

FINAL
ENVIRONMENTAL ASSESSMENT,
FINAL REGULATORY IMPACT REVIEW, AND
FINAL REGULATORY FLEXIBILITY ANALYSIS
FOR A
FINAL RULE
FOR 2008 FIRST TRIMESTER ATLANTIC SHARK COMMERCIAL
MANAGEMENT MEASURES

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

November 2007

Final Rule For 2008 First Trimester Atlantic Shark Commercial Management Measures

Actions: Establish quota levels and seasons for the 2008 first trimester for the Atlantic commercial large coastal shark (LCS), small coastal shark (SCS) and pelagic shark fisheries.

Type of Statement: Environmental Assessment, Regulatory Impact Review, and Final Regulatory Flexibility Analysis

Lead Agency: National Marine Fisheries Service

For Further Information: LeAnn Southward Hogan
Highly Migratory Species (HMS) Management Division
NOAA/NMFS
1315 East-West Highway: F/SF1
Silver Spring, MD 20910
(301) 713-2347

Abstract:

During the 2006 first trimester season, the South Atlantic region landed 278.2 percent of their LCS quota, resulting in a closure in the South Atlantic region during the entire 2007 first trimester season. This rulemaking must account for the remaining overharvest from 2006 and additional overharvest that occurred during the 2007 first trimester season. During the 2007 first trimester season, the Gulf of Mexico region landed 300 percent of their LCS quota while the North Atlantic region experienced underharvests of LCS. There were no overharvests of SCS in any region during the 2007 first trimester season. The management measures in this action would adjust the 2008 regional LCS and SCS quotas based on over- and underharvests from the 2007 first trimester season. The baseline trimester quotas would be implemented for pelagic sharks for the 2008 first trimester season because regulations do not allow underharvests of pelagic sharks to be carried forward to the next fishing management period.

This action would also take into consideration the results of the latest LCS, sandbar, dusky, and porbeagle stock assessments. The management measures would remain effective until Amendment 2 to the Consolidated HMS FMP is finalized and effective even if that date is after the start of the 2008 second trimester season. As such, there would be no rulemaking establishing LCS and SCS quotas and seasons for the 2008 second trimester. However, if Amendment 2 is unexpectedly delayed, NMFS may consider the need for a rulemaking for the 2008 second or third trimester seasons. NMFS would announce any future action in a Federal Register notice. Background information on the issues and a description of the alternatives being considered for this rulemaking are described in detail in this environmental assessment.

**FINDING OF NO SIGNIFICANT ENVIRONMENTAL IMPACT FOR A FINAL RULE FOR 2008 FIRST TRIMESTER ATLANTIC SHARK COMMERCIAL MANAGEMENT MEASURES
NATIONAL MARINE FISHERIES SERVICE**

The Highly Migratory Species (HMS) Management Division of the Office of Sustainable Fisheries submits the attached Environmental Assessment (EA) for the Atlantic shark fisheries for Secretarial review under the procedures of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This EA was developed as an integrated document that includes a Regulatory Impact Review and Final Regulatory Flexibility Analysis. Copies of the EA and Regulatory Impact Review are available at the following address:

Highly Migratory Species Management Division, F/SF1
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910
(301) 713-2347

or

<http://www.nmfs.noaa.gov/sfa/hms>

This action would:

- Adjust quotas in the Atlantic commercial LCS and SCS fisheries for the first trimester season of 2008 to address the over- and underharvests experienced during the first trimester season of 2007;
- Establish the season lengths and quotas for the first trimester season of 2008 for SCS; and
- Close the LCS fishery for the 2008 first trimester season in the North Atlantic, South Atlantic and Gulf of Mexico regions until Amendment 2 to the Consolidated HMS FMP is finalized and effective.

The EA considers information contained in the Environmental Impact Statement associated with the 1999 Final Fishery Management Plan (FMP) for Atlantic Tunas, Swordfish, and Sharks, the 2003 Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks, the 2006 Final Consolidated HMS FMP, and the draft Amendment 2 to the Consolidated HMS FMP.

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

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

No. The final action is consistent with the overall quota for LCS and SCS, including regional and trimester quotas. The management measures would address overharvests of LCS in the South Atlantic and Gulf of Mexico regions that occurred in the first trimester season of 2007. The measures are not expected to significantly increase fishing mortality of any target species beyond what has been previously analyzed. Under the preferred alternative, the commercial LCS fishery would close in all three regions for the entire 2008 first trimester season which would reduce the mortality of the target species. Because of underharvests of SCS during the 2007 first trimester, each region would have the baseline trimester quota available plus any underharvests. The SCS fishery would open on January 1, 2008, and would remain open as long as quota was available.

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

No. The final action is not expected to jeopardize the sustainability of any non-target species or bycatch because it is not expected to result in a significant increase in bottom longline (BLL) or gillnet fishing effort. The management measures maintain the same overall quotas established for LCS in Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks. Furthermore, a closure of the LCS fishery in all regions would decrease non-target species interaction rates because there would be no directed LCS fishing in the North Atlantic, South Atlantic, and Gulf of Mexico regions during the 2008 first trimester season. The opening on January 1, 2008, of the SCS fishery is not likely to jeopardize the sustainability of any non-target species. Some fishing effort may be displaced to other gillnet and BLL fisheries in which participants are permitted. However, other fisheries such as the South Atlantic snapper/grouper and Gulf of Mexico reef fisheries are limited access fisheries. If fishermen do not currently hold permits in these fisheries, it would be difficult and expensive for them to enter these fisheries in

the future. In addition, for shark fishermen that are currently permitted in these fisheries, strict retention limits and quotas are either in place or will be implemented in the near future, which would protect these stocks from further overfishing and being overfished by any redirected shark fishing effort. Therefore, redistributed effort is not anticipated to result in significant increase in bycatch of non-target species or interaction with protected resources.

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

No. As described in the Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish and Sharks and the 2006 Final Consolidated HMS FMP, there is no evidence that physical effects caused by fishing BLL gear are adversely affecting EFH for targeted or non-targeted species, to the extent that physical effects can be identified on the habitat or the fisheries. The management measures would reduce fishing effort by closing the LCS commercial fishery in all regions during the 2008 first trimester and until draft Amendment 2 to the Consolidated HMS FMP is finalized. Therefore, the preferred alternative is not expected to have significant impacts on EFH. As a precautionary measure, NMFS recommends fishermen take appropriate steps to identify and avoid bottom obstructions in order to mitigate any adverse impacts on EFH. The other gear types used to target sharks, such as gillnet or pelagic longline (PLL), are unlikely to have any impact on EFH because they are fished in the water column and not in contact with the bottom.

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

No. The management measures address over- and underharvests of LCS and SCS during the first season of 2007; public health and safety would not be affected.

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

No. The management measures are not expected to have significant impacts on endangered or threatened species, marine mammals, or critical habitat of these species. This rulemaking would ensure the fishery operates in a manner consistent with previous analyses and would result in a closure of the LCS commercial fishery for the entire 2008 first trimester and would remain closed until draft Amendment 2 of the HMS FMP is finalized and effective. On October 29, 2003, NMFS issued a Biological Opinion (BiOp) pursuant to the Endangered Species Act (ESA) regarding Atlantic shark fisheries. This BiOp concluded that the level of anticipated take in the Atlantic shark fishery resulting from measures implemented in Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks (68 FR 74746) was 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. All BLL turtle interactions will be counted against the five-year BLL Incidental Take Statement (ITS) and all PLL will be counted against the three-year PLL ITS per the June 1, 2004, BiOp. Reinitiation of consultation was not required for this action. The current sea turtle take estimates in the BLL

shark fishery indicate that the ITS has not been exceeded. In addition, NMFS published a final rule (February 7, 2007; 72 FR 5633) to approve and update the necessary equipment and protocols that Atlantic shark fishermen with BLL gear onboard must possess, maintain, and utilize for the safe handling, release, and disentanglement of sea turtles and other protected species.

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

No. The management measures would not have a substantial impact on biodiversity and ecosystem function within the affected area because it would result in a reduction of fishing effort and fishing mortality as a result of the LCS closure. The reduction of fishing effort would lead to decreased mortality of sharks that are important top predators which may help to preserve biodiversity and ecosystem function.

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

No. The management measures would close the LCS commercial fishery in all three regions during the first season of 2008 because of the extensive overharvest in the South Atlantic and Gulf of Mexico regions in 2006 and 2007, therefore providing positive ecological benefits to LCS stocks. The South Atlantic region could experience the most negative economic impacts associated with this alternative because this would be the second consecutive year that the South Atlantic region was closed during the first trimester season. Negative economic impacts would also be experienced in the Gulf of Mexico and North Atlantic regions, however, these impacts would be mitigated by the fact that these regions were open during the first trimester season of 2007. However, these impacts would not be different from those described in the no action alternative which would also result in a closure in the South Atlantic region. Overall, the positive ecological benefits of keeping the LCS fishery closed in all regions until Amendment 2 to the Consolidated HMS FMP is finalized and effective may outweigh the economic impacts associated with the closure due to the overfished status of sandbar and dusky sharks. The SCS regions and quota would remain as described in the no action alternative and no adverse economic impacts are expected since these regions would be open, with ample quota, throughout the first trimester of 2008.

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

The final actions in this rulemaking try to mitigate the effects on the quality of the human environment by closing the LCS commercial fishery in the North Atlantic, South Atlantic, and Gulf of Mexico regions during the 2008 first trimester season to address significant overharvests of LCS in the Gulf of Mexico and South Atlantic regions during the first trimester of 2007. The LCS closure may be controversial because this will be the second consecutive year that the South Atlantic region would be closed for the first trimester season and the overharvest in the Gulf of Mexico region was caused mainly by state fishermen in state waters after federal waters were

closed. However, the SCS regions and quota would remain as described in the no action alternative and no adverse economic impacts are expected since these regions would be open, with ample quota, throughout the entire first trimester of 2008 which may offset some of the economic impact of the LCS closure. The final action is not expected to be highly controversial because there were very few comments (6) received from the public.

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

No. This final action would not result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas because fishing effort and mortality will be significantly reduced due to the LCS fishery closure during the 2008 first trimester quota. The continuation of the SCS fishery is not expected to have impacts to unique areas or ecologically critical habitats. In addition, there is no park land, prime farmlands, wetlands, or wild and scenic rivers within the action area so there would be no adverse impacts on these areas.

10. Are the effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The effects of the commercial shark fishery on the human environment have been analyzed in previous environmental impacts statements and environmental assessments such as the Final Consolidated HMS FMP, and therefore are not highly uncertain or involve unique or unknown risks.

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

The final action would affect the commercial LCS fishery during the first trimester of 2008 until Amendment 2 to the Consolidated HMS FMP is finalized and effective. The preferred alternative seeks to address the ecological and social/economic ramifications of extensive overharvests experienced in the South Atlantic and Gulf of Mexico regions during 2006 and 2007. NMFS anticipates that the preferred alternative would result in negative socio-economic impacts. NMFS prefers to close the LCS fishery in all regions to reduce fishing effort and to avoid additional overharvests of sandbar and dusky sharks that could be detrimental to these sharks stocks given their overfished status. Closing the LCS fishery would also reduce bycatch of prohibited shark species and protected resources providing ecological benefits to these species. Therefore, the ecological benefits of keeping the LCS fishery closed in all regions until Amendment 2 to the Consolidated HMS FMP is effective may outweigh the potential economic impacts associated with the closure.

Additional modification of existing LCS management measures may occur as a result of Amendment 2 to the Consolidated HMS FMP per the results of the 2006 stock assessments for LCS, sandbar sharks, blacktip sharks, and dusky sharks. This final rule, in conjunction with the 2007 first trimester closure in the South Atlantic region, the shortened seasons during the 2007

second and third trimesters, and the draft Amendment 2 to the Consolidated HMS FMP, would have an overall adverse cumulative social and economic impact on the shark fishery. NMFS expects some shark fishermen may leave the fishery or fishing industry altogether as a result of these actions. Nonetheless, under National Standard 1, NMFS is required to prevent overfishing and rebuild overfished stocks. NMFS proposes to accomplish this through the reduction of effort under the preferred alternative. This action, combined with Amendment 2 to the Consolidated HMS FMP, would provide the greatest positive ecological benefits to overfished sandbar and dusky sharks and other species of shark and protected resources.

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

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

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

No. Commercial shark fishing is a targeted fishery using BLL and gillnet gear and bait caught from the same area where the shark fishing occurs, therefore this action would not result in the introduction or spread of non-indigenous species.

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

No. The management measures in this action would be in place from January 1, 2008, until Amendment 2 to the Consolidated HMS FMP is finalized even if that date is after the end of the 2008 first trimester season (April 30, 2008). There would be no additional regulatory action to determine quotas and season lengths for LCS, SCS and pelagic sharks for the 2008 second trimester season even if Amendment 2 is finalized after May 1, 2008, the start of the second trimester season. However, if Amendment 2 is unexpectedly delayed, NMFS may consider the need for a rulemaking for the 2008 second or third trimester seasons. NMFS would announce any future action in a Federal Register notice. The management measures proposed in Amendment 2 would reduce fishing effort and mortality to rebuild overfished Atlantic shark species while ensuring that a limited shark fishery can be maintained. These proposed management measures are separate and isolated from the final measures that are being implemented in this final rule. The measures finalized in this rule will not set a precedent or represent a decision in principle about any future actions.

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

The final action is consistent with the Magnuson-Stevens Act and the regulations at 50 CFR 635. The final action is also consistent with the Coastal Zone Management Plans of the 20 coastal states of the Atlantic, Gulf of Mexico and Caribbean Oceans and therefore would not be expected to threaten a violation of Federal, State, or local law or requirement imposed for the protection of the environment.

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

No. The management measures would close the commercial LCS fishery in all regions during the 2008 first trimester season and they would remain closed until Amendment 2 to the Consolidated HMS FMP is finalized and effective. The SCS preferred alternative would adjust the regional quota allocations in the North Atlantic, South Atlantic, and Gulf of Mexico based on underharvests in the 2007 first trimester season. The SCS season would open on January 1, 2008, and would remain open as long as quota was available. These preferred alternatives seek to address the ecological and social/economic ramifications of an extensive LCS overharvest experienced in the South Atlantic and Gulf of Mexico regions by closing the LCS fishery in all regions and thereby reducing fishing effort and mortality on overfished shark species. These LCS and SCS management measures are not expected to result in cumulative adverse effects that could have a substantial effect on the target species.

The LCS preferred management measures would reduce fishing effort due to the LCS closure in all regions and therefore should not have any impact on other finfish species that have not already been considered in the 1999 FMP for Atlantic Tunas, Swordfish and Sharks, Amendment 1 to the FMP for Atlantic Tunas, Swordfish and Sharks, the Final Consolidated HMS FMP, or Amendment 2 to the Consolidated HMS FMP. Finfish bycatch for the BLL fishery includes, but is not limited to, skates, rays, cobia, redfish, bluefish, and great barracuda. In the shark drift gillnet fishery, bycatch includes king mackerel, little tunny, cownose ray, crevalle jack, cobia, spotted eagle ray, great barracuda, tarpon, Atlantic stingray, and Spanish mackerel. The 2006 BLL observer data indicates that teleosts made up 1.1 percent of the observed BLL catch in the South Atlantic and 5.4 percent in the Gulf of Mexico. Because the management measures would result in a reduction in fishing effort, NMFS does not expect that sustainability of these bycatch species would be affected by the action.

The management measures in this quota adjustment and season length final rule for Atlantic shark fisheries are not expected to have adverse impacts on protected species because there would be no LCS fishing in any region for the entire 2008 trimester season and until Amendment 2 to the Consolidated HMS FMP is finalized and effective. Protected species of greatest concern in the shark fishery are right whales, sawfish, and sea turtles.

A Biological Opinion (BiOp) for Atlantic Shark Fisheries was prepared in October 2003 in response to the proposed measures in Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish and Sharks. It concluded that the continued operation of the shark fisheries as amended by the actions in Amendment 1 would not adversely affect protected species. Implementation of regional quotas and trimester seasons were actions included in Amendment 1 and a subsequent rule (November 30, 2004; 69 FR 69537) adjusted regional and trimester quotas

without increasing shark quotas. None of the actions included in Amendment 1 or the subsequent rule would increase fishing effort or protected species interactions. The current sea turtle take estimates in the BLL shark fishery indicate that the ITS has not been exceeded.

In view of the information presented in this document and the analysis contained in the attached Environmental Assessment prepared for quota and season length management measures in the Atlantic LCS and SCS fisheries, it is hereby determined that this action would not significantly impact the quality of the human environment as described above and in the Environmental Assessment. In addition, all impacts to potentially affected areas, including national, regional and local, have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.

