occurs in the recreational HMS fishery.

Maintaining fishing mortality at the same levels through the no action alternative may result in minor, adverse ecological impacts for oceanic whitetip stocks due to declining abundances of this stock as described in the 2009 U.S. CoP 15 CITES Appendix II listing proposal for oceanic whitetip and in Section 3 (Status of Stocks) of this document.

Economic and Social Impacts

Relative to target species, oceanic whitetip sharks are caught infrequently and only incidentally on PLL vessels fishing for tuna and tuna-like species. The current HMS PLL fleet consists of 248 vessels (e.g., in possession of a tuna longline permit) as of October 2010. On average, a total of 1,462 lb of oceanic whitetip sharks were commercially landed annually from 2005 through 2009, according to HMS logbook data. Using the median real dollar, ex-vessel price per pound of \$0.34 for oceanic whitetip shark meat and \$11.12 for shark fins, this is equivalent to \$1,310 (\$813 for fins and \$497 for meat) in average annual gross revenues spread across the 12 vessels/year (average) that reported landing oceanic whitetip sharks during this period. This equates to approximately \$109/vessel/year in revenues from oceanic whitetip sharks. There were no oceanic whitetips sharks reported landed along with tuna and tuna-like species in recreational fisheries between 2005 and 2009.

Minor, beneficial economic impacts are expected as a result of this alternative because similar income levels may continue to be realized in the commercial fishery and recreational vessels would continue to be able to simultaneously possess oceanic whitetip sharks at the same time as tuna and tuna-like species, maintaining existing fishing opportunities and income levels in both sectors.

Hammerhead Sharks

Ecological Impacts

Alternative 1 would continue to allow retention, transshipping, landing, storing, or selling of hammerhead sharks, including smooth, great and scalloped hammerheads in the HMS commercial pelagic longline fishery. NMFS recently declared scalloped hammerheads to be overfished with overfishing occurring consistent based on the results of the Hayes et al. (2009) stock assessment. To date, NMFS has not conducted a stock assessment for the smooth or great hammerhead sharks; therefore, the status of these species of hammerhead sharks is unknown.

An analysis of HMS logbook data from 2005 through 2009 indicated that on average, 25 vessels landed 181 hammerhead sharks per year on PLL gear. An additional 1,130 sharks (average) are caught and subsequently discarded on PLL gear every year; 780 of which are discarded alive and 350 discarded dead. According to NMFS POP data from 2005-2009, 55 percent of hammerhead sharks caught are alive when brought to the vessel. Thus, under this alternative, each year

approximately 1,311 hammerhead sharks could be caught and 531 (40%) could die from being discarded dead or retained. Hammerhead sharks are caught incidentally to tuna and tuna-like species and constitute a small portion of the non-target species catch of the PLL HMS fishery.

The Large Pelagics Intercept Survey (LPIS), which covers the areas from Virginia to Maine, only intercepted three trips that landed either an oceanic whitetip or hammerhead shark out of 18,626 intercepted trips from 2005 through 2009. Of those three trips, no other HMS species were reported caught. Over the same time series, the Marine Recreational Fisheries Statistics Survey (MRFSS), which covers the entire Atlantic and Gulf of Mexico (except for Texas), intercepted 29 angler trips that landed either an oceanic whitetip or hammerhead shark. Of those 29 trips only 3 landed additional HMS, although all of the additional HMS retained were sharks, not tuna or tuna-like species. NMFS used these raw, unweighted data from the LPIS and MRFSS because creating an expanded landings estimate using such a small number of intercepts for oceanic whitetip and hammerhead sharks would yield an estimate with extremely low precision. Therefore, NMFS concluded that because there are limited reported occurrences of oceanic whitetip or hammerhead sharks landed along with tuna or tuna-like HMS on the same recreational fishing trip, this scenario rarely occurs in the recreational HMS fishery.

In recreational fisheries, the number of hammerhead sharks landed on an annual basis varies by species and year. Typically, the most commonly caught hammerhead shark in recreational fisheries is the scalloped hammerhead. Table 4.1 provides information on landings of hammerhead sharks, by species and year, between 2005 through 2009. Proper identification, to species, of hammerhead sharks is difficult as evidenced by the large proportion of “unclassified” hammerhead sharks.

Table 4.1 Recreational Harvest of Hammerhead Sharks by Species, in number of fish 2005-2009. Sources: Cortes and Neer 2005, Cortes, pers. comm.

Hammerhead Species	2005	2006	2007	2008	2009
Great	55	98	786	13	13
Scalloped	5,021	458	1,726	119	1,603
Smooth	0	2	0	0	0
Unclassified	2,676	1,099	807	0	0

Considering the stock status of scalloped hammerhead sharks and the difficulty in identifying these sharks to the species level, the additional fishing mortality that would continue as a result of maintaining the status quo is likely to have minor, adverse impacts due to the overfished status of scalloped hammerhead sharks.

Economic and Social Impacts

Scalloped, smooth, and great hammerhead sharks are caught incidentally by PLL vessels fishing for tuna and tuna-like species. The current HMS PLL fleet consists of 248 vessels as of October 2010. On average, from 2005 through 2009, less than 2 percent of the total PLL trips kept hammerhead sharks which equates to 25 vessels/year that kept hammerheads. On average, 9,493 lb of hammerhead sharks were commercially landed from 2005 through 2009, according to HMS logbook data. Using the median, ex-vessel price per pound of \$0.27 for hammerhead shark meat and \$11.12 for shark fins, this is equivalent to \$7,845 (\$2,563 for hammerhead meat and \$5,282 for fins) in average annual gross revenues for all 25 vessels. Because alternative 1 would continue to allow the retention of hammerhead sharks, it would likely result in minor, beneficial economic impacts to commercial PLL fishermen compared to alternatives 2 and 3 because they could continue to land these species and generate annual revenues of \$7,845 or approximately \$314/vessel/year. It is not likely that commercial fishermen would alter fishing practices for tuna and tuna-like species, because hammerhead shark landings constitute a small portion of PLL landings.

Alternative 1 would allow HMS Angling and Charter/Headboat participants to continue to be able to land hammerhead sharks at the same time as tunas, swordfish, and/or billfish. Table 1 shows the number of hammerhead sharks, by species and year, landed by recreational participants between 2005 through 2009. Data on the total number of trips by HMS Angling or Charter/Headboat vessels landing hammerhead sharks and tunas, swordfish, and/or billfish is not available; however, because of the different fishing methods typically used to target hammerhead sharks versus tuna and tuna-like species, it is expected that these multi-species excursions are uncommon.

Conclusion

Because of the stock status of oceanic whitetip and scalloped hammerhead sharks, and considering that it may be difficult for some fishery participants to properly identify hammerhead sharks to species, Alternative 1 could result in minor, adverse ecological impacts. Alternative 1 would maintain existing revenues for commercial participants and fishing opportunities for recreational participants, therefore, Alternative 1 could result in minor, beneficial economic and social impacts. Alternative 1 would not implement ICCAT recommendations 10-07 and 10-08 and, therefore, is inconsistent with NMFS obligations to promulgate regulations, as necessary and appropriate, to implement ICCAT recommendations. Because of this inconsistency, Alternative 1 is not a preferred alternative.

4.2 Alternative 2: Implement the ICCAT shark recommendations in the commercial pelagic longline fishery for tuna and tuna-like species – Preferred Alternative

Oceanic Whitetip

Ecological Impacts

Alternative 2, a preferred alternative, would prohibit the retention, transshipping, landing, storing, selling or purchasing of oceanic whitetip sharks in the HMS PLL fishery for tuna and tuna-like species. An analysis of the 2005 through 2009 HMS logbook data, which covers the HMS PLL

fishery, indicates that on average a total of 50 oceanic whitetip sharks are kept per year. Under this alternative, oceanic whitetip sharks would have to be released by PLL fishermen. According to the NMFS PLL observer program data from 2005 through 2009, 77 percent of oceanic whitetip sharks caught were alive when brought to the vessel. Therefore, of the 50 oceanic whitetip sharks kept per year that would now have to be released, 39 would be released alive. Although oceanic whitetip sharks are not caught in large numbers in the PLL fishery (i.e., less than 2 percent of PLL trips between 2005-2009 caught oceanic whitetip sharks), this alternative would have minor, beneficial ecological impacts for oceanic whitetip sharks because mortality would be reduced in the PLL fishery. Thus, under this alternative approximately 25 or 12.7% (11 discarded dead from those that were retained + 14 that would continue to be discarded dead) oceanic whitetip sharks could die from being discarded dead. This is a reduction of 61 percent from the 64 that could die under alternative 1. The actual number expected to be caught (197) is not expected to change as a result of this action. A reduction of mortality for oceanic whitetip sharks would also have beneficial impacts due to declining abundances of this stock according to the 2009 U.S. CoP 15 CITES Appendix II listing proposal for oceanic whitetip.

Economic and Social Impacts

Under this alternative, Atlantic HMS commercial permit holders with PLL gear on board would no longer be authorized to retain oceanic whitetip sharks and could experience minor, adverse socioeconomic impacts. The current HMS PLL fleet consists of 248 vessels as of October 2010. However, on average, 12 PLL vessels combined landed 1,462 lb of oceanic whitetip sharks per year from 2005 through 2009, according to HMS logbook data. Using the median, ex-vessel price per pound of \$0.34 for oceanic whitetip meat and \$11.12 for shark fins, this is equivalent to \$1,310 (\$813 for fins and \$497 for oceanic whitetip meat) in average annual gross revenues from landings of oceanic whitetip sharks from pelagic longline vessels or \$109 per vessel that landed oceanic whitetip sharks. Because alternative 2 would prohibit the retention of oceanic whitetip sharks from PLL vessels, it would likely result in minor, adverse socioeconomic impacts to commercial PLL fishermen because, even though there are small amounts of oceanic whitetip sharks landed, fishermen would no longer be able to land this species and could potentially lose annual revenues of \$1,310 for all vessels or \$109 per vessel. However, it is not likely that commercial fishermen would alter fishing practices for tuna and tuna-like species, because oceanic whitetip shark landings constitute a small portion of PLL landings and revenues.

