



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, MD 20910

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MEMORANDUM FOR: James W. Balsiger, Ph.D.  
Acting Assistant Administrator for Fisheries

FROM: Alan Risenhoover  
Director, Office of Sustainable Fisheries

SUBJECT: Record of Decision and Approval of the Final Amendment 2 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan and Implementing Final Rule -- DECISION MEMORANDUM

I intend, with your concurrence, to approve the Final Amendment 2 to the Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) and its implementing final rule. Your concurrence will also serve as the National Environmental Policy Act (NEPA) Record of Decision (ROD) for implementation of Final Amendment 2 to the Consolidated HMS FMP Atlantic shark management measures via selection of alternative suite 4, alternative 7, and alternative 9 as analyzed in the Final Environmental Impact Statement (FEIS) on the Final Amendment 2 to the Consolidated HMS FMP. The FEIS and this ROD were prepared pursuant to the NEPA 42 USC § 4321 *et seq.*, the Council on Environmental Quality (CEQ) NEPA regulations at 40 CFR Parts 1500-1508, and National Oceanic and Atmospheric Administration's (NOAA) NEPA environmental review procedures at NAO 216-6. The Notice of Availability (NOA) of the FEIS was published by the Environmental Protection Agency (EPA) on April 18, 2008 (73 FR 21124).

#### BACKGROUND

In 2006, the National Marine Fisheries Service (NMFS) published a Notice of Intent (NOI) to prepare an EIS that began the process to amend the Consolidated HMS FMP (November 7, 2006, 71 FR 65086) based on recent shark stock assessments. On January 3, 2007 (72 FR 123), NMFS announced the availability of an Issues and Options presentation and details of seven scoping meetings to be held during the month of January. The public comment period closed on February 5, 2007. A summary of the major comments received during scoping was released in March 2007. Also in March 2007, NMFS released the Predraft to Amendment 2 to the Consolidated HMS FMP to HMS consulting parties. NMFS presented this Predraft to the HMS - Advisory Panel (AP) and accepted comments until March 31, 2007.

After considering comments on the Issues and Options presentation and on the Predraft document, NMFS considered various shark management measures to meet the objectives of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) and the Consolidated HMS FMP based on the 2005 and 2006 stock assessments for Large Coastal Sharks (LCS), sandbar sharks, blacktip sharks, dusky sharks, and porbeagle sharks. The NOA



announcing the Draft EIS (DEIS) and the proposed rule were both published on July 27, 2007 (72 FR 41325 and 41392, respectively). These documents described a range of management measures with varying environmental impacts and impacts that could affect fishermen and dealers for shark fisheries. The public comment period was originally slated to end on October 10, 2007, however, it was subsequently extended (October 3, 2007, 72 FR 56330) and then reopened until December 17, 2007 (November, 15, 2007, 72 FR 64186), to provide Regional Fishery Management Councils, the Inter State Marine Fisheries Commissions; and the general public additional opportunities to submit comments. NMFS held ten public hearings between Texas and New Hampshire (July 27, 2007, 72 FR 41392) and one HMS Advisory Panel meeting (August 28, 2007, 72 FR 49264). In addition, NMFS also attended and presented the Draft Amendment 2 to the Consolidated HMS FMP to the five Atlantic Regional Fishery Management Councils (July 12, 2007, 72 FR 38067; July 19, 2007, 72 FR 39605; July 24, 2007, 72 FR 40285; August 14, 2007, 72 FR 45419; and September 4, 2007, 72 FR 50665) and the Atlantic States Marine Fisheries Commission.

NMFS received over 27,000 form letter comments encouraging NMFS to require that sharks be landed with their fins naturally attached, prohibit porbeagle shark retention, and rebuild shark stocks in the Gulf of Mexico and Atlantic regions. NMFS also received over 1,000 individual comments on the host of measures proposed in the DEIS and proposed rule to rebuild depleted shark stocks and end overfishing. The summary of the comments and NMFS' responses were provided in Appendix D of the FEIS for Amendment 2 to the Consolidated HMS FMP. Those responses and comments, and additional agency comments related to the final rule, will also be published in the final rule. The FEIS for Amendment 2 to the Consolidated HMS FMP contains an FEIS, a Final Regulatory Flexibility Analysis (FRFA), a Regulatory Impact Review (RIR), and a Social Impact Statement.

On April 10, 2008, the FEIS was posted on the HMS Management Division website and an e-mail notice was sent to interested parties regarding the availability of the document on the website. The FEIS was submitted to the EPA on April 11, 2008, and the NOA published on April 18, 2008 (73 FR 21124). Comments on the FEIS were received during the Agency's 30-day review period. NMFS reviewed and considered these comments in developing this ROD and preparing the final rule.

#### BACKGROUND REQUIREMENTS FOR A RECORD OF DECISION UNDER NEPA

In accordance with NEPA, the FEIS for Amendment 2 to the Consolidated HMS FMP was prepared to address requirements pursuant to the Magnuson-Stevens Act, and Regulatory Flexibility Act (RFA), Executive Order (EO) 12866, and other applicable laws. The FEIS analyzed potential environmental and socio-economic impacts associated with implementing numerous management actions for shark fisheries.

In accordance with NEPA, this ROD was prepared as a combined record of decision for the implementation of Final Amendment 2 to the Consolidated HMS FMP as analyzed in the FEIS and a decision memo for the regulatory actions implemented via a final rule. Pursuant to 40 CFR § 1505, the ROD must:

- State the Agency's decision;
- Identify all the alternatives considered in reaching the decision;
- Specify the alternatives that are considered to be "environmentally preferable";
- Identify and discuss relevant factors considered when selecting alternatives such as economic considerations, technical considerations, agency statutory missions, and national policy. The Agency must state how these considerations entered into the decision; and,
- State whether all practicable means to avoid or minimize environmental harm from the selected alternatives were adopted, and if not, why they were not.

The environmentally preferable alternative(s), as identified below, is the alternative(s) that would potentially cause the least damage to the biological and physical environment, and that would best protect, preserve, and enhance historic, cultural, and natural resources. Alternative suite 5, which would close the Atlantic shark fishery, has been identified as the environmentally preferable alternative suite, and alternatives 7 and 9 have been identified as environmentally preferable alternatives, as explained below. Although CEQ NEPA implementing regulations require the identification of an environmentally preferable alternative, the implementing regulations do not require that this alternative be the one implemented by the Agency. As provided for in the CEQ implementing regulations, the Agency may take other factors into consideration when arriving at a decision on which alternative to implement. The environmentally preferable alternative may not be the selected alternative due to other considerations, including economic factors.

#### AGENCY DECISION

NMFS has decided to implement new measures to manage the Atlantic shark fishery, and specifically decided that a series of alternatives analyzed in the FEIS constitute the measures that will be implemented as the Final Amendment 2 to the Consolidated HMS FMP. The decision is to implement alternative suite 4, alternative 7, and alternative 9, each of which are summarized in this section. The selected alternative suite, alternative suite 4, includes establishing a small directed LCS shark scientific research fishery, through which participants will apply and be selected to assist NMFS in accomplishing research objectives on an annual basis. Vessels selected to participate in the shark research fishery will be allowed to land and sell all legal sharks species, including otherwise prohibited sandbar sharks, whereas vessels outside the research fishery will be subject to a reduced trip limit for non-sandbar LCS, and the retention of sandbar sharks will be prohibited. In addition, the suite requires that all Atlantic sharks must be offloaded with all their fins naturally attached. Due to the reduced shark fishing effort in this selected alternative suite, NMFS anticipates that there will be positive ecological impacts on sharks as well as other species, including protected resources (*i.e.*, sea turtles and smalltooth sawfish) and marine mammals. The other two selected alternatives (alternatives 7 and 9) include changing the timing of shark stock assessments to at least once every five years and changing the release date of the Stock Assessment and Fishery Evaluation (SAFE) report to the fall of each calendar year. The scope of this action addresses multiple concerns raised by interested parties during scoping and affects shark fishermen, shark dealers, and related entities involved in commercial and recreational shark fisheries.

## THE ALTERNATIVES CONSIDERED

As described in Table 1, five different alternatives suites were analyzed that differed in shark management measures according to seven key topics (*i.e.*, quotas/species complexes, commercial retention limits, time/area closures, reporting requirements, seasons, regions, and recreational management measures). In addition, four different alternatives were developed to evaluate changes in the timing of future shark stock assessments and the timing of SAFE reports. Further detail on each alternative suite and each alternative may be found in the FEIS. As required by NEPA, a No Action Alternative was identified for comparative analytical purposes (40 CFR Part 1502.14). The alternatives represent differing balances between ecological and socioeconomic consequences for Atlantic shark fisheries and their associated communities.

**Table 1 The alternatives considered. The symbols +, -, and 0 refer to positive, negative, and zero impacts respectively. The selected alternatives are in italics. The environmental preferable alternatives are identified as “environmentally preferable.”**

Category	Alternative	Alternative Description	Ecological Impacts	Social Impacts*	Economic Impacts*
Management Measures	Alternative Suite 1	Maintain the existing Atlantic commercial and recreational shark fisheries (No Action)	--	0/-	0/-
	Alternative Suite 2	Establish a limited shark fishery for directed permit holders only	+	-	-
	Alternative Suite 3	Establish a limited shark fishery for directed and incidental permit holders	+	-	-
	Alternative Suite 4	<i>Establish a research shark fishery allowing a small directed LCS fishery</i>	+	-	-
	Alternative Suite 5	Close all Atlantic shark fisheries - <u>Environmentally preferable</u>	+	--	--
Stock Assessment Timing	Alternative 6	Stock assessments for sharks every 2-3 years (No Action)	0	0	0
	Alternative 7	<i>Stock assessments for sharks at least every 5 years- <u>Environmentally preferable</u></i>	0	0	0
SAFE Report Timing	Alternative 8	SAFE report published in January or February of every year (No Action)	0	0	0
	Alternative 9	<i>SAFE report published in the fall of every year- <u>Environmentally preferable</u></i>	0	0	0

\*the "0/-" designation is because social and economic impacts may be neutral at first as current fishing effort would remain the same in the short term. In the long term, as stocks continue to decline, profits may decrease as costs associated with finding and catching these depleted stocks increases.

### *Additional Actions*

Within the proposed rule, NMFS proposed three additional actions: (1) clarifying the definition of “first receiver;” (2) clarifying that shark dealer reports are required to be species-specific; and (3) updating the safe handling and release equipment and protocols for smalltooth sawfish per modifications made on March 27, 2007, to the 2003 Biological Opinion (BiOp). The first item clarifies who must have a shark dealer permit (*i.e.*, the first receiver of shark product from a permitted vessel) and who must attend shark identification workshops to renew their shark dealer permit and to receive shark product as of December 31, 2007. A proposed definition of “first receiver” was published in the proposed rule to solicit public comment. NMFS did not receive any negative public comments regarding this clarification. However, after discussions with the Office of General Counsel, NOAA Law Enforcement, and the HMS Advisory Panel, NMFS added a clause to the definition stating that an entity, person, or company that takes possession of sharks solely for transport will not be required to have a shark dealer permit to more clearly define the intent of the definition. The definition in the final rule will reflect this change.

Regarding the second item, in the proposed rule NMFS proposed clarifying that shark dealers are required to identify and report sharks at the species level. Although shark dealers are already required to report sharks at the species level, many dealer reports have categorized sharks as unclassified. This dealer practice has resulted in difficulty in monitoring the shark quotas and affected the quality of data used in stock assessments. Therefore, this clarification that shark dealer reports are required to be species-specific was in the proposed rule. NMFS received comments in support of this and did not receive any negative public comments regarding this clarification. Therefore, in the final rule, NMFS will finalize this action.

Regarding the third item, in the proposed rule NMFS proposed implementing updates provided by the Office of Protected Resources to the 2003 BiOp on March 23, 2007, allowing fishermen to use dehookers, where possible, to dehook smalltooth sawfish. As proposed, the action would update the handling and release procedures for smalltooth sawfish to reflect modifications to the 2003 BiOp. NMFS did not receive any negative public comments regarding this clarification. Thus, in this final rule, NMFS will finalize the updating of handling and release procedures for smalltooth sawfish.