Emily Menashes
for Alan D. Risenhoover
Director, Office of Sustainable Fisheries, NOAA

NOV 19 2007

Date

TABLE OF CONTENTS

1.0	Purpose and Need for Action	1-1
1.1	Management History.....	1-1
1.2	Need for Action and Objectives.....	1-3
2.0	SUMMARY OF ALTERNATIVES	2-1
2.1	Alternatives Considered But Not Further Analyzed.....	2-6
2.1.1	Close all Atlantic shark fisheries in all regions until Amendment 2 to the HMS FMP is effective.	2-6
3.0	DESCRIPTION OF AFFECTED ENVIRONMENT	3-1
4.0	Environmental Consequences of Alternatives	4-1
4.1	Impacts on Essential Fish Habitat.....	4-11
4.2	Impacts on Other Finfish Species	4-12
4.3	Impacts on Protected Species.....	4-13
4.4	Coastal Zone Management	4-14
4.5	Environmental Justice.....	4-14
4.6	Cumulative Impacts	4-14
4.6.1	Past, Present and Reasonably Foreseeable Future Actions	4-14
4.6.2	Cumulative Ecological, Social, and Economic Impacts.....	4-16
4.7	Comparison of the Alternatives	4-18
5.0	Mitigation and Unavoidable Impacts	5-1
5.1	Mitigating Measures	5-1
5.2	Unavoidable Adverse Impacts	5-1
5.3	Irreversible and Irretrievable Commitment of Resources.....	5-1
6.0	Economic Evaluation	6-1
6.1	Number of Vessel and Dealer Permit Holders.....	6-1
6.2	Gross Revenue of the Commercial Shark Fishermen	6-2
6.3	Variable Costs and Net Revenues of Commercial Shark Fishermen	6-5
6.4	Expected Economic Impacts of the Quota Adjustment Alternatives to Address the Overharvest of LCS	6-5
7.0	Regulatory Impact Review	7-1
7.1	Description of the Management Objectives.....	7-1
7.2	Description of the Fishery.....	7-1
7.3	Statement of the Problem.....	7-1
7.4	Description of Each Alternative.....	7-1
7.5	Economic Analysis of Expected Effects of Each Alternative Relative to the Baseline	7-2
7.6	Conclusions.....	7-3
8.0	Final Regulatory Flexibility Analysis	8-1
8.1	Statement of the Need for and Objectives for this Final Rule	8-1
8.2	A Summary of the Significant Issues Raised by the Public Comments in Response to the Initial Regulatory Flexibility Analysis, a Summary of the Assessment of the Agency of Such Issues, and a Statement of Any Changes Made in the Rule as a Result of Such Comments.....	8-1
8.3	Description and Estimate of the Number of Small Entities to Which the Final Rule Will Apply	8-1

8.4	Description of the Projected Reporting, Record-Keeping, and Other Compliance Requirements of the Final Rule, Including an Estimate of the Classes of Small Entities Which Will Be Subject to the Requirements of the Report or Record	8-1
8.5	Description of the Steps the Agency Has Taken to Minimize the Significant Economic Impact on Small Entities Consistent with the Stated Objectives of Applicable Statutes, Including a Statement of the Factual, Policy, and Legal Reasons for Selecting the Alternative Adopted in the Final Rule and the Reason That Each One of the Other Significant Alternatives to the Rule Considered by the Agency Which Affect Small Entities Was Rejected	8-1
9.0	Community Profiles	9-1
9.1	Introduction	9-1
9.2	Overview of the Shark Fishery	9-2
9.3	State and Community Profiles	9-5
10.0	Other Considerations.....	10-1
10.1	National Standards	10-1
10.2	Paperwork Reduction Act	10-2
10.3	Federalism.....	10-2
11.0	List Of Preparers	11-1

1.0 PURPOSE AND NEED FOR ACTION

NMFS proposes to undertake this rulemaking pursuant to section 304(b)(1) of the Magnuson-Stevens Fishery Conservation and Management Act, including the National Standards, and other applicable law. This rule is necessary for conservation and management and is consistent with the Magnuson-Stevens Act. The LCS preferred alternative seeks to address the ecological and social/economic ramifications of overharvests experienced in 2006 and 2007 in the South Atlantic and Gulf of Mexico regions by closing the LCS fishery in all three regions during the 2008 first trimester season to reduce fishing effort and to avoid overharvest and further depletion of sandbar and dusky sharks which are overfished with overfishing occurring. The SCS preferred measures address the underharvests that occurred in all regions during the 2007 first trimester season and all regions will open on January 1, 2008, with ample quota and will remain open as long as quota is available.

1.1 Management History

Section 3.1 of the 2006 Final Consolidated Atlantic Highly Migratory Species (HMS) Fisheries Management Plan (FMP) provides a history of Atlantic shark management history. This section provides a summary of that history.

In 1993, the National Marine Fisheries Service (NMFS) implemented the FMP for Sharks of the Atlantic Ocean, which established three management units: large coastal sharks (LCS), small coastal sharks (SCS), and pelagic sharks. Under that FMP, species groups were not managed on a regional basis. NMFS identified LCS as overfished, and therefore, implemented commercial quotas for LCS and also established recreational harvest limits for all sharks.

In April 1999, NMFS published the FMP for Atlantic Tunas, Swordfish and Sharks, which included numerous measures to rebuild or prevent overfishing of Atlantic sharks in commercial and recreational fisheries. The 1999 FMP for Atlantic Tunas, Swordfish and Sharks replaced the 1993 FMP and the implementing regulations were published on May 28, 1999 (64 FR 29090). The 1999 FMP for Atlantic Tunas, Swordfish and Sharks addressed numerous shark management measures, including: reducing commercial LCS and SCS quotas, establishing a commercial quota for blue sharks and a species-specific quota for porbeagle sharks, expanding the list of prohibited shark species, implementing a limited access permitting system in commercial fisheries, and establishing season-specific over- and under-harvest adjustment procedures. The 1999 FMP for Atlantic Tunas, Swordfish and Sharks also partitioned the LCS complex into ridgeback and non-ridgeback categories but did not include regional quota measures.

In 2003, NMFS re-examined and amended the measures enacted in the 1999 FMP for Atlantic Tunas, Swordfish and Sharks based on the 2002 stock assessments, litigation, and public comments. Implementing regulations for Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish and Sharks were published on December 24, 2003 (68 FR 74746). Management measures enacted in the amendment included: re-aggregating the large coastal shark complex, using maximum sustainable yield (MSY) as a basis for setting commercial quotas, eliminating the commercial minimum size restrictions, establishing three regional commercial quotas (Gulf

of Mexico, South Atlantic, and North Atlantic) for LCS and SCS management units, implementing trimester commercial fishing seasons effective January 1, 2005, imposing gear restrictions to reduce bycatch, and a time/area closure off the coast of North Carolina effective January 1, 2005. As a result of using MSY as a basis for setting quotas, and implementing a new rebuilding plan, the base quota for LCS was established at 1,017 metric tons (mt) dressed weight (dw) and 454 mt dw for SCS.

Regional quotas for large and small coastal sharks were intended to improve overall management of the stocks by tailoring quotas to specific regions based on landings information. These quotas were based upon average historical landings (1999-2001) from the General Canvass and Quota Monitoring System (QMS) databases and were not expected to result in early closures or have economic impacts. The General Canvass database provides a near-census of the landings at major dealers in the southeast United States (including state landings) and the QMS database collects information from dealers in the South Atlantic and Gulf of Mexico regions (not including state landings). The Northeast Commercial Fisheries Database compiles dealer reports for sharks in the northeast United States. Logbook data were obtained from the Coastal Fisheries Logbook, which includes actual landings of sharks reported by federally permitted fishermen.

The data used to establish quotas in 2003 Amendment 1 (1999-2001) indicated that the Gulf of Mexico, South Atlantic, and North Atlantic regions accounted for 4, 83, and 13 percent of the total SCS landings and 42, 54, and 4 percent of the total LCS landings, respectively. However, on November 30, 2004, (69 FR 69537), NMFS implemented regulations that revised regional quota levels for Atlantic LCS and SCS based on additional landings data (2002-2003) and created a framework mechanism for making annual adjustments to quotas based on new landings data. This rule also included measures for distribution of quotas within regional trimester seasons, accounting for over- and underharvests during the transition from semi-annual to trimester seasons, and a framework for future review and adjustment of regional and trimester quotas as necessary.

The 2004 rule established that 52, 41, and 7 percent of the base LCS quota (1,017 mt dw) be allocated to the Gulf of Mexico, South Atlantic, and North Atlantic regions, respectively. Within individual regions, trimester quotas in the Gulf of Mexico and South Atlantic regions are distributed evenly (33.3 percent/trimester), whereas trimester quotas in the North Atlantic region were based on historical landings (4 percent, 88 percent, and 8 percent for the first, second and third trimester, respectively). For SCS, the 2004 rule established that 10, 87, and 3 percent of the base SCS quota (484 mt dw) be allocated to the Gulf of Mexico, South Atlantic, and North Atlantic regions, respectively. Within individual regions, trimester quotas in the Gulf of Mexico and South Atlantic regions are distributed evenly (33.3 percent/trimester), whereas trimester quotas in the North Atlantic region were based on historical landings.

On October 2, 2006 (71 FR 58058), NMFS published the Final Consolidated HMS FMP that implemented a variety of management measures. Those specific to shark fishermen or dealers include: mandatory workshops for fishermen and dealers; two small time/area closures to maintain consistency with closures enacted by the Gulf of Mexico Fishery Management Council; identification of criteria for modifying time/area closures; outlining activities and measures to address overfishing of finetooth sharks; requiring the second dorsal fin and anal fin

remain on all sharks through landing, and further refining ways to differentiate between pelagic longline (PLL) and bottom longline (BLL) gear.

NMFS recently expanded the equipment required for the safe handling and release, and disentanglement of sea turtles caught in the Atlantic shark BLL fishery (72 FR 5633; February 7, 2007). As a result, equipment required for BLL is now consistent with the requirements for the PLL fishery. Furthermore, this action implemented several year-round BLL closures to protect EFH to maintain consistency with Caribbean Fishery Management Council.

On April 26, 2007 (72 FR 20765), NMFS published a final rule that adjusted the SCS regional quota allocations in the South Atlantic and Gulf of Mexico regions due to recent overharvests of SCS in the Gulf of Mexico region and continued underharvests of the available quota in the South Atlantic region. This change reflects current landings and should avoid future overharvest of SCS in the Gulf of Mexico region and should not cause overharvest in the South Atlantic region.

On July 27, 2007 (72 FR 41392), NMFS published a proposed rule and draft Environmental Impact Statement to amend the Consolidated HMS FMP (Amendment 2). Based on the 2005 Canadian porbeagle stock assessment, the 2006 dusky shark stock assessment and the 2005/2006 LCS stock assessment NMFS has determined that a number of shark species are overfished and overfishing is occurring and an amendment to the HMS FMP is needed to implement management measures to rebuild overfished stocks and prevent overfishing. The management measures proposed would reduce fishing effort and mortality to rebuild overfished Atlantic shark species while ensuring that a small incidental shark fishery can be maintained.

1.2 Need for Action and Objectives

The objectives of this EA are to describe and analyze the ecological, economic, and social impacts of alternatives that would establish season lengths and LCS and SCS quotas for the first trimester of 2008. This rulemaking should ensure that the season lengths and quotas for the first trimester of 2008 for LCS, SCS, and pelagic sharks are in place by January 1, 2008, and ensure that measures are in place until Amendment 2 to the Consolidated HMS FMP is finalized and effective. These measures are necessary to ensure that under- and overharvests from 2007 first trimester are accounted for in the 2008 first trimester season, and the associated ecological, social and economic impacts are analyzed. As of October 18, 2007, both the South Atlantic and Gulf of Mexico had landed LCS in excess of both their 2007 first trimester quotas. There were underharvests of SCS during the 2007 first trimester in all three regions (Table 1-1). To address the overharvest of LCS in the South Atlantic and Gulf of Mexico regions during the first trimester, NMFS is currently considering a variety management measures. Keeping the LCS fishery closed, until Amendment 2 to the Consolidated HMS FMP is finalized and effective may circumvent any necessary future adjustments to the quota.

Existing regulations do not allow underharvests of pelagic sharks to be carried forward to the next fishing management period. As of October 18, 2007, approximately 43.8 mt dw had been landed in the 2007 first trimester season for pelagic, blue, and porbeagle sharks combined. Thus, the pelagic shark quota does not need to be reduced consistent with the current regulations at 50 CFR 635.27 (b) (1) (vi) (B). The annual pelagic shark quotas are not split among the

regions but are split among three fishing seasons; therefore, the 2008 first trimester quotas for pelagic, blue and porbeagle sharks are proposed to be 162.7 mt dw, 91 mt dw, and 30.7 mt dw, respectively. The season would open on January 1, 2008, and would remain open during the first trimester as long as quota was available.

The LCS quotas for the 2007 merged second and third seasons in the Gulf of Mexico and South Atlantic regions were 83.1 mt dw and 163.70 mt dw, respectively. The LCS quota for the second season in the North Atlantic region was 69 mt dw. The North Atlantic region was closed during the 2007 third trimester season. As of October 18, 2007, preliminary landings data from federal dealers indicate the Gulf of Mexico landed 505.4 mt dw, which is 422.3 mt dw over their quota. The South Atlantic region landed 185.7 mt dw, which is 22 mt dw over their quota and the North Atlantic region landed 123.6 mt dw, which is 54.6 mt dw over the quota. Under current regulations, any over- or underharvest that occurs in the 2007 second and third trimester season would be taken into account during the 2008 second and third trimester seasons. However, as mentioned above, the LCS closure in each region under the preferred alternative would remain effective during the first and second trimester season. The management measures in this action would remain in place until they are replaced by those implemented under draft Amendment 2 to the Consolidated HMS FMP. There would be no additional regulatory action to determine quotas and season lengths for LCS, SCS, and pelagic sharks for the 2008 second trimester season. However, if draft Amendment 2 to the Consolidated HMS FMP is unexpectedly delayed NMFS may consider a rulemaking for the 2008 third trimester season. NMFS would announce any future action in a Federal Register notice.

Table 1-1 Landings in metric tons, dressed weight (mt dw) for the 1st trimester season of 2007. Landings in excess of the quota are presented in bold. Landings estimates are based on dealer reports received as of October 18, 2007, and are likely to change if late reports are received.

First Trimester Season 2007					
Species Group	Region	Closure date	Quota (mt dw)	Estimated Landings (mt dw)	% Quota Taken
Large Coastal Sharks- i.e., sandbar, silky, tiger, blacktip, spinner, bull, lemon, nurse, and hammerheads	Gulf of Mexico	January 15, 2007	62.3 (137,347 lbs dw)	186.9 (412,091 lbs dw)	300%
	South Atlantic	CLOSED entire season	-112.9 (-248,899 lbs dw)	16.0 (21,385 lbs dw)	
	North Atlantic	April 30, 2007	7.9 (17,416 lbs dw)	0 (0 lbs dw)	0%
Small Coastal Sharks- i.e., Atlantic sharpnose, finetooth, blacknose, bonnethead	Gulf of Mexico	N/A	15.1 (33,289 lbs dw)	14.7 (31,967 lbs dw)	97.4%
	South Atlantic		308.4 (679,899 lbs dw)	28.7 (60,847 lbs dw)	9.3%
	North Atlantic		18.8 (41,446 lbs dw)	0.0 (0.0 lbs dw)	0%
Blue sharks	No regional quotas	N/A	91.0 (200,619 lbs dw)	0 (0 lbs dw)	0%
Porbeagle sharks			30.7 (67,681 lbs dw)	0.1 (220 lbs dw)	0.3%
Pelagic sharks- other than those above			162.7 (358,688 lbs dw)	43.7 (67,461 lbs dw)	26.9%

2.0 SUMMARY OF ALTERNATIVES

This section provides a summary of the alternatives considered in this rulemaking. These alternatives describe management measures that address the overharvest of LCS in the South Atlantic and Gulf of Mexico regions during the 2007 first trimester season and other relevant issues. These alternatives also establish the season lengths and quotas available for the 2008 first trimester season. Information on ecological, economic, and social impacts is provided in Chapters 4, 5, 6, 7, and 8 of this document.

Alternative 1 Maintain existing procedures for addressing LCS and SCS regional trimester over- and underharvests when establishing the regional quotas and seasons for the 1st trimester season of 2008 (No Action)

This no action alternative would maintain the existing regulations and procedures for establishing quotas within the respective regions. The current regulations state that NMFS will adjust a region's LCS and SCS quota based on over- or underharvests from the same season in any particular region. Due to extensive overharvests of LCS in the 2006 and 2007 first trimester season in the Gulf of Mexico and South Atlantic regions, a limited quota would be available resulting in short seasons in the Gulf of Mexico region and a closure in the South Atlantic region for the 2008 first trimester. There were underharvests of SCS in all regions during the 2007 first trimester season that would be carried over to the 2008 first trimester. Tables 2.1 and 2.2 describe the LCS and SCS quotas and fishing seasons for the 2008 first trimester season that would occur as a result of alternative 1 (No Action). If draft Amendment 2 to the Consolidated HMS FMP is not effective before the start of the 2008 second trimester season, under the no action alternative, NMFS would publish a rule to establish the LCS and SCS quotas and season lengths for the 2008 second trimester season.

The 2007 first trimester season was closed in the South Atlantic region due to the 2006 first trimester quota being exceeded by 278.2%. Because of this overharvest, the LCS quota for the 2007 first trimester season was -112.9 mt dw. This remaining amount of overharvest needs to be accounted for in the 2008 first trimester (Table 2.1). Additionally, another 9.7 mt dw was landed in the 2007 first trimester season. After considering these overharvests relative to the baseline quota, the available quota for the first season of 2008 is 16.3 mt dw. Based on the average January LCS catch rates in recent years (2004-2007) in the South Atlantic region, NMFS calculates that approximately 23.2 percent of the available first trimester LCS quota (16.3 mt dw) would likely be taken in 1 day, and 46.4 percent of the available LCS quota would likely be taken in 2 days. Dealer data also indicate that, on average, approximately 12 mt dw of LCS has been reported by dealers during Federal closures between January and April (first fishing season). This is approximately 73.7 percent of the available quota. If catch rates in 2008 are similar to average catch rates from 2004-2007 and landings after closures remain consistent, 96.9 percent (23.2 percent + 73.7 percent) of the first trimester quota could be caught in 1 day, and 120.1 percent (46.4 percent + 73.7 percent) of the quota could be caught in 2 days. Therefore, to avoid additional overharvests and due to concerns about safety at sea and derby fishing conditions, NMFS would not open the South Atlantic region for the 2008 first trimester season under the no action alternative (Table 2.1).