Hammerhead Sharks

Ecological Impacts

Alternative 2 would also prohibit the retention, transshipping, landing, storing, selling or purchasing of hammerhead sharks, including smooth, great and scalloped, in the HMS commercial PLL fishery. To date, NMFS has not conducted a stock assessment for smooth or great hammerhead sharks; therefore, the status of these two species of hammerheads is unknown. NMFS recently declared scalloped hammerheads overfished with overfishing occurring consistent with the Hayes et al. (2009) peer reviewed stock assessment. The prohibition of retention of hammerhead sharks

caught on PLL gear would likely have minor, beneficial impacts for this species. In addition, an analysis of HMS logbook data from 2005 through 2009 indicated that on average, 181 hammerhead sharks of any species are landed per year. According to the NMFS POP data from 2005-2009, 55 percent of hammerhead sharks caught are alive when brought to the vessel. Therefore, of the 181 sharks that would have to be released annually under this alternative, 100 of those hammerhead sharks would be released alive. Under this alternative, approximately 431 (33 %) (81 discarded dead from those that used to be retained + 350 that would continue to be discarded dead) hammerhead sharks could die from being discarded dead. This is a reduction of 19 percent from the 531 that could die under alternative 1. The actual number expected to be caught (1,311) is not expected to change as a result of this action. Although hammerhead sharks are caught incidentally to tuna and tuna-like species in the PLL fishery and constitute a small portion of the PLL landings, the reduction of mortality from this alternative is likely to have minor, beneficial impacts due to the overfished status of scalloped hammerhead sharks.

Economic and Social Impacts

Scalloped, smooth, and great hammerhead sharks are caught incidentally by PLL vessels fishing for tuna and tuna-like species. The current HMS PLL fleet consists of 248 vessels as of October 2010. However, on average, 25 vessels combined landed 9,493 lb of hammerhead sharks annually from 2005 through 2009, according to HMS logbook data. Using the median, ex-vessel price per pound of \$ 0.27 for hammerhead shark meat and \$11.12 for shark fins, this is equivalent to \$7,845 (\$2,563 for hammerhead meat and \$5,282 for fins) in average annual gross revenues of hammerhead sharks from PLL vessels or \$314 per vessel that landed hammerhead sharks. Because alternative 2 would prohibit the retention of hammerhead sharks, it would likely result in minor, adverse socioeconomic impacts to commercial PLL fishermen because they would no longer be able to land these species and could potentially lose annual revenues of \$7,845. However, it is not likely that commercial fishermen would alter commercial fishing practices for tuna and tuna-like species since hammerhead sharks constitutes a small portion of PLL landings.

Conclusion

Consistent with ATCA and its Magnuson-Stevens Act obligations, NMFS must implement ICCAT recommendations through regulations as necessary and appropriate. ICCAT Recommendations 10-07 and 10-08 prohibit the retention, transshipping, landing, storing, selling or purchasing of oceanic whitetip and hammerhead sharks in the family *Sphyrnidae* (except for the *Sphyrna tiburo*) caught in association with fisheries managed by ICCAT. Oceanic whitetip and hammerhead sharks are caught incidentally to tuna and tuna-like species in the HMS commercial PLL fishery. Alternative 2 would prohibit the retention of these species in the HMS PLL fishery consistent with the 2010 ICCAT Recommendations 10-07 and 10-08. Under Alternative 2, NMFS expects an additional 39 oceanic whitetip sharks and 100 hammerhead sharks to be released alive. Additionally, NMFS expects those PLL vessels that landed oceanic whitetip or hammerhead sharks to lose approximately \$9,155 per year across all vessels (37 vessels) or \$247 per vessel per year as a result of this action. Therefore, NMFS prefers alternative 2 because it is consistent with ATCA and the Magnuson-Stevens Act, and compared to the No Action alternative, prohibiting the retention of

oceanic whitetip and hammerhead sharks in the HMS commercial PLL fishery is likely to have minor, beneficial ecological impacts due to the reduction of mortality of these species and the fact that this alternative would have only minor, adverse socioeconomic impacts to PLL fishermen and other fishery participants.

4.3 Alternative 3: Implement the ICCAT shark recommendations in the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species – Preferred Alternative

Ecological Impacts

Alternative 3, a preferred alternative, would implement ICCAT recommendations in the Atlantic HMS Angling, and Charter/Headboat fisheries that target tuna and tuna-like (i.e., billfish and swordfish) species. This action would prohibit retention of oceanic whitetip and hammerhead sharks by recreational fishermen fishing under an HMS Angling or Charter/Headboat permit on a recreational trip where tuna or tuna-like species are also retained. This alternative would also apply to General Category permit holders participating in a registered HMS tournament and where tuna or tuna-like species are also retained. NMFS recreational survey data, which includes HMS Angling and Charter/Headboat permit holders, from 2005 through 2009 indicates that recreational landings of either oceanic whitetip or hammerhead sharks along with other HMS are rare events. The Large Pelagics Intercept Survey (LPIS), which covers the areas from Virginia to Maine, only intercepted three trips that landed either an oceanic whitetip or hammerhead shark out of 18,626 intercepted trips over the same time series. Of those three trips, no other HMS species were reported caught. Over the same time series, the Marine Recreational Fisheries Statistics Survey (MRFSS), which covers the entire Atlantic and Gulf of Mexico (except for Texas), for HMS Angling and Charter/Headboat permit holders intercepted 29 recreational trips that landed either an oceanic whitetip or hammerhead shark. Of those 29 trips, only three landed additional HMS, although all of the additional HMS retained were sharks, not tuna or tuna-like species. NMFS used these raw, unweighted data from the LPIS and MRFSS for Alternative 3 because creating an expanded landings estimate using such a small number of intercepts for oceanic whitetip and hammerhead sharks would yield an estimate with extremely low precision. Therefore, NMFS concluded that because there are limited reported occurrences of oceanic whitetip or hammerhead sharks landed along with tuna or tuna-like HMS on the same recreational fishing trip, this scenario rarely occurs in the HMS Angling or Charter/Headboat fisheries.

In conclusion, alternative 3 would prohibit fishermen holding a HMS Angling, Charter/Headboat permit or a General Category permit when fishing in a registered HMS tournament from retaining oceanic whitetip or hammerhead sharks along with tuna or tuna-like species. Data suggests that this practice is a rare event for these permit holders; therefore, reducing current recreational fishing mortality and limiting future fishing effort on oceanic whitetip and hammerhead sharks by these permit holders would have minor, beneficial ecological impacts.

Economic and Social Impacts

Alternative 3 is anticipated to have minor, adverse socioeconomic impacts, due to limiting fishing opportunities for oceanic whitetip and hammerhead sharks while retaining tuna or tuna-like HMS. NMFS analyzed LPIS and MRFSS data from 2005 through 2009 to determine the frequency of recreational fishing trips that retained either an oceanic whitetip or hammerhead shark along with a tuna or tuna-like HMS, and because this was such a rare event occurrence over the time series, no reliable estimate could be made (see Alternative 3 ecological impacts above). Although there are no instances of oceanic whitetip or hammerhead sharks retained along with tuna or tuna-like species in the LPIS or MRFSS data from 2005 through 2009, prohibiting retention of these sharks along with tuna or tuna-like species would limit fishing opportunities, and could lead to fewer recreational trips. Charter/Headboats could experience a decrease in trips, as much of their business is based on providing recreational anglers the opportunity to catch hammerhead or oceanic whitetip sharks. The average price for a full day charter in 2004 was \$1,053. Creating an annual estimate of recreational trips with oceanic whitetip and/or hammerhead landings from the limited number of intercepts from the LPIS (3) and MRFFS (29) over the time series, would result in an estimate with extremely low precision. Using only the actual intercepts over the time series (32) and assuming that all of those intercepts were for-hire Charter/Headboat trips the total economic impact from 2005 through 2009 would be \$33,936 (\$6,788/year). However, because none of those trips landed an oceanic whitetip or hammerhead shark along with a tuna or tuna-like species, NMFS anticipates that adverse socioeconomic impacts to Charter/Headboat operations would be minor.

This alternative could have minor, adverse socioeconomic impacts on HMS fishing tournaments. According to HMS tournament registration data from 2005 through 2009, approximately 13 percent of all registered HMS tournaments awarded points for Large Coastal Non-ridgeback and/or Pelagic sharks along with at least one tuna or tuna-like HMS (Table 4.2). The HMS tournament data does not specify sharks to species; therefore, it is unknown how many of these tournaments awarded points for hammerhead sharks and oceanic whitetip sharks, which fall into the Large Coastal Non-ridgeback and Pelagic shark categories, respectively. Assuming that points were awarded for hammerhead and oceanic whitetip sharks in all of these instances, the adverse socioeconomic impact to tournaments is expected to be minor when both sharks and tuna or tuna-like species are retained on board, as it only encompasses a small percentage (13.1 percent) of all HMS tournaments over the time series. Recreational fishermen would still be able to retain other pelagic and large coastal shark species and tunas, swordfish, and billfish on the same fishing trip, which may offset lost revenues as a result of alternative 3.

Table 4.2 Number and Percentage of HMS Tournaments that Award Points for Non-ridgeback and Pelagic Sharks along with Tuna and Tuna-like Species.