In the final rule, NMFS is also including a prohibition to prevent “high-grading” by fishermen on fishing vessels to ensure they abide by the retention limits. This prohibition was not included in the proposed rule, however, it is not likely to have any significant impacts as it simply clarifies the intent of the retention limits. The prohibition will require fishermen to cease fishing activities and not replace sharks that have already been retained on the vessel with larger or more valuable sharks that are subsequently caught. This prohibition will reduce shark mortality and dead discards on fishing vessels by reducing the likelihood that fishing mortality exceeds that allowed by the retention limits.

## THE SELECTED ALTERNATIVE SUITES AND ALTERNATIVES, THE ENVIRONMENTALLY PREFERABLE ALTERNATIVE SUITE, AND THE FACTORS CONSIDERED IN THE DECISION

### *Background*

#### Recent Stock Assessments

Based on the results of the 2005 Canadian porbeagle shark stock assessment, the 2006 dusky shark stock assessment, and the 2005/2006 LCS stock assessment, NMFS determined that a number of shark fisheries are overfished and/or experiencing overfishing, and an amendment to the 2006 Consolidated HMS FMP was needed to implement management measures in order to rebuild overfished stocks and prevent overfishing.

The Magnuson-Stevens Act contains ten national standards that guide NMFS fisheries management. National Standard (NS) 1 requires NMFS to prevent overfishing while achieving, on a continuing basis, the Optimum Yield (OY) from each fishery for the U.S. fishing industry. According to regulations implementing National Standard (NS) 1, the time frame to rebuild the stock or stock complex must be as short as possible taking into account a number of factors including:

- The status and biology of the stock or stock complex;
- Interactions between the stock or stock complex and other components of the marine ecosystem;
- The needs of the fishing communities;
- Recommendations by international organizations in which the United States participates; and

The lower limit of the specified time frame for rebuilding is determined by the status and biology of the stock and “is defined as the amount of time that would be required for rebuilding if fishing mortality were eliminated entirely” (50 CFR 600.310 (e)(4)(ii)(B)(1)). However, as explained below for sandbar and porbeagle sharks, NMFS did not choose the time frames associated with no fishing as the rebuilding time frames for these species. Instead, NMFS chose rebuilding time periods that were as short as possible, taking into account the above listed-factors (*e.g.*, life histories of many shark species, needs of fishing communities, etc.). Because of the stock status and life history traits of these sharks, the periods adopted for rebuilding are extensive. As discussed below, rebuilding timeframes based on zero fishing mortality were not chosen for sandbar and porbeagle sharks because of the need to consider economic impacts and the impracticability of reducing fishing mortality to zero. Thus, NMFS chose a rebuilding plan that would allow a 70-percent probability of rebuilding for both sandbar and porbeagle sharks within 70 and 100 years, respectively. In both the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks and the 2003 Amendment 1 to that FMP, NMFS used a 70-percent probability to determine the rebuilding plan for the LCS to ensure that the intended results are actually realized given that most sharks have low reproductive potential, are long-lived, and experience slow growth. Thus, in Amendment 2 to the Consolidated HMS FMP, NMFS chose a 70-percent chance of success in order to ensure that shark stocks rebuild. These rebuilding plans would allow a constant total

allowable catch (TAC) of these species during their respective rebuilding timeframes in furtherance of meeting the needs of fishing communities.

The 2005/2006 LCS stock assessment conducted population estimates for sandbar sharks, blacktip sharks, and the LCS complex. Unlike past assessments, the 2005/2006 LCS complex assessment determined that it is inappropriate to assess the LCS complex as a whole, and the Agency determined that the status of the LCS complex is unknown. Results of the sandbar shark stock assessment determined that sandbar sharks are overfished (Spawning Stock Fecundity (SSF)  $_{2004}/SSF_{MSY} = 0.72$ ) and overfishing is occurring ( $F_{2004}/F_{MSY} = 3.72$ ). Because the LCS complex is no longer appropriate for assessment purposes, and specific recommendations were made for sandbar sharks, NMFS set a separate rebuilding plan for sandbar sharks in the FEIS.

The stock assessment for sandbar sharks discussed three rebuilding scenarios, including: 1) rebuilding timeframe under no fishing, 2) a TAC corresponding to a 50-percent probability of rebuilding, and 3) a TAC corresponding to a 70-percent probability of rebuilding. Under no fishing, the stock assessment estimated that sandbar sharks would rebuild in 38 years. Under the NS1 guidelines, if a species requires more than 10 years to rebuild, even in the absence of fishing mortality, then the specified time period for rebuilding may be adjusted upward by one mean generation time. Thus, NMFS added a generation time (28 years) to the target year for rebuilding for sandbar sharks, which was estimated to be 2070 (28 years mean generation time + 38 years to rebuild if fishing mortality eliminated = 66 years, starting in 2004). Rebuilding would occur by 2070 with a rebuilding timeframe starting in 2004 under previous management measures and then a constant revised TAC for sandbar sharks as recommended by the stock assessment implemented in 2008. Given the rebuilding time frame under no fishing mortality would exceed 10 years, as explained above, NMFS determined that the rebuilding time that would be as short as possible for sandbar sharks would be 66 years (by 2070), taking into account the status and biology of the species and severe economic consequences on fishing communities. Since sharks are caught in multiple fisheries, to meet the rebuilding timeframe under no fishing, NMFS would have to implement restrictions in multiple fisheries to eliminate mortality, such as entirely shutting down multiple fisheries to prevent bycatch. If NMFS were to shutdown the shark fishery completely, such action would likely have severe economic impacts on the fishing community, and it would likely result in difficulties for Council-managed and Commission-managed fisheries, which often catch sharks as bycatch. In addition, prohibiting all fishing for sharks would impact NMFS' ability to do data collection for future management.

The stock assessment determined that if fishing mortality from 2005 to 2007 was maintained at levels similar to 2004 (the last year of data used in the stock assessment was from 2004) and there was a constant TAC between 2008 and 2070, the assessment estimated that sandbars would have a 70-percent probability of rebuilding by 2070 with a TAC of 220 metric tons (mt) whole weight (ww) (158 mt dressed weight (dw)) per year and a 50-percent probability of rebuilding by 2070 with a TAC of 240 mt ww (172 mt dw) per year. As described above, NMFS used the 70-percent probability of rebuilding to ensure that the intended results of a management action are actually realized given the life history traits of sandbar sharks.



The 2005/2006 stock assessment assessed blacktip sharks for the first time as two separate populations: a Gulf of Mexico and an Atlantic population. Blacktip sharks were assessed separately in the two regions based on tagging studies that suggested that the stocks are geographically distinct and isolated. Therefore, NMFS determined the status of the Gulf of Mexico blacktip shark population is not overfished ( $SSF_{2004}/SSF_{msy} = 2.54 - 2.56$ ) and that overfishing is not occurring ( $F_{2004}/F_{msy} = 0.03 - 0.04$ ), yet the status of the Atlantic population is unknown. As a result, NMFS will implement management measures in the final rule to ensure that current catches do not increase in order to keep these populations at sustainable levels, consistent with advice from the stock assessment. It is not necessary for NMFS to implement a rebuilding plan for blacktip sharks.

Dusky sharks have been a prohibited species since 2000. Prior to that time, they were managed in the LCS complex. The first species-specific stock assessment for dusky sharks was conducted by the Southeast Fisheries Science Center (SEFSC) in 2006. In the assessment, all methodologies and scenarios explored (approximately 30 scenarios) indicated that dusky sharks are overfished ( $SSF_{2003}/SSF_{MSY} = 0.15-0.47$ ). Of the scenarios explored, 27 of 30 indicated that dusky sharks are experiencing overfishing ( $F_{2003}/F_{MSY} = 1.68 - 1,180$ ). Despite the fact that the harvest of dusky sharks has been prohibited since 2000, they are still overfished with overfishing occurring.

Some assessment model runs indicated that there was zero probability that dusky sharks would rebuild within one generation (33 years or 2033) with no fishing mortality. Other projections indicated that there was a nine percent probability that the stock would not be overfished by 2100 with no fishing mortality, there was a 50 percent probability that dusky sharks would be rebuilt in 250 years, or there was a 70 percent probability that dusky sharks would be rebuilt in 400 years. The assessment did not give a TAC for this species as it has been prohibited since 2000. NMFS has not established a rebuilding plan for this species based on the time frame associated with no fishing (100-400 years), because of the severe economic impacts of shutting down multiple fisheries to prevent dusky bycatch during that time frame. Dusky sharks are caught in multiple fisheries, so prohibiting all fishing activities that catch dusky sharks will have severe economic impacts over a long period of time and result in no data collection for future management. NMFS believes this is at least partly due to the fact that they are caught as bycatch, predominantly in longline fisheries. Fishermen catch dusky sharks when targeting sharks or other HMS with bottom longline (BLL) or pelagic longline (PLL) gear. In addition, most dusky discards have occurred in the directed shark fishery.

The management measures included in the FEIS for Amendment 2 to the Consolidated HMS FMP and its final rule (*i.e.*, revised quotas, retention limits, and authorized species) will reduce the amount of BLL and PLL effort targeting sharks, and therefore reduce dusky shark discards by up to 74-percent. Such a reduction will have positive ecological impacts on the stock. Taking into account the biology and status of the species and needs of fishing communities, NMFS determined that the rebuilding period that would be as short as possible would be at least 100 years.

A stock assessment was conducted for North Atlantic porbeagle sharks in 2005 by the Canadian Department of Fisheries and Oceans. This assessment was reviewed by NMFS scientists who determined it used appropriate methodologies and, because it used all available fishery and biological data including U.S. landings and research, constituted the best available science. These NMFS scientists also determined that because the stock assessed is a unit stock that extends into U.S. waters, the assessment and its recommendations were appropriate for use in U.S. domestic management. Results indicate that porbeagle sharks are overfished (Spawning Stock Number ( $SSN$ )<sub>2004</sub>/ $SSN$ <sub>MSY</sub> = 0.15-0.32), however, overfishing is not occurring ( $F$ <sub>2004</sub>/ $F$ <sub>MSY</sub> = 0.83). The assessment recommended that there is a 70-percent probability of rebuilding in 100 years if fishing mortality levels are maintained at or below 0.04 (*i.e.*, the current fishing mortality level). The shortest rebuilding time period for this species was determined to also be 100 years because, according to the Canadian porbeagle shark stock assessment, if fishing mortality for this species is below its current level (or equal to zero), the same rebuilding timeframe of 100 years would still be required given the status and biology of the species. As such, NMFS believes that the rebuilding timeframe that is as short as possible is 100 years, which will allow a reduced commercial quota for this species of 1.7 mt dw per year. This reduced quota caps fishing mortality of porbeagle sharks at its current level, and recreational landings generally only occur in a small number of tournaments in the Northeastern United States.

Based on these assessments, NMFS developed and considered a number of alternative suites that differed in possible shark management measures to rebuild depleted shark stocks and end overfishing. An overview of the alternative suites considered is shown in Table 1. Of these alternative suites, NMFS selected one alternative suite, alternative suite 4, in the DEIS and proposed rule as well as in the FEIS and its final rule.

#### *Shark Management Measures Analyzed in the Five Different Alternative Suites*

After carefully reviewing the results of the different management measures put forth in the five different alternative suites, NMFS has decided to implement alternative suite 4, which will implement, among other things, a small shark research fishery to collect fishery dependent data, conduct shark research, and allow a small universe of shark fishermen to continue to target sharks and receive gross revenues from shark products. As discussed below, some of the management measures proposed in alternative suite 4 in the DEIS changed for the FEIS based on public comment. Alternative suite 4 was selected because it implements quotas and retention limits needed to end overfishing and rebuild overfished shark stocks while maximizing scientific data collection through a limited research fishery for sandbar sharks with 100 percent observer coverage. In addition, it mitigates some of the economic impacts that are expected to result from this action due to reduced quotas and retention limits by allowing some individuals to continue to collect revenues from shark fishing. Therefore, this alternative suite strikes a balance between positive ecological benefits that must be achieved to end overfishing and rebuild overfished stocks while considering negative economic impacts that may occur as a result of these measures.