In the Gulf of Mexico region, 187.4 mt dw was landed during the 2007 first trimester season which is 125.1 mt dw over the 2007 first trimester quota. Therefore, the adjusted quota for the 2008 first trimester season after considering over harvest relative to the baseline quota is 51 mt dw. Based on daily catch rates in January, NMFS calculates that approximately 42.4 percent of the available first trimester LCS quota (51 mt dw) would likely be taken in five days. On average, approximately 21.6 mt dw has been reported during a closure which is 42.3 percent of the available quota. If catch rates in 2008 are similar to past average catch rates and landing after closures remain consistent, 84.7 percent (42.4 percent + 42.3 percent) of the second trimester quota would be caught in five days, and 93.2 percent (50.9 percent + 42.3 percent) of the first trimester quota would be caught in six days. Due to extensive overharvest of LCS in the Gulf of Mexico region in recent years, and to avoid a subsequent overharvest in the 2008 first trimester season, the 2008 first trimester season would be open for five days (Table 2.1) under status quo conditions. However, with a five day season, there would be concerns about safety at sea and derby fishing conditions.

The North Atlantic region landed 0 mt dw during the 2007 first trimester season. The resulting underharvest of 7.9 mt dw would be carried over to the 2008 first trimester and the quota would be 10.7 mt dw. Based on monthly catch rates in January, NMFS calculates that approximately 3.6 percent of the available first trimester LCS quota (10.7 mt dw) would likely be taken by the end of the first trimester. Therefore, the 2008 first trimester season in the North Atlantic region would be open from January 1 to April 30, 2008, unless Amendment 2 to the Consolidated HMS FMP becomes finalized and effective prior to this date.

Table 2.1 Adjusted quotas and season lengths for the 2008 1st trimester season for LCS under Alternative 1 (no action). All landings are in mt dw.

Region (Regional Quota for LCS)	(A) 2008 base annual quota (1,017 mt dw)	(B) Trimester Percent	(C) Trimester Quota (A*B)	(D) 2007 1st Trimester Quota (adjusted)	(E) 2007 1st Trimester Landings	(F) 2007 1st Trimester Under- or Overharvest (D-E)	(G) 2008 Adjusted 1st Trimester Quota (C+F)	(H) Fishing Season
North Atlantic (7%)	71.2	0.04	2.8	7.9	0	7.9	10.7	January 1 – April 30, 2008
South Atlantic (41%)	417	0.333	138.9	-112.9	9.7	-122.6	16.3	CLOSED
Gulf of Mexico (52%)	528.8	0.333	176.1	62.3	187.4	-125.1	51	January 1 – January 5, 2008
Total	1,017		317.8	-42.7	197.1	-239.8	78	

With regards to SCS, the no action alternative would maintain the existing regulations and procedures for establishing quotas within the respective regions. Table 2.2 describes the SCS quotas and fishing seasons that would occur as a result of Alternative 1. Because there were no overharvests of SCS in the 2007 first trimester season in any region, the SCS 2008 first

trimester season would open on January 1, 2008, in each region and would stay open until Amendment 2 to the Consolidated HMS FMP is finalized and effective, as long as SCS quota was available (Table 2.2).

Table 2.2 Adjusted quotas and season lengths for the 2008 1st trimester season for SCS under Alternative 1 (No Action). All landings are in mt dw.

Region (Regional Quota for SCS)	(A) 2008 base annual quota (454 mt dw)	(B) Trimester Percent	(C) Trimester Quota (A*B)	(D) 2007 1st Trimester Quota (adjusted)	(E) 2007 1st Trimester Landings	(F) 2007 1st Trimester Under- or Overharvest (D-E)	(G) 2008 Adjusted 1st Trimester Quota (F+C)	(H) Fishing Season
North Atlantic (3%)	13.6	0.04	.54	18.8	0	18.8	19.3	January 1, 2008 – TBD
South Atlantic (49%)	222.5	0.333	74.1	308.4	27.6	280.8	354.9	January 1, 2008 – TBD
Gulf of Mexico (48%)	217.9	0.333	72.6	15.1	14.5	0.6	73.2	January 1, 2008 – TBD
Total	454		147.2	342.3	42.1	300.2	447.4	

Alternative 2 Combine the Large Coastal Shark regions and quota, Status Quo for Small Coastal Sharks

This alternative would combine the North Atlantic, South Atlantic, and Gulf of Mexico regions for the LCS fishery into one region. When adding the LCS 2008 adjusted first trimester quota in each region (Table 2.1), the resultant quota would be 78 mt dw. Weekly and daily catch rates in each region are used when determining the opening and closing dates in each region for a given trimester season. To determine the catch rates for all the regions combined, the landings from 2004-2007 in each month and in each region were added together and average weekly catch rates were calculated. This combined data was also used to determine the amount of quota that is taken during a federal closure. Based on average daily catch rates in January, NMFS calculates that approximately 55.2 percent of the available combined quota (78 mt dw) would likely be taken in six days. Dealer data also indicate that, on average, approximately 26.3 mt dw of LCS has been reported by dealers during Federal closures in all regions between January and April (first fishing season). This is approximately 33.8 percent of the available quota. If catch rates in 2008 are similar to average catch rates from 2004-2007 and landings after closures remain consistent, 89 percent (55.2 percent + 33.8 percent) of the first trimester quota could be caught in six days, and 98.1 percent (64.3 percent + 33.8 percent) of the quota could be caught in 7 days. Therefore to avoid overharvests of LCS during the 2008 first trimester, the season would open on January 1 and would close on January 6, 2008, under alternative 2. The SCS regional quotas and seasons would remain as described in alternative 1, the no action alternative (Table 2.2).

Alternative 3 Close Large Coastal Sharks in all regions until Amendment 2 to the Consolidated HMS FMP is effective, Modified Status Quo for Small Coastal Sharks (*Preferred Alternative*)

This alternative would close LCS fishing in the Gulf of Mexico, South Atlantic and North Atlantic regions during the 2008 first and second trimester seasons. These measures will remain in place until they are replaced by measures implemented under draft Amendment 2 to the Consolidated HMS FMP (Table 2.3). There would be no separate regulatory action to determine LCS quotas and season lengths for the 2008 second trimester season.

The LCS quotas for the 2007 merged second and third seasons in the Gulf of Mexico and South Atlantic regions were 83.1 mt dw and 163.70 mt dw, respectively. The LCS quota for the 2007 second season in the North Atlantic region was 69 mt dw. The North Atlantic region was closed during the 2007 third trimester season. As of October 18, 2007, preliminary landings data from federal dealers indicate the Gulf of Mexico landed 505.4 mt dw, which is 422.3 mt dw over their quota. The South Atlantic region landed 185.7 mt dw, which is 22 mt dw over their quota; and the North Atlantic region landed 123.6 mt dw, which is 54.6 mt dw over the quota. Under current regulations, any over- or underharvest that occurs in the 2007 second and third trimester season would be taken into account during the 2008 second and third trimester seasons. As mentioned above, the LCS closure in each region under the preferred alternative would remain effective during the 2008 first and second trimester seasons. These measures would remain in place until they are replaced by those implemented under draft Amendment 2 to the Consolidated HMS FMP. However, if draft Amendment 2 to the Consolidated HMS FMP is unexpectedly delayed, NMFS may consider a rulemaking for the 2008 third trimester season. NMFS would announce any future action in a Federal Register notice. If the 2008 second and third trimester seasons were merged similar to 2007, Table 2.4 shows what the 2008 merged second and third trimester LCS quotas would be at this time, based on 2007 LCS landings received from federal dealer reports as of October 18, 2007. These numbers are not final and as stated above, NMFS is not expecting to take action on the 2008 second season. Rather, NMFS plans to implement draft Amendment 2 to the Consolidated HMS FMP by July, the traditional start of the second season.

Under alternative 3, the SCS regional quotas and season open date would remain as described in the no action alternative (Table 2.2). However under this alternative, if Amendment 2 to the Consolidated HMS FMP is not final and effective by the start of the 2008 second trimester season, a modification is included to the no action alternative that would open the SCS fishery on May 1, 2008, with the baseline quotas of 12 mt dw in the North Atlantic region, 74.1 mt dw in the South Atlantic region, and 72.6 mt dw in the Gulf of Mexico region and would remain open during the 2008 second trimester as long as the SCS quota in each region was available. NMFS would not publish a separate rule announcing the 2008 second trimester SCS quotas as this action would serve as the notification of the quotas for the SCS 2008 second trimester season.

Table 2.3 Adjusted quotas and season lengths for the 2008 1st trimester season for LCS in each region under Alternative 3.

Region (Regional Quota for LCS)	(A) 2008 base annual quota (1,017 mt dw)	(B) Trimester Percent	(C) Trimester Quota (A*B)	(D) 2007 1st Trimester Quota (adjusted)	(E) 2007 1 st Trimester Landings	(F) 2007 1 st Trimester Under- or Overharvest (D-E)	(G) 2008 Adjusted 1 st Trimester Quota (F+C)	(H) Fishing Season
North Atlantic (7%)	71.2	0.04	2.8	7.9	0	7.9	10.7	CLOSED
South Atlantic (41%)	417	0.333	138.9	-112.9	9.7	-122.6	16.3	CLOSED
Gulf of Mexico (52%)	528.8	0.333	176.1	62.3	187.4	-125.1	51	CLOSED
Total	1,017		317.8	-42.7	197.1	-239.8	78	

Table 2.4* Potential available quotas for the LCS 2008 2nd and 3rd trimester seasons if the 2nd and 3rd seasons were merged in the South Atlantic and Gulf of Mexico region similar to what was done in 2007. These quotas are based on preliminary landings from federal dealers as of October 18, 2007.

Region (Regional Quota for LCS)	(A) 2007 base annual quota (1,017 mt dw)	(B) Trimester Percent	(C) Trimester Quota (A*B)	(D) 2007 merged 2 nd and 3 rd tri. quota (adjusted)	(E) 2007 merged 2 nd & 3 rd Tri Landings	(F) 2007 merged 2 nd & 3 rd Tri Under- or Overharvest (D-E)	(G) 2008 Available 2 nd & 3 rd Trimester Quota (F+C)
North Atlantic (7%)	71.2	0.88	62.6	69.0 (Closed 3 rd season)	123.6	-54.6	8.0
South Atlantic (41%)	417	0.333	138.9	163.70	185.7	-22	116.9
Gulf of Mexico (52%)	528.8	0.333	176.1	83.1	505.4	-422.3	-246.2

* This table is included in the preferred alternative as information only

2.1 Alternatives Considered But Not Further Analyzed

2.1.1 Close all Atlantic shark fisheries in all regions until Amendment 2 to the HMS FMP is effective.

This alternative would close the LCS, SCS, and pelagic shark fisheries in the Gulf of Mexico, South Atlantic, and North Atlantic regions to commercial fishermen during the 2008 first trimester season until Amendment 2 of the HMS FMP is effective. This alternative was being considered but not further analyzed at this time because there is ample SCS and pelagic shark quota available. Because there were no overharvests of SCS in the 2007 first trimester season, commercial fishermen should have the opportunity to catch the available SCS and pelagic shark quota and, except for porbeagle sharks, Amendment 2 to the Consolidated HMS FMP does not address SCS or pelagic shark management measures. Closing the entire Atlantic shark fishery would cause unnecessary economic impact and could result in excessive regulatory discards of sharks because vessels with commercial shark permits would have to discard all sharks landed incidentally in the pursuit of other HMS and non-HMS species.

3.0 DESCRIPTION OF AFFECTED ENVIRONMENT

Please refer to Chapter 3 in the draft Amendment 2 to the Consolidated HMS FMP, which describes the affected environment and provides a view of the current condition of the fishery, the biological status of shark stocks, the marine ecosystems in the fishery management unit, the social and economic condition of the fishing interests, and fishing communities. The draft Amendment 2 to the Consolidated HMS FMP, and the proposed rule (July 27, 2007; 72 FR 41392) can be found at the HMS Management Division's website at <http://www.nmfs.noaa.gov/sfa/hms/>, or at www.regulations.gov, identified by the RIN 0648-AU89. Hard copies of these documents can be obtained by contacting the HMS Management Division at 301-713-2347.

4.0 ENVIRONMENTAL CONSEQUENCES OF ALTERNATIVES

Alternatives Considered for LCS

Alternative 1	Maintain existing procedures for addressing regional trimester over- and underharvests when establishing the regional quotas and seasons for the 1 st trimester season of 2008 (No Action)
Alternative 2	Combine the Large Coastal Shark regions and quota, Status Quo for Small Coastal Sharks and Pelagic Sharks
<i>Alternative 3</i>	<i>Close Large Coastal Sharks in all regions until Amendment 2 to the Consolidated HMS FMP is effective, Status Quo for Small Coastal Sharks and Pelagic Sharks (Preferred Alternative)</i>

Ecological Impacts

Alternative 1

Under alternative 1, the South Atlantic region overharvest of 122.6 mt dw from the 2006 and 2007 first trimesters results in a quota of 16.3 mt dw for the 2008 first trimester season (Table 2.1). Based upon historical (2004-2007) average catch rates and landings that occurred during federal closures during the first trimester, 96.9 percent of the quota would be harvested if the season was open for one day.

The LCS overharvest that occurred in the South Atlantic region during the 2006 first trimester season likely had negative ecological impacts. However, closing the South Atlantic region during the 2007 first trimester season may have offset some of these negative ecological impacts. In addition, there may be positive ecological impacts from closing the South Atlantic region to directed fishing effort for LCS between August 15, 2007 (the closure date of the 2007 second trimester), and the end of the 2008 first trimester season. The absence of LCS shark fishing effort in the entire South Atlantic region during the first trimester season may also maintain low fishing mortality during the beginning of pupping season for several LCS species (NMFS, 2003). Under alternative 1, the South Atlantic region would be closed during the first trimester for the second consecutive year. Thus, while there may be positive ecological impacts resulting from reduced effort, fisheries statistics would not be collected for this region and time period for a second consecutive year. This data deficiency may have an effect on subsequent stock assessments.

Under alternative 1, the South Atlantic region LCS closure may also have positive ecological impacts for protected species and other incidentally-caught species. Observer data indicate that 64 percent of sea turtle interactions, mostly loggerhead sea turtles, occur in the BLL fishery throughout all regions during the first four months of the year (January – April). Reduced fishing effort in the South Atlantic region may also have slightly positive ecological impacts for smalltooth sawfish. From 1994-2006, the Commercial Shark Fishery Observer

Program and the Gillnet and PLL Observer Program documented one interaction of smalltooth sawfish with bottom longline gear in 2002 off the coast of Georgia and South Carolina and two interactions with bottom longline gear in each year of 2005 and 2006 on the Atlantic Ocean side of the middle Keys.

The LCS closure in the South Atlantic region could lead to increased effort in other fisheries and other regions for which bottom longline (BLL) is a primary gear (e.g., snapper, grouper, tilefish) and/or other HMS fisheries, including but not limited to pelagic longline (PLL) and gillnet, as little gear re-configuration would be required. These other fisheries are limited access; therefore, new participants would need to transfer a permit from an existing vessel subject to restrictions prior to participation. If fishermen do not currently hold permits in these fisheries, it would be difficult and expensive for them to enter these fisheries in the future. There is a possibility that LCS could be caught with BLL gear by vessels already permitted in these fisheries, however, it is difficult to predict the quantity of dead discards that may occur as a result of this incidental catch. The 2006 BLL observer data indicate that, of the observed BLL trips for species other than sharks, 6.5% of the total catch was sharks, 79.6% of which were SCS (blacknose and Atlantic sharpnose). The fisheries that may experience redirected shark fishing effort are not anticipated to experience further overfishing or being further overfished as these stocks are managed with strict retention limits and quotas that are either in place or about to be implemented. Redistributed effort is not anticipated to result in a significant increase in bycatch or interactions with protected resources due to these management measures.

Under alternative 1, the Gulf of Mexico region would have 51.0 mt dw of quota available for harvest in the 2008 first trimester season (Table 2.1). This reduced quota accounts for the overharvest of 125.1 mt dw that occurred during the 2007 first trimester. If historical (2004-2007) first trimester catch rates and landings after closures remain consistent, 84.7 percent of the LCS quota would be harvested in five days and 93.2 percent of the first trimester quota would be harvested in six days. Due to extensive overharvest of LCS in the Gulf of Mexico region in recent years, and to avoid a subsequent overharvest in the 2008 first trimester season, the 2008 first trimester season would be open for five days.

As the quota for the first trimester of 2008 accounts for Gulf of Mexico LCS overharvests during the 2007 first trimester season, the resulting fishing season would be shorter than recent years, providing overall slightly positive ecological benefits assuming effort remains constant from previous years. However, a slight increase in shark fishing effort in the Gulf of Mexico region could occur if fishing effort moves from the South Atlantic region, which would be closed. A shift in fishing effort from the South Atlantic region combined with a possibly intense five day LCS season in the Gulf of Mexico may produce catch rates that are higher than those averages calculated from previous years, potentially resulting in overharvests. Additionally, given the short season, it is possible that fishermen who usually fish in the Gulf of Mexico region could increase their effort for these few days, also leading to overharvests.

A substantially shorter season length than previous years (2004-2006) for the Gulf of Mexico under this alternative may decrease fishing efficiency and thus result in decreased survival rates for bycatch species. However, it is not anticipated to have overall increased adverse effects on protected resources as directed fishing effort will be reduced to a five day

season. Interactions with sea turtles may occur during this time, primarily due to the increased observations of sea turtles in the BLL fishery during the first trimester season. Smalltooth sawfish interactions are observed more frequently in the Gulf of Mexico region by the Commercial Shark Fishery Observer Program and the Gillnet and PLL Observer Program (1994-2006). Seven observed interactions with bottom longline gear occurred in the Gulf of Mexico. In July 2007, two additional interactions of smalltooth sawfish were observed with shark BLL gear in the Gulf of Mexico region (Florida Keys), one of which was lethal. Only one catch of a smalltooth sawfish in the shark gillnet fisheries has been observed which occurred June 2003 off the west coast of Florida. While possibilities for these interactions may exist, the Gulf of Mexico season would be closed to LCS fishing for most of the first trimester. This may result in overall slightly positive ecological effects due to reduced interactions with protected species similar to those described for the closure of the South Atlantic region. The limited fishing season in the Gulf of Mexico region, however, might lead to increased effort in other fisheries for which BLL is a primary gear (small coastal sharks, reef fish, snappers and groupers, and tilefish) as this would require the least amount of gear re-configuration. As described under the paragraph above concerning South Atlantic LCS fishery impacts, these fisheries are limited access and new participants would need to transfer a permit from an existing vessel subject to restrictions prior to participation. Any sandbar and non-sandbar LCS landings taken in the Gulf of Mexico region (or in any of the other regions) would need to be accounted for once Amendment 2 to the Consolidated HMS FMP is final and effective.