Year	Total Number of HMS Tournaments	Number of HMS tournaments awarding points for Non-ridgeback sharks and tuna or tuna-like HMS	Number of HMS tournaments awarding points for Pelagic sharks and tuna or tuna-like HMS	Number of HMS tournaments awarding points for non-ridgeback and/or Pelagic sharks and tuna or tuna-like HMS	Percentage of HMS tournaments awarding points for non-ridgeback sharks and/or Pelagic sharks and tuna or tuna-like HMS
2005	257	4	32	34	13.2
2006	259	5	43	44	17.0
2007	299	5	34	35	11.7
2008	267	6	35	35	13.1
2009	270	4	29	29	10.7
Total	1352	24	173	177	13.1

Minor, adverse socioeconomic impacts are anticipated for vessels that hold both Charter/Headboat and limited access shark permits that would commercially retain oceanic whitetip and/or hammerhead sharks along with tuna or tuna-like HMS, because of the rare occurrence of landings of these species by this specific permit combination. In 2009, less than one percent of limited access shark permit holders also held a Charter/Headboat permit, and none of those vessels reported any commercial landings of oceanic whitetip or hammerhead sharks in the Coastal Fisheries Logbook (CFL). Currently, there is no commercial oceanic whitetip or hammerhead revenue being generated by vessels with this permit combination, but because Alternative 3 would limit this fishing practice, minor, adverse socioeconomic impacts could result.

Conclusion

Consistent with its ICCAT obligations, the United States must implement ICCAT recommendations through regulations as necessary and appropriate. ICCAT Recommendations 10-07 and 10-08 prohibit the retention, transshipping, landing, storing, or selling of oceanic whitetip and hammerhead sharks in the family *Sphyrnidae* (except for the *Sphyrna tiburo*) caught in association with fisheries managed by ICCAT. Oceanic whitetip and hammerhead sharks are caught incidentally in the HMS recreational fishery for tuna and tuna-like species. Alternative 3 would prohibit the retention of these species in the HMS Angling and Charter/Headboat fisheries consistent with the 2010 ICCAT Recommendations 10-07 and 10-08. NMFS prefers alternative 3 because it is consistent with ATCA and the Magnuson-Stevens Act and, compared to the No Action alternative, prohibiting the retention of oceanic whitetip and hammerhead sharks in the HMS recreational fishery for tuna and tuna-like species is likely to have minor, beneficial ecological impacts due to the reduction of mortality of these species and the fact that this alternative would have only minor, adverse socioeconomic impacts to recreational fishermen and other fishery participants.

4.4 Impacts on Essential Fish Habitat

The Magnuson-Stevens Act established a program to promote the protection of EFH in the review of projects conducted by Federal agencies, or under Federal permits, licenses, or other authorities that affect or have the potential to affect such habitat. After the Secretary has identified EFH, Federal agencies are obligated to consult with the Secretary with respect to any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any EFH. In the Consolidated HMS FMP, NMFS concluded that there is no evidence that physical effects caused by fishing for HMS are adversely affecting EFH to the extent that detrimental effects can be identified on the habitat of fisheries. As this action would not alter fishing gears or practices, it is anticipated that this action would not have any adverse impacts to EFH, and the conclusion for the Consolidated HMS FMP is still applicable, so further consultation is not necessary.

4.5 Impacts on Protected Species

On September 7, 2000, NMFS reinitiated formal consultation for all HMS commercial fisheries under Section 7 of the ESA. A Biological Opinion (BiOp) issued June 14, 2001, concluded that continued operation of the Atlantic PLL fishery is likely to jeopardize the continued existence of endangered and threatened sea turtle species under NMFS jurisdiction. This BiOp also concluded that the continued operation of the purse seine and handgear fisheries may adversely affect, but are not likely to jeopardize, the continued existence of any endangered or threatened species under NMFS jurisdiction. NMFS has implemented the reasonable and prudent alternatives (RPAs) required by this BiOp.

Subsequently, based on the management measures in several proposed rules, a new BiOp on the Atlantic PLL fishery was issued on June 1, 2004. The 2004 BiOp found that the continued operation of the fishery was not likely to jeopardize the continued existence of loggerhead, green, hawksbill, Kemp's ridley, or olive ridley sea turtles, but was likely to jeopardize the continued existence of leatherback sea turtles. The 2004 BiOp identified RPAs necessary to avoid jeopardizing leatherbacks, and listed the reasonable and prudent measures (RPMs) and terms and conditions necessary to authorize continued take as part of the revised incidental take statement. On July 6, 2004, NMFS published a final rule (69 FR 40734) and a final Supplemental Environmental Impact Statement implementing additional sea turtle bycatch and bycatch mortality mitigation measures for all Atlantic vessels with PLL gear onboard (NMFS 2004). NMFS is implementing the other RPMs in compliance with the 2004 BiOp. NMFS will undertake additional rulemaking and non-regulatory actions, as required, to implement any management measures that are required under the 2004 BiOp. On May 19, 2009 (74 FR 23349), NMFS published a final rule intended to reduce marine mammal takes by PLL vessels in the Atlantic. For further information on HMS fishery interactions and protected species, including non-ESA listed marine mammals, see Section 3.9.9 of the Consolidated HMS FMP.

Consistent with the 2010 ICCAT Recommendations for oceanic whitetip sharks and hammerhead sharks in the family *Sphyrnidae*, the preferred alternatives would prohibit the retention,

transshipping, landing, storing or selling of these species in the HMS commercial and recreational fisheries for tuna and tuna-like species. The measures in this proposed action, are not expected to alter current fishing practices or increase fishing effort, and therefore should not have adverse impacts on protected species, or have any further impacts on endangered species, marine mammals, or critical habitat beyond those considered in the 2001 and 2004 BiOps. Thus, the proposed action in this Draft EA/RIR/IRFA would not be expected to change previously analyzed endangered species or marine mammal interaction rates or magnitudes, or substantially alter current fishing practices or bycatch mortality rates, and no further consultation is necessary.

4.6 Environmental Justice Concerns

Executive Order (E.O.) 12898 requires that Federal agencies address environmental justice in the decision-making process. In particular, the environmental effects of Federal actions should not have a disproportionate effect on minority and low-income communities. The proposed action would not have any effects on human health nor is it expected to have any disproportionate social or economic effects on minority and low-income communities. Any social or economic impacts are expected to be only slightly adverse due to the fact that oceanic whitetip and hammerhead sharks constitute only a small portion of catch in the commercial and recreational fisheries for tuna and tuna-like species. In addition, it is not expected that fishermen would alter or modify their fishing practices as a result of the prohibition of retention of these species.

4.7 Coastal Zone Management Act (CZMA) Concerns

NMFS has determined that these proposed regulations are consistent to the maximum extent practicable with the enforceable policies of those coastal states in the Atlantic, Gulf of Mexico, and Caribbean that have approved coastal zone management programs. Letters will be sent to those states requesting their concurrence.

4.8 Cumulative Impacts

Cumulative impacts are the impacts on the environment that result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time (40 CFR § 1508.7). A cumulative impact includes the total effect on a natural resource, ecosystem, or human community due to past, present, and reasonably foreseeable 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, are occurring, and would likely occur as a result of any action or influence, including the direct and reasonably foreseeable indirect impacts of a federal activity. The goal of this section is to describe the cumulative ecological, economic and social impacts of past, present and reasonably foreseeable future actions with regard to the management measures presented in this document.

Cumulative Ecological Impacts

Preferred alternatives 2 and 3 would implement ICCAT recommendations 10-07 and 10-08 and impact vessels targeting tuna and tuna-like species in the ICCAT Convention area. Specifically, PLL vessels would no longer be authorized to possess hammerhead sharks (great, smooth, and scalloped) or oceanic whitetip sharks. Vessels with HMS Angling and Charter/Headboat permits would not be authorized to possess hammerhead sharks or oceanic whitetip sharks simultaneously with billfish, swordfish or tunas. These alternatives are expected to result in minor, beneficial cumulative ecological impacts because they would likely reduce fishing mortality for two species of shark (oceanic whitetip sharks and scalloped hammerhead sharks) that may be experiencing declines in abundance.

A reduction in mortality of oceanic whitetip sharks would have beneficial impacts due to declining abundances of this stock according to the 2009 U.S. CoP 15 CITES Appendix II listing proposal for oceanic whitetip sharks. Oceanic whitetip sharks are not targeted by PLL vessels and are caught incidentally to tuna and tuna-like species on less than two percent of PLL trips between 2005 and 2009. However, in the U.S. Atlantic Ocean, the PLL fishery is the primary source of oceanic whitetip shark fishing mortality. Therefore, proposed measures included in this rulemaking would be the most targeted approach to limiting Atlantic-wide stock declines. Additional measures that would affect the stock status of oceanic whitetip sharks or alter the cumulative ecological impacts of this particular action are not expected.

NMFS recently declared that scalloped hammerheads are overfished with overfishing occurring consistent with the Hayes et al. (2009) peer reviewed stock assessment. After making a declaration of overfished/overfishing, NMFS is obligated to implement a rebuilding plan that includes measures to rebuild the stock while reducing fishing mortality in order to prevent overfishing from occurring in the future. These measures would be implemented by an FMP amendment within two years of making the declaration. This proposed rule includes measures that would reduce fishing mortality in fisheries (PLL, HMS Angling, and Charter/Headboat) that are not the primary source of mortality for hammerhead sharks (i.e., bottom longline (BLL)). NMFS will likely include measures that reduce fishing mortality for scalloped hammerhead sharks in the BLL fishery consistent with a forthcoming rebuilding plan in an FMP Amendment in the near future. It is expected that prohibiting retention in the PLL fishery and on HMS Angling or Charter/Headboat vessels in possession of billfish, swordfish or tunas will complement future measures to rebuild and prevent overfishing of scalloped hammerhead sharks and result in minor, direct cumulative ecological benefits.

Cumulative Social and Economic Impacts

The preferred alternatives are expected to result in minor, adverse economic impacts because they would prohibit commercial vessels with PLL from being able to receive revenues as a result of landing oceanic whitetip and hammerhead sharks. These species are typically not targeted by PLL vessels. Between 2005 through 2009, an average of 2 percent of PLL trips kept hammerhead sharks, which equates to an average of 25 vessels/year that kept hammerhead sharks. Between 2005 through 2009, an average of less than 2 percent of PLL trips kept oceanic whitetip sharks, which equates to an

average of 12 vessels/year that kept oceanic whitetip sharks. A decrease in revenue of approximately \$9,155/year may be distributed across the universe of vessels that had received economic benefits from landing these sharks in the past. These PLL vessels also interact with other pelagic shark species, including blue sharks, porbeagle, shortfin mako, and common thresher sharks that vessels could still land in order to offset some of the economic impacts of the preferred alternatives.