In addition, under the selected alternative, vessels not selected to participate in the shark research fishery program could continue to land a certain number of non-sandbar LCS outside the research fishery. Trip limits are based on permit type and quota (36 non-sandbar LCS/vessel/trip

for directed permit holders and 3 non-sandbar LCS/vessel/trip for incidental permit holders under the base quotas; and 33 non-sandbar LCS/vessel/trip for directed permit holders and 3 non-sandbar LCS/vessel/trip for incidental permit holders under the adjusted quotas). In adopting this suite of management measures, NMFS assumes that most shark fishermen outside the shark research fishery will no longer target non-sandbar LCS due to the reduction in the trip limit for non-sandbar LCS (which will be approximately one quarter of the trip limit under the pre-Amendment 2 status quo) and the prohibition of sandbar sharks, which is the species mainly targeted under the pre-Amendment 2 status quo. Rather, fishermen will target other species and keep non-sandbar LCS that are incidentally caught, preventing excessive discards.

Under the selected alternative, recreational anglers will be allowed to retain all LCS classified as non-prohibited LCS under the pre-Amendment 2 status quo except sandbar and silky sharks (*i.e.*, they will be able to retain non-ridgeback LCS plus tiger sharks). Recreational anglers will also be allowed to retain SCS and pelagic species. However, since recreational anglers are not authorized to sell sharks, they should not experience significant negative economic impacts from this action. In addition, recreational landings indicate that sandbar and silky sharks comprised approximately three and four percent, respectively, of LCS landed in the Atlantic between 2004 to 2006. Since HMS Angling and Charter/Headboat permit holders will still be authorized to catch and release sandbar and silky sharks, this is not expected to result in large negative economic impacts unless Charter/Headboat captains experience negative economic impacts if customers are not willing to hire charters since they cannot land sandbar or silky sharks.

#### Selected Alternative Suite 4

##### *Quotas/Species Complexes*

This alternative suite will remove the sandbar shark from the LCS complex and establish a separate sandbar shark quota and a non-sandbar LCS quota (LCS complex minus sandbar sharks). Under this alternative suite, the base quotas will be as follows: sandbar research quota = 116.6 mt dw; non-sandbar LCS research quota = 50 mt dw; Gulf of Mexico non-sandbar LCS = 439.5 mt dw; Atlantic non-sandbar LCS = 188.3 mt dw; SCS = 454 mt dw; blue sharks = 273 mt dw; pelagic sharks (other than blue sharks) = 488 mt dw; porbeagle sharks = 1.7 mt dw; and display and Scientific research = 60 mt ww (Sandbar = 2.8 mt ww (2 mt dw). All other shark species (except dusky sharks) = 57.2 mt ww (41.2 mt dw). The adjusted quota process will deduct overharvests from the next season's quota, or remove overharvest over a number of subsequent years, depending on the level of overharvest. Underharvests for species that are healthy or rebuilt will be transferred to the next season's quota, up to 50 percent of the base quota. If a species in a particular quota group (*e.g.*, non-sandbar LCS) was overfished, overfishing was occurring, or it had an unknown status, then NMFS will not adjust the quota based on underharvests.

Based on overharvests of the LCS complex during 2007, NMFS has decided to implement adjusted annual quotas for five years (through the end of 2012) for sandbar sharks and non-sandbar LCS. By spreading out the overharvest over five years rather than one or two, NMFS will allow for a small research fishery to occur while accounting for overharvests. If NMFS accounted for the entire overharvest in one or two years, it would have resulted in sandbar shark

dead discards as a result of not having a shark research fishery and would have severely limited data acquisition from the shark research fishery for at least one year. Overall, NMFS found that reducing the commercial quota to account for overharvests in 2007 will have positive ecological impacts on the stock by lowering overall mortality, which will allow the stock to rebuild more quickly than projected in the 2005/2006 assessment. These adjusted quotas will be as follows: sandbar research quota = 87.9 mt dw; non-sandbar LCS research quota = 37.5 mt dw; Gulf of Mexico non-sandbar LCS = 390.5 mt dw; and Atlantic non-sandbar LCS = 187.8 mt dw. Any additional overharvests that occurred during each year between 2008 and 2012 will be deducted from these adjusted quotas in the subsequent year or multiple years, depending on the level of overharvest.

Finally, all sharks will have to be landed and offloaded with all their fins naturally attached. This measure will help ensure that fishermen do not discard less desirable shark carcasses in order to comply with the five percent fin-to-carcass ratio. To help fishermen and dealers provide evidence that sharks were being offloaded with their fins naturally attached, NMFS will place a check box on shark dealer forms where dealers document that sharks were offloaded by fishermen with their fins naturally attached. This requirement will also improve shark identification as sharks are more difficult to identify at the species level with all of their fins removed. Ensuring that shark dealer reports include sharks identified to the species level is critical for improving stock assessments and quota monitoring. The Office of Law Enforcement had requested that the Agency require all sharks to be landed with all fins naturally attached for several years because of the continuing shark finning violations that they have observed.

#### *Shark Research Fishery*

Alternative suite 4 will also establish a small shark research fishery that will harvest the entire sandbar quota. Participants in this fishery will be the only vessels authorized to land sandbar sharks and only when an observer is onboard selected vessels. Vessels within the shark research fishery could also retain non-sandbar LCS, SCS, and pelagic sharks (except prohibited sharks) based on their respective quotas. Retention limits for sandbar sharks and non-sandbar LCS in the shark research fishery will be based upon research objectives. Vessels with commercial shark permits outside of the research fishery could retain non-sandbar LCS as well as SCS and pelagic sharks (except prohibited sharks), but will not be allowed to retain sandbar sharks.

#### *Retention Limits*

Under the base non-sandbar LCS regional quotas, there will be a retention limit of 36 non-sandbar LCS per vessel per trip for directed permit holders and 3 non-sandbar LCS per vessel per trip for incidental permit holders not participating in research program. Under the adjusted non-sandbar LCS regional quotas, there will be a retention limit of 33 non-sandbar LCS per vessel per trip for directed permit holders and 3 non-sandbar LCS per vessel per trip for incidental permit holders. Existing retention limits will be maintained for SCS and pelagic sharks. Directed permit holders are not subject to a trip limit for SCS and pelagic sharks while incidental permit holders are limited to 16 SCS and pelagic sharks combined.

NMFS did not propose any dusky shark-specific management measures in the FEIS and will not implement any in its final rule. However, NMFS anticipates that the selected measures in this ROD for Amendment 2 to the Consolidated HMS FMP and its final rule will also reduce bycatch of dusky sharks in BLL and PLL fisheries. The selected measures included will limit the number of vessels that are authorized to land sandbar sharks. There will also be a finite number of trips that will be taken targeting sandbar sharks since the quota for sandbar sharks will be reduced by approximately 80 percent. As dusky sharks are often caught as bycatch in BLL fisheries targeting sandbar sharks, this is anticipated to result in a 74-percent reduction in dusky shark discards.

#### *Reporting/Seasons*

Shark dealer reports must be received by NMFS within 10 days after the end of the bimonthly reporting period, and there will be 100 percent observer coverage for vessels participating in the shark research fishery. Other logbook and observer requirements will be maintained for vessels not participating in research program. NMFS will monitor the species composition of sharks landed outside the research fishery through scientific observers and shark dealer reports. The observed and/or reported species composition from observer reports and shark dealer reports will be applied to unclassified sharks and deducted from the appropriate sandbar, non-sandbar LCS, SCS, and pelagic shark quotas.

There will be one season starting on January 1 of each year with one region for SCS, sandbar, and pelagic sharks, and two regions for non-sandbar LCS (an Atlantic and a Gulf of Mexico region). Since NMFS will create a separate non-sandbar LCS quota for the shark research fishery, the sandbar, non-sandbar LCS, SCS, and pelagic shark fisheries will close when landings for each species/complex reach 80 percent of their respective quotas with a five-day notice upon filing within the Federal Register.

#### *Time/area closures*

The existing BLL and PLL time/area closures, including the Caribbean BLL closures for EFH, will remain in place. In addition, NMFS will implement the eight marine protected areas (MPAs) off North Carolina to Florida as requested by the South Atlantic Fishery Management Council (SAFMC); the measures were assessed in the FEIS for Amendment 2 to the Consolidated HMS FMP, and the SAFMC prefers these eight MPAs in their DEIS for Amendment 14 to the Fishery Management Plan for the Snapper-Grouper Fishery of the South Atlantic Region.

#### *Recreational measures*

Finally, recreational fishermen will be able to land all non-ridgeback LCS (except prohibited species) plus tiger sharks as well as SCS and pelagic sharks. The recreational possession limit will be 1 shark > 54" per vessel per trip, and 1 Atlantic sharpnose and 1 bonnethead per person per trip with no minimum size requirements for these two species.

#### Other Alternative Suites Considered and Rationale for Selected Alternative Suite 4

Besides the selected alternative suite 4, NMFS considered a number of additional alternative suites, including maintaining the current shark regulations, allowing only directed shark permit holders to land and sell sandbar sharks and non-sandbar LCS, allowing directed and incidental shark permit holders to be able to land and sell sandbar sharks and non-sandbar LCS, and shutting down all shark fisheries in the Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea (Table 1).

The other alternatives were not selected for a variety of reasons. Alternative suite 1, or the No Action alternative, would maintain the current annual LCS quota of 1,017 mt dw in addition to the rest of the current shark management measures. This would have negative ecological impacts on sandbar, dusky, and porbeagle sharks. The social and economic impacts would likely be neutral in the short term because current fishing effort would remain the same in the short term, assuming significant overharvests do not occur. In the long term, as stocks continue to decline, profits may decrease as costs associated with finding and catching these depleted stocks increases. Management measures are needed to rebuild overfished stocks and prevent overfishing consistent with the mandates of the Magnuson-Stevens Act. Therefore, maintaining the LCS quota of 1,017 mt dw would be inconsistent with the Magnuson-Stevens Act and the recent LCS stock assessment that recommended a TAC of 158.3 mt dw for sandbar sharks in order for this species to rebuild by 2070. Current fishing effort under the No Action alternative would lead to continued overfishing of sandbar, porbeagle and dusky sharks, which would prevent these species from rebuilding in the recommended timeframe. As a result, NMFS did not select this alternative.

Alternative suite 2 could have positive ecological impacts for most species of sharks, bycatch, and protected resources as a result of significantly reduced retention limits and quotas for sandbar sharks (8/vessel/trip) and reduced retention limits for non-sandbar LCS (21/vessel/trip). Interactions with protected resources may decrease as a result of reduced BLL and gillnet fishing effort targeting sandbar sharks and non-sandbar LCS; however, NMFS assumes that some of this fishing effort would be displaced to other gillnet and BLL fisheries in which participants are permitted, which may interact with protected resources. In addition, like the selected alternative, alternative suite 2 would require that sharks be offloaded with their fins naturally attached; this requirement could prevent fishermen from keeping the fins from sharks that are not landed, resulting in a reduction of overall shark mortality. The reduced trip limit for sandbar sharks and non-sandbar LCS for directed permit holders could also considerably reduce directed fishing effort for sharks. In addition, the shark fishery for incidental permit holders would be closed; therefore, sharks caught in pursuit of other species with longline gear or gillnet gear by incidental permit holders would be discarded, possibly dead. Furthermore, the economic benefits derived from shark products would be limited to directed permit holders, and there would still be an estimated 72-percent reduction in gross revenues from shark products for shark fishermen compared to the No Action alternative. Losses in gross revenues may be exacerbated while the fishery adjusts to the required change to offload shark with their fins attached.

In addition, this suite represents an increase in reporting burden for shark dealers (24 hours versus bimonthly reporting). This increased reporting burden could result in negative economic

impacts for shark dealers. There could also be some positive ecological impacts because the Agency would be better able to monitor shark quotas, and the likelihood of overharvest would be reduced. Given the lowered retention limits for sandbar and non-sandbar LCS, NMFS anticipates that alternative suite 2 essentially would eliminate the directed shark fishery. While an observer program would still operate under alternative suite 2, Federal observers are only placed on vessels with Federal fishing permits. If fishermen with Federal permits leave the shark fishery due to the reduced trip limits, NMFS anticipates that the fishery dependent data collection would be limited, which could compromise data collection for future stock assessments. In comparison, the selected alternative suite 4 will accomplish reduced quotas and retention limits to rebuild depleted shark stocks as well as the collection of fishery-dependent data for future stock assessments and biological samples for shark research. In addition, it will afford some shark fishermen to continue to fish and earn revenues on shark landings as they have in the past. Therefore, alternative suite 2 is not selected because of concerns about data collection, economic impacts to incidental shark fishermen, increased discards, and additional reporting burdens on shark dealers.