The North Atlantic region would have an underharvest of 7.9 mt dw transferred to the 2008 first trimester season resulting in a quota of 10.7 mt dw. Under alternative 1 and as described in Chapter 2, this region would open January 1, 2008, and close when the Consolidated HMS FMP Amendment 2 became effective. As with landings in the Gulf of Mexico, any landings that occurred during this time would need to be adjusted from the sandbar and non-sandbar LCS quota once Amendment 2 is effective.

The Agency does not anticipate an increase in fishing effort in the North Atlantic region as a result of the larger quota and extended fishing season for LCS in the first trimester from vessels in other regions since LCS are generally not abundant in the North Atlantic region until later in the year (second and third trimesters). Therefore, no ecological impacts are anticipated to overfished sandbar sharks or protected dusky sharks in this region. Ecological impacts to other protected species would be neutral in this season and region and similar to previously analyzed impacts as there is low fishing effort due to poor weather conditions during the first trimester, rare interactions with sea turtles, and no observed interactions with the smalltooth sawfish as the North Atlantic region is outside its current range.

The SCS fishery experienced underharvests in all regions during the first trimester of 2007. The South Atlantic region had underharvest of 280.8 mt dw during the 2007 first trimester resulting in a quota of 354.9 mt dw for the 2008 first trimester season.

Most SCS landings are made through the directed gillnet fishery (strike gillnet, drift gillnet, and sink gillnet), which is primarily based out of ports in northern Florida. Observer data from 2005-2006 indicate that the total observed strike gillnet catch consisted of eight species of sharks, with blacktip and finetooth comprising 87.0 percent of the total catch. A majority of the

sharks caught with strike gillnet were LCS (82.7 percent). Total observed drift gillnet catch consisted of eleven species of sharks, with Atlantic sharpnose and blacktip sharks comprising 77.8 percent of the total catch. If the LCS fishery is closed in the South Atlantic region this may lead to blacktip sharks being discarded dead. This could have slightly negative ecological impacts; however, it is difficult to quantify the number of dead discards that may occur. A majority of the sharks caught on drift gillnet sets were SCS (71.1 percent). Total observed sink gillnet catch consisted of sixteen species of sharks, with Atlantic sharpnose, bonnethead and blacktip sharks comprising 67.1 percent of the total catch. A majority of the sharks caught with sink gillnet were SCS (63.3 percent). Twenty dusky sharks (0.15 percent) were incidentally caught in strike gillnets, one white shark (less than 0.01 percent) was caught in the drift gillnet sets, and one dusky and one Atlantic angel shark (0.03 percent) were caught in sink gillnets. Therefore, if effort increases in the gillnet fishery, slightly negative ecological impacts may occur in regards to dusky sharks and other shark species that are on the prohibited species list during the SCS season.

Slightly negative ecological impacts in the South Atlantic region would occur from the effort in the SCS fishery during the 2008 first trimester season which, compared to a seasonal closure, would result in a relative increase in mortality of protected species. Loggerhead turtles are rarely caught in the shark gillnet fishery. From 1999 to 2006, one loggerhead per year was caught from 2000 to 2002, five were caught in 2005, and three were caught in 2006. Leatherback turtles have been sporadically caught from 1999 to 2006. A total of 19 interactions were observed with 14 that occurred in 2001. As a result of the increased number of leatherback interactions in 2001, NMFS temporarily closed the shark gillnet fishery (except for strikenetting) from March 9 to April 9, 2001 (66 FR 15045, March 15, 2001). Observed takes of marine mammals in the Southeast Atlantic shark gillnet fishery during 1999 to 2004 totaled 12 bottlenose dolphins and four spotted dolphins. From 1994-2007, the Commercial Shark Fishery Observer Program and the Gillnet and PLL Observer Program have not documented any interactions of smalltooth sawfish with gillnet gear. Therefore, gear interactions between gillnets and smalltooth sawfish in the South Atlantic region not expected to be high.

The Gulf of Mexico region had a SCS underharvest of 0.6 mt dw during the 2007 first trimester which, when carried forward to the 2008 first trimester season, results in a quota of 73.2 mt dw. In the Gulf of Mexico, SCS are caught on both gillnet and BLL gear. Ecological impacts to incidental and protected species are likely to be neutral. Few, if any interactions have occurred between protected resources and gillnet gear targeting sharks in the Gulf of Mexico. Only one smalltooth sawfish interaction has occurred in the Gulf of Mexico region in the shark gillnet fishery since the observer program began in 1994. Some interactions of BLL gear with sea turtles under this alternative may occur as observer data indicate the first four months of the year have higher interactions (64%) than the remainder of the year. From 1994-2007, nine interactions of smalltooth sawfish with BLL gear have been documented. BLL fishing efforts shifting from LCS to non-shark fisheries in the Gulf of Mexico due to the five day season may result in increased incidental landings of SCS. From July 2005 to December 2006 in the Gulf of Mexico, observers recorded on trips targeting grouper/snapper or grouper/shark that 8.3 percent of the catch was sharks, and 79.1 percent of these were small coastal sharks.

The North Atlantic region SCS underharvest of 18.8 mt dw was carried forward to the 2008 first trimester season, resulting in a quota of 19.3 mt dw. Under alternative 1, and as described in Chapter 2, this region would open January 1, 2008. Given that SCS are generally not abundant in the North Atlantic region during the first trimester, no ecological impacts are anticipated to overfished or prohibited shark species as a result of ample SCS quota in this region. Ecological impacts to other protected species would be neutral and similar to previously analyzed impacts as, in this season and region, low fishing effort exists due to poor weather conditions during the first trimester, interactions with sea turtles are rare, and the North Atlantic region is outside the current range of the smalltooth sawfish.

The SCS 2008 first trimester season would open on January 1, 2008, in each region and would stay open until Amendment 2 to the Consolidated HMS FMP is finalized and effective, as long as SCS quota was available. SCS landing rates would be monitored by NMFS throughout the season and the public would be notified when the quota was over 80 percent for any region. The overall ecological impacts of this alternative on SCS in all regions would likely be neutral while harvests remain within established quota limits.

Alternative 2

Alternative 2 would combine the LCS quotas from the South Atlantic, Gulf of Mexico, and the North Atlantic regions allowing for a 2008 adjusted first trimester quota of 78.0 mt dw. As described in Chapter 2, historical catch rates would limit the fishery to a concurrent six day season in all regions. The regions were implemented in 2004 to address regional differences in fisheries, seasonal variation in shark pupping, and to provide fishing opportunities for regions that do not have sharks present throughout the year. A single region would simplify quota monitoring and provide a single date for season closure. This would also relieve confusion between fishermen and dealers in different regions regarding when dealers can accept shark products. Currently, dealers cannot accept shark products after a region has closed for a given season, even if the sharks were caught in another region that was open at the same time. Negative consequences of establishing a single region combined with a substantially shortened season might include derby-style fishing and safety at sea concerns for all regions, as well as decrease fishing efficiency and resultant decreased survival rates for bycatch. Additionally, establishing a substantially shortened season and opening the waters in all regions, particularly the South Atlantic and the Gulf of Mexico, could cause negative ecological impacts through potential overharvests of overfished species in multiple regions.

The season length for all regions combined under alternative 2 would be six days. For the South Atlantic region that would be an increase from the status quo of zero days to six days. This increase in the South Atlantic region may result in negative ecological impacts as this region still needs to account for overharvests from the two consecutive first trimester seasons (2006, 2007) under alternative 1. Incidental and protected species bycatch would increase compared to the status quo alternative.

The season length for the Gulf of Mexico would increase from 5 days to 6 days under this alternative. The ecological impacts would be similar to impacts previously analyzed under alternative 1.

Under alternative 2, the season length for the North Atlantic would decrease from the entire first trimester season to six days. Ecological benefits may increase slightly or would remain neutral as fishing effort is historically low during this season, as confirmed by the average first trimester landings (2004-2007) in the North Atlantic of 0.4 mt dw. This region could be disadvantaged as a result of combining the three regions into one region, as this region does not have sharks present year round.

Any sandbar and non-sandbar LCS landings taken under this alternative would need to be accounted for once the Amendment 2 to the Consolidated HMS FMP is final and effective. The preferred alternative suite would establish a small research fishery that would be permitted to harvest the entire 116.6 mt dw sandbar quota. Under this alternative, directed LCS fishing effort would occur in both the South Atlantic and Gulf of Mexico regions, compared to the no action alternative where the season would open only to the Gulf of Mexico for five days. This expanded area with increased available quota increases the number of LCS landings that would be need to be adjusted from the sandbar and non-sandbar LCS quota once Amendment 2 is effective.

Under alternative 2, the SCS season lengths and quotas would remain the same as those described under no action. The ecological impacts of the SCS fishery in conjunction with the changes proposed to the LCS fishery under alternative 2 are not anticipated to be significantly different than those analyzed under alternative 1, no action.

Alternative 3

Alternative 3, the preferred alternative, would close the LCS fishery in all regions during the 2008 first and second trimester seasons. These measures will remain in place until they are replaced by measures implemented under Amendment 2 to the Consolidated HMS FMP. National Standard 1 requires NMFS to establish conservation and management measures to prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry. Closing the LCS fishery in all regions during the 2008 first and second trimester seasons and not allowing fishermen to catch the available LCS quota would prevent further overharvests, provide the most ecological benefits to overfished sandbar and dusky shark populations, and reduce fishing pressure on other LCS species. Additionally, closing the LCS fishery could reduce derby fishing conditions and safety at sea concerns that would arise if NMFS opened the fishery for such a short period of time. Given a six day season that would begin January 1 under alternative 2, fishermen may feel forced to fish in poor weather conditions or force fishermen to fish for species they are less efficient at targeting. Amendment 1 to the FMP for Atlantic Tunas, Swordfish, and Sharks established a rebuilding plan for LCS that incorporated the results of the 2002 LCS stock assessment and established optimum yield for the LCS fishery by setting baseline LCS quotas. In order to strike a balance between preventing further overfishing, achieving optimum yield from the fishery, and avoiding safety at sea concerns (National Standard 10), NMFS prefers to close the LCS fishery during the 2008 first and second trimester seasons. The small amount of LCS quota that is available due to the LCS closure may help offset the amount of overharvests that need to be accounted for in draft

Amendment 2 to the Consolidated HMS FMP to achieve optimum yield per the results of the 2006 LCS stock assessments.

National Standard 2 requires that conservation and management measures be based upon the best scientific information available. The baseline LCS quotas and quota adjustments that NMFS proposed in this rulemaking were established in Amendment 1 to the FMP for Atlantic Tunas, Swordfish and Sharks and are based on the 2002 LCS stock assessment. Due to recent LCS overharvests during the first trimester season, the adjusted LCS quotas for the 2008 first trimester season are significantly reduced. The small amount of available LCS quota would lead to substantially shortened seasons or closures during the 2008 first trimester season. Although the 2002 LCS stock assessment was the best available science when the current LCS baseline quotas were established, NMFS also considered the results of the 2006 LCS stock assessment when determining the most appropriate course of action for the LCS fishery in this rulemaking. Overall, the 2008 first trimester baseline quotas are based on the best available science when those quotas were established, which is the 2002 LCS stock assessment and the adjustments are based on the best available landings data in recent years. Changes to the LCS baseline quotas, as proposed in Amendment 2 to the Consolidated HMS FMP, are based on the 2006 LCS stock assessment and were considered as part of this rulemaking.

National Standard 4 requires that conservation and management measures shall not discriminate between residents of different States. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges. This action does not discriminate between residents of different states because the LCS closure would apply to all regions and the SCS and pelagic shark fisheries will open in all regions on January 1, 2008. In addition, consistent with the regulations at 50 CFR 635.27 (b)(1)(vi)(C), sharks taken and landed from state waters are counted against the fishery quota for the applicable region and time period. National Standard 3 states that fish stocks shall be managed as a unit throughout its range. Therefore, deducting state landings from federal quotas is necessary to manage stocks throughout the range and does not discriminate between residents of different states. Some residents may be impacted differently but this measure is needed to prevent overfishing. These landings are also included when assessing the stock. The shark fishery is not the only fishery where NMFS deducts state landings from Federal quotas. Other fisheries in the southeast region such as snapper/grouper and reef fish fisheries also deduct state landings from federal quotas, consistent with 50 CFR Part 622.42. However, to improve consistency between state and federal regulations, NMFS is actively working with the Atlantic States Marine Fishery Commission and, as part of Amendment 2 to the Consolidated HMS FMP, wrote letters to all states comparing their regulations with Federal regulations.

Positive ecological impacts would also result from the closure for incidental and protected species, particularly for sea turtles as 64 percent of annual sea turtle interactions occur in the BLL fishery between January and April. Similar to alternative 1, closures under alternative 3 could lead to increased effort in other fisheries and other regions for which BLL is a primary gear (e.g., SCS, groupers, tilefish, etc.) since little gear re-configuration would be

required. Also as discussed under status quo, these fisheries are limited access, and strict management measures through retention limits and quotas are either in place or about to be implemented, which would protect these stocks from further overfishing and being further overfished by any redirected shark fishing effort. LCS could possibly be caught with BLL gear by vessels pursuing these other species; however, it is difficult to predict the quantity of dead incidental discards that may occur as a result.

Under alternative 3, the status quo season lengths and quotas would remain for SCS. However, under this alternative, if Amendment 2 to the Consolidated HMS FMP is not final and effective by the start of the 2008 second trimester season, the SCS fishery would open on May 1, 2008, with the baseline quotas of 74.1 mt dw in the South Atlantic region, 72.6 mt dw in the Gulf of Mexico region, and 12.0 mt dw in the North Atlantic region. The ecological impacts of the SCS fishery in conjunction with the changes to the LCS fishery under alternative 3 are not anticipated to be significantly different than those described under alternative 1 (status quo).

Social and Economic Impacts

Alternative 1

Alternative 1 would have negative social and economic impacts associated with an LCS closure in the first trimester of 2008 in the South Atlantic region for participants in the commercial fisheries. Under this alternative, the South Atlantic region would not open due to a large overharvest that occurred in the first trimester of 2006 and participants in this region would not be able to target LCS or land them incidentally for the second consecutive first trimester season. Negative economic impacts from the 2007 first trimester season may have been offset from the economic gain encountered from the 2006 overharvest. However, it is unlikely that those benefits would have any positive impact in 2008 especially given the short season in 2007 second and third seasons resulting in the region being closed since August 15, 2007. Any economic gain resulting from the slight overharvest during the 2007 first trimester season would have been gained by state licensed fishermen and not offset negative economic impact to federal fishermen. Based on the ex-vessel prices per pound dw in 2006 (Table 6.4), median prices for LCS in the South Atlantic for LCS meat and fins were \$0.46/lb and \$16.20/lb, respectively. The closure of the region would lead to a loss in revenue of approximately \$7,121 for LCS flesh (95 percent of the 16.3 mt dw) and \$13,122 for shark fins (based on the 5 percent shark fin to carcass ratio) totaling \$20,243. Fishing communities in the South Atlantic region that rely heavily on shark landings would be more adversely affected than communities that rely on a variety of fish products. Under this alternative, economic impacts of the LCS closure in the South Atlantic region may be mitigated somewhat for vessels in closer proximity (Southern Florida) to the Gulf of Mexico region because these vessels can travel to the Gulf of Mexico region to target LCS provided they land them in that region. Logbook data from 2005 indicates that there were 10 vessels that had landings in both regions. The 2008 first trimester closure is the second consecutive closure for the South Atlantic region. This continued closure results in disrupted revenue flow and additional potential negative economic impact.

Landings of LCS in the Gulf of Mexico during the 2007 first trimester resulted in a 300 percent (187.4 mt dw) overharvest of the LCS quota. This left a remainder of 51.0 mt dw

available for the 2008 first trimester and a season length of five days. The 125.1 mt dw overharvest was due to landings from fishermen fishing in state waters and federal fishermen did not benefit from the revenue received from the 2007 overharvest. The economic impact resulting from the five day season in the Gulf of Mexico under alternative 1 may have slightly positive localized economic and social impacts; however, commercial fishermen would experience negative economic impacts from the substantially shortened season. Based on the ex-vessel prices per pound dw in 2006 (Table 6.4), median prices for LCS in the Gulf of Mexico for LCS meat and fins were \$0.47/lb and \$20.65/lb, respectively. The 51.0 mt dw quota then allows for approximately \$22,772 for LCS flesh (95 percent of the quota weight) and \$52,658 for shark fins (based on the 5 percent shark fin to carcass ratio), totaling approximately \$75,430. Under alternative 1, there might be slight positive economic impacts as a result of a limited LCS season in the Gulf of Mexico coupled with a South Atlantic LCS closure in the first trimester of 2008 if conditions cause prices in 2008 to increase significantly; however, these are difficult to estimate. Derby style fishing conditions and safety at sea concerns may occur through the shortened season causing negative social impacts. The intense fishing period may flood the market for that period of time, causing a reduction in the ex-vessel price of shark products, or possibly causing fishermen to become less efficient in their fishing operations and reducing the quality of the shark products landed. Fishing communities in the Gulf of Mexico region that rely heavily on shark landings would be more adversely affected than communities that rely on a variety of fish products. The LCS closure in the South Atlantic region may shift fishing pressures by South Atlantic vessels in close proximity (Southern Florida) to the Gulf of Mexico during the five day season, reducing economic potential from the Gulf of Mexico.