NMFS recently published a proposed rule that would require PLL vessels in the Gulf of Mexico to use weak hooks designed to reduce bycatch of bluefin tuna (January 13, 2011, 76 FR 2313). This requirement has not yet been finalized; however, NMFS does not anticipate any additional cumulative impacts as a result of these actions because this proposed rule only impacts shark species that are caught incidentally using this gear. Additional measures that would affect fisheries targeting hammerhead sharks (gillnet and/or BLL fisheries) are expected to be implemented as a result of NMFS declaring that scalloped hammerhead sharks are overfished and experiencing overfishing. NMFS is obligated to implement a rebuilding plan that includes measures to rebuild the stock while reducing fishing mortality in order to prevent overfishing from occurring in the future. These measures would be implemented by an FMP amendment within two years of making the declaration.

Data suggests that fishing trips where HMS Angling and Charter/Headboat vessels land hammerhead sharks and/or oceanic whitetip sharks in addition to tunas, swordfish, or billfish are rare. These vessels would still be able to fish for, and keep the aforementioned shark species, however, they would no longer be able to possess them simultaneously with billfish, swordfish and tunas. In the HMS recreational fisheries, NMFS does not envision any additional management measures that would result in adverse, cumulative socioeconomic impacts.

4.9 Comparison of Alternatives

The environmental, socioeconomic and impacts to protected resources for the different alternatives and their sub-alternatives compared in Table 4.3.

Table 4.3 Comparison of the impacts of analyzed alternatives

- Neutral Impacts
- ⊙₊ Minor Beneficial Impacts
- ⊘₊ Moderate Beneficial Impacts
- ₊ Significant Beneficial Impacts
- ⊙₋ Minor Adverse Impacts
- ⊘₋ Moderate Adverse Impacts
- ₋ Significant Adverse Impacts

Alternative	Species	Fishery	Ecological	Protected Resources	Socioeconomic
A1 No Action. Do not implement the ICCAT shark recommendations	Oceanic Whitetip	Commercial	⊙ ₋	○	○
		Recreational	⊙ ₋	○	○
	Hammerheads	Commercial	⊙ ₋	○	○
		Recreational	⊙ ₋	○	○
A2 Implement ICCAT shark recommendations in the commercial pelagic longline fishery for tuna and tuna-like species – Preferred Alternative	Oceanic Whitetip		⊙ ₊	○	⊙ ₋
	Hammerhead		⊙ ₊	○	⊙ ₋
A3 Implement ICCAT shark recommendations in the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species – Preferred Alternative	Oceanic Whitetip		⊙ ₊	○	⊙ ₋
	Hammerhead		⊙ ₊	○	⊙ ₋

5.0 MITIGATION AND UNAVOIDABLE ADVERSE IMPACT

5.1 Mitigating Measures

Under the preferred alternatives in the proposed action, NMFS would implement the 2010 ICCAT shark recommendations in accordance with the 2006 Consolidated HMS FMP, ATCA and the Magnuson-Stevens Act. The proposed action would prohibit the retention of oceanic whitetip and hammerhead sharks in the Atlantic HMS commercial PLL fishery and the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species. This action could result in direct, minor, adverse socioeconomic impacts to fishery participants if these species would now have to be released when caught. Impacts to the commercial PLL fishermen would be mitigated as these species are not commonly caught as bycatch when fishing for tuna and tuna-like species. Impacts to recreational fishermen would be mitigated because those fishermen that are not fishing for tuna and tuna-like species would still be able to retain oceanic whitetip and hammerhead sharks subject to current retention and size limits.

5.2 Unavoidable Adverse Impacts

Although the preferred alternatives in the proposed rule would result in the prohibition of ocean whitetip and hammerhead sharks for certain sectors of the HMS fisheries, it is consistent with ICCAT Recommendation 10-07 and 10-08, the Consolidated HMS FMP, ATCA, and the Magnuson-Stevens Act. NMFS does not expect a change in current fishing practices or an increase in fishing effort due to the prohibition of these species. The action would not modify fishing behavior or gear type, nor would it expand fishing effort because commercial and recreational fishermen fishing exclusively for sharks would still be authorized to retain these species subject to current limits. Thus, the proposed measures in this Draft EA/RIR/IRFA would not be expected to change previously analyzed endangered species or marine mammal interaction rates or magnitudes, or substantially alter current fishing practices or bycatch mortality rates.

5.3 Irreversible and Irretrievable Commitment of Resources

No irreversible or irretrievable commitments of resources are expected from this proposed rule.

6.0 ECONOMIC EVALUATION

Note that all dollars are reported in nominal dollars, consistent with methods used in the Consolidated HMS FMP.

6.1 Number of Vessels and Permit Holders

This section describes the number of vessel and dealer permit holders that may be affected by this proposed rulemaking, Table 6.1. The number of tuna longline permit holders is used to estimate the universe of PLL vessels that would be impacted. These permits have been limited access since 1999. The number of HMS Angling, Charter/Headboat, and Shark Dealer permits are also provided, however, these permits are not limited access. All permit holders are considered small entities for purposes of Executive Order 12866.

Table 6.1 Number of Tuna Longline (PLL), Charter/Headboat, HMS Angling, and Shark Dealer Permits, 2006-2010.

Type of Permit	2006	2007	2008	2009	2010
Tuna Longline	214	218	241	259	248
Charter/Headboat	4,173	3,899	4,297	4,150	4,174
HMS Angling	25,238	24,220	26,933	25,506	24,479
Shark Dealer	336	206	128	106	108
Total	29,961	27,543	31,599	30,021	28,901

6.2 Gross Revenues of Commercial Fishermen

NMFS calculated annual gross revenues by combining current federal permit holders with their reported landings from logbooks and shark dealer reports averaged from 2005 to 2009. These landings were multiplied by ex-vessel prices for LCS meat, pelagic shark meat, small coastal shark (SCS) meat, and shark fins obtained from dealer reporting to determine annual gross revenues.

Of all Atlantic HMS, sharks bring in the lowest total gross revenues according to the 2010 SAFE Report, and made up only 11.7 percent of total HMS fishery revenue over the time series $[(\text{total shark revenue } (\$22,181,115) / \text{Total HMS revenue } (\$188,930,221))] * 100 = 11.7 \text{ percent}$. Table 6.2 provides data on the prices shark fishermen received at the dock. The average values from HMS dealer reports were used to construct the table.

Table 6.2 Estimates of the Total Ex-vessel Annual Revenues of Atlantic HMS Commercial Shark Fisheries. Sources: NMFS 2010

Species		2005	2006	2007	2008	2009
Large coastal sharks	Ex-vessel \$/lb dw	\$0.86	\$0.89	\$0.58	\$0.61	\$0.59
	Weight lb dw	3,147,196	3,808,662	2,329,272	1,362,904	1,513,201
	Fishery Revenue	\$2,706,589	\$3,389,709	\$1,350,978	\$831,371	\$892,789
Pelagic sharks	Ex-vessel \$/lb dw	\$1.16	\$1.14	\$1.10	\$1.07	\$1.17
	Weight lb dw	252,815	192,843	262,179	234,546	225,575
	Fishery Revenue	\$293,265	\$219,841	\$288,397	\$250,964	\$263,923
Small coastal sharks	Ex-vessel \$/lb dw	\$0.52	\$0.51	\$0.63	\$0.55	\$0.64
	Weight lb dw	634,885	763,327	618,191	623,848	667,815
	Fishery Revenue	\$330,140	\$389,297	\$389,460	\$343,116	\$427,402
Shark fins (weight = 5% of all sharks landed)	Ex-vessel \$/lb dw	\$18.18	\$18.53	\$13.84	\$13.76	\$9.49
	Weight lb dw	201,745	238,242	160,482	111,065	120,330
	Fishery Revenue	\$3,667,720	\$4,414,617	\$2,221,072	\$1,528,253	\$1,141,927
Total sharks	Fishery Revenue	\$6,997,715	\$8,413,464	\$4,249,907	\$2,953,705	\$2,726,041

Note: Average ex-vessel prices may have some weighting errors

Shark meat prices for oceanic whitetip and hammerhead sharks were specifically calculated from HMS dealer data to determine the price per pound for each species. The weighted median for oceanic whitetip and hammerhead shark meat from 2005-2009 was \$0.34 and \$0.27 per lb, respectively (Table 6.3). Species-specific shark fin prices are not recorded in the dealer data, therefore; shark fin price per pound for oceanic whitetip and hammerhead sharks was calculated according to their species groups, pelagic and large coastal sharks, respectively. The mean weighted average over this time series was \$11.12 per lb (Table 6.Xb).

Table 6.3 Weighted median price of shark products from 2005-2009 according to Atlantic HMS dealer reports

Shark Product	Weighted Median Price
Hammerhead Shark Meat	\$0.27
Oceanic Whitetip Shark Meat	\$0.34
Pelagic and Large Coastal Shark Fin	\$11.12

On average, 1,462 lb of oceanic whitetip and 9,493 lb of hammerhead sharks were commercially landed from 2005 through 2009, according to HMS logbook data. Applying the species-specific weighted median price to each of these species yields an annual meat revenue for

oceanic whitetip and hammerhead sharks of approximately \$497 (1,462 lb * \$0.34) and \$2,563 (9,493 lb * \$0.27), respectively. Fin weight was calculated by taking 5 percent of the total annual average weight of oceanic whitetip and hammerhead sharks, and the annual meat revenue for the time series was approximately \$812 (73 lb * \$11.12) and \$5,282 (475 lb * \$11.12), respectively.