Alternative suite 3 could have similar positive ecological impacts for most species of sharks, bycatch, and protected resources as a result of significantly reduced retention limits and quotas for sandbar sharks (4/vessel/trip) and reduced retention limits for non-sandbar LCS (10/vessel/trip) as under alternative suite 2. Alternative suite 3 would require that sharks be landed with their fins still attached, similar to alternative suite 2 and the selected alternative suite 4; this requirement could prevent fishermen from keeping the fins from sharks that are not landed, resulting in a reduction of overall shark mortality. These positive ecological impacts would likely be more pronounced for some species under alternative suite 3 compared to alternative suite 2 because retention limits, and subsequent discards (since incidental permit holders would be allowed to retain sandbar sharks and non-sandbar LCS), would be lower under alternative suite 3. Since alternative suite 3 would allow directed and incidental permit holders to retain some sharks, fewer discards of sharks would be anticipated. However, measures under alternative suite 3 would have a smaller reduction in dead discards of dusky sharks compared to alternative suite 2 since sandbar sharks would be allowed to be retained on PLL gear under alternative suite 3 (and this would presumably result in more dusky shark discards from PLL boats setting BLL gear to catch sandbar sharks, which would also catch dusky sharks).

While most ecological impacts are positive under alternative suite 3, overall, economic impacts would vary depending on permit type. Alternative suite 3 would result in more negative economic impacts for directed permit holders than alternative suite 4 because the retention limit under alternative suite 3 would only be 14 LCS (including 4 sandbar sharks) compared to 33 non-sandbar LCS in the preferred alternative suite. However, the retention limits for incidental permit holders under alternative suite 3 would be higher than retention limits for incidental permit holders under the pre-Amendment 2 status quo, possibly resulting in positive economic impacts for incidental shark permit holders while negative economic impacts would be expected for directed permit holders (78-percent reduction in gross revenues compared to the No Action). Under alternative suite 3, losses in gross revenues may be exacerbated while the fishery adjusts to the required change to offload shark with their fins attached. Since the retention limits for sandbar and non-sandbar LCS would be significantly lower than what is allowed under the pre-

Amendment 2 status quo (91 and 69-percent reduction in sandbar and non-sandbar LCS retention limits, respectively, for directed permit holders), NMFS anticipates that under this alternative there would be no directed shark fishery.

While an observer program would still operate under alternative suites 2 and 3 to observe the shark fishery, if fishermen with Federal permits leave the shark fishery due to the reduced trip limits, NMFS anticipates that the fishery dependent data collection would be limited, which could compromise data collection for future stock assessments. Alternative suite 4 will likely accomplish the necessary reductions in quota, retention limits, and fishing effort to prevent overfishing and allow stocks to rebuild while collecting valuable scientific data for the Agency. Therefore, due to concerns over dusky discards, increased likelihood of overharvests, and the need for data collection, NMFS did not select alternative suites 2 or 3.

Finally, of the five alternative suites considered, alternative suite 5, which would close all shark fishing in the Atlantic Ocean, Gulf of Mexico, and the Caribbean Sea, is the environmentally preferable alternative suite. This alternative suite would have the most significant positive ecological impacts for sharks, protected resources, and EFH of the alternative suites considered in this document. However, closing the Atlantic shark fishery would also incur the most significant negative economic impacts on U.S. shark fishermen, shark dealers, shark tournament operators, and others involved in supporting industries and communities. There are several species of shark that are not overfished or experiencing overfishing and therefore a full closure of the Atlantic shark fishery is not warranted at this time. Furthermore, by completely closing the entire Atlantic shark fishery, the Agency would lose a valuable source of fishery dependent data (through logbooks and the sharks BLL observer program) that are needed to conduct future shark stock assessments. Compared to the selected alternative suite, alternative suite 5 does not seem to strike as an appropriate balance between preventing overfishing and allowing overfished shark stocks to rebuild, while considering the economic needs of the shark fishing community by allowing some retention of sharks and allowing NMFS to collect much-needed data through a small shark research fishery.

#### Summary of Changes from the DEIS to the FEIS and the Proposed and Final Rule

##### *Selected Alternative Suite*

NMFS received a wide array of comments regarding shark management measures during the comment period for Amendment 2 to the Consolidated HMS FMP including support for the No Action alternative, questions regarding the validity of the latest shark stock assessments, requests for Individual Transferable Quotas for sharks, requests for changes to quotas and retention limits, comments in favor and against the requirement to land sharks with fins naturally attached, comments in favor and against prohibiting the retention of porbeagle sharks, comments regarding how fishermen should be selected for the research fishery, comments regarding the consideration of regions and seasons, comments on the reporting frequency for shark dealers, comments on the species that recreational anglers should be allowed to retain, and comments supporting the closure of the shark fishery. NMFS considered all of the comments, conducted new analyses with regard to the porbeagle shark commercial quota and TAC, configuration of



the regions, non-sandbar LCS regional quotas and retention limits, and accounting for overharvests of the LCS complex in 2007. These analyses are summarized below.

### *Definitions*

To accurately reflect the intent of different management measures, NMFS will modify several definitions as well as make several clarifications in the final rule. The definition of “naturally attached” will be added, and the definitions of “dress” and “dressed weight” will be modified to clarify the regulation requiring commercial vessel operators to keep the fins naturally attached to the shark carcass through offloading. The definition of “shark research permit” will be modified to specify that the permit is specific to the vessel and owner combination, not just the vessel. This change will ensure that owners who are chosen to participate in the shark research fishery and who later may sell their vessel do not try to sell their shark research permit with their vessel. NMFS will also clarify that shark dealers must report fin weight and carcass weight separately, as specified on the forms. NMFS will also clarify that persons may only sell sharks if both the fishery and/or region is open, and the definitions of the closed areas are modified to match the final areas approved by the South Atlantic Fishery Management Council. In addition, the definition of “first receiver” will be revised based on public comment and discussions with NOAA’s Office of Law Enforcement in the final rule. The revised definition more fully matches other definitions of first receivers in other fishery regulations and should clarify who needs to have a shark dealer permit. These changes will occur in sections 635.2, 635.5 (b)(1)(i), 635.21 (d)(1)(iii), 635.30 (c)(2) and (3), and 635.31 of the final rule.

### *Non-Sandbar LCS Quota*

In the DEIS for Amendment 2 to the Consolidated HMS FMP, NMFS had originally used logbook data to estimate the non-sandbar LCS quota, based on historical landings from 2003 to 2005 as recommended by the 2005/2006 blacktip stock assessment. Logbook data also allowed NMFS to estimate associated effort and landings by permit type, number of fishing vessels by permit type, and the amount of landings by fishing vessel, however, logbook data only capture landings by Federally permitted fishermen. NMFS had originally proposed a non-sandbar LCS quota of 541.2 mt dw based on landings reported in the HMS and Coastal Fisheries logbook (582.4 mt dw of average historical landings – 41.2 mt dw shark research and display quota = 541.2 mt dw). In addition, based on discards and recreational landings (a total of 463.2 mt dw), NMFS proposed a TAC for non-sandbar LCS as 1,045 mt dw.

During the comment period, the Southeast Fisheries Science Center (SEFSC) recommended that NMFS use HMS shark dealer reports (*i.e.*, southeast and northeast general canvass and SEFSC quota monitoring databases) to calculate historical landings of non-sandbar LCS since the stock assessments were, in part, based on landings reported by HMS shark dealer reports. The HMS shark dealer reports also include landings by both state and Federal shark fishermen, because Federal shark dealers are required to report all landings, whereas logbook data only capture Federally permitted shark fishermen. Thus, dealer reports include all shark landings, resulting in a higher non-sandbar LCS quota, are more consistent with datasets used for quota monitoring and stock assessments, and are more representative of total shark mortality in state and Federal waters. The average annual combined landings of the predominant LCS species, besides sandbar

sharks (blacktip, bull, hammerhead sharks, lemon, nurse, silky, tiger, and smooth hammerhead sharks), as reported by the HMS shark dealer reports from 2003 to 2005 was 719 mt dw (SEDAR 11 LCS05/06-DW-16;

[http://www.sefsc.noaa.gov/sedar/Sedar\\_Documents.jsp?WorkshopNum=11&FolderType=Data](http://www.sefsc.noaa.gov/sedar/Sedar_Documents.jsp?WorkshopNum=11&FolderType=Data)).

With the inclusion of discards and recreational landings of non-sandbar LCS (*i.e.*, an additional 463.2 mt dw), the aggregate TAC for non-sandbar LCS will be 1,182.2 mt dw (719 mt dw of commercial landings + 463.2 mt dw in discards and recreational landings = 1,182.2 mt dw).

In addition, under the selected alternative suite 4, NMFS will establish a small shark research fishery. NMFS received comments regarding how the quotas should be allocated between the research fishery and non-research shark fisheries. In particular, there was concern that if the sandbar and non-sandbar LCS fishery closed when either quota was 80 percent filled, the research fishery could close down prematurely while sandbar shark quota was still available. Having separate quotas for sandbar sharks, non-sandbar LCS inside and outside the research fishery, SCS, and pelagic sharks will allow NMFS to separately close each shark fishery (instead of sandbar sharks and non-sandbar LCS at the same time) when the individual quotas reach 80 percent, allowing each quota to be more fully harvested. In the DEIS, NMFS determined that while fishermen in the research fishery harvested the sandbar shark quota of 116.6 mt dw, they will also harvest approximately 50 mt dw of the non-sandbar LCS quota because observer data indicate that fishermen are unable to target and land only sandbar sharks with longline gear. Thus, NMFS will allocate 50 mt dw of non-sandbar LCS base quota to the research fishery in the final rule.

Based on the SEFSC recommendations, NMFS revised the non-sandbar commercial LCS quota between the DEIS and FEIS and proposed and final rule. After accounting for the shark research and display quota (41.2 mt dw), discards and recreational landings of non-sandbar (463.2 mt dw), and the separate non-sandbar LCS quota for the shark research fishery (50 mt dw), the base quota for non-sandbar LCS outside the research fishery will be 627.8 mt dw for the selected alternative suite 4 (719 mt dw in commercial landings – 41.2 mt dw shark research and display quota – 50 mt dw of non-sandbar LCS quota for the research fishery = 627.8 mt dw).

### *Regions*

In addition, NMFS also considered regional quotas for non-sandbar LCS. The Agency originally proposed one region in the proposed rule and DEIS to simplify quota monitoring. During the comment period on the DEIS, NMFS received a number of comments regarding the proposed one region for non-sandbar LCS sharks. Commenters felt that since the blacktip stock assessment showed that the Gulf of Mexico blacktip population is healthy and the status is unknown in the Atlantic, NMFS should acknowledge the differences in stock status and establish two regions that might allow a sustainable blacktip fishery in the Gulf of Mexico. Regional quotas may allow for a higher quota in the Gulf of Mexico where more non-sandbar LCS are caught compared to the Atlantic region where more dusky and sandbar sharks are caught. Others commented that NMFS should take a more cautious approach in the Atlantic since the Atlantic population status of blacktip sharks is unknown. In addition, there was concern regarding how 2007 overharvests would be accounted for if there was only one region; overharvests in one area, such as the Gulf of Mexico, would potentially have to be paid back by fishermen in all regions.

Based on these public comments and the latest blacktip stock assessments, which assessed Atlantic and Gulf of Mexico populations separately, NMFS considered two regions for quotas and retention limits in the Atlantic and Gulf of Mexico for non-sandbar LCS in the FEIS. The blacktip stock assessment recommended that catches do not increase in the Gulf of Mexico and do not change in the Atlantic. Thus, to determine regional quotas in the FEIS, NMFS evaluated the average percentage of landings of non-sandbar LCS in the Gulf of Mexico versus the Atlantic region (North Atlantic and South Atlantic regions combined). On average, 70 percent of the total non-sandbar LCS landings occurred in the Gulf of Mexico, whereas 30 percent of the non-sandbar LCS landings occurred in the Atlantic region each year. For the selected alternative suite 4, implementing two regions will result in non-sandbar LCS regional base quotas of 439.5 mt dw in the Gulf of Mexico region (70 percent x 627.8 mt dw = 439.5 mt dw) and 188.3 mt dw in the Atlantic region (30 percent x 627.8 mt dw = 188.3 mt dw). However, these base quotas were also adjusted in the FEIS to account for overharvests of the LCS complex in 2007. The discussion of overharvests is outlined below. This change will occur in section 635.27 (b) of the final rule.