An underharvest of 7.9 mt dw occurred in the North Atlantic region during the 2007 first trimester resulting in a 2008 adjusted first trimester quota of 10.7 mt dw. This quota would allow for a total approximate value of \$13,415 based upon the average price \$0.56/lb of LCS flesh and fins in the North Atlantic (Section 6.4 for calculation description). However, the likelihood of this maximum revenue from the available LCS quota occurring would be unlikely as the average total LCS landed in the North Atlantic region from 2004 to 2007 is 0.4 mt dw (\$493), and a maximum landing of 1.07 mt dw in 2004 (\$1,321).

No overharvests for SCS occurred in any region during the 2007 first trimester season. Since all regions would be open during the 2008 first trimester season, no change in economic impacts would be realized in the South Atlantic, Gulf of Mexico, and North Atlantic regions under alternative 1. Since the SCS fishery would remain open with full quotas available, fishing pressures may shift from the LCS fishery to SCS, providing positive economic impact. Based upon the 2006 ex-vessel price per pound of SCS in the South Atlantic and Gulf of Mexico regions, and the 2005 ex-vessel price per pound of SCS in the North Atlantic regions, potential revenue for meat would be \$0.55, \$0.53, and \$0.43, respectively (Table 6.4).

Alternative 2

Alternative 2, which combined the available quota from each of the three regions into a single quota of 78.0 mt dw for all regions allows for a six day season. This would result in slightly positive localized social and economic impacts for the South Atlantic region relative to alternative 1 (no action). The economic and social impacts in the Gulf of Mexico would be

similar to those impacts previously analyzed under alternative 1. A difference may occur in that vessels may remain in the regions closest to their ports rather than traveling to other regions, thus increasing fishing opportunities for Gulf of Mexico vessels in Gulf of Mexico waters. Combining the regions may have a negative economic impact on regions that do not have sharks present year round (e.g., North Atlantic region). Dealers in all regions, but particularly in the North Atlantic region, would also be affected, possibly even more so than vessels because the LCS season would be closed when shark products would be available in the North Atlantic region. The intense fishing period may flood the market for that period of time, causing a reduction in the ex-vessel price of shark products, or possibly causing fishermen to become less efficient in their fishing operations, potentially reducing the quality of the shark products landed. A six day season in all regions may encourage derby style fishing conditions and increase safety at sea concerns, causing negative social impacts.

The SCS fishery under alternative 2 would remain the same as status quo, described under alternative 1. Thus, the economic and social impacts would be similar to those impacts analyzed previously under alternative 1.

Alternative 3

Alternative 3, the preferred alternative, would result in negative social and economic impacts for the LCS fishery as the fishery would remain closed in all regions from the end of the 2007 second and third season (September 22, 2007) until Amendment 2 to the Consolidated HMS FMP is effective (throughout the first and second trimester season). Negative social and economic impacts have been affecting the South Atlantic and Gulf of Mexico regions over an extended period due to reductions in quotas and seasons since LCS overharvests began in these regions during the first trimester of 2006.

Under alternative 3, social and economic impacts to the South Atlantic region would remain the same as those analyzed in alternative 1. There may be negative social and economic impacts to the Gulf of Mexico region, compared to alternative 1. The five day season under alternative 1 would allow for approximately \$75,430 in LCS flesh and fins for the 51.0 mt dw first trimester quota, providing slightly positive localized socio-economic impacts. The 2008 first trimester quota for the North Atlantic region would be reduced from 10.7 mt dw to zero mt dw; however, as discussed under alternative 1, the economic impact is neutral to slightly negative as the maximum LCS harvest in the North Atlantic occurred in 2004 of 1.07 mt dw, totaling \$1,321 in LCS flesh and fins. Given the LCS overharvests in 2006 in South Atlantic and Gulf of Mexico regions and in the 2007 first trimester in the Gulf of Mexico region, long term, negative economic impacts could occur if current fishing mortality of economically important species (e.g., sandbar sharks) is not decreased as recommended by the LCS stock assessment, and these species continue to be overfished. As a result of closing the LCS fishery for the 2008 first trimester, Atlantic shark fishermen may pursue other options including transferring fishing effort to other fisheries for which they are permitted, acquiring new permits to participate in other fisheries, or relinquishing their permits and leaving the fishing industry.

The SCS fishery under alternative 3 would remain the same as status quo, alternative 1. Therefore, the economic and social impacts would be similar to those impacts analyzed previously under alternative 1.

Summary and Conclusions

Due to LCS overharvests that occurred during the first trimester seasons of 2006 and 2007 in the South Atlantic region, and the first trimester season of 2007 in the Gulf of Mexico region, the LCS quotas and seasons would be significantly reduced in both regions during 2008. Of the three alternatives presented above, NMFS prefers alternative 3, which would close the LCS fishery in all regions until the Amendment 2 to the Consolidated HMS FMP is effective. Closing the regions to LCS directed and incidental commercial fishing until Amendment 2 is final and effective allows for the greatest positive ecological impacts by eliminating potential overharvests which may occur if regions were open, aiding rebuilding (NS1), decreasing bycatch of incidental and protected species (NS9), and removing potential derby fishing conditions (NS3) and safety at sea concerns (NS10). These positive ecological benefits outweigh the negative economic and social impacts under alternative 3, which are different than those under Alternatives 1 (no action) and 2. Under alternatives 1 or 2, any overharvests of LCS that may occur during the open season would need to be adjusted for in the quotas established in Amendment 2 to the Consolidated HMS FMP once it is finalized and effective. The SCS and pelagic fisheries would remain open with full quotas available throughout the 2008 first and second trimester seasons, which may partially offset some of the economic impact of the LCS closure.

4.1 Impacts on Essential Fish Habitat

As described in the Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish and Sharks and the 2006 Final Consolidated HMS FMP, there is no evidence that physical effects caused by fishing BLL gear are adversely affecting EFH for targeted or non-targeted species, to the extent that physical effects can be identified on the habitat or the fisheries. Of the approved gears that are used in the HMS fisheries, only BLL gear, principally targeting large coastal sharks, makes contact with the bottom. If BLL gear becomes hung or entangled on bottom substrates such as rock, and hard and soft corals, it could have some adverse impacts. However, the nature of these impacts to shark EFH overall is considered to be minimal. As noted in Section 10.1 of Amendment 1 and Appendix B of the Final Consolidated HMS FMP, EFH for sharks may encompass a wide range of habitats from coastal waters to deep offshore pelagic waters along the U.S. Atlantic and Gulf of Mexico coasts. Currently, little information exists on the effects of BLL gear on benthic habitats. The principal components of the longline that can produce seabed effects are the anchors or weights, hooks, and mainline. The 1999 NMFS EFH Workshop categorized the impact of BLL gear on mud, sand, and hard-bottom as low.

Additionally, all of the alternatives analyzed, including the preferred alternative, are expected to reduce fishing effort but are not expected to change fishing practices. Therefore, the management measures are not expected to have significant impacts on EFH. As a precautionary measure, NMFS recommends fishermen take appropriate steps to identify and avoid bottom obstructions in order to mitigate any adverse impacts on EFH. The other gear types used to

target sharks, such as gillnet or PLL, are unlikely to have any impact on EFH because they are fished in the water column and not in contact with the bottom.

NMFS is also in the process of examining the need for modifications to EFH for managed species as part of the 5-year review required by the Magnuson-Stevens Act. The 2006 Final Consolidated HMS FMP began the review to the original EFH designations. Any modifications and mitigating measures would be proposed in the upcoming Amendment 1 to the 2006 Consolidated HMS FMP (November 7, 2006; 71 FR 65087).

4.2 Impacts on Other Finfish Species

As described in the sections above, the preferred alternative is expected to reduce fishing effort but is not expected to alter fishing practices in the shark fishery. Fishing pressures may increase, however, in other fisheries for which bottom longline (BLL) is a primary gear (small coastal sharks, reef fish, snappers and groupers, and tilefish) and/or other HMS fisheries, including but not limited to pelagic longline (PLL) and gillnet, as little gear re-configuration would be required. NMFS investigated the different types of commercial permits that directed and incidental shark permit holders currently have in addition to their HMS permits (see Table 3.42 of the draft Amendment 2 to the Consolidated HMS FMP). NMFS found that many directed and incidental shark permit holders also have Gulf of Mexico reef fish, dolphin/wahoo, mackerel (including king and Spanish mackerel), and South Atlantic snapper/grouper commercial permits. A few fishermen also have lobster and non-HMS Charter/Headboat permits. NMFS further evaluated the ability of shark fishermen to move into these other fisheries (*i.e.*, Gulf of Mexico reef fish, dolphin/wahoo, mackerel, and South Atlantic snapper/grouper fisheries). An overview of each of these other fisheries is discussed in detail, including impacts of any redistributed effort to other fisheries, in Section 4.15 of the draft Amendment 2 to the Consolidated HMS FMP. Although these shifts are difficult to quantify, strict retention limits and quotas are either in place or about to be implemented in these fisheries, which would protect these stocks from further overfishing and being further overfished by any redirected shark fishing effort. The management measures in this action, therefore, should not have any significant adverse impacts to other finfish species because of the reduction in fishing effort.

Finfish bycatch for the BLL fishery includes, but is not limited to, skates, rays, cobia, redfish, bluefish, and great barracuda. In the shark gillnet fishery, bycatch includes king mackerel, little tunny, cownose ray, crevalle jack, cobia, spotted eagle ray, great barracuda, tarpon, Atlantic stingray, and Spanish mackerel. The 2006 BLL observer data indicates that teleosts made up 1.1 percent of the observed BLL catch in the South Atlantic and 5.4 percent in the Gulf of Mexico. Because the preferred alternative would reduce effort due to closures in the LCS fishery and would not result in significant changes in fishing practices in the shark fishery, NMFS does not expect that sustainability of these bycatch species would be adversely affected by the action. If fishing pressures increase to other fisheries for which little gear reconfiguration is required, as described in the preceding paragraph, bycatch in those fisheries may be affected. However, because management measures exist in these other fisheries, NMFS does not expect that sustainability of bycatch species in these other fisheries would be adversely affected.

4.3 Impacts on Protected Species

The management measures in this quota adjustment and season length rule for Atlantic shark fisheries are not expected to have adverse impacts on protected species.

The management measures would ensure the fishery operates in a manner consistent with previous analyses and would result in a closure of the LCS commercial fishery for the entire 2008 first trimester, remaining closed until Amendment 2 of the HMS FMP is finalized and effective. A Biological Opinion (BiOp) for Atlantic Shark Fisheries was prepared in October 2003 in response to the proposed measures in Amendment 1 to the FMP for Atlantic Tunas, Swordfish and Sharks. It concluded that the continued operation of the shark fisheries as amended by the actions in Amendment 1 would not adversely affect the continued existence of endangered green, leatherback and Kemp's ridley sea turtles, the threatened loggerhead sea turtle, or the endangered smalltooth sawfish. All BLL interactions will be counted against the five-year BLL Incidental Take Statement (ITS) and all pelagic longline (PLL) will be counted against the three-year PLL ITS per the June 1, 2004 BiOp.

The BLL ITS indicated that the following 5-year total incidental takes were anticipated for the Atlantic shark fishery: 172 leatherback sea turtles of which 88 will be lethal; 1,370 loggerhead sea turtles (of which 280 are expected to be unidentified) of which 755 will be lethal; 30 unidentified sea turtles (any combination of hawksbill, green, and Kemp's ridley sea turtles) with 5 lethal takes per species; and 261 smalltooth sawfish, of which no lethal takes are expected. Current sea turtle take estimates in the BLL shark fishery indicate that the ITS has not been exceeded. Based on observations in the shark BLL fishery, NMFS estimates that there have been interactions with 20.8 smalltooth sawfish (8% of the allowable incidental take of smalltooth sawfish). However, NMFS observed a single lethal take of a smalltooth sawfish in the shark BLL fishery for LCS off the Florida Keys in July 2007. NMFS has observed only this one lethal take of a smalltooth sawfish in the shark BLL or shark gillnet fisheries since the observer program began in 1994. NMFS believes that the likelihood of another lethal smalltooth sawfish interaction occurring in the near future in these fisheries is highly unlikely. In addition, overall effort in the shark fishery in the South Atlantic and Gulf of Mexico regions has been reduced to account for extensive overharvests that occurred in 2006. This could potentially reduce the number of interactions with smalltooth sawfish and BLL gear compared to previous years. Although the SCS fishery will remain open in all regions, increased sawfish interactions are not expected, as BLL gear is not used to harvest SCS in areas where sawfish interactions occur. Therefore, the BLL fishery, as it is currently operating, is not likely to jeopardize the continued existence of smalltooth sawfish or result in the destruction or adverse modification of its critical habitat. Moreover, the fishery, as it is currently operating, will not result in NMFS making an irreversible or irretrievable commitment of resources, which has the effect of foreclosing the formulation or implementation of any reasonable and prudent alternatives.

Furthermore, NMFS published a final rule on February 7, 2007 (72 FR 5633), that implements regulations to reduce post-release mortality of sea turtles and other non-target species caught by participants in the Atlantic BLL shark fishery. That rule requires vessels with BLL gear onboard to possess, maintain, and utilize the same dehooking equipment and protocols

as required of the PLL fishery. While these requirements would not impact interactions with BLL gear, post-hooking survival of sea turtles may increase as a result.

4.4 Coastal Zone Management

On September 27, 2007, NMFS provided all the coastal states with the consistency determination letter, copies of the proposed rule and the draft Environment Assessment. In this letter, NMFS determined that this final rule is consistent to the maximum extent practicable with the enforceable policies of the approved coastal management program of coastal states on the Atlantic including the South Atlantic, Gulf of Mexico and Caribbean that have approved coastal zone management programs. NMFS received letters of concurrence with the consistency determination from the following states: NH, RI, NC, AL, MS, LA, and PA. NMFS has not yet received letters of concurrence from ME, DE, NJ, NY, MD, SC, PR, CT, FL, GA, and USVI and, therefore, NMFS presumes that these states concur with the consistency determination.

4.5 Environmental Justice

Executive Order 12898 requires agencies to identify and address disproportionately high and adverse environmental effects of its regulations on the activities of minority and low-income populations. In particular, the environmental effects of the regulations should not have a disproportionate effect on minority and low-income communities. The communities of Dulac, LA, and Fort Pierce, FL, have significant populations of Native Americans and Black Americans, respectively. These two communities also have significant populations of low-income residents (NMFS, 2006). The preferred alternative is not expected to have a disproportionate impact on these minority or low-income populations because few HMS permit holders actually reside in Dulac, LA (less than 5) and Ft. Pierce, FL (10–15).

4.6 Cumulative Impacts

4.6.1 Past, Present and Reasonably Foreseeable Future Actions

Cumulative impacts are the impacts on the environment, which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts could result from individually minor but collectively significant actions taking place over a period of time (40 CFR § 1508.7). A cumulative impact includes the total effect on a natural resource, ecosystem, or human community due to past, present, and future activities or actions of Federal, non-Federal, public, and private entities. The goal of this section is to describe the cumulative ecological, economic and social impacts of past, present and reasonably foreseeable future actions with regard to the Atlantic shark fishery.

The primary goals of the 1993 Shark FMP and the 1999 FMP for Atlantic Tunas, Swordfish and Sharks were to establish management measures to reduce overfishing, rebuild U.S. Atlantic shark populations, and prevent overfishing of fully fished stocks. In 2003, NMFS amended the measures enacted in the 1999 FMP for Atlantic Tunas, Swordfish and Sharks based

on the 2002 LCS and SCS stock assessments, litigation, and public comments. Implementing regulations for Amendment 1 to the 1999 FMP for Atlantic Tunas, Swordfish, and Sharks were published on December 24, 2003 (68 FR 74746). Management measures enacted in the amendment included: re-aggregating the large coastal shark complex, using maximum sustainable yield (MSY) as a basis for setting commercial quotas, eliminating the commercial minimum size restrictions, establishing three regional commercial quotas (Gulf of Mexico, South Atlantic, and North Atlantic) for LCS and SCS management units, implementing trimester commercial fishing seasons effective January 1, 2005, imposing gear restrictions to reduce bycatch, and a time/area closure off the coast of North Carolina effective January 1, 2005. As a result of using MSY to establish quotas, and implementing a new rebuilding plan, the overall annual landings quota for LCS in 2004 was established at 1,017 metric tons (mt) dressed weight (dw). The overall annual landings quota for SCS was established at 454 mt dw and the pelagic, blue, and porbeagle shark quotas were established at 488 mt dw, 273 mt dw, and 92 mt dw respectively.

On November 30, 2004, NMFS issued a final rule (69 FR 69537), which established, among other things, new regional quotas based on updated landings information from 1999-2003. This final rule did not change the overall quotas for LCS, SCS, and pelagic sharks established in Amendment 1 to the FMP for Atlantic Tunas, Swordfish, and Sharks, only the percentages allocated to each of the regions. The updated information was based on several different databases, including the canvass and quota monitoring databases, the Northeast Commercial Fisheries Database (CFDBS), and the Coastal Fisheries Logbook. The new regional quotas and trimester seasons for the commercial Atlantic shark fishery became effective January 1, 2005.

On October 2, 2006 (71 FR 58058), NMFS published the implementing regulations for the 2006 Final Consolidated HMS FMP that implemented a variety of management measures, including: mandatory workshops for fishermen and dealers; two small time/area closures consistent with the Gulf of Mexico Fishery Management Council requirements; criteria for modifying time/area closures; measures to address rebuilding and/or overharvest of northern albacore tuna and finetooth sharks; modification of the management process for bluefin tuna; changing the management year for tunas, swordfish, and billfish; authorizing additional fishing gears, and numerous regulatory housekeeping measures.