6.3 Operating Costs of Commercial Fishermen

NMFS has collected operating cost information from commercial permit holders via logbook reporting. Each year, 20 percent of active Atlantic HMS commercial permit holders are selected to report economic information along with their Atlantic HMS logbook or Coastal Fisheries logbook submissions. In addition, NMFS also receives voluntary submissions of the trip expense and payment section of the logbook form from non-selected vessels.

The primary expenses associated with operating an Atlantic HMS permitted commercial vessel include labor, fuel, bait, ice, groceries, other gear, and light sticks on swordfish trips. Unit costs are collected on some of the primary variable inputs associated with trips. The unit costs for fuel, bait, and light sticks are reported in Table 6.4. Fuel costs increased approximately 89 percent from 2005 to 2008 while the cost per pound for bait has remained fairly constant. This spike in fuel costs ended in 2009 when fuel costs decreased by 45 percent in one year. The unit cost per light sticks used in the PLL fishery has actually declined from 2005 to 2009.

Table 6.4 Median Unit Costs for Fuel, Bait, and Light Sticks 2005 - 2009. Source: Atlantic HMS logbooks

Input Unit Costs	2005	2006	2007	2008	2009
Fuel	\$1.90	\$2.20	\$2.29	\$3.59	\$1.98
Bait	\$0.85	\$0.85	\$0.85	\$0.85	\$0.85
Light Sticks*	\$0.50	\$0.50	\$0.40	\$0.37	\$0.37

*Cost per light stick.

Table 6.5 provides the median total cost per trip for the major variable inputs associated with Atlantic HMS trips. Fuel costs are one of the largest variable expenses and the total costs of fuel decreased substantially per trip in 2009 in line with the decline in the unit cost of fuel.

Table 6.5 Median Input Costs for HMS Trips 2005 - 2009. Source: Atlantic HMS logbooks

Input Costs	2005	2006	2007	2008	2009
Fuel	\$2,341	\$1,728	\$2,144	\$3,031	\$2,303
Bait	\$920	\$750	\$858	\$1,080	\$1,320
Light Sticks	\$500	\$500	\$520	\$444	\$446
Ice Costs	\$480	\$400	\$540	\$520	\$600
Grocery Expenses	\$610	\$470	\$600	\$600	\$800
Other Trip Costs	\$1,250	\$920	\$1,236	\$1,293	\$1,500

Labor costs are also an important component of operating costs for HMS commercial vessels. Table 6.6 lists the amount of crew on a typical trip. The median number of crew members has been consistently three from 2005 to 2009. Most crew and captains are paid based on a lay system.

According to Atlantic HMS logbook reports, owners are typically paid 50 percent of revenues. Captains receive a 20 percent share and crew in 2009 received 22.5 percent on average. These shares are typically paid out after costs are netted from gross revenues. Median total shared costs per trip have ranged from \$4,500 to \$5,000 from 2005 to 2009.

Table 6.6 Median Labor Inputs and Costs for HMS Trips 2005 - 2009. Source: Atlantic HMS logbooks

Labor	2005	2006	2007	2008	2009
Number of Crew	3	3	3	3	3
Owner Share	50%	50%	50%	50%	50%
Captain Share	20%	20%	20%	20%	20%
Crew Share	11%	12%	15%	15%	22.5%
Total Shared Costs	\$4,550	\$4,500	\$4,500	\$5,000	\$4,689

In 2009, median reported total trip sales were \$9,731. In 2008, median reported total trip sales were \$10,970. In 2007, the median reported total trip sales were \$12,064. After adjusting for operating costs, median net earnings per trip in 2008 was \$3,214. Median net earnings per trip increased to \$4,340 in 2009.

It should be noted that operating costs for the Atlantic HMS commercial fleet vary considerably from vessel to vessel. The factors that impact operating costs include unit input costs, vessel size, target species, and geographic location among other things.

6.4 Angling and Charter/Headboat Revenues

A complete description of these fisheries is provided in the Consolidated HMS FMP and the 2010 SAFE Report and is not repeated here. In 2004, NMFS collected market information regarding advertised Charterboat rates. The analysis of this data focused on observations of advertised rates on the internet for full day charters. Full day charters vary from 6 to 14 hours long with a typical trip being 10 hours. Most vessels can accommodate six passengers, but this also varies from two to 12 passengers. The average price for a full day boat charter was \$1,053 in 2004. Sutton *et al.*, (1999) surveyed Charterboats throughout Alabama, Mississippi, Louisiana, and Texas in 1998 and found the average Charterboat base fee to be \$762 for a full day trip. Holland *et al.* (1999) conducted a similar study on Charterboats in Florida, Georgia, South Carolina, and North Carolina and found the average fee for full day trips to be \$554, \$562, \$661, and \$701, respectively. Comparing these two studies conducted in the late 1990s to the average advertised daily HMS Charterboat rate in 2004, it is apparent that there were significant increases in Charterboat rates.

6.5 Expected Economic Impacts of the Alternatives

6.5.1 No Action Alternative

Alternative 1 would maintain the status quo and allow retention of hammerhead sharks and oceanic whitetip sharks in fisheries targeting tuna and tuna-like species in the U.S. portion of the ICCAT Convention Area. Under the no action alternative, fishery participants would experience positive economic impacts, consistent with their present activities because they would continue to be able to target and/or land hammerhead sharks and oceanic whitetip sharks. Assuming revenues in the PLL fishery remain consistent with past (2005-2009) levels, the participants whom harvest hammerhead and oceanic whitetip sharks could experience total economic benefits of \$9,155 per year. This includes revenue from oceanic whitetip shark meat (\$497) and fins (\$813) and hammerhead shark meat (\$2,563) and fins (\$5,282). These revenues are not per vessel; rather, they represent revenues for the entire PLL fishery and were distributed amongst participants harvesting oceanic whitetip or hammerhead sharks. Between 2005 through 2009, on average, 12 vessels/year landed oceanic whitetip sharks and 25 vessels/year landed hammerhead sharks equating to per vessel revenues of \$109/vessel/year and \$314/vessel/year, attained from oceanic whitetip and hammerhead sharks, respectively.

In 2009, median total trip revenues for PLL vessels were \$9,731 per trip. That same year, 1,421 trips were made by 113 vessels. This equates to each vessel making 13 trips per year. Annual gross revenues were calculated by multiplying the average number of trips/vessel in 2009 (13) by median total trip revenues for PLL vessels (\$9,731/vessel), resulting in annual gross revenues of \$126,503/vessel in 2009. Therefore, the proportion of gross revenues from oceanic whitetip and hammerhead sharks is estimated at less than one percent of their total gross revenues in 2009.

Alternative 1 would also allow recreational participants in possession of an HMS Angling or Charter/Headboat permit to continue to possess hammerhead sharks and oceanic whitetip sharks simultaneously with swordfish, billfish, and tunas. The HMS Angling permit is a recreational permit and does not authorize vessels to sell fish or charge money to passengers participating in fishing excursions, therefore, economic impacts are not expected for these permit holders. Data on the number of Charter/Headboat trips that possess hammerhead and oceanic whitetip sharks along with swordfish, tuna, and billfish is limited. Creating an annual estimate with the limited number of intercepts of recreational oceanic whitetip and/or hammerhead landings from the LPIS (3) and MRFFS (29) over the time series, would result in an estimate with extremely low precision. It is difficult to estimate the economic impacts to the Charter/Headboat fishery as a result of maintaining the status quo; however, NMFS assumes that maintaining more liberal regulations with regard to which species of fish can be harvested would result in positive economic benefits because paying passengers would have enhanced ability to possess HMS on the same trip.

6.5.2 Alternative 2: Implement the ICCAT shark recommendations in the commercial pelagic longline fishery for tuna and tuna-like species

Under alternative 2, Atlantic HMS commercial permit holders with PLL gear on board would no longer be authorized to retain oceanic whitetip, scalloped, smooth or great hammerhead sharks and could experience minor, adverse socioeconomic impacts. On average, from 2005 through 2009,

less than 2 percent of the total PLL trips kept oceanic whitetip sharks, which equates to 12 pelagic longline vessels per year that kept oceanic whitetip sharks. An average of 1,462 lb of oceanic whitetip shark was landed from the 12 pelagic longline vessels combined from 2005 through 2009. Therefore, approximately \$497 in revenues from the oceanic whitetip shark meat and \$813 in revenues from the fins could be lost as a result of this alternative. Overall, a total of \$1,310 in annual revenues could be lost due to the fact that PLL vessels will have to discard all oceanic whitetip sharks that are caught. However, it is unlikely these vessels will experience significant impacts due to the low proportion of oceanic whitetip sharks that are caught relative to the total PLL vessel landings. As for scalloped, smooth and great hammerhead sharks, these shark species are more commonly landed on PLL gear than oceanic whitetip sharks. On average, from 2005 through 2009, 2 percent of the total PLL trips kept hammerhead sharks which equates to 25 vessels that kept hammerheads. On average, 9,493 lb of hammerhead sharks were landed from these 25 PLL vessels per year combined from 2005 through 2009. PLL fishermen could lose approximately \$2,563 in revenues from hammerhead shark meat and \$5,282 in revenues from their fins. Therefore, as a result of Alternative 2, PLL fishermen could lose a total of \$7,845 due to the fact that they would no longer be authorized to retain scalloped, smooth or great hammerhead sharks. When considering oceanic whitetip and hammerhead sharks together, this alternative could have an overall impact to PLL fishermen of \$9,155 per year across all vessels that landed oceanic whitetip and hammerhead sharks (37 vessels) or \$247 per vessel per year as a result of this action. However, it is not likely that commercial PLL fishermen would alter commercial fishing practices for tuna and tuna-like species since oceanic whitetip and hammerhead sharks constitutes a small portion of the total PLL landings. Therefore, NMFS does not anticipate that this alternative would have significant socioeconomic impacts on PLL fishermen.