Based on public comments received on the DEIS and proposed rule, and on internal NMFS analysis, in the final rule NMFS will also modify the boundary between the Gulf of Mexico and Atlantic to improve consistency in quota monitoring and accounting for regional shark landings in the Florida Keys. NMFS received public comment that the Florida Keys should be in one region and not be split between regions as they currently are under the pre-Amendment 2 status quo. The revised boundary will ensure that shark landings in the Florida Keys are counted against the Gulf of Mexico quota. NMFS looked at dealer locations, fishing locations, and how the boundary between these areas is defined in other Federally managed fisheries. While the issue of two regions was announced in the FEIS and is a change to how the shark fishery is currently managed pre-Amendment 2, the boundary between the two regions was not defined or analyzed in the FEIS. NMFS will clarify in the final rule the new boundary between the new Gulf of Mexico and Atlantic regions. The new boundary will begin at the mainland at 25°20.4' N. lat., which is a line directly east from the Miami-Dade/Monroe County, Florida boundary, to the outer limit of the EEZ. Any water and land to the south of that boundary is considered, for the purposes of quota monitoring and setting of quotas, the Gulf of Mexico. Any water and land to the north of that boundary is considered, for the purposes of quota monitoring and setting of quotas, the Atlantic. Based on its consideration of comments and a review of the shark fishery, NMFS will be making these changes to section 635.27 (b) (ii) of the final rule. This change in definition will not result in changes to how the fishery currently operates but will improve coordination between the definition of the regions and how the fishery and quota monitoring operates. Most of the sets occur near the Florida Keys. Thus, defining the Florida Keys in one location should clarify where and when fishermen can land sharks.

#### *Non-Sandbar LCS Retention Limits*

Based on the changes for the non-sandbar LCS quotas from the DEIS and proposed rule, NMFS also changed the retention limits for non-sandbar LCS in the FEIS and will change them in the final rule. First, despite the regional quotas for non-sandbar LCS, NMFS will implement retention limits for non-sandbar LCS that will be the same in all regions. NMFS considered several methods for calculating retention limits, which are described in Chapter 4 and Appendix

C of the FEIS. NMFS chose to determine retention limits by spreading the available quota over the historic fishing effort by permit type in all regions. The same retention limits in all regions will allow for easier enforcement. In addition, while historical fishing effort was used as a proxy for determining retention limits, it is uncertain how effort will be distributed among regions in the future.

In addition, in the DEIS and proposed rule, NMFS had proposed the same retention limits for directed and incidental shark permit holders. As analyzed in the FEIS, in the final rule NMFS will implement separate retention limits for directed and incidental shark permit holders based on public comment and since there has been a historic distinction in retention limits based on permit type, and because of differences in the cost associated with acquiring incidental versus directed permits. Under the base quotas, directed shark permit holders operating outside the research fishery could retain up to 36 non-sandbar LCS per trip, and incidental permit holders could retain 3 non-sandbar LCS per trip. Under the adjusted quotas, directed shark permit holders operating outside the research fishery could retain up to 33 non-sandbar LCS per trip, and incidental permit holders could retain 3 non-sandbar LCS per trip. This is a change from the DEIS and proposed rule in which all permit holders (*i.e.*, directed and incidental permit holders) could retain 22 non-sandbar LCS per vessel per trip. Additionally, in the final rule a paragraph will be added to prohibit the high-grading of sharks by commercial fishermen. These changes will occur in section 635.24 (a) of the final rule.

#### *Sandbar Shark Quota*

Despite the changes in the non-sandbar LCS quota discussed above, the sandbar shark base quota will still remain 116.6 mt dw. The 2005/2006 sandbar shark stock assessment recommended a TAC, or total mortality across all fisheries, of 158.3 mt dw (220 mt ww) in order to attain a 70-percent probability for sandbar sharks to rebuild by 2070. After accounting for landings and discards in other HMS as well as non-HMS fisheries as discussed in Appendix A of the FEIS, NMFS estimated that a commercial quota of 116.6 mt dw could keep overall landings and discards of sandbar sharks below 158.3 mt dw per year. Therefore, since this quota is not based on historical landings, as is the non-sandbar LCS quota, NMFS is not changing the base quota for sandbar sharks at this time and will establish the sandbar shark base quota as 116.6 mt dw. Therefore, there is no change regarding the sandbar base quota between the DEIS and proposed rule and the FEIS and final rule. This quota has been adjusted to account for overharvests that occurred in 2007 and, as adjusted and discussed in Appendix C of the FEIS, will be 87.9 mt dw until December 31, 2012. The discussion for accounting for overharvests is presented below.

#### *Shark Research Fishery*

Based on analyses in the FEIS, NMFS has determined that the final rule for Amendment 2 to the Consolidated HMS FMP will also modify items on the shark research fishery application and the process for issuing shark research fishery permits. These changes are responsive to input from the Office of Law Enforcement and input from scientists conducting shark research. Based on this input, NMFS decided that vessels that have not complied with HMS fishery regulations (as evidenced by a Notice of Violation and Assessment (NOVA) or Notice of Permit Sanction) will not be eligible for a shark research permit. In addition, vessels that have not complied with

observer coverage regulations within the last two years will not be eligible for a shark research permit. Additional clarifications on how NMFS will select participants based on applications have also been added. NMFS may allow the public to observe the selection process for the shark research fishery if requested. These changes will occur in section 635.32 (f) of the final rule.

*Accounting for Overharvests of the LCS Complex in 2007*

During the development of the DEIS, NMFS was not aware of all the overharvests of the LCS complex that occurred during the shark 2007 fishing season, particularly in the combined 2<sup>nd</sup> and 3<sup>rd</sup> trimesters in the Gulf of Mexico region. The DEIS and proposed rule published on July 27, 2007, and the combined 2<sup>nd</sup> and 3<sup>rd</sup> trimester for 2007 in the Gulf of Mexico region started on September 1, 2007. Therefore, the quotas for sandbar sharks and non-sandbar LCS in the DEIS were determined based on the recommendations from the shark stock assessment as explained above, which could not yet account for the overharvests in 2007.

During the comment period for the DEIS, NMFS compiled landings updates for the 2007 shark fishery. In doing so, NMFS calculated large overharvests of the LCS complex that occurred in 2007, predominantly in the Gulf of Mexico region during the 2007 2<sup>nd</sup> and 3<sup>rd</sup> combined trimester. To account for these overharvests, NMFS had to adjust the sandbar and non-sandbar LCS base quotas in the FEIS and will do so in the final rule. As of December of 2007, there was a total overharvest of 453.8 mt dw of LCS in all regions based on landings during the 2<sup>nd</sup> and 3<sup>rd</sup> combined trimesters of 2007. However, when broken down by region, this resulted in a LCS overharvest of 58.4 mt dw in the Atlantic region, and a LCS overharvest of 395.4 mt dw in the Gulf of Mexico region. These overharvests calculations were offset by the amount of LCS quota that was not harvested during the 2008 first trimester due to the closure of the fishing season. This closure resulted in an underharvest of 66.2 mt dw that was not made available to fishermen in the first trimester of 2008. NMFS closed the 2008 LCS first trimester because the small amount of available quota (*i.e.*, 13.9 mt dw of LCS quota was available for the entire Atlantic region and 52.3 mt dw of LCS was available for the Gulf of Mexico region) could have resulted in additional overharvests and unsafe fishing conditions. Therefore, NMFS subtracted 66.2 mt dw of underharvest from the initial amount of overharvests experienced in 2007 (*i.e.*, 520 mt dw), which resulted in a total overharvest of 453.8 mt dw of LCS in all regions. More details regarding these calculations can be found in Appendix C of the FEIS.

NMFS estimated the species composition of the 2007 LCS overharvests in order to attribute the overharvest accordingly to sandbar and non-sandbar LCS quotas in the Gulf of Mexico and Atlantic regions. In order to account for these overharvests within their respective species/complex, NMFS is lowering the "base quotas" for sandbar and non-sandbar LCS that are explained above under the "Non-sandbar LCS Quota," "Regions," and "Sandbar Shark Quota" sections. These lowered quotas, which account both for an upward offset for unused 2008 first season quota and a downward adjustment for the overharvests in 2007, are termed "adjusted quotas." Because the overharvests occurred in 2007 when the LCS complex included sandbar sharks, NMFS does not have the actual tonnage of the sandbar shark versus non-sandbar LCS overage by region for 2007. Instead, NMFS only has the total LCS overage in aggregate by region. Therefore, to determine the amount of overharvest that should be attributed to the sandbar shark quota versus the non-sandbar LCS quota, NMFS estimated the sandbar shark

versus non-sandbar LCS overage using the species composition percentages of the total catch in the 2<sup>nd</sup> and 3<sup>rd</sup> combined trimester in 2006 and 2007. Based on percentages, NMFS estimated that 36.8 mt dw of the overharvest should be deducted from the sandbar shark quota in the Atlantic region and 106.8 mt dw should be deducted from the sandbar shark quota in the Gulf of Mexico region. Similarly, 21.6 mt dw of the non-sandbar LCS overharvest should be deducted from the Atlantic's regional quota and 288.6 mt dw of the non-sandbar LCS overharvest should be deducted from the Gulf of Mexico's regional quota. Details of this analysis were explained in Appendix C of the FEIS.

Given the large amount of overharvests in 2007, NMFS evaluated spreading the overharvest over one to five years. For example, if NMFS deducted the entire overharvest from 2007 from the sandbar shark base quota in one year, when considering two regions, the end result would be -27 mt dw of adjusted sandbar shark quota available in 2008 ( $116.6 \text{ mt dw} - (36.8 \text{ mt dw} + 106.8 \text{ mt dw}) = -27 \text{ mt dw}$ ). The remaining 27 mt dw overharvest would then be deducted in the next calendar year. Accounting for the overharvests in the shortest time period (*i.e.*, one year plus 27 mt dw in the next calendar year) would preclude any sandbar shark research during that time. Thus, NMFS also evaluated the resulting sandbar quota if the overharvest was spread over two, three, four, and five years to allow much-needed scientific research to proceed and to allow for a small fishery. The resulting sandbar quota would be 44.8 mt dw, 68.8 mt dw, 80.7 mt dw, or 87.9 mt dw per year, respectively.

Since the 2005/2006 LCS stock assessment did not include the 2007 overharvests, the SEFSC conducted *ad hoc* projections to evaluate how the overharvests in 2007 would affect the overall rebuilding timeframe for sandbar sharks. In addition, the SEFSC evaluated how accounting for the overharvests in the shortest time period (*i.e.*, one year plus 27 mt dw in the next calendar year) or accounting for the overharvests over five years would affect the rebuilding timeframe for sandbar sharks. The SEFSC found that when the actual level of harvest in 2007 was accounted for in their projections, there was no significant change in the rebuilding timeframe for sandbar sharks compared to the original sandbar shark assessment. In addition, the SEFSC found that accounting for the entire overharvest in one year (and the remaining 27 mt dw in the next calendar year) or accounting for the overharvest over five years would result in similar outcomes for the stock, with the same rebuilding timeframe resulting from either scenario. This is most likely the case because of the longevity of the species and the ratio of immature to mature individuals in the catches.

Based on these findings, and since accounting for the 2007 overharvests in the shortest time period (*i.e.*, one year plus 27 mt dw in the next calendar year) would preclude a shark research fishery for at least one year, NMFS chose to spread the sandbar overharvest over five years to allow for a much-needed research to occur in alternative suite 4 in the FEIS. Smaller quotas would jeopardize NMFS' abilities to accomplish shark research objectives and could disrupt the collection of fishery dependent data. In addition, it is likely that there would be a new assessment within the next five years. That assessment will need the data collected from the shark research fishery and could result in new shark management measures. For this reason, NMFS chose not to spread out the 2007 overharvest beyond five years. Thus, the adjusted

sandbar quota for the shark research fishery will be 87.9 mt dw per year through the end of 2012. These changes will occur in section 635.27 (b) of the final rule.