NMFS published a rule (December 14, 2006, 71 FR 75122) that adjusted the 2007 first season commercial quotas for LCS, SCS and pelagic sharks based on over- or underharvests from the 2006 fishing season, and that announced the season opening and closing dates for the first season 2007. During the first season of 2006, the South Atlantic region landed 278.2 percent (393.1 mt dw) of their LCS quota (141.3 mt dw) and 15.6 percent (44.5 mt dw) of their SCS quota (284.6). The Gulf of Mexico also landed 151.1 percent (336.6 mt dw) of their LCS quota (222.8 mt dw) and 527 percent (78 mt dw) of the SCS quota (14.8 mt dw). The North Atlantic region experienced underharvests for both their LCS and SCS quotas (landing approximately 3.8 percent and 0 percent, respectively). As a result of these extensive over- and underharvests in 2006, NMFS closed the South Atlantic region to directed LCS fishing during the 2007 first season. NMFS transferred 63.2 mt dw of the South Atlantic's regional SCS underharvest in the 2006 first season to the Gulf of Mexico, allowing a first season SCS fishery

in both regions. This afforded the Gulf of Mexico region its baseline SCS quota of 15.1 mt dw in the 2007 first season. NMFS also opened the mid-Atlantic shark closed area during the month of July in 2007, pending available quota. Although the South Atlantic region was closed to LCS fishing in the first season of 2007 there is still LCS overharvest from the first season in 2006 that needs to be addressed.

NMFS published a final rule (February 7, 2007; 72 FR 5633) to approve and update the necessary equipment and protocols that Atlantic shark fishermen with BLL gear onboard must possess, maintain, and utilize for the safe handling, release, and disentanglement of sea turtles and other non-target species consistent with the Final Consolidated HMS FMP and the October 29, 2003, Biological Opinions (BiOp) for the shark fishery. The rule would require participants in the BLL fishery to possess, maintain, and utilize the same equipment that is required in the PLL fishery per 50 CFR Part 635.21. This final rule also backstopped the Caribbean Fishery Management Council's area closures that could have minor positive benefits to Atlantic HMS.

On July 27 2007 (72 FR 41392), NMFS published a proposed rule and draft Environmental Impact Statement to amend the Consolidated HMS FMP. Based on the 2005 Canadian porbeagle stock assessment, the 2006 dusky shark stock assessment and the 2005/2006 LCS stock assessment NMFS has determined that a number of shark species are overfished and overfishing is occurring and an amendment to the HMS FMP is needed to implement management measures to rebuild overfished stocks and prevent overfishing. The management measures proposed would reduce fishing effort and mortality to rebuild overfished Atlantic shark species while ensuring that a limited shark fishery can be maintained.

Management measures in this action are not anticipated to increase any fishing activities and are expected to reduce fishing effort. The closure of LCS fisheries in all regions until Amendment 2 of HMS FMP has become finalized will allow the results from the most recent stock assessments to be taken into consideration.

4.6.2 Cumulative Ecological, Social, and Economic Impacts

The management measures would affect the commercial LCS fishery during the first trimester of 2008 until Amendment 2 to the Consolidated HMS FMP becomes effective. The preferred alternative seeks to address the ecological and social/economic ramifications of extensive overharvests experienced in the South Atlantic and Gulf of Mexico regions during 2006 and 2007, the results from several recently completed stock assessments which determined the overfished status of sandbar and dusky sharks, and the proposed management measures contained in the Draft Amendment 2 to the Consolidated HMS FMP.

NMFS anticipates that the preferred alternative would result in negative socio-economic impacts. Due to LCS overharvests that occurred in both the Gulf of Mexico and South Atlantic regions during the first trimester of 2006 and 2007, the 2008 LCS quotas for these regions and seasons have been significantly reduced. NMFS prefers alternative 3, which would close the LCS fishery in all three regions until Amendment 2 to the Consolidated HMS FMP is effective while maintaining the status quo for SCS and pelagic sharks. Closing the LCS fishery during the 2008 first trimester season would be the second consecutive year that the South Atlantic region

was closed during the first trimester. Therefore, the South Atlantic region LCS fishermen would experience negative social and economic impacts from the preferred alternative. These impacts in the South Atlantic region, however, would not be different from those described in the no action alternative which would also result in a South Atlantic region closure. A closure in the Gulf of Mexico region would avoid safety at sea concerns and possible derby fishing conditions that may occur as a result of the short seasons under alternatives 1 and 2. Based on the 2005 Canadian porbeagle stock assessment, the 2006 dusky shark stock assessment and the 2005/2006 LCS stock assessment, NMFS has determined that a number of shark species are overfished and overfishing is occurring, and an amendment was needed to implement management measures to rebuild overfished stocks and prevent overfishing. The management measures proposed in Amendment 2 to the Consolidated HMS FMP would reduce fishing effort and mortality to rebuild overfished Atlantic shark species while ensuring that a limited shark fishery can be maintained. NMFS prefers to close the LCS fishery in all regions to reduce fishing effort and to avoid additional overharvests of sandbar and dusky sharks that could be detrimental to these sharks stocks given their overfished status and have to be accounted for in Amendment 2 to the Consolidated HMS FMP. Closing the LCS fishery would also reduce bycatch of prohibited shark species and protected resources providing ecological benefits to these species. Therefore, the ecological benefits of keeping the LCS fishery closed in all regions until Amendment 2 to the Consolidated HMS FMP is effective outweighs the potential economic impacts associated with the closure.

With regards to SCS and pelagic sharks, because there were no quota overharvests during the 2007 first trimester, each region would open on January 1 with ample quota and remain open as long as SCS and pelagic shark quota were available. Implementing the status quo for SCS and pelagic sharks is expected to have positive social and economic impacts because fishermen would be able to harvest the available quota. The overall ecological impacts of the status quo alternative on SCS in all regions would likely be neutral while harvests remain within established quota limits.

Modification of existing LCS management measures may occur as a result of the upcoming amendment to the Consolidated HMS FMP per the results of the 2006 stock assessments for LCS, sandbar sharks, blacktip sharks, and dusky sharks. This rule, in conjunction with the 2007 second and third trimester seasons rule and followed by the upcoming Amendment 2 to the Consolidated HMS FMP, would have an overall adverse cumulative social and economic impact on the shark fishery. It is unlikely that shark fishermen would be able to recuperate all of the economic losses by switching to other southeast fisheries due to quota reductions and/or limited access programs in these other fisheries. NMFS investigated the different types of commercial permits that directed and incidental shark permit holders currently have in addition to their HMS permits (discussed in Section 4.15 of Draft Amendment 2 to the Consolidated HMS FMP) and also evaluated the ability of shark fishermen to move into these other fisheries (*i.e.*, Gulf of Mexico reef fish, dolphin/wahoo, mackerel, and South Atlantic snapper/grouper fisheries). Due to the strict retention limits and quotas either in place or about to be implemented in these fisheries, and to the expensive nature of attaining a permit in these fisheries if a permit is not already attained, NMFS expects some shark fishermen may leave the fishery or fishing industry altogether as a result of these actions. Nonetheless, under National

Standard 1, NMFS is required to prevent overfishing and rebuild overfished stocks. NMFS would accomplish this through the reduction of effort under the preferred alternative.

This action, combined with 2007 regional closures and reduced season lengths, and with Amendment 2 to the Consolidated HMS FMP, would provide the greatest positive ecological benefits to overfished sandbar and dusky sharks and other species of sharks and protected resources. Interactions with protected resources may decrease as a result of less BLL and gillnet fishing effort targeting sharks. Fishing effort may be displaced to other BLL and gillnet fisheries which may interact with protected resources. However, as strict management measures are either in place or about to be implemented which prevent these stocks from further overfishing and being further overfished, redistributed effort is not anticipated to result in a significant increase in bycatch or interactions with protected resources. In addition to these impacts, cumulative ecological impacts on HMS stocks and fisheries due to actions under consideration by Regional Fishery Management Councils, Interstate Marine Fisheries Commissions, or other management bodies may be slightly positive. NMFS recognizes that this action would also result in negative social and economic impacts for the LCS fishery as the fishery would remain closed in all regions from the end of the 2007 second and third season (August 15, and September 22, 2007) until Amendment 2 to the Consolidated HMS FMP is effective (throughout the first trimester season and possibly longer). Negative social and economic impacts have been affecting the South Atlantic and Gulf of Mexico regions over an extended period due to reductions in quotas and seasons since LCS overharvests began in these regions during the first trimester of 2006.

4.7 Comparison of the Alternatives

The ecological, social, and economic impacts compared in Table 4.2 are for the foreseeable short-term future and represent a summary of impacts associated with each of the alternatives; however, referencing specific alternatives and their impacts in Chapters 4, 6, 7, and 8 provides a more comprehensive overview of the ecological, social, and economic impacts.

Table 4.2 Comparison of alternatives considered for modification of regional trimester quotas for LCS in the first trimester of 2008 until the Consolidated HMS FMP is final. Impacts are described by region. 0 indicates neutral impacts, + indicates positive impacts, and – indicates negative impacts.

Alternative	Description of Alternative	Ecological Impacts (LCS)	Socio Economic Impacts (LCS)
1. LCS, SCS No Action	LCS: Close SA; open GOM for 5 days; open NA for first trimester SCS: Open full quota	+/0 (SA) +/0 (GOM) 0 (NA)	- (SA) 0/- (GOM) 0 (NA)
2. LCS quota combined into a single region; SCS No Action	Open all regions to LCS fishery for 6 days SCS: Open full quota	0/- (SA) 0/- (GOM) 0 (NA)	0/+ (SA) 0/+ (GOM) 0 (NA)
3. Close LCS; SCS No Action (<i>Preferred Alternative</i>)	Close SA, GOM, NA for LCS SCS: Open full quota	+ (SA) + (GOM) - (NA)	- (SA) - (GOM) 0/- (NA)

Literature Cited

- NMFS. 2006. Final Consolidated Atlantic Highly Migratory Species Fishery Management Plan. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Spring Spring, MD. Public Document. pp. 1600.
- NMFS. 2007. Draft Amendment 2 to the Consolidated Atlantic Highly Migratory Species Fishery Management Plan. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, Office of Sustainable Fisheries, Highly Migratory Species Management Division, Spring Spring, MD. Public Document. pp. 473.

5.0 MITIGATION AND UNAVOIDABLE IMPACTS

5.1 Mitigating Measures

The management measures would mitigate adverse ecological impacts to sandbar, and dusky sharks while mitigating potential negative economic impacts associated with the LCS closure in all regions. The management measures would close the LCS fishery in all three regions until Amendment 2 to the Consolidated HMS FMP is finalized and effective in 2008. This LCS closure would help mitigate potential negative ecological impacts to sandbar and dusky sharks which are overfished and have overfishing occurring. Having a LCS fishing season during the 2008 first trimester season could lead to further overfishing of these shark stocks and negative ecological impacts to other prohibited shark species and protected resources.

The SCS management measures would mitigate potential negative social and economic impacts in all regions by allowing fishermen to catch the available quota. The pelagic shark fishery would also not be impacted by this action and fishermen would have the full quota available during the 2008 first trimester season and until Amendment 2 to the Consolidated HMS FMP is effective. Because pelagic sharks are important recreational and tournament species this may also help mitigate potential negative economic impacts associated with a LCS closure in each region.

5.2 Unavoidable Adverse Impacts

As described above, the management measures are expected to have minor economic, and/or social impacts. Closing the LCS fishery in all the regions for the 2008 first trimester season and until Amendment 2 to the Consolidated HMS FMP is finalized and effective would have positive ecological impacts to shark species that are currently prohibited or that are overfished and have overfishing occurring. This closure would also result in positive ecological impacts for incidentally caught species and protected resources. There may be minimal negative economic impacts associated with the LCS closure, however the SCS and pelagic shark fishery would open January 1, 2008, with ample quota, and will stay open as long as quota is available. The SCS and pelagic shark measures may help offset the potential negative economic impacts from the LCS closure during the 2008 first trimester season. The reasons for selecting the preferred alternatives are outlined in the previous sections of this document. In considering the alternatives, NMFS preferred an alternative that would balance the economic and social impacts of a LCS closure with the ecological impacts of opening the LCS fishery during the 2008 first trimester season.

5.3 Irreversible and Irretrievable Commitment of Resources

The management measures would not result in any irreversible or irretrievable commitments of resources. The management measures are not expected to have significant negative impacts on sea turtles or other protected resources.

6.0 ECONOMIC EVALUATION

This section assesses the economic impacts of the alternatives presented in this document. Additional economic and social considerations and information are discussed in Chapters 7, 8, and 9 of this document.

6.1 Number of Vessel and Dealer Permit Holders

In order to examine the baseline universe of entities potentially affected by the preferred alternative, NMFS analyzed the number of permits that were issued as of May 2007 in conjunction with HMS fishing activities.

As of May 11, 2007, there were a total of 529 commercial permit holders in the Atlantic shark fishery (231 directed and 298 incidental permits). Table 6.1 provides a summary of these permit holders by region. From 2003 – 2005, an average of 129 vessels with directed shark permits and 62 vessels with incidental shark permits reported sandbar shark landings each year in the Coastal Fisheries and HMS logbooks. Therefore, these are considered the active number of shark permits. Further detail regarding commercial permit holders is provided in Chapter 3 of the draft Amendment 2 to the Consolidated HMS FMP.

Table 6.1 Distribution of Shark Limited Access Permits (by address of permit) holder between 2001 and 2007. Data for 2001-2005 are as of October 1 for each year. (NAT: North Atlantic, SAT: South Atlantic, FL: Florida, GOM: Gulf of Mexico)

Region/State	# Directed Shark	# Incidental Shark
NAT	45	59
SAT	23	28
FL	141	144
GOM	10	51
Other	1	3
No Vessel ID	11	13
2007**	231	298
2006	240	312
2005	235	320
2004	241	348
2003	251	359
2002	251	376

* Number of permit holders in each category, and state, is subject to change as permits are renewed or expire.

** Totals for 2007 are as of May 11, 2007

As of May 22, 2007, there were a total of 269 Atlantic shark dealer permit holders. Table 6.2 provides a summary of shark dealer permit holders by region. Further detail regarding shark dealer permits holders is provided in Chapter 3 of the draft Amendment 2 to the Consolidated HMS FMP. All dealer permit holders are required to submit reports detailing the nature of their business. For shark permit holders, dealers must submit bi-weekly dealer reports on all HMS they purchase. To facilitate quota monitoring “negative reports” for shark are also required from dealers when no purchases are made (*i.e.*, NMFS can determine who has not purchased fish versus who has neglected to report).

Table 6.2 Number of shark dealer permits issued in each state as of October 2002-2005. Permits for 2006 are as of February 1, 2006 and permits for 2007 are as of May 22, 2007. The actual number of permits per region may change as permit holders move or sell their businesses.

Region/State/Country	Atlantic shark dealers
NAT	59
SAT	46
FL	102
GOM	35
Other	27
Totals 2007	269
2006	336
2005	228
2004	230
2003	254
2002	267

6.2 Gross Revenue of the Commercial Shark Fishermen

NMFS calculates gross revenues by combining current federal permit holders with their reported logbook landings for 2004. These landings are then multiplied by average prices (by region) for LCS flesh, LCS fins, and SCS flesh obtained from dealer reporting.

Table 6.3 Estimates of the total ex-vessel annual revenues of Atlantic Shark HMS fisheries. Sources: NMFS, 1997; NMFS 2004a; Cortes, 2003; Coastal Fisheries and HMS Logbooks 2005.

Species		1996	1999	2000	2001	2002	2003	2004	2005
Large coastal sharks – other*	Ex-vessel \$/lb dw	\$0.67	\$0.76	\$0.68	\$0.91	\$0.99	\$0.78	\$0.86	\$0.48
	Weight lb dw	5,262,314	3,919,570	3,762,000	3,562,546	4,097,363	4,421,249	3,206,377	1,186,310
	Fishery Revenue	\$3,525,750	\$2,950,102	\$2,560,307	\$3,256,955	\$4,040,977	\$3,437,521	\$2,757,484	\$569,429
Pelagic sharks	Ex-vessel \$/lb dw	\$1.05	\$1.06	\$1.09	\$1.11	\$0.99	\$1.04	\$1.12	\$1.03
	Weight lb dw	695,531	400,821	215,005	362,925	303,666	616,967	450,833	53,196
	Fishery Revenue	\$730,308	\$424,273	\$233,650	\$401,430	\$299,487	\$643,188	\$504,933	\$54,792
Small coastal sharks	Ex-vessel \$/lb dw	\$0.25	\$0.51	\$0.46	\$0.79	\$0.52	\$0.43	\$0.50	\$0.59
	Weight lb dw	460,667	672,245	672,245	719,484	579,441	549,799	677,305	438,653
	Fishery Revenue	\$115,167	\$340,890	\$309,926	\$568,441	\$299,023	\$236,414	\$338,653	\$258,805
Sandbar sharks*	Ex-vessel \$/lb dw	-	-	-	-	-	-	-	\$0.47
	Weight lb dw	-	-	-	-	-	-	-	1,387,664
	Fishery Revenue	-	-	-	-	-	-	-	\$652,202
Shark fins (weight = 5% of all sharks landed)	Ex-vessel \$/lb dw	\$6.01	\$7.43	\$10.47	\$19.67	\$19.87	\$17.09	\$16.25	\$17.94
	Weight lb dw	320,926	249,632	232,462	232,248	249,024	279,401	216,726	153,292
	Fishery Revenue	\$218,561	\$1,854,313	\$2,434,344	\$4,568,937	\$4,949,056	\$4,774,959	\$3,521,793	\$2,750,052
Total sharks	Fishery Revenue	\$4,589,786	\$5,569,578	\$5,538,227	\$8,795,763	\$9,588,545	\$9,092,082	\$7,112,863	\$4,285,280

*Sandbar sharks are broken out of the large coastal shark complex for 2005 to provide baseline information for draft Amendment 2 to the Consolidated HMS FMP. This exaggerates the discrepancy in revenue for LCS in 2005 when compared across years.

Of all Atlantic HMS, sharks bring in the lowest total gross revenues (~\$4.3 million total in 2005). If gross revenues for directed permit holders is averaged across the approximately 129 active directed shark permit holders, then the average annual gross revenues per shark fishing vessel is just over \$31,000.