6.5.3 Alternative 3: Implement the ICCAT shark recommendations in the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species

Alternative 3, which would prohibit Angling and Charter/Headboat permit holders from retaining oceanic whitetip and/or hammerhead sharks while fishing for tuna and tuna-like species, is not expected to have significant socioeconomic impacts on these permit holders. In 2010, there were 24,479 HMS Angling and 4,174 Charter/Headboat permits on vessels, which allows them to recreationally fish for Atlantic HMS. Data collected on recreational anglers fishing with an HMS Angling or Charter/Headboat permit show that retention of oceanic whitetip and/or hammerhead sharks along with tuna or tuna-like species is a rare event occurrence.

The Large Pelagics Intercept Survey (LPIS), which covers the areas from Virginia to Maine, only intercepted three trips that landed either an oceanic whitetip or hammerhead shark out of 18,626 intercepted trips from 2005 through 2009. Of those three trips, no other HMS species were reported caught. Over the same time series, the Marine Recreational Fisheries Statistics Survey (MRFSS), which covers the entire Atlantic and Gulf of Mexico (except for Texas), intercepted 29 angler trips that landed either an oceanic whitetip or hammerhead shark. Of those 29 trips only three landed additional HMS, although all of the additional HMS retained were sharks, not tuna or tuna-like species. NMFS used these raw, unweighted data from the LPIS and MRFSS for Alternative 3,

because creating an expanded landings estimate using such a small number of intercepts for oceanic whitetip and hammerhead sharks would yield an estimate with extremely low precision.

It is assumed that the adverse socioeconomic impact with regards to prohibiting recreational retention of either an oceanic whitetip or hammerhead shark along with a tuna or tuna-like species is minor, based primarily on the lack of opportunity to land both in the future. Charter/headboats could experience a decrease in trips, as much of their business is based on providing recreational anglers the opportunity to catch hammerhead or oceanic whitetip sharks. The average price for a full day charter in 2004 was \$1,053 (NMFS, 2010). Creating an annual estimate with the limited number of intercepts of recreational oceanic whitetip and/or hammerhead landings from the LPIS (3) and MRFFS (29) over the time series would result in an estimate with extremely low precision. Using only the actual intercepts over the time series (32) and assuming that all of those intercepts were for-hire charter/headboat trips, the total economic impact from 2005-2009 would be \$33,936, but because none of those trips landed an oceanic whitetip or hammerhead shark along with a tuna or tuna-like species, NMFS anticipates that adverse socioeconomic impacts to charter/headboat operations would not be significant. There are some registered HMS tournaments that offer points for landing sharks along with tuna or tuna-like species that could experience minor adverse economic impacts from alternative 3. Only a small portion (~13 percent) of HMS registered tournaments from 2005-2009 granted points for Pelagic and/or Large Coastal Sharks along with tuna or tuna-like species, although it is not known how many of those tournaments specifically granted points for oceanic whitetip and/or hammerhead sharks. Therefore, because of the small percentage of tournaments that grant points for oceanic whitetip and/or hammerhead sharks along with tuna and tuna-like species, NMFS does not anticipate that this alternative would have significant socioeconomic impacts to HMS tournaments.

Vessels with a Charter/Headboat permit along with a limited access shark permit, which allows a vessel to fish commercially for both oceanic whitetip and/or hammerhead sharks along with tuna or tuna-like species, accounted for less than one percent of limited access shark permit holders in 2009, and there were no reported landings of oceanic whitetip or hammerhead sharks by these vessels. Because this permit combination and commercial landings of oceanic whitetip or hammerhead sharks by vessels with this permit combination are rare, NMFS does not anticipate that this alternative would have significant socioeconomic impacts to these vessels.

7.0 REGULATORY IMPACT REVIEW

This section assesses the economic impacts of the alternatives presented in this document. The RIR is conducted to comply with E.O. 12866 and provides analyses of the economic benefits and costs of each alternative to the nation and the fishery as a whole. Certain elements required in an RIR are also required as part of an EA. Thus, this section should be considered only part of the RIR, the rest of the RIR can be found throughout this document.

7.1 Description of the Management Objectives

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

7.2 Description of the Fishery

Please see Chapter 3 for a description of fishery and environment that could be affected by this rulemaking.

7.3 Statement of the Problem

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

7.4 Description of Each Alternative

Please see Chapter 2 for a summary of each alternative and Chapter 4 for a complete description of each alternative and its expected ecological, social, and economic impacts. Table 7.1 shows the net economic benefits and costs of each of the alternatives analyzed in this Draft EA.

Table 7.1 Net Economic Benefits and Costs of Alternatives

Alternatives	Net Economic Benefits	Net Economic Costs
Alternative 1: No Action	This alternative would maintain current economic activity associated with oceanic whitetip and hammerhead sharks in the short-term.	In the long-term, there could be economic costs associated with continued overfishing of scalloped hammerhead sharks, including population decline and associated revenues from landings
Alternative 2: Prohibit retention of oceanic whitetip and hammerhead sharks in the commercial PLL fishery targeting	In the long term, reduced mortality of oceanic whitetip and hammerhead sharks could lead to population increases, which may lead to future commercial fishing opportunities for these species.	There would be an estimated reduction of \$1,310 in gross revenues (fleet-wide) annually from oceanic whitetip sharks and an estimated reduction of \$7,845 in gross revenues (fleet-wide) annually from hammerhead sharks.

tuna and tuna-like species		
Alternative 3: Prohibit retention of oceanic whitetip and hammerhead sharks in the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species	In the long term, reduced mortality of oceanic whitetip and hammerhead sharks could lead to population increases, which may lead to future recreational and commercial fishing opportunities for these species.	Recreational and commercial landings of oceanic whitetip and/or hammerhead sharks along with tuna and tuna-like species by HMS Angling or Charter/Headboat permit holders are a rare even occurrence and are not commonplace in the recreational or commercial fishery. Therefore, economic loss associated with this alternative is anticipated to be minor.

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

NMFS does not foresee that the national net benefits and costs would change significantly in the short- or long-term as a result of implementation of the preferred alternatives. Alternative 2, which would prohibit the retention of oceanic whitetip and hammerhead sharks in U.S. commercial PLL fishery for tuna and tuna-like species, would reduce the total number of sharks landed and available for commercial sale, and future opportunities to retain these sharks, resulting in minor, adverse economic impacts to the commercial PLL fishery. Alternative 3, which would prohibit the retention of oceanic whitetip and hammerhead sharks in U.S. recreational fisheries and commercial fisheries operating with Charter/Headboat permits for tuna and tuna-like species, would reduce the total number of sharks landed recreationally and commercially, and future opportunities to retain these sharks, resulting in minor, adverse economic impacts to the recreational and commercial fisheries. Because oceanic whitetip and hammerhead sharks are encountered in relatively small numbers in U.S. commercial and recreational fisheries that target tuna and tuna-like species, the overall economic impact of the preferred alternatives, Alternative 2 and Alternative 3, are not expected to have a significant adverse economic impact over the short- or long-term.

7.6 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 proposed action described in this draft EA/RIR/IRFA does not meet the above criteria, for example, the economic impacts as reflected

in this proposed rule are under the \$100 million threshold. This action raises no novel or legal policy issues as it implements ICCAT recommendations according to international and domestic law and policy, and is not expected to result in any inconsistency with other agency actions. Therefore, under E.O. 12866, the proposed action described in this document has been determined to be not significant for the purposes of E.O. 12866. A summary of the expected net economic benefits and costs of each alternative can be found in Table 7.1.

8.0 INITIAL REGULATORY FLEXIBILITY ANALYSIS

8.1 Description of the Reasons Why Action is Being Considered

See Chapter 1 for a description of the reasons why this action is being considered.

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

See Chapter 1 for a statement of the objectives and legal basis for the proposed rule.

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

This proposed action would apply to all participants in the Atlantic HMS commercial and recreational fisheries that target tuna and tuna-like species, all of which are considered small entities. As of October 2010, 248 PLL vessels held a Tuna Longline permit and are reasonably expected to use PLL gear, 24,479 held an Atlantic HMS Angling permit, and 4,174 vessels held an Atlantic HMS Charter/Headboat permit. These permitted vessels consist of commercial, recreational, and charter vessels as well as headboats.

8.4 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 action does not contain any new collection of information, reporting, record keeping, or other compliance requirements.

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

This proposed rule must be consistent 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, Marine Mammal Protection Act, the Endangered Species Act, the National Environmental Policy Act, the Paperwork Reduction Act, and the Coastal Zone Management Act. NMFS strives to ensure consistency among the regulations with Fishery Management Councils and other relevant agencies. NMFS does not believe that the proposed alternatives would conflict with any relevant regulations, Federal or otherwise. Once the proposed rule is finalized and made effective, fishermen participating in the affected fisheries must comply with the final rule.

8.6 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 a IRFA is to describe any alternatives to the proposed rule which

accomplish the stated objectives and which minimize any significant economic impacts. These impacts are discussed below and in Chapters 4 and 6 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 Magnuson-Stevens Act and ESA, NMFS cannot exempt small entities or change the reporting requirements only for small entities because all the entities affected are considered small entities. Thus, there are no alternatives discussed that fall under the first and fourth categories described above. NMFS does not know of any performance or design standards that would satisfy the aforementioned objectives of this rulemaking while, concurrently, complying with the Magnuson-Stevens Act and ATCA. Thus, there are no alternatives considered under the third category. As described below, NMFS analyzed several different alternatives in this proposed rulemaking and provides rationale for identifying the preferred alternative to achieve the desired objective.

NMFS has prepared this IRFA to analyze the impacts on small entities of the alternatives for establishing ICCAT shark recommendations for all domestic fishing categories that target tuna and tuna-like species. The IRFA assesses the impacts of the various alternatives on the vessels that participate in the Atlantic HMS commercial and recreational fisheries that target tuna and tuna-like species, all of which are considered small entities. Three alternatives were considered and analyzed and include (A1) no action; (A2) implementing the ICCAT shark recommendations in the commercial PLL fishery for tuna and tuna-like species; and (A3) implementing the ICCAT shark recommendations in the HMS Angling and Charter/Headboat fisheries for tuna and tuna-like species.