NMFS also evaluated the non-sandbar LCS adjusted quotas over one to five years based on overharvests in 2007. To complement the timeframe for account for the sandbar overharvest, NMFS chose five years to account for the non-sandbar LCS overharvests in the FEIS. Since the sandbar base and adjusted quotas will affect the amount of non-sandbar LCS that will be harvested within the research fishery, NMFS had to adjust the non-sandbar LCS quota for the research fishery for overharvests. This, in turn, affected the amount of non-sandbar LCS quota available outside the research fishery. Based on the adjusted sandbar quota, NMFS estimated the reduced amount of non-sandbar LCS quota that will be taken in the shark research fishery. As with the base quota, NMFS determined that while fishermen in the research fishery harvested the sandbar shark quota of 87.9 mt dw, they would also harvest approximately 37.5 mt dw of the non-sandbar LCS quota. This analysis was explained in Appendix C of the FEIS. Thus, the adjusted non-sandbar LCS quota for the research fishery will be 37.5 mt dw, 187.8 mt dw in the Atlantic region, and 390.5 mt dw in the Gulf of Mexico region. These changes will occur in section 635.27 (b) of the final rule.

NMFS did not solicit public comment specifically on the decision to account for overharvests from 2007 over five years. In the Federal Register notice re-opening the public comment period on the DEIS (November 15, 2007, 72 FR 64186), the Agency stated that the 2007 overharvests would be addressed in Amendment 2 to the Consolidated HMS FMP. However, the notice indicated that the overharvests would be accounted for in the final management measures of Amendment 2 to the Consolidated HMS FMP, consistent with the current and proposed regulations, which would have removed the overharvest from the corresponding season in the next year. This notice was published before NMFS had determined the amount of overharvest that would be deducted from the sandbar shark and non-sandbar LCS quotas.

NMFS prefers accounting for overharvests that occurred in 2007 over five years based on regional species composition because it accounts for this fishing mortality in a prudent manner, both biologically and economically. The majority of the overharvests occurred in the Gulf of Mexico and this region has a unique species composition compared to the Atlantic. Spreading the overharvests over five years would allow the Agency to open the shark fishery in 2008 to start collecting valuable life history data via the shark research fishery and to reduce the quantity of sharks being caught incidentally and discarded dead as a result of more extensive closures outside the research fishery. The rebuilding timeframes will not be affected by accounting for these overharvests over five years because the resultant quotas will be lower than was recommended by the stock assessments. Therefore, NMFS has decided to account for the 2007 overharvest over a five-year period.

#### *Adjusted Quota Process*

In the DEIS and proposed rule for Amendment 2 to the Consolidated HMS FMP, NMFS had proposed that overharvests within a given year will be deducted for the next year's fishing season for each species/complex's quota. However, as analyzed in the FEIS, to allow for a shark research fishery in the future and the collection of fishery dependent data, in the final rule NMFS

will remove any additional overharvests (*i.e.*, besides those experienced in 2007) from the next fishing season or remove them over a number of subsequent years, depending on the level of overharvest. Accounting for the overharvests within the shortest amount of time would most likely have the largest ecological benefit to the stock, but would also result in the largest negative socioeconomic impacts on the commercial fishery as it would result in the smallest quotas. However, if overharvests are large enough to preclude the shark research fishery entirely within a given year, then NMFS would not be able to collect fishery dependent data for that year for future assessments.

NMFS' maximum timeframe for accounting for overharvests within five years is based on the timing of stock assessments; according to Science and Technology's policy, adequate stock assessments are required to be conducted at least once every five years. Therefore, NMFS anticipates that a new stock assessment will be conducted and associated management measures would be implemented after five years, which could change the underlying base quota. This change will occur in section 635.27 (b) of the final rule.

#### *Porbeagle Shark Quota*

NMFS had proposed prohibiting porbeagle landings in commercial and recreational fisheries in the DEIS for Amendment 2 to the Consolidated HMS FMP. However, based on public comments, NMFS has decided to establish a TAC of 11.3 mt dw. This TAC includes current commercial landings of 1.7 mt dw, current commercial discards of 9.5 mt dw, and current recreational landings of 0.1 mt dw. Therefore, in the FEIS and final rule, NMFS will reduce the porbeagle commercial quota from 92 mt dw per year to 1.7 mt dw per year. This will cap fishing mortality at its current level and prevent a directed fishery from developing in the future.

Based on the Canadian assessment, if fishing mortality for porbeagle sharks is kept at or below its current level ( $F = 0.04$ ), then porbeagle sharks have a 70-percent probability of rebuilding within 100 years. Because porbeagle sharks are not experiencing overfishing, the rate of fishing mortality does not need to be reduced in order for rebuilding to occur. In addition, the Canadian assessment of porbeagle sharks included U.S. commercial landings, therefore, the current fishing level of  $F = 0.04$  includes current U.S. commercial landings. Commercial landings of porbeagle sharks are well below the 92 mt dw per year quota allocated for this sector as there is no directed fishing for porbeagle sharks in the United States. Recreational landings generally only occur in a small number of tournaments in the Northeastern United States. Furthermore, since the United States does not contribute to a significant proportion of Atlantic-wide fishing mortality of porbeagle sharks, porbeagle sharks are currently not experiencing overfishing, and a prohibition may simply lead to an increase in the number of dead discards, the Agency will implement a TAC and reduced commercial quota for porbeagle sharks while allowing possession in recreational and commercial fisheries. This TAC would likely have positive ecological impacts for these species by allowing them to rebuild within 100 years. If the TAC is exceeded, the Agency may explore additional accountability measures, including reducing the TAC or other management measures as necessary. In addition, NMFS will encourage the release of all porbeagle sharks to maximize post-release survival as well as reduce the number of dead discards. The porbeagle shark commercial quota will be established in section 635.27 (b) of the final rule.



### *Allowable Species for Recreational Anglers*

NMFS received numerous comments regarding the list of species proposed in the DEIS that recreational anglers could retain (*i.e.*, smooth hammerhead, scalloped hammerhead, great hammerhead, nurse, lemon, and tiger, Atlantic sharpnose, bonnethead, common thresher, shortfin mako, blue, and oceanic whitetip sharks). NMFS had developed this list to allow recreational anglers to land shark species that could be positively identified based on easily recognizable characteristics. Comments received on this issue included: recreational and commercial fishermen should be allowed to retain the same species; the list of species proposed in the DEIS needed to include blacktip, bull, and spinner sharks; and a recreational fishery for blacktip sharks in the Gulf of Mexico should be allowed because Gulf of Mexico blacktip sharks are healthy. Input based on these comments, NMFS revised the allowable LCS list for recreational anglers to include blacktip, bull, and spinner sharks in addition to allowing finetooth and blacknose sharks for small coastal sharks and porbeagle sharks for pelagic species based on readily identifiable features of the sharks: distinctive color markings or the lack of an inter-dorsal ridge. By designating allowable species based on physiological features, recreational fishermen will be able to easily distinguish which species are legal for them to retain.

Therefore, under the final rule for Amendment 2 to the Consolidated HMS FMP, recreational anglers will be allowed to possess non-ridgeback LCS, tiger sharks, pelagic sharks, and SCS. The non-ridgeback LCS include blacktip, spinner, bull, lemon, nurse, great hammerhead, smooth hammerhead, and scalloped hammerhead sharks. These species are easily identified and more closely match the intent of the proposed regulation, which was to provide a way for recreational fishermen to easily distinguish species that are legal for them to land. This delineation of authorized species is based on a recognizable characteristic: the lack of an interdorsal ridge between the first and second dorsal fins. In addition, tiger sharks (which do have an interdorsal ridge) are easily recognized by their color markings. Creating such a list of easily identifiable species should reduce landings of either prohibited species (dusky, bignose, and night sharks) or landings of species that are overfished or that are experiencing overfishing (sandbar sharks). Recreational anglers will not be allowed to retain sandbar or silky sharks (or any currently prohibited species). Silky sharks will be prohibited for recreational fisherman because they have an interdorsal ridge, and they are commonly mistaken as either sandbar or dusky sharks. Reducing the likelihood that sandbar and dusky sharks are landed in recreational fisheries will have positive ecological impacts by reducing mortality on these overfished populations that are also experiencing overfishing. These changes will occur in section 635.22 (c) of the final rule.

### *Alternatives Modifying the Stock Assessment and SAFE Report Schedules*

The Agency also considered alternatives that will modify the frequency of stock assessments for sharks that are conducted by the Agency as well as the publication of the SAFE report each year. The selected alternatives for modifying the timing of stock assessments and SAFE report schedules did not change from the DEIS and proposed rule to the FEIS and final rule. The 1999 FMP established that stock assessments be conducted for each species or species group every two to three years. HMS stock assessments are crucial in order to define stock boundaries, monitor rebuilding plans, improve knowledge of stock dynamics, and incorporate additional data in a timely manner. Since 2000, there have been two stock assessments completed by NMFS for

LCS (2002, 2005/2006) and two assessments completed for SCS (May 2002 and 2007). Other assessments have been completed by other entities, including: SCS (August 2002 by Mote Marine Laboratory), assessments for two species of pelagic sharks (2004 by ICCAT), and the porbeagle assessment completed by Committee on the Status of Endangered Wildlife in Canada (COSEWIC). The Agency is aware of additional stock assessments being conducted by the Standing Committee on Research and Statistics (SCRS) of ICCAT for shortfin mako and blue sharks in 2008, and a new porbeagle assessment is expected by 2009.

NMFS analyzed the No Action alternative (alternative 6) of conducting stock assessments every two to three years and an additional alternative (alternative 7 - the most environmentally preferable alternative) of conducting stock assessments at least once every five years. Currently, the short duration between stock assessments (typically two to three years) makes it difficult to determine whether recent management measures have been in place long enough to become effective before a new assessment is conducted. This makes it difficult to ascertain the impacts that management measures may be having on the stock based on the prior assessment. Further, the Agency has adopted the Southeast Data Assessment and Review (SEDAR) process for completing stock assessments, which requires three separate workshops, and generally requires more time to complete than in the past. For example, the most recent stock assessment for LCS was started in 2005 and completed in 2006, employing fisheries data through 2004.

Management measures based on this assessment will be implemented in 2008 with the next assessment occurring no later than 2009 according to the existing stock assessment frequency guidelines. The 2009 assessment would likely use data through 2007 or the first part of 2008. Thus, an assessment at that time would not include any fishery dependent data under the revised management measures for sharks. Changing the stock assessment frequency to at least every five years would allow more time for current management measures to take effect and their results to be evaluated in the next stock assessment, which is currently scheduled for 2010, meaning at least one year of data would be included under new management measures prior to the data workshop for the next assessment. NMFS has designated alternative 7 as the most environmentally preferable alternative because it will allow additional time between stock assessments to allow management measure to have an effect on shark populations before the next assessment is conducted.

NMFS received comments in support of the No Action alternative, in support of the selected alternative as well as requests to conduct stock assessments even less frequently, based on the life history of sharks. Given the stock status of sandbar, dusky, and porbeagle sharks, some constituents have requested new stock assessments to occur on a more frequent timescale. Given the criticism NMFS received on the LCS and dusky stock assessments, many constituents believe a new stock assessment would indicate more positive stock statuses for sandbar and dusky sharks, therefore, allowing less stringent management measures to be implemented. However, given the additional time needed to implement management measures before the next stock assessment is conducted, NMFS is selecting FEIS alternative 7 for the final rule, which will require that stock assessments are conducted at least once every five years. According to Science and Technology's policy, to be considered adequate, stock assessments are required to be conducted at least once every five years. Therefore, despite public comment requesting less frequent shark stock assessments, NMFS will continue to conduct stock assessments at least once

every five years. NMFS will still maintain the ability to conduct stock assessments more frequently if significant biological information were attained suggesting a new assessment were necessary.

In addition, NS 2 of the Magnuson-Stevens Act requires the preparation of an annual SAFE report. The SAFE report would largely rely on SCRS assessments, shark SEDAR stock assessments, and any new fishery information. The SAFE reports follow the guidelines specified in NS 2 implementing regulations and are used by NMFS to develop and evaluate regulatory adjustments under the framework procedure or the FMP amendment process. This information provides the basis for determining annual harvest levels from each stock; documenting significant trends or changes in the resource, the bycatch, and the fishery over time; and assessing the relative success of existing state and Federal fishery management programs. In addition, the SAFE report is used to update or expand previous environmental and regulatory impact documents, and ecosystem and habitat requirements, including EFH.