Table 6.4 provides data on the prices shark fishermen received at the dock. The average values for ex-vessel prices from the Southeast Science Center Accumulative Landings System (ALS) and dealer reports from the Northeast were used to construct the table. Table 6.4 reports ex-vessel prices by region, shark complex, and year.

The ex-vessel price data indicates somewhat stable ex-vessel prices since 2003. The ex-vessel prices for sandbar sharks have been broken out from the LCS complex for purposes of the draft Amendment 2 to the Consolidated HMS FMP in order to analyze the sandbar and non-sandbar LCS quota categories. In 2006 sandbar ex-vessel prices declined somewhat in both the South Atlantic and Gulf of Mexico regions. The non-sandbar LCS ex-vessel prices have followed a very similar trend pattern. Pelagic shark prices appear to have been higher in the North Atlantic and Gulf of Mexico versus the South Atlantic from 2003 to 2006. Small coastal shark ex-vessel prices have been steadily trending upward in all regions since 2003. Finally, shark fin ex-vessel prices have been fluctuating in the \$14 to \$20 range since 2003.

Table 6.4 Ex-vessel price per pound dw by region, shark complex and year. Source: Accumulative Landings System maintained by the Southeast Fisheries Science Center.

		Year			
Region	Shark Complex	2003	2004	2005	2006
North Atlantic	Large coastal sharks, other*	\$1.17	\$1.32	\$0.35	
	Sandbar sharks*	-	-	\$0.62	
	Pelagic sharks	\$1.17	\$1.38	\$1.40	
	Small coastal sharks	\$0.38	\$0.44	\$0.43	
South Atlantic	Large coastal sharks, other	\$0.35	\$0.41	\$0.49	\$0.46
	Sandbar sharks	\$0.45	\$0.35	\$0.42	\$0.38
	Pelagic sharks	\$0.74	\$0.65	\$0.70	\$0.72
	Shark fins	\$16.83	\$14.20	\$15.42	\$16.20
	Small coastal sharks	\$0.51	\$0.60	\$0.61	\$0.55
Gulf of Mexico	Large coastal sharks, other	\$0.39	\$0.36	\$0.49	\$0.47
	Sandbar sharks	\$0.39	\$0.40	\$0.45	\$0.40
	Pelagic sharks	\$1.04	\$1.04	\$1.09	\$1.21
	Shark fins	\$17.91	\$17.91	\$20.21	\$20.65
	Small coastal sharks	\$0.40	\$0.45	\$0.55	\$0.53

*Sandbar sharks are broken out of the large coastal shark complex for 2005 in the North Atlantic to provide baseline information for the draft Amendment 2 to the Consolidated HMS FMP. This exaggerates the discrepancy in revenue for LCS in 2005 in the North Atlantic when compared across years.

6.3 Variable Costs and Net Revenues of Commercial Shark Fishermen

In 2003, NMFS initiated mandatory cost-earnings reporting for selected vessels to improve the economic data available for all HMS fisheries. In the past, most of the studies regarding PLL variable costs and net revenues available to NMFS analyzed dated data from 1996 and 1997. The HMS FMP provides a summary of several past studies on the variable costs and net revenues of longline fleets.

An analysis of the 2004 HMS logbook cost-earnings data provides updated information regarding the costs and revenue of a cross section of vessels operating in the HMS fisheries. The data contains a total of 579 trips taken by 51 different vessels. As described in Larkin *et al.* (2000), median values are reported. Median gross revenues per trip for 2004 were approximately \$12,112. Median total costs per trip were \$4,345 (compared to \$3,320 in the Larkin *et al.* (2000) study), with fuel costs making up \$567 (13 percent) of those costs. Median net revenue in this sample was \$6,728 per trip (compared to \$8,624 in the Larkin *et al.* (2000) study). The typical trip was nine days long and involved six sets. The median number of crew was three and the average share paid to crew was 11 percent of net revenue (\$740 per trip). The captain share of net revenue was 20 percent (\$1,346) and the owner share was reported to be 50 percent (\$3,364). The 2004 cost earnings information is similar to the findings of the 1996 study, but gross revenues appear to be lower than the Porter *et al.* (2001) study of 1997 operations.

6.4 Expected Economic Impacts of the Quota Adjustment Alternatives to Address the Overharvest of LCS

For the final rule, NMFS considered three alternatives to address the overharvest of LCS in the South Atlantic and Gulf of Mexico regions and the underharvest of SCS in all regions during the 2007 first trimester season that would meet the objectives of the Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) and the Consolidated HMS FMP. The expected economic impacts of the three alternatives considered and analyzed are discussed below.

Alternative 1 is considered the no action alternative since it would maintain existing procedures for addressing regional trimester over- and underharvests of LCS and SCS when establishing the regional quotas and seasons for the first trimester season of 2008. This alternative is not preferred in part because it could result in negative ecological impacts for LCS compared to the preferred alternative. As described below, this alternative would also result in derby fishing and market gluts. It is also important to note that the unexpected magnitude of the 2006 first trimester overharvest would result in no commercial fishing for LCS in the South Atlantic region during the first trimester of 2008 for the second consecutive year since the available adjusted quota of 16.3 mt dw would be taken in approximately one day.

If not for the overharvests in 2006 and 2007, the LCS 2008 first trimester base quota allocation would have been 138.9 mt dw in the South Atlantic region. Instead, the adjusted quota under the no action alternative as described in Chapter 2, would be 16.3 mt dw, which is 122.6 mt dw less than it would have been under the base quota allocation. Because of this small 2008 adjusted quota, no fishing season is preferred due to safety at sea concerns and potential derby fishing conditions. Based on the ex-vessel prices per pound dw by region in 2006 of \$0.46

per pound dw of LCS flesh and \$16.20 per pound for shark fins in the South Atlantic region, the value of the 122.6 mt dw reduction from the baseline quota allocation is approximately \$53,576 for LCS flesh (95 percent of the quota weight) and \$99,306 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, the total 2006 and 2007 overharvest is estimated to have a direct revenue impact on the South Atlantic regional commercial shark fishery of approximately \$152,882. The landings of 9.7 mt dw from the first trimester of 2007 during the South Atlantic closure, based on the ex-vessel prices listed above is worth approximately \$12,096. Based on the January catch rates and the amount of quota taken during federal closures, the available quota for 2008 is 16.3 mt dw, which would likely be taken in less than one day. Therefore, under this alternative, the South Atlantic region would be closed during the 2008 first trimester season. In addition to the lost revenue from the 2006 and 2007 overharvests (\$164,978), the closure would lead to an additional loss in revenue of approximately \$7,121 for LCS flesh (95 percent of the 16.3 mt dw) and \$13,122 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, a closure during the 2008 first trimester season in the South Atlantic region for two consecutive years would result in continued disrupted revenue flows and negative economic impacts.

If not for the 125.1 mt dw overharvest in the first trimester of 2007 in the Gulf of Mexico region, the 2008 first trimester available quota would have been 176.1 mt of LCS in the Gulf of Mexico region. Due to this overharvest, the adjusted LCS quota is 51 mt dw in the Gulf of Mexico region. To estimate the value of changes in revenues from the 2008 available quota, those 2006 ex-vessel prices received were used to calculate the "extra" revenues generated from the overharvest in the first trimester of 2007. Based on the ex-vessel prices per pound dw by region in 2006 of \$0.47 per pound dressed weight of LCS flesh and \$20.65 per pound for shark fins in the Gulf of Mexico region, the value of the 125.1 mt dw reduction from the baseline quota allocation is approximately \$55,855 for LCS flesh (95 percent of the quota weight) and \$129,166 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, the 2007 first trimester overharvest is estimated to have a direct revenue impact on the Gulf of Mexico regional commercial shark fishery of approximately \$185,021. However, the 125.1 mt dw overharvest was primarily due to landings from fishermen fishing in state waters. As such, federal fishermen did not benefit from the overharvest in the 2007 first trimester season.

With a 2008 adjusted quota of 51 mt dw, the Gulf of Mexico region would have a short season that would last for five days. Using the ex-vessel prices as above for the Gulf of Mexico region, the value of this 51 mt dw adjusted quota for the first trimester of 2008 is approximately \$22,772 for LCS flesh (95 percent of the quota weight) and \$52,658 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore the estimated revenue for the 2008 first trimester season would be approximately \$75,430. While there may be slight positive economic impacts as a result of a limited LCS season in the Gulf of Mexico coupled with a South Atlantic LCS closure causing prices to increase, the intense fishing period may also cause a temporary glut in the market, and therefore, a reduction in the ex-vessel price of shark products or less efficient fishing operations thus reducing the quality of the shark products landed. It could also lead to less efficient fishing operations that may reduce the quality of the shark products landed causing a reduction in ex-vessel prices of shark product. Overall, NMFS expects that the small amount of LCS quota available and short season would likely result in negative economic impacts in the Gulf of Mexico region.

The LCS quota in the North Atlantic region for the first trimester season of 2008 would be 10.7 mt dw. The ex-vessel prices only provide the value of LCS flesh in the North Atlantic region and not for shark fins; therefore an average of \$18.43 was taken of the ex-vessel price for shark fins in the South Atlantic and Gulf of Mexico regions to calculate approximate revenue from the available quota. The approximate value of the 10.7 mt dw quota allocation for the 2008 first trimester season in the North Atlantic region would be \$13,415.

Overall, the negative economic impact of the reduced LCS quota for the Gulf of Mexico region would result in \$75,430 (\$22,772 for LCS flesh + \$52,658 for shark fins) in reduced revenues for the first trimester of 2008. Due to the LCS closure in the South Atlantic region, a negative economic impact totaling \$20,243 (\$7,121 for LCS flesh + \$13,122 for shark fins) in lost revenues would occur. There were potentially extra revenues received worth \$337,903 (\$152,882 South Atlantic overharvest + \$185,021 Gulf of Mexico overharvest) as a result of the extensive LCS overharvests in the South Atlantic and Gulf of Mexico regions. Since a majority of these overharvest landings were from state landings, particularly in the Gulf of Mexico region, many federal fishermen did not benefit from this overharvest revenue. Some of the impacts from these reduced revenues might be mitigated somewhat for vessels that can fish for SCS and pelagic sharks or in other HMS and non-HMS fisheries. However, these opportunities would likely be limited and result in additional costs associated with adjusting current fishing practices.

With regards to SCS, alternative 1 would maintain existing procedures for addressing regional trimester over- and underharvests for SCS when establishing the regional quotas and seasons for the first trimesters of 2008. There were no overharvests of SCS in any region during the 2007 first trimester season. No change in economic impacts would be realized in the North Atlantic, South Atlantic, and Gulf of Mexico regions since these regions would be open, with ample quota, during the first trimester of 2008 under the no action alternative. Based on the ex-vessel price per pound of SCS in the North Atlantic, South Atlantic, and Gulf of Mexico regions potential revenue for flesh would be \$0.43, \$0.55, and \$0.53, respectively. Potential revenue from SCS may help offset lost revenue in the LCS fishery due to short seasons and a closure.

Alternative 2 would combine the North Atlantic, South Atlantic and Gulf of Mexico regions for the LCS fishery into one region. The adjusted quota for the one LCS region would be 78 mt dw, which is 239.8 mt dw less than the base quota allocation in each region added together (317.8 mt dw). NMFS used the 2005 total ex-vessel annual revenue data for these calculations because region specific data was not available for all regions in 2006. Based on total ex-vessel annual revenues in all regions combined in 2005 (Table 6.3) of \$0.48 per pound dress weight of flesh and \$17.94 per pound of shark fins, the value of the 239.8 mt dw reduction from the baseline quota allocation in all the regions is approximately \$109,349 for LCS flesh (95 percent of the quota weight) and \$215,101 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, the 2007 first trimester overharvest in the South Atlantic and Gulf of Mexico regions is estimated to have a direct revenue impact on the LCS commercial fishery, when combining the regions, of approximately \$324,450. The value of the 78 mt dw combined quota that would allow the season to be open for six days is approximately \$35,568 for LCS flesh (95 percent of the quota weight) and \$69,966 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, the estimated revenue for the LCS 2008 first trimester season under

alternative 2, with all regions combined would be approximately \$105,534. Derby style fishing conditions and safety at sea concerns may occur through the shortened season causing negative social impacts. The six day season may cause a temporary glut in the market and therefore a reduction in the ex-vessel price of shark products or less efficient fishing operations thus reducing the quality of the shark products landed. Under these conditions, it is likely the estimated revenue for all regions would be less than \$105,534. Combining the regions would likely have negative economic impacts on regions that do not have sharks present year round. The North Atlantic region may be disadvantaged as a result of combining the three regions into one region. Dealers in all regions, but particularly in the North Atlantic region, would also be affected, possibly even more so than vessels, as the likelihood of having shark products consistently would be decreased. Overall, negative economic impacts would result from the small amount of LCS quota available and short season in all regions. Under alternative 2, the SCS fishery would remain the same as in the no action alternative and no adverse economic impacts are expected since these regions would be open, with ample quota, throughout the entire first trimester of 2008.

Alternative 3, the preferred alternative would close the LCS fishery in all regions until Amendment 2 to the Consolidated HMS FMP is effective. The SCS fishery would be open in all three regions on January 1, 2008, and no adverse economic impacts are expected since these regions would be open, with ample quota, throughout the first trimester of 2008. Under this alternative, the North Atlantic, South Atlantic, and Gulf of Mexico regions would be closed to LCS fishing for entire first trimester season and possibly longer depending on when Amendment 2 to the Consolidated HMS FMP is effective. However, under the no action alternative, the South Atlantic region would be closed during the 2008 first trimester and the Gulf of Mexico region would only be open for five days starting January 1. The North Atlantic region would be open for the entire 2008 first trimester season (although, from 2004-2007 only an average of 0.4 mt dw was landed in this region during the entire first trimester season). Because LCS are not typically in the North Atlantic region during the first trimester and due to the small landings in this region during the first trimester, it is not expected that the North Atlantic would benefit economically from the 10.7 mt dw of quota available for the 2008 first trimester. Therefore, closing all three regions as in the final rule would have only a slightly different economic impact than the no action alternative. The estimated revenue from the 51 mt dw quota in the Gulf of Mexico for the 2008 first trimester season under alternative 1, would be approximately \$75,430, which would be the approximate revenue lost due to all regions being closed to LCS fishing during the 2008 first trimester season. The South Atlantic region would also experience economic impacts associated with this alternative, however, these impacts would not be different from those described in the no action alternative. Atlantic shark fishermen may pursue other options as a result of closing the LCS fishery for the 2008 first trimester including transferring fishing effort to other fisheries for which they are permitted, acquiring new permits to participate in other fisheries or relinquishing their permits and leaving the fishing industry.

Literature Cited

Larkin, S.L., C.M. Adams, and D.J. Lee. 2000. Reported trip costs, gross revenues, and net returns for U.S. Atlantic pelagic longline vessels. *Marine Fisheries Review* 62(2): 49-60.

Porter, R.M., M. Wendt, M.D. Travis, and I. Strand. 2001. Cost-earnings study of the Atlantic-based U.S. pelagic longline fleet. Pelagic Fisheries Research Program. SOEST 01-02; JIMAR contribution 01-337. 102pp.

7.0 REGULATORY IMPACT REVIEW

The Regulatory Impact Review (RIR) is conducted to comply with Executive Order 12866 (E.O. 12866) and provides analyses of the economic benefits and costs of each alternative to the nation and the fishery as a whole. Certain elements required in an RIR are also required as part of an environmental impact statement (EIS). Thus, this section should be considered only part of the RIR; the rest of the RIR can be found throughout this document.

7.1 Description of the Management Objectives

Please see Chapter 1 for a description of the management objectives associated with these management actions.

7.2 Description of the Fishery

Please see Chapter 3 of the draft Amendment 2 to the Consolidated HMS FMP for a description of the fisheries that could be affected by these management actions.

7.3 Statement of the Problem

Please see Chapter 1 for a description of the problem and need for these management actions.

The need for the proposed management action is due in part to market failure. In the shark fishery, this market failure results from an externality associated with the common property resource nature of fisheries. Even though access to Atlantic commercial shark fisheries is limited to current permit holders, these permit holders may still individually overharvest the resource beyond what is sustainable and may individually face incentives to harvest more rapidly than optimal to ensure their share of the quota is taken before the season is closed. The proposed management actions attempt to mitigate impacts of this market failure.

7.4 Description of Each Alternative

Please see Chapter 2 for a summary of each alternative and Chapter 4 for a complete description of each alternative and its expected ecological, social, and economic impacts. Chapter 6 and 8 provide additional information related to the economic impacts of the alternatives.

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

Table 7-1 Net Economic Benefits and Costs of Alternatives

Alternatives	Net Economic Benefits	Net Economic Costs
<p>Alternative 1 Maintain existing procedures for addressing LCS and SCS regional trimester over- and underharvests when establishing the regional quotas and seasons for the 1st trimester of 2008; (No Action).</p>	<p>SCS in all regions open January 1. Revenue from SCS may help offset lost revenue from LCS closure and short season.</p> <p>The LCS 1st trimester season for the North Atlantic is open as usual.</p> <p>Expected revenue for a 5 day LCS season in GOM region is \$75,430.</p>	<p>During the 1st trimester, the South Atlantic would be closed to LCS fishing for the second year in a row. Loss of market structure. Potential revenue lost from closure due to 2007 LCS overharvest is \$173,125.</p> <p>The Gulf of Mexico region would have a 5 day season due to LCS overharvest in 2007 1st trimester. Small market, if any. Derby fishing conditions. Direct revenue impact from overharvest is \$185,021.</p> <p>There could be impacts on business planning as a result of the closure and short season</p>
<p>Alternative 2 Combine the LCS regions and quota, Status quo for SCS and pelagic sharks.</p>	<p>SCS in all regions open January 1. Revenue from SCS may help offset lost revenue from short season.</p> <p>LCS fishermen get one more day in GOM to fish compared to no action alternative. LCS fishermen in South Atlantic region get 6 days to fish. Expected revenue for a 6 day season is \$105,534.</p>	<p>Combining LCS regions would only afford fishermen one more day of fishing relative to the no action alternative in GOM. Small market and derby fishing conditions.</p> <p>Lost revenue due to LCS overharvests in South Atlantic and Gulf of Mexico regions in 2007 is approximately \$324,450.</p> <p>North Atlantic fishermen disadvantaged from combined regions if sharks are not present there in first season. The season in the North Atlantic is reduced from 4 months to 6 days.</p>
<p>Alternative 3 <i>Close Large Coastal Sharks in all regions until Amendment 2 to HMS FMP is effective, Status Quo for SCS and pelagic sharks</i></p>	<p>SCS in all regions open January 1. Revenue from SCS may help offset lost revenue from LCS closure</p>	<p>Second year in a row LCS fishing would be closed in the South Atlantic region during 1st trimester. Loss of market structure in the region.</p> <p>Does not allow fishermen to catch the small amount of LCS quota that is available, therefore a potential loss in revenue of \$75,430 compared to the no action alternative.</p>

7.6 Conclusions

Under E.O. 12866, a regulation is a “significant regulatory action” if it is likely to: (1) have an annual effect on the economy of \$100 million or more or adversely affect in a material way the economy, a sector of the economy, productivity, competition, jobs, the environment, public health or safety, or state, local, or tribal governments or communities; (2) create a serious inconsistency or otherwise interfere with an action taken or planned by another agency; and (3) materially alter the budgetary impact of entitlements, grants, user fees, or loan programs or the legal mandates, the President’s priorities, or the principles set forth in the Executive Order. The preferred alternative described in this document does not meet the above criteria. Therefore, under E.O. 12866, the preferred alternative described in this document was determined to be not significant for the purposes of E.O. 12866. A summary of the expected net economic benefits and costs of each alternative, which are based on supporting text in Chapters 4 and 6, can be found in Table 7.1.

8.0 FINAL REGULATORY FLEXIBILITY ANALYSIS

The Final Regulatory Flexibility Analysis (FRFA) is conducted to comply with the Regulatory Flexibility Act (5 USC 601 et. seq.) and provides analysis of the economic impacts of the various alternatives on small entities. Certain elements required in a FRFA are also required as part of an environmental impact statement (EIS). Therefore, the FRFA incorporates the economic impacts identified in the EA.

8.1 Statement of the Need for and Objectives for this Final Rule

Please see Chapter 1 for a description of the need for action.

8.2 A Summary of the Significant Issues Raised by the Public Comments in Response to the Initial Regulatory Flexibility Analysis, a Summary of the Assessment of the Agency of Such Issues, and a Statement of Any Changes Made in the Rule as a Result of Such Comments

NMFS received several comments on the proposed rule and draft EA during the public comment period. A summary of these comments and the Agency's responses will be included in the final rule. NMFS did not receive any comments specific to the Initial Regulatory Flexibility Analysis (IRFA).

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

NMFS considers all HMS permit holders to be small entities because they either had gross receipts less than \$3.5 million for fish-harvesting, gross receipts less than \$6.0 million for charter/party boats, or 100 or fewer employees for wholesale dealers. These are the SBA size standards for defining a small versus large business entity in this industry. A description of the fisheries affected and the categories and number of permit holders can be found in Chapter 6 and Chapter 3 in the draft Amendment 2 to the Consolidated HMS FMP.

8.4 Description of the Projected Reporting, Record-Keeping, and Other Compliance Requirements of the Final Rule, Including an Estimate of the Classes of Small Entities Which Will Be Subject to the Requirements of the Report or Record

None of the alternatives considered for this final rule would result in additional reporting, record-keeping, and compliance requirements that would require new Paperwork Reduction Act filings.

8.5 Description of the Steps the Agency Has Taken to Minimize the Significant Economic Impact on Small Entities Consistent with the Stated Objectives of Applicable Statutes, Including a Statement of the Factual, Policy, and Legal Reasons for Selecting the Alternative Adopted in the Final Rule and the Reason

That Each One of the Other Significant Alternatives to the Rule Considered by the Agency Which Affect Small Entities Was Rejected

One of the requirements of an FRFA is to describe any alternatives to the final rule which accomplish the stated objectives and which minimize any significant economic impacts. These impacts are discussed below and in Chapters 4 and 6 of this document. Additionally, the Regulatory Flexibility Act (5 U.S.C. § 603 (c) (1)-(4)) lists four general categories of “significant” alternatives that would assist an agency in the development of significant alternatives. These categories of alternatives are:

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

As noted earlier, NMFS considers all permit holders in this fishery to be small entities. In order to meet the objectives of this proposed rule, consistent with Magnuson-Stevens Act and the Endangered Species Act (ESA), NMFS cannot exempt small entities or change the reporting requirements only for small entities. Thus, there are no alternatives discussed that fall under the first and fourth categories described above. In addition, none of the alternatives considered would result in additional reporting or compliance requirements (category two above). NMFS does not know of any performance or design standards that would satisfy the aforementioned objectives of this rulemaking while, concurrently, complying with the Magnuson-Stevens Act. As described below, NMFS analyzed three different alternatives in this proposed rulemaking and provides justification for selection of the preferred alternative to achieve the desired objective.

The alternatives included: maintain existing procedures for LCS and SCS quota management (alternative 1, No Action), combine the LCS regions and quotas and maintain status quo for SCS (alternative 2), and close all regions to LCS fishing during the 2008 first trimester season until Amendment 2 to the Consolidated HMS FMP effective and maintain modified status quo for SCS (alternative 3, preferred). NMFS preferred alternative 3 because it would provide the most ecological benefits to overfished sandbar and dusky shark populations and reduce fishing pressure on other LCS species. In addition, the ecological benefits of keeping the LCS fishery closed in all region may outweigh the potential economic impacts associated with the closure.

Alternative 1 is considered the no action alternative since it would maintain existing procedures for addressing regional trimester over- and underharvests of LCS and SCS when establishing the regional quotas and seasons for the first trimester season of 2008. This alternative is not preferred in part because it could result in negative ecological impacts for LCS species compared to the preferred alternative because it would allow the LCS season to open in the Gulf of Mexico and North Atlantic regions for a short time period. As described below, this alternative would also result in derby fishing and market gluts. It is also important to note that the unexpected magnitude of the 2006 first trimester overharvest would result in no commercial

fishing for LCS in the South Atlantic region during the first trimester of 2008 for the second consecutive year since the available adjusted quota of 16.3 mt dw would be taken in approximately one day.

If not for the overharvests in 2006 and 2007, the LCS 2008 first trimester base quota allocation would have been 138.9 mt dw in the South Atlantic region. Instead, the adjusted quota under the no action alternative as described in Chapter 2, would be 16.3 mt dw, which is 122.6 mt dw less than it would have been under the base quota allocation. Because of this small 2008 adjusted quota, no fishing season is preferred due to safety at sea concerns and potential derby fishing conditions. Therefore, under this alternative, the South Atlantic region would be closed during the 2008 first trimester season. Based on the ex-vessel prices per pound dw by region in 2006 of \$0.46 per pound dw of LCS flesh and \$16.20 per pound for shark fins in the South Atlantic region, the closure would lead to a loss in revenue of approximately \$7,121 for LCS flesh (95 percent of the 16.3 mt dw) and \$13,122 for shark fins (based on the 5 percent shark fin to carcass ratio). While these revenue reductions alone may not appear to be significant, it should be noted that the 2007 first trimester season in the South Atlantic region was also closed. Therefore, the 2008 first trimester closure would be the second consecutive year this region was closed, possibly leading to continued disrupted revenue flows and negative economic impacts.

If not for the 125.1 mt dw overharvest in the first trimester of 2007 in the Gulf of Mexico region, the 2008 first trimester available quota would have been 176.1 mt of LCS in the Gulf of Mexico region. Due to this overharvest, the adjusted LCS quota is 51 mt dw in the Gulf of Mexico region. To estimate the value of changes in revenues from the 2008 available quota, those 2006 ex-vessel prices received were used to calculate the "extra" revenues generated from the overharvest in the first trimester of 2007. Based on the ex-vessel prices per pound dw by region in 2006 of \$0.47 per pound dressed weight of LCS flesh and \$20.65 per pound for shark fins in the Gulf of Mexico region, the value of the 125.1 mt dw reduction from the baseline quota allocation is approximately \$55,855 for LCS flesh (95 percent of the quota weight) and \$129,166 for shark fins (based on the 5 percent shark fin to carcass ratio).

With a 2008 adjusted quota of 51 mt dw, the Gulf of Mexico region would have a short season that would last for five days. Using the ex-vessel prices as above for the Gulf of Mexico region, the value of this 51 mt dw adjusted quota for the first trimester of 2008 is approximately \$22,772 for LCS flesh (95 percent of the quota weight) and \$52,658 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore the estimated revenue for the 2008 first trimester season would be approximately \$75,430. While there may be slight positive economic impacts as a result of a limited LCS season in the Gulf of Mexico coupled with a South Atlantic LCS closure causing prices to increase, the intense fishing period may also cause a temporary glut in the market, and therefore, a reduction in the ex-vessel price of shark products or less efficient fishing operations thus reducing the quality of the shark products landed. It could also lead to less efficient fishing operations that may reduce the quality of the shark products landed causing a reduction in ex-vessel prices of shark product. Overall, NMFS expects that the small amount of LCS quota available and short season would likely result in negative economic impacts in the Gulf of Mexico region.

The LCS quota in the North Atlantic region for the first trimester season of 2008 would be 10.7 mt dw. The ex-vessel prices only provide the value of LCS flesh in the North Atlantic region and not for shark fins; therefore an average of \$18.43 was taken of the ex-vessel price for shark fins in the South Atlantic and Gulf of Mexico regions to calculate approximate revenue from the available quota. The approximate value of the 10.7 mt dw adjusted quota for the 2008 first trimester season in the North Atlantic region would be \$13,415.

Under alternative 1, the estimated total value of the adjusted 2008 first trimester LCS quota is \$75,430 for the Gulf of Mexico region and \$13,415 for the North Atlantic region. Due to the LCS closure in the South Atlantic region, under alternative 1, a negative economic impact totaling \$20,243 in lost revenues would occur. The estimated total overall revenue under alternative 1 for all regions would be \$68,602. Some of the impacts from these reduced revenues might be mitigated somewhat for vessels that can fish for SCS and pelagic sharks or in other HMS and non-HMS fisheries. However, these opportunities would likely be limited and result in additional costs associated with adjusting current fishing practices.

With regards to SCS, alternative 1 would maintain existing procedures for addressing regional trimester over- and underharvests for SCS when establishing the regional quotas and seasons for the first trimesters of 2008. There were no overharvests of SCS in any region during the 2007 first trimester season. No change in economic impacts would be realized in the North Atlantic, South Atlantic, and Gulf of Mexico regions since these regions would be open, with ample quota, during the first trimester of 2008 under the no action alternative. Based on the ex-vessel price per pound of SCS in the North Atlantic, South Atlantic, and Gulf of Mexico regions potential revenue for flesh would be \$0.43, \$0.55, and \$0.53, respectively. Potential revenue from SCS may help offset lost revenue in the LCS fishery due to short seasons and a closure.

Alternative 2 would combine the North Atlantic, South Atlantic and Gulf of Mexico regions for the LCS fishery into one region. The adjusted quota for the one LCS region would be 78 mt dw, which is 239.8 mt dw less than the base quota allocation in each region added together (317.8 mt dw). NMFS used the 2005 total ex-vessel annual revenue data for these calculations because region specific data was not available for all regions in 2006. Based on total ex-vessel annual revenues in all regions combined in 2005 (Table 6.3) of \$0.48 per pound dress weight of flesh and \$17.94 per pound of shark fins, the value of the 239.8 mt dw reduction from the baseline quota allocation in all the regions is approximately \$109,349 for LCS flesh (95 percent of the quota weight) and \$215,101 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, the 2007 first trimester overharvest in the South Atlantic and Gulf of Mexico regions is estimated to have a direct revenue impact on the LCS commercial fishery, when combining the regions, of approximately \$324,450. The value of the 78 mt dw combined quota that would allow the season to be open for six days is approximately \$35,568 for LCS flesh (95 percent of the quota weight) and \$69,966 for shark fins (based on the 5 percent shark fin to carcass ratio). Therefore, the estimated revenue for the LCS 2008 first trimester season under alternative 2, with all regions combined would be approximately \$105,534. Derby style fishing conditions and safety at sea concerns may occur through the shortened season causing negative social impacts. The six day season may cause a temporary glut of shark products in the market and therefore a reduction in the ex-vessel price of shark products or less efficient fishing operations thus reducing the quality of the shark products landed. Under these conditions, it is

likely the estimated revenue for all regions would be less than \$105,534. Combining the regions would likely have negative economic impacts on regions that do not have sharks present year round. The North Atlantic region may be disadvantaged as a result of combining the three regions into one region. Dealers in all regions, but particularly in the North Atlantic region, would also be affected, possibly even more so than vessels, as the likelihood of having shark products consistently would be decreased. Overall, negative economic impacts would result from the small amount of LCS quota available and short season in all regions. NMFS did not prefer this alternative because negative consequences of establishing a single region combined with a substantially shortened season might include derby-style fishing and safety at sea concerns, as well as decreased fishing efficiency with resulting decreased survival rates for bycatch. Additionally, negative ecological impacts to overfished shark species could occur if all regions were combined and opened for a short time period. Under alternative 2, the SCS fishery would remain the same as in the no action alternative and no adverse economic impacts are expected since these regions would be open, with ample quota, throughout the entire first trimester of 2008.

Alternative 3, the preferred alternative would close the LCS fishery in the North Atlantic, South Atlantic and Gulf of Mexico regions for the entire first and second trimester season. The SCS and pelagic shark fisheries would be open in all three regions on January 1, 2008, and no adverse economic impacts are expected since these regions would be open, with ample quota, throughout the first trimester of 2008. If Amendment 2 to the Consolidated HMS FMP is not finalized and effective before the start of the 2008 second trimester season the SCS and pelagic shark fisheries will open in all regions on May 1, 2008 with the baseline quotas.

Closing the LCS fishery in all three regions would have slightly more negative economic impacts than the no action alternative but this was chosen due to the result in positive ecological impacts for overfished sandbar and dusky sharks, protected species and other LCS species compared to the no action alternative. Under this alternative, the South Atlantic region would be closed during the 2008 first trimester similar to alternative 1. However, unlike alternative 1, the Gulf of Mexico region would be closed. The estimated lost revenue as a result of this closure would be approximately \$75,430, which would be the approximate revenue lost due to all regions being closed to LCS fishing during the 2008 first trimester season. The North Atlantic region would also be closed under this alternative but this closure is not expected to have a significant economic impact because LCS are not typically in the North Atlantic region during the first trimester. Due to the small landings in this region during the first trimester, it is not expected that the North Atlantic would benefit economically from the 10.7 mt dw of quota available for the 2008 first trimester. From 2004-2007 only an average of 0.4 mt dw was landed in this region during the entire first trimester season. Therefore, closing all three regions as in the final rule would have only a slightly different economic impact than the no action alternative. Atlantic shark fishermen may pursue other options as a result of closing the LCS fishery for the 2008 first trimester including transferring fishing effort to other fisheries for which they are permitted, acquiring new permits to participate in other fisheries or relinquishing their permits and leaving the fishing industry.

9.0 COMMUNITY PROFILES

This chapter serves as a brief overview and determination of the social impacts associated with the establishment of quotas and seasons for the 2008 first trimester season for the Atlantic commercial LCS, and SCS fisheries. A more comprehensive review of community profiles for all HMS fisheries can be found in Section 9 of the Final Consolidated HMS FMP (NMFS, 2006) and draft Amendment 2 to the Consolidated HMS FMP.

9.1 Introduction

Mandates to conduct social impact assessments come from both the NEPA and the Magnuson-Stevens Act. NEPA requires federal agencies to consider the interactions of natural and human environments by using a “systematic, interdisciplinary approach, which would ensure the integrated use of the natural and social sciences in planning and decision-making” (§102(2)(A)). Moreover, agencies need to address the aesthetic, historic, cultural, economic, social, or health effects, which may be direct, indirect, or cumulative. Consideration of social impacts is a growing concern as fisheries experience increased participation and/or declines in stocks. With an increasing need for management action, the consequences of these actions need to be examined in order to mitigate the negative impacts experienced by the populations concerned.

Social impacts are generally the consequences to human populations that follow from some type of public or private action. They may include alterations to the ways people live, work or play, relate to one another, and organize to meet their needs. In addition, cultural impacts, which may involve changes in values and beliefs that affect people’s way of identifying themselves within their occupation, communities, and society in general, are included under this interpretation. Social impacts analyses help determine the consequences of policy action in advance by comparing the no action alternative with the projected impacts. Although public hearings and scoping meetings provide input from those concerned with a particular action, they do not constitute a full overview of the affected constituents.

NMFS anticipates that the preferred alternative would result in negative social impacts. Due to LCS overharvests that occurred in both the Gulf of Mexico and South Atlantic regions during the first trimester of 2006 and 2007, the 2008 LCS quotas for these regions and seasons have been significantly reduced. NMFS prefers an alternative that would close the LCS fishery in all three regions until Amendment 2 to the Consolidated HMS FMP is effective and would maintain the status quo for SCS and pelagic sharks. With regards to SCS and pelagic sharks, because there were no quota overharvests during the 2007 first trimester, each region would open on January 1 with ample quota and remain open as long as SCS and pelagic shark quota were available. Implementing the status quo for SCS and pelagic sharks is expected to have positive social impacts because fishermen would be able to catch the available quota. Closing the LCS fishery during the 2008 first trimester season would be the second year in a row that the South Atlantic region was closed during the first trimester. Therefore, the South Atlantic region LCS fishermen would experience negative social and economic impacts associated with the preferred alternative however these impacts would only be slightly different from those described in the no action alternative which would also result in a South Atlantic region closure. A closure in the

Gulf of Mexico region would avoid safety at sea concerns and possible derby fishing conditions that may occur as a result of the short seasons proposed in