Under the No Action Alternative, A1, there would be no additional economic impacts to HMS vessels fishing for tuna and tuna-like species. Commercial vessels that fish for tuna and tuna-like species that are also currently authorized to land oceanic whitetip and hammerhead sharks would be able to continue that practice. Gross average annual revenues from oceanic whitetip and hammerhead shark meat and fins from vessels that fished for tuna or tuna-like species from 2005 through 2009 was \$9,155. Vessels fishing recreationally for tuna or tuna-like species would continue to have the ability to retain an oceanic whitetip or hammerhead shark along with a tuna or tuna-like species on the same recreational trip.

Under Alternative A2, a preferred alternative, ICCAT shark recommendations would be

applied to PLL vessels fishing commercially for tuna and tuna-like species. This alternative would prohibit retention of oceanic whitetip and hammerhead sharks by PLL vessels. On average, from 2005 through 2009, less than 2 percent of the total PLL trips kept oceanic whitetip sharks which equates to an average of 12 pelagic longline vessels per year that kept caught oceanic whitetip sharks. An average of 1,462 lb of oceanic whitetip sharks were landed annually by these 12 pelagic longline vessels on average from 2005 through 2009.

From 2005 through 2009, on average, 2 percent of the total PLL trips kept hammerhead sharks, which equates to an average of 25 vessels that kept hammerheads on an annual basis. On average, 9,493 lb were landed from 25 pelagic longline vessels per year from 2005 through 2009. Gross average annual revenues from oceanic whitetip and hammerhead shark meat and fins from the PLL vessels that fished for tuna or tuna-like species and kept oceanic whitetip or hammerhead sharks from 2005 through 2009 were \$9,155 or \$366 per vessel. NMFS prefers Alternative 2 at this time, because it would implement ICCAT shark recommendations and would have minor adverse socioeconomic impacts on the PLL fishery.

Under Alternative A3, a preferred alternative, ICCAT shark recommendations would be applied to vessels holding a General Category permit when fishing in an HMS tournament or holding either an HMS Angling or Charter/Headboat permit fishing either recreationally or commercially for tuna and tuna-like species. This alternative would prohibit retention of oceanic whitetip and hammerhead sharks along with tuna and tuna-like species by vessels fishing recreationally and by Charter/Headboat permit holders fishing commercially. Although there are no instances of oceanic whitetip or hammerhead sharks retained along with tuna or tuna-like species in the LPIS or MRFS data from 2005 through 2009, this alternative could limit fishing opportunities and lead to fewer fishing trips. Charter/Headboats could experience a decrease in trips as much of their business is based on providing recreational anglers the opportunity to catch hammerhead and oceanic whitetip sharks. However, because none of the intercepted Charter/Headboat trips landed oceanic whitetip and hammerhead sharks along with tuna or tuna-like species, NMFS anticipates the impacts to Charter/Headboats to be minor. NMFS prefers this alternative at this time, because it would implement ICCAT shark recommendations and would have minor, adverse socioeconomic impacts on the HMS Angling and Charter/Headboat fisheries.

9.0 COMMUNITY PROFILES

Section 102(2)(a) of the National Environmental Policy Act (NEPA) requires Federal agencies to consider the interactions of natural and human environments by using “a systematic, interdisciplinary approach which will ensure the integrated use of the natural and social sciences . . . in planning and decision-making.” Federal agencies should address the aesthetic, historic, cultural, economic, social, or health effects which may be direct, indirect, or cumulative. The Magnuson-Stevens Act also requires, among other matters, consideration of social impacts. Consideration of the social impacts associated with fishery management measures is a growing concern as fisheries experience variable participation and/or declines in stocks.

Profiles for HMS fishing communities were included in Chapter 9 of the 2006 Consolidated HMS FMP and updated in Chapter 6 of the 2010 SAFE Report. These HMS communities are analyzed for social impacts in this action due to the importance of pelagic longline and recreational fishing to the community: Gloucester, MA; New Bedford, MA; Barnegat Light and Brielle/Point Pleasant, NJ; Hatteras, NC; Wanchese, NC; and Venice and Dulac, LA.

The impacts of the proposed action will be minor in all of these communities. The action to implement the 2010 ICCAT Recommendations on sharks may decrease potential fishing opportunities for recreational fishermen that are fishing for tunas, billfish and swordfish. However, if recreational fishermen are fishing exclusively for sharks, this action will not decrease fishing opportunities for oceanic whitetip and hammerhead sharks. Since oceanic whitetip and hammerhead sharks are rarely caught as bycatch on PLL gear, the prohibition of these two species in the commercial PLL fishery is not expected to decrease commercial fishing opportunities.

10.0 OTHER CONSIDERATIONS

10.1 Magnuson-Stevens Act and Atlantic Tunas Convention Act

NMFS has determined that this proposed action is consistent with the Magnuson-Stevens Act, ATCA, and other applicable law, subject to further consideration after public comment. Section 971d(c)(1)(C) of ATCA provides that regulations promulgated under the Act, to the extent practicable, be consistent with fishery management plans prepared and implemented under the Magnuson-Stevens Act.

With regard to the Magnuson-Stevens Act National Standards (NS) (see 50 C.F.R. Part 600, Subpart D for National Standard Guidelines), Amendment 3 to the Consolidated HMS FMP established a mechanism for annual catch limits and accountability measures to prevent overfishing, consistent with NS 1. This proposed action would further support efforts to address overfishing, as it would result in some further reduction of fishing mortality for oceanic whitetip and hammerhead sharks. Because the proposed action is based on the results of the 2010 ICCAT recommendation and the data used for the analysis in this document consistent of fishery logbook and observer data from 2005 through 2009, it is based on the best scientific information available (NS 2), including self-reported, observer, and stock assessment data, which provide for the management of the affected species throughout its range (NS 3).

This proposed action does not discriminate against fishermen in any state (NS 4) nor does it alter the efficiency in utilizing the resource (NS 5). With regard to NS 6, the proposed action takes into account any variations that may occur in the fishery and the fishery resources. Additionally, NMFS considered the costs and benefits of these management measures economically and socially under National Standards 7 and 8 in Sections 4, 5, and 6 of this document. The proposed action would prohibit the retention of oceanic whitetip and hammerhead sharks in the commercial and recreational HMS fisheries for tuna and tuna-like species, and would not increase fishing effort for Atlantic sharks; therefore, impacts to bycatch species and protected species are similar to those previously analyzed in Amendment 2 and Amendment 3 to the 2006 Consolidated HMS FMP (NS 9). Finally, the proposed action would not require fishermen to fish in an unsafe manner (NS 10).

10.2 Paperwork Reduction Act

The proposed quota specifications and effort controls contain no new collection-of-information requirements subject to the Paperwork Reduction Act.

10.3 E. O. 13132

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

11.0 LIST OF PREPARERS AND PERSONS/AGENCIES CONSULTED

This EA/RIR/IRFA was prepared by LeAnn Hogan, Peter Cooper, Michael Clark, Karyl Brewster-Geisz, and Margo Schulze-Haugen from the HMS Management Division, Office of Sustainable Fisheries. Please contact the HMS Management Division for a complete copy of current regulations for the Atlantic HMS commercial and recreational fisheries.

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Discussions relevant to the formulation of the preferred alternatives/proposed action and the analyses for this draft EA/RIR/IRFA involved input from several NMFS components and constituent groups, including: NMFS Southeast Fisheries Science Center, NMFS Office for Law Enforcement, NMFS Office of Science and Technology, and the members of the HMS AP (which includes representatives from the commercial and recreational fishing industries, environmental and academic organizations, state representatives, and fishery management councils). NMFS also has received numerous comments from individual fishermen and interested parties.

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FINDING OF NO SIGNIFICANT ENVIRONMENTAL IMPACT

Draft Finding of No Significant Impact for implementation of the 2010 ICCAT Recommendations on Sharks

National Marine Fisheries Service

The Highly Migratory Species (HMS) Management Division of the Office of Sustainable Fisheries submits the attached Environmental Assessment (EA) for the Atlantic HMS fisheries for Secretarial review under the procedures of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This EA considers the impacts of implementing two ICCAT recommendations regarding hammerhead and oceanic whitetip sharks as well as information contained in the 2006 Consolidated Highly Migratory Species Fishery Management Plan (Consolidated HMS FMP), and was developed as an integrated document that includes a Regulatory Impact Review and Initial Regulatory Flexibility Analysis. 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 a proposed action. In addition, the Council on Environmental Quality regulations at 40 C.F.R. 1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity.” Each criterion listed below is relevant in making a finding of no significant impact and has been considered individually, as well as in combination with the others. The significance of this action is analyzed based on the NAO 216-6 criteria and CEQ’s context and intensity criteria. These include:

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

The action is not expected to jeopardize the sustainability of tuna and tuna-like species because this action deals with two species of sharks that are caught incidentally to the target species. Fishing patterns and behavior are not expected to change as a result of this action.

In this action, NMFS would consider changes to the HMS regulations at 50 CFR 635 consistent with the ICCAT shark recommendations 10-07 and 10-08. NMFS proposes to implement the ICCAT shark recommendations in the Atlantic HMS fisheries that target tuna and tuna-like species as these are the HMS fisheries that NMFS considers to be the relevant ICCAT fisheries. Such regulatory changes would affect HMS vessels that catch sharks in association with tuna and tuna-like species, including commercial vessels that deploy Pelagic Longline (PLL) gear and HMS Angling/Charter Headboat vessels fishing for billfish, swordfish, and tunas. This proposed action is necessary to implement ICCAT recommendations pursuant to ATCA. In compliance with ATCA, NMFS implements ICCAT recommendations through regulations as may be necessary and appropriate.

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

species?