The 1999 FMP for Atlantic Tunas, Swordfish and Sharks stated that NMFS would publish an annual SAFE report for Atlantic tunas, swordfish, billfish, and sharks every January or February. Therefore, the No Action alternative (alternative 8) analyzed releasing the SAFE report January or February of each year. However, to allow NMFS more flexibility to balance other responsibilities throughout the calendar year, NMFS also analyzed alternative 9, to publish a SAFE report in the fall of every year. Since a SAFE report will still be published on an annual basis, it will provide the needed information so management actions could appropriately address the fishery to minimize negative social and economic impacts to fishermen. NMFS preferred Alternative 9 in the DEIS and in the FEIS and has decided to implement Alternative 9 in the final rule. There are no specific impacts associated with publishing the SAFE report by fall of each year because this is an administrative deadline set by NMFS. However, the selected alternative 9 is the environmentally preferable alternative as it will give the Agency more discretionary time to develop a SAFE report each year according to the NS 2 implementing guidelines. Releasing the SAFE report in the fall will also ensure that data included in that report are consistent with the U.S. national report to ICCAT, which is generally submitted to the ICCAT Secretariat in the late summer/early fall each year. NMFS received few comments regarding the timing of the release of the SAFE report; however, all comments were in support of releasing the SAFE report in the fall of each year.

#### MITIGATION MEASURES, MONITORING, AND ONGOING RESEARCH

No mitigation measures were specifically considered for the selected alternative suite 4 and its corresponding management measures because the selected alternative suite was specifically selected to mitigate any potential adverse economic impacts as described below.

##### *Selected Alternative Suite 4*

The management measures in the selected alternative suite 4 are not likely to have significant adverse ecological impacts to target and non-target species. All issues considered are either predicted to result in neutral or positive ecological impacts. The selected alternative suite will reduce mortality of shark species based on the results of previous shark assessments. The

selected alternative suite will also reduce mortality of sea turtles and other protected species. However, all management measures in the selected alternative suite 4 are likely to have negative economic impacts on fishermen and the associated communities due to reduced effort anticipated from reduced quotas and retention limits needed to rebuild depleted stocks. Of the five alternative suites analyzed, NMFS believes that alternative suite 4 strikes a balance between positive ecological impacts that must be achieved to rebuild stocks and end overfishing while considering the severity of economic impacts that will occur as a result. As stated above, mitigation of economic impacts was explicitly considered when NMFS selected the management measures in the selected alternative suite. For example, in determining possible quotas and retention limits, the research fishery approach was selected because it balances the need to end overfishing via reduced quotas based on recent assessments with the consideration of negative economic impacts to fishermen by allowing a limited number of vessels to conduct directed fishing for sharks. This also provides scientific data on the status of shark stocks for future management actions. To mitigate the negative economic impacts to fishermen outside the shark research fishery, who will not be able to land sandbar sharks, directed and incidental permit holders will still be allowed to land reduced trip limits of non-sandbar LCS. Trip limits for SCS and pelagic sharks will stay the same as pre-Amendment 2 status quo. Thus, the management measures of reduced quotas and retention limits in the selected alternative suite comply with the mandate to end overfishing, while still providing a reasonable opportunity to land sharks and harvest the allocated quota. It also provides additional information on shark species, bycatch, protected resources, and EFH, which are all necessary for management of the fishery.

Similarly, for time/area closures, other than implementing the eight MPAs at the request of the SAFMC, NMFS is maintaining the current time/area closures and has opted not to implement additional large closures that were considered an option to reduce overall fishing mortality.

For dealer reporting, requiring all dealer reports to be *received* by the Agency within ten days of the end of the reporting period will provide clarity and eliminate ambiguities regarding late reporting, without imposing additional, more stringent reporting requirements that were also considered an option in other alternative suites.

For fishing seasons, the selected measure to open on January 1 and close within 5 days' notice of quotas being 80 percent filled should allow participants to harvest the allowable quota while minimizing the likelihood of overharvests. In addition, implementing two regions for non-sandbar LCS is selected over maintaining the current three regions or proposed one region because it follows the recommendation of the blacktip shark assessments, allows for equitable accounting of overharvests, and will allow for better coordination with the interstate shark plan that is being developed by the Atlantic States Marine Fisheries Commission. Thus, two regions will have ecological benefits for shark species, bycatch, and protected resources. Finally, requiring recreational anglers to land species that are easily identifiable (*i.e.*, non-ridgeback LCS plus tiger sharks) will balance the need to end overfishing with the needs of the recreational constituency.

However, there are unavoidable adverse socioeconomic impacts as a result of the selected alternative suite and corresponding management measures, specifically for quotas and retention

limits. NMFS must comply with the national standards of the Magnuson-Stevens Act, which include a mandate to prevent overfishing and rebuild overfished stocks. To meet its legal obligations related to maintaining shark stocks and to meet the Magnuson-Stevens Act mandate of ending overfishing, NMFS determined that it needs to significantly reduce fishing effort. Reducing such effort under the selected alternative suite will effectively close the directed shark fishery by not allowing sandbar shark retention outside a limited number of sets in the research fishery and will significantly reduce the retention limit. This might result in directed and incidental shark permit holders and dealers redirecting effort to other fisheries and/or leaving the fishing industry due to lowered quotas and decreased effort and landings.

Participants in recreational shark fisheries are not expected to experience many negative economic impacts as they will only be prohibited from landing silky and sandbar sharks in the final rule, and they are not allowed to sell their catch. Charter/Headboat operators will be affected as a result of these measures as they may see a reduction in the number of charters that customers are willing to hire due to the prohibition on silky and sandbar sharks. In addition, reporting burden could increase slightly for Atlantic shark dealers as a result of this alternative suite, which may result in some minor negative economic impacts. While the increased reporting burden will not impact shark dealer expenditures per se and the information shark dealers will be required to report will not change, the time associated with submitting dealer reports may change slightly. In the analyses for selecting alternative suite 4, NMFS determined that the management measures in alternative suite 4 are necessary in order to comply with the Magnuson-Stevens Act mandate to end overfishing. In addition, the selected alternative suite is determined to be the most feasible alternative to rebuild shark stocks according to the most recent stock assessments.

Some unavoidable adverse socioeconomic impacts may be experienced by commercial shark fishermen and dealers as a result of requiring that all sharks be landed with their fins naturally attached. This requirement is a deviation from how sharks are processed currently and will entail additional time spent preparing shark carcasses during the offloading process rather than at sea. The requirement is being implemented to prevent shark finning at sea and to improve positive identification of sharks landed. At this time, it is difficult to determine the specific impacts of this on shark prices for fins and carcasses.

As described above, in the aggregate, the selected alternative suite and its corresponding management measures are expected to have positive or neutral conservation benefits for shark species, bycatch species, and protected resource because the selected alternative suite was specifically selected to mitigate any potential adverse impacts. Any resulting economic or social impacts, beyond those described above, are unavoidable.

#### ADDRESSING COMMENTS RECEIVED AFTER RELEASE OF THE FEIS

As described in the background section of this memorandum, the Notice of Availability of the FEIS of the Final Consolidated HMS FMP published on April 18, 2008 (73 FR 21124). The review period was open through May 19, 2008. During that timeframe, NMFS received 28 comments from interested parties.

One of the written comments received on April 16, 2008, was from the EPA. EPA's comments focused primarily on NMFS' responses to public comments found in Appendix D of the FEIS. They offered specific guidance for future EISs on how to better organize public comments and suggested including the actual comments received from state and Federal agencies and non-government organizations rather than providing summaries of these comment. EPA continued to support the EIS and did not state any objections to the FEIS (April 18, 2008, 73 FR 21124), but did suggest that the Agency should reiterate that the low quota for the shark research fishery will not retard population recovery and emphasize that the proposed research program is not a substitute for hard regulatory decisions.

NMFS received comments during the review period in regard to the issues in the FEIS for Amendment 2 to the Consolidated HMS FMP. Many of the issues had already been raised and addressed during the public comment period on the proposed rule and DEIS. Commercial fishermen and processors continue to express concern about the additional burden resulting from removing fins from all sharks at offloading while environmental organizations continue to support the requirement to land sharks with all fins naturally attached to reduce the likelihood of finning at sea. Industry representatives continue to comment that the latest NMFS shark stock assessments are flawed, NMFS should conduct new stock assessments, NMFS should have considered a Limited Access Privilege Program, such as Individual Transferable Quotas, and that NMFS should offer some assistance to shark fishermen as the management measures in the action alternatives in the FEIS will end the directed shark fishery.

Recreational shark fishermen are concerned that the recreational TAC for porbeagle sharks is too low and that NMFS has underestimated the recreational take of porbeagle sharks. Conversely, environmental organizations expressed concerns regarding NMFS' decision to allow recreational and commercial landings of porbeagle sharks, rather than adding them to the prohibited species list, as proposed. They felt that the Canadian and International Union for the Conservation of Nature (IUCN) listings of porbeagle sharks as a "species of concern" and "endangered" warrants placing them on the prohibited species list. These groups support the reduced quotas for sandbar sharks and non-sandbar LCS, however, they feel that that the reductions in the quotas may not be enough to rebuild these species, and NMFS should monitor the quotas and stocks closely. Further, environmental groups also feel that the decision to allow landings of blacktip, spinner, bull, finetooth, and blacknose sharks by recreational anglers based on public comment received on the proposed rule was arbitrary and capricious and may lead to increased participation in shark fishing tournaments. These overall concerns have been addressed in the FEIS for Amendment 2 to the Consolidated HMS FMP.

Lastly, some constituents have expressed concerns regarding the potential increase in shark attacks on humans due to quota reductions in commercial shark fishing. The constituents equate reductions in shark landings to increases in shark attacks. While this was not explicitly addressed in the FEIS, there is no scientific validity to the claim that reductions in commercial shark quotas to rebuild depleted shark stocks will result in increased shark attacks on humans. After considering the comments, NMFS decided that none of the comments raised should change the selected alternatives.

CERTIFICATION

I certify that the Final Amendment 2 to the Consolidated HMS FMP and implementing final rule are consistent with the national standards and other provisions of the Magnuson-Stevens Fishery Conservation and Management Act, and other applicable laws. Determinations supporting this finding are attached.

RECOMMENDATIONS

I recommend that you concur with the approval of the Final Amendment 2 to the Consolidated HMS FMP, approve the final rule, sign the attached clearance memorandum to the NOAA General Counsel, and sign the attached clearance memorandum to the Chief Counsel for Regulation, Department of Commerce.

1. I concur.  6/6/08  
Date

2. I do not concur. \_\_\_\_\_  
Date

Attachments

## DETERMINATIONS

### NATIONAL ENVIRONMENTAL POLICY ACT

NMFS has prepared a final environmental impact statement (FEIS) for Amendment 2 to the Consolidated HMS FMP; a notice of availability published on April 18, 2008 (73 FR 21124). As described above, the FEIS contains a wide range of alternatives, including the No Action alternative, and describes the ecological, economic, and social impacts expected for each alternative. NMFS concludes that all practical means to avoid, minimize, or compensate for environmental harm from this action have been adopted. These measures discussed above will have conservation benefits and will mitigate economic impacts to the extent practicable given the requirements of the Magnuson-Stevens Act and other applicable law.

### REGULATORY FLEXIBILITY ACT (RFA)

NMFS prepared an initial regulatory flexibility analysis (IRFA) as part of the draft stage of this rulemaking action. The entire IRFA was included in the Draft Amendment 2 to the Consolidated HMS FMP. A final regulatory flexibility analysis (FRFA) was prepared, and a summary of the FRFA is contained in the final rule that accompanies this action. Each item in section 604(a)(1)-(5) of the RFA has been addressed in the classification section of the final rule. The entire FRFA was included in the Final Amendment 2 to the Consolidated HMS FMP. NMFS received and considered several comments regarding the economic impacts of the selected alternative suite during the comment period on the draft stage of this rulemaking. These are summarized in the FRFA in the FEIS for Amendment 2 to the Consolidated HMS FMP. NMFS is also preparing a small entity compliance guide that will be published separately from the final rule.