The action is not expected to jeopardize the sustainability of any non-target finfish species or shark species. ICCAT adopted two shark recommendations, 10-07 and 10-08, to reduce fishing mortality of oceanic whitetip and hammerhead sharks caught in association with ICCAT managed fisheries. This action is expected to have minor, beneficial ecological impacts for oceanic whitetip sharks and scalloped, smooth, and great hammerhead sharks because PLL vessels and HMS Angling and Charter/Headboat vessels fishing for tuna and tuna-like species would be prohibited from retaining these species of sharks that are caught incidentally to other target species. This rulemaking would not result in changes in fishery effort or practices; therefore, there would be no changes in impacts to non-target and bycatch species.

3) Can the proposed action reasonably be 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?

This action is not expected to change PLL or recreational fishing patterns or have impacts on EFH, or to allow substantial damage to ocean and coastal habitats and/or EFH. The primary fishing gears used to harvest tuna and tuna-like species BFT (hook and line and PLL) are pelagic in nature and have little impact on bottom substrate. Further, the effects of this action would not apply to any sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural or historical resources.

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

The action is not expected to have substantial adverse impacts on public health and safety. Fishing activity or behavior would not change as a result of the prohibition of retention of oceanic whitetip and hammerhead sharks. Although fishing can be a dangerous profession, NMFS encourages fishermen to be responsible in safety matters while at sea. Nothing in this action would increase the risks already inherent in the fishing profession.

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

On September 7, 2000, NMFS reinitiated formal consultation for all HMS commercial fisheries under Section 7 of the ESA. A Biological Opinion (BiOp) issued June 14, 2001, concluded that continued operation of the Atlantic pelagic longline fishery is likely to jeopardize the continued existence of endangered and threatened sea turtle species under NMFS jurisdiction. This BiOp also concluded that the continued operation of the purse seine and handgear fisheries may adversely affect, but are not likely to jeopardize, the continued existence of any endangered or threatened species under NMFS jurisdiction. NMFS has implemented the reasonable and prudent alternatives (RPAs) required by this BiOp.

Subsequently, based on the management measures in several proposed rules, a new BiOp on the Atlantic pelagic longline fishery was issued on June 1, 2004. The 2004 BiOp found that the continued operation of the fishery was not likely to jeopardize the continued existence of loggerhead, green, hawksbill, Kemp's ridley, or olive ridley sea turtles, but was likely to jeopardize the continued existence of leatherback sea turtles. The 2004 BiOp identified RPAs necessary to avoid jeopardizing leatherbacks, and listed the reasonable and prudent measures (RPMs) and terms and conditions necessary to authorize continued take as part of the revised incidental take statement. On July 6, 2004, NMFS published a final rule (69 FR 40734) implementing additional sea turtle bycatch and bycatch mortality mitigation measures for all Atlantic vessels with pelagic longline gear onboard. NMFS is implementing the other RPMs in compliance with the 2004 BiOp. NMFS will undertake additional rulemaking and non-regulatory actions, as required, to implement any management measures that are required under the 2004 BiOp.

Consistent with the 2010 ICCAT Recommendations for oceanic whitetip sharks and hammerhead sharks in the family *Sphyrnidae*, the preferred alternatives would prohibit the retention, transshipping, landing, storing, selling or purchasing of these species in the HMS commercial and recreational fisheries for tuna and tuna-like species. The measures in this proposed action are not expected to alter current fishing practices or increase fishing effort, and therefore should not have adverse impacts on protected species, or have any further impacts on endangered species, marine mammals, or critical habitat beyond those considered in the 2001 and 2004 BiOps. Thus, the proposed action in this Draft EA/RIR/IRFA would not be expected to change previously analyzed endangered species or marine mammal interaction rates or magnitudes, or substantially alter current fishing practices or bycatch mortality rates, and no further consultation is necessary.

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

The action is not expected to have a substantial impact on biodiversity and ecosystem function within the affected area, because the action is not expected to change fishing practices, and/or interactions with non-target and endangered or threatened species. The action would not affect unique geographic areas. In addition, this action is not expected to introduce or spread non-indigenous species.

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

No. There are no significant natural or physical environmental effects associated with the proposed action. Thus, there are no significant social or economic impacts interrelated with natural or physical environmental effects.

When considering the prohibition of oceanic whitetip and hammerhead sharks on PLL vessels, this action could have an overall impact to PLL fishermen of \$9,155 per year across the entire fleet. However, it is not likely that commercial PLL fishermen would alter commercial fishing practices for tuna and tuna-like species since oceanic whitetip and hammerhead sharks constitute a

small portion of the total PLL landings. Therefore, NMFS does not anticipate that this action would have significant socioeconomic impacts to PLL fishermen.

Data collected on recreational anglers fishing with an HMS Angling or Charter/Headboat permit show that retention of oceanic whitetip and/or hammerhead sharks along with tuna or tuna-like species is a rare event occurrence. From 2005-2009, there were no recorded instances of this occurring in the LPIS or MRFFS surveys. Therefore; it is assumed that the adverse socioeconomic impact with regards to the prohibition of recreational retention of either an oceanic whitetip or hammerhead shark along with a tuna or tuna-like species is minor, based primarily on the lack of opportunity to land both in the future. There are some registered HMS tournaments that offer points for landing sharks along with tuna or tuna-like species that could experience minor adverse economic impacts from this action. Only a small portion (~13 percent) of HMS registered tournaments from 2005-2009 granted points for Pelagic and/or Large Coastal Sharks along with tuna or tuna-like species, although it is not known how many of those tournaments specifically granted points for oceanic whitetip and/or hammerhead sharks. Therefore, because of the small percentage of tournaments that grant points for these shark species along with tuna and tuna-like species, NMFS does not anticipate that this action would have significant socioeconomic impacts to HMS tournaments.

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

The effects of this action on the human environment are not expected to be highly controversial because current shark management measures and controls have been in place for several years and this fishery is a highly regulated fishery.

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

No. The action area does not include the unique areas listed. Thus, the proposed action will not result in substantial impacts to the listed 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 those in similar annual actions since 1999, and have been considered in the Consolidated HMS FMP. This proposed action is necessary to implement the ICCAT shark recommendations pursuant to ATCA. In compliance with the ATCA, NMFS is required to implement domestic regulations consistent with recommendations adopted by ICCAT as necessary and appropriate.

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

There are no significant cumulative impacts associated with this action in combination with other recent actions or foreseeable future actions. The proposed rule implements the 2010 ICCAT shark recommendations, which prohibits the retention, transshipping, landing, storing, selling or purchasing of oceanic whitetip sharks and hammerhead sharks in the family *Sphyrnidae*, except for *Sphyrna tiburo*. Oceanic whitetip sharks are not targeted by PLL vessels and are caught incidentally to tuna and tuna-like species, but are the primary source of oceanic whitetip shark fishing mortality. There are no other oceanic whitetip actions with individually insignificant, but cumulatively significant impacts.

NMFS recently declared that scalloped hammerhead sharks are overfished with overfishing occurring consistent with the Hayes et al. (2009) peer reviewed stock assessment. After making a declaration of overfished/overfishing, NMFS is obligated to implement a rebuilding plan that includes measures to rebuild the stock while reducing fishing mortality in order to prevent overfishing from occurring in the future. These measures would be implemented by an FMP amendment within two years of making the declaration. This proposed rule includes measures that would reduce fishing mortality in fisheries (PLL, HMS Angling, and Charter/Headboat) that are not the primary source of mortality for hammerhead sharks (i.e., bottom longline). It is expected that prohibiting retention in the PLL fishery and on HMS Angling or Charter/Headboat vessels in possession of tunas, swordfish, or billfish will complement future measures to rebuild and prevent overfishing of scalloped hammerhead sharks and result in minor, direct cumulative ecological benefits.

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

No, this proposed action would not adversely affect any of the listed locations because there are none in the action area.

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

As the action does not involve ballast water exchange or movement of vessels between water bodies, it is not expected to result in the introduction or spread of any non-indigenous species.

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

No, the proposed action is not likely to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration. This proposed action is necessary to implement ICCAT recommendations pursuant to ATCA and is consistent with the objectives of the Consolidated HMS FMP. In compliance with the ATCA, NMFS is required to implement ICCAT recommendations through regulations as may be necessary and appropriate. The HMS regulations at 50 CFR 635 lay out the approach and boundaries for the action, thus the

decisions involved are limited and unlikely to involve principles which would affect future actions.

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

No, NMFS has preliminarily determined that the proposed action would be implemented in a manner consistent to the maximum extent practicable with the enforceable policies of those coastal states on the Atlantic including the Gulf of Mexico 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. This action would not result in any new impacts on State regulations, regulations outside the Exclusive Economic Zone (EEZ), or laws applicable to the EEZ.

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

The action is not expected to result in cumulative adverse effects that could have a substantial effect on target species or non-target species. In this action, NMFS would consider changes to the HMS regulations at 50 CFR 635 consistent with the ICCAT shark recommendations 10-07 and 10-08. NMFS proposes to implement the ICCAT shark recommendations in the Atlantic HMS fisheries that target tuna and tuna-like species as these are the HMS fisheries that NMFS considers to be the ICCAT managed fisheries. Such regulatory changes would affect HMS vessels that catch sharks in association with tuna and tuna-like species, including commercial vessels that deploy PLL gear and HMS Angling/Charter Headboat vessels fishing for billfish, swordfish, and tunas. This proposed action is necessary to implement ICCAT recommendations pursuant to ATCA and is consistent with the objectives of the Consolidated HMS FMP. In compliance with the ATCA, NMFS is required to implement domestic regulations consistent with recommendations adopted by ICCAT as necessary and appropriate.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for the implementation of the ICCAT Shark Recommendations, it is hereby determined that this action will not significantly impact the quality of the human environment as described above and in the supporting Environmental Assessment. In addition, all

beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

DRAFT

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Acting Director, Office of Sustainable Fisheries

Date