### COASTAL ZONE MANAGEMENT ACT (CZMA)

NMFS has determined that the selected alternative suite and alternatives will be implemented in a manner consistent to the maximum extent practicable with the enforceable policies of the coastal states in the Atlantic, Gulf of Mexico, and Caribbean that have Federally approved coastal zone management programs. In July 2007, NMFS provided all coastal states along the eastern seaboard and the Gulf of Mexico (19 states, excluding Texas that no longer requires CZM consistency determinations for fish), including Puerto Rico and the U.S. Virgin Islands, with a copy of the proposed rule and draft EIS for Amendment 2 to the Consolidated HMS FMP. Under 15 C.F.R. § 930.41, states and/or U.S. territories have 60 days to respond after the receipt of the consistency determination and supporting materials. States can request an extension of up to 15 days. If a response is not received within those time limits, NMFS can presume concurrence (15 C.F.R. § 930.41(a)). Ten states replied within the 60-day response period that the proposed regulations were consistent, to the extent practicable, with the enforceable policies of their coastal zone management programs. Another eight states, in addition to Puerto Rico and the U.S. Virgin Islands, did not respond within the 60-day time period, nor did they request an extension in the comment period; therefore, NMFS presumes their concurrence.



On October 10, 2007, Georgia's Department of Natural Resources (GDNR) objected to NMFS' consistency determination that the provisions in Amendment 2 to the Consolidated HMS FMP are consistent to the maximum extent practicable with the enforceable policies of the Georgia Coastal Zone Management Program (GCZMP). The October 10, 2007, letter stated that NMFS failed to consider the elimination of the use of shark gillnets in Amendment 2 to the HMS FMP. GDNR claims that the use of gillnets in Federal waters is inconsistent with the GCZMP because the program bans the use of gillnet and longline gear in state waters to address bycatch of protected species and marine mammals.

NMFS considered the comments in the October 10, 2007, letter and has determined that the final actions in Amendment 2 to the Consolidated HMS FMP, including allowing the use of gillnet gear in the Atlantic shark fishery, are consistent to the maximum extent practicable with the enforceable policies of the GCZMP, 15 CFR § 930.32. NMFS shares the State of Georgia's concern regarding the impact of the shark gillnet fishery on threatened and endangered species. Given these impacts, NMFS will not implement measures that are expected to increase fishing effort with gillnet gear. Currently there are only four to six vessels deploying this gear for sharks. However, NMFS also recognizes that the data currently available indicate relatively low rates of bycatch and bycatch mortality of protected species and other finfish in the shark gillnet fishery compared to other HMS and non-HMS fisheries. It is worth noting that observer coverage rates in the shark gillnet fishery are higher than in other fisheries because of Atlantic Large Whale Take Reduction Plan requirements. Increased observer coverage reduces the associated error that can be introduced when calculating bycatch and protected resource interactions on non-observed trips. For instance, observer reports indicate that finfish bycatch in shark gillnet fishery during 2007 ranged from 1.7 to 13.3 percent of the total catch. In addition, observed protected species bycatch (sea turtles and marine mammals) was less than 0.1 percent of the total catch. Therefore, NMFS does not want to eliminate this fishery and shift its associated effort to other fisheries that have higher interaction rates with protected resources and marine mammals.

The incidental capture of endangered species in the shark gillnet fishery is regulated under the Endangered Species Act (ESA). A Biological Opinion (BiOp) issued May 20, 2008, in response to the actions taken in the Final Amendment 2 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan, concluded that the continuation of the shark gillnet fishery (including strikenets, drift gillnets, and sink gillnets) would not likely jeopardize the continued existence of protected species or result in the destruction or adverse modification of critical habitat. Furthermore, the BiOp indicated that shark strikenets are not likely to have much impact on sea turtle or smalltooth sawfish takes because very few takes occur using this gear currently. Therefore, NMFS is not prohibiting the use of this gear at this time. This decision is consistent with NS 2 of the Magnuson-Stevens Act, which requires that management measures be based on the best scientific information available including the BiOp. At this time there is not sufficient information to support a closure of the shark gillnet fishery in Federal waters adjacent to Georgia, pursuant to the CZMA. In addition, NMFS is not prohibiting shark gillnet at this time due to the significant, negative social and economic impact this will have on vessels actively fishing in the shark gillnet fishery. In addition, NMFS has implemented observer coverage on gillnet vessels targeting and on those not targeting sharks, year-round. As stated in a reply letter

to the letter to the State of Georgia, NMFS has determined that the final actions in FEIS for Amendment 2 to the Consolidated HMS FMP and its implementing rule will be consistent to the maximum extent practicable with the enforceable policies of the GCZMP and will proceed with these actions.

#### PAPERWORK REDUCTION ACT (PRA)

This proposed rule contains a collection-of-information requirement subject to review and approval by the Office of Management and Budget (OMB) under the PRA. This requirement has been submitted to OMB for approval.

#### ENDANGERED SPECIES ACT (ESA)

A formal section 7 consultation under the ESA was re-initiated for Amendment 2 to the Consolidated HMS FMP and completed on May 20, 2008. The Biological Opinion (BiOp) concludes, based on the best available scientific information, that the proposed action (Amendment 2 to the HMS FMP) is not likely to jeopardize the continued existence of endangered green, leatherback, and Kemp's ridley sea turtles; the endangered smalltooth sawfish; or the threatened loggerhead sea turtle. The proposed actions are not expected to increase endangered species or marine mammal interaction rates. Furthermore, the BiOp concluded that the proposed actions in the rule are not likely to adversely affect any listed species of marine mammals, invertebrates (*i.e.*, listed species of coral) or other listed species of fishes (*i.e.*, Gulf sturgeon and Atlantic salmon) in the action area.

In the Effects of the Action section (Section 5.0), the BiOp analyzed the effects of the existing commercial and recreational shark fisheries and the proposed actions on sea turtle and smalltooth sawfish. These analyses recognize that the proposed action will reduce shark fishing effort as a result of reduced quotas and retention limits (compared to 2004-2007 levels). These measures are expected to reduce the number of participants targeting sharks and should reduce impacts of bottom longline gear on endangered or threatened sea turtles. It also recognized that smalltooth sawfish interactions with bottom longline gear may also decline; however, since nearly all individuals are expected to survive interaction with this gear, the BiOp concludes that the proposed action would have little effect on smalltooth sawfish mortality. Furthermore, the BiOp recognized that proposed changes in shark strikenet effort are not likely to adversely affect sea turtle or smalltooth sawfish takes because very few takes occur as a result of current gillnet practices. The BiOp also states that drift or sink gillnet sea turtle and smalltooth sawfish takes are more frequent compared to the strikenet fishery, but still minimal compared to bottom longline fishing.

The BiOp recognizes that implementing 100 percent observer coverage in the shark research fishery would allow observer reports to be used to monitor interactions of directed shark fishing in near real-time, which would improve monitoring and increase the sample size available for evaluating important sea turtle and smalltooth sawfish interaction characteristics (*e.g.*, average life stage and genetic origin data). This would improve data acquisition and monitoring of protected resource interactions in the shark bottom longline fishery. Maintaining current levels

of observer coverage outside the shark research fishery would continue to allow NMFS to observe the non-research bottom longline and gillnet fishing activities by vessels with directed and incidental shark permits at a level that will allow for statistically reliable monitoring. This will provide a better understanding of the changing dynamics of this fishery and its impacts on all marine resources. Time/area closures being implemented consistent with the South Atlantic Fishery Management Council could provide additional protection for sea turtles and smalltooth sawfish within the marine protected areas; however, they are not likely to reduce the overall interactions between the fishery and protected species.

The BiOp indicates that the impacts of changes to seasons and regions on sea turtle and smalltooth sawfish interactions are unknown. The research fishery would likely create a more uniform distribution of effort. Thus, shark fishing effort might also occur at different times of the year. The quota and retention limit reductions would likely reduce the likelihood of interactions with protected species, regardless of any anticipated changes in effort patterns. Recreational measures are not expected to have any effect on this fishery's impact on sea turtles and smalltooth sawfish as there are no documented takes to indicate adverse effects on sea turtles, and only one documented take of a smalltooth sawfish using rod-and-reel to target sharks in federal waters.

The BiOp included a revised Incidental Take Statement (ITS) (Section 9.0) consistent with the modifications to the fishery proposed in Amendment 2. The Atlantic shark fishery had been managed under a 5-year ITS previously, but this has now been modified to three years. A 3-year ITS is being provided because the 5-year time period is too long for meaningful monitoring given the frequency of changes in management and the uncertainty of how effort by gear type will shift in response to the proposed action. The BiOp's 3-year approach will reduce the likelihood of requiring re-initiation unnecessarily because of inherent variability in take levels, but still allow for an accurate assessment of how the fishery is performing. Section 9.0 of the BiOp also describes three Reasonable and Prudent Measures (RPMs) that will be implemented to minimize the impacts of the proposed action on protected resources and Terms and Conditions for implementing the RPMs. The Agency will implement the RPMs and adhere to the terms and conditions of the ITS to ensure compliance with Section 7(o)(2) of the ESA. To monitor any incidental take, F/SF1 must report the progress of the action and its impact on the species to F/SER3 as specified in the ITS.

Overall, the BiOp concluded in its evaluation of the effects of the proposed action that changes to shark management measures included in Amendment 2 will decrease this fishery's impacts on both sea turtles and smalltooth sawfish. Take of these species will continue but at a reduced level in the future because of reductions in fishing effort.

#### MARINE MAMMAL PROTECTION ACT (MMPA)

Fishing activities conducted under this rule will have no adverse impacts on marine mammals. No marine mammal interactions have been observed with shark BLL gear since 2003. On January 22, 2006, one Atlantic right whale calf was entangled and killed in gillnet gear off the coast of Jacksonville, Florida. An emergency action was implemented on February 15, 2006,

through March 31, 2006 (71 FR 8223, February 16, 2006), in accordance with the Atlantic Large Whale Take Reduction Plan's (ALWTRP) implementing regulations at 50 CFR 229.32(g)(1). The emergency regulation was necessary to protect right whales from further serious injury or mortality due to entanglement in gillnet gear. A final rule modifying the southeast U.S. restricted area published on June 25, 2007 (72 FR 34632), that modifies some of the management measures pertaining to participants in this area. This final rule will maintain consistency with the updated management measures in effect for the southeast U.S. restricted area. The FEIS for Amendment 2 to the Consolidated HMS FMP and its final rule will be consistent with the ALWTRP regulations at 50 CFR 229.32(g). None of the alternative suites or alternatives are expected to alter fishing practices, techniques, or effort in any way that would increase interactions with marine mammals. Specifically, reductions in shark fishing effort as a result of reduced quotas and retention limits from 2004-2007 levels are expected to reduce the number of interactions with marine mammals in the Atlantic shark fishery. Furthermore, the May 20, 2008, BiOp concluded that that the proposed actions in the rule are not likely to adversely affect any listed species of marine mammals, invertebrates (*i.e.*, listed species of coral) or other listed species of fishes (*i.e.*, Gulf sturgeon and Atlantic salmon) in the action area. Thus, management measures in this amendment are not anticipated to have adverse impacts on marine mammals.

#### EXECUTIVE ORDER 12866 (E.O. 12866)

Pursuant to the procedures established to implement section 6 of E.O. 12866, the Office of Management and Budget has determined that this proposed rule is not significant.

#### EXECUTIVE ORDER 13132 (E.O. 13132)

This proposed rule does not contain policies with federalism implications under E.O. 13132.

#### ESSENTIAL FISH HABITAT (EFH)

The actions in the context of the fishery as a whole will not have an adverse impact on EFH; therefore, an EFH consultation is not required. Ecological impacts to EFH will likely be positive as a result of the selected alternative compared to the pre-Amendment 2 status quo given the reduction in BLL effort as a result of reduced shark quotas. The selected alternative will reduce the number of overall sets with BLL gear targeting sharks because retention limits for sandbar sharks and non-sandbar LCS will be much less than current retention limits under the pre-Amendment 2 status quo, and it will reduce the number of vessels directing on sharks. BLL gear is generally regarded as the HMS gear type most likely to potentially impact EFH of HMS and/or non-HMS. BLL gear may have some negative impact if gear is set in more complex habitats, such as hard bottom or coral reefs in the Caribbean or areas with gorgonians, or soft corals and sponges in the Gulf of Mexico. BLL gear set with cable groundline or heavy monofilament with weights could damage hard or soft corals and potentially become entangled in coral reefs upon retrieval, resulting in coral breakage due to line entanglement. However, the extent to which BLL gear is fished in areas with coral reef habitat targeting sharks has not been determined.

## INFORMATION QUALITY ACT

Pursuant to Section 515 of Public Law 106-554 (IQA), this information product has undergone a pre-dissemination review by HMS Management Division of the Office of Sustainable Fisheries. The signed Pre-dissemination Review and Documentation Form is on file in that Office, and a copy of the form is included with this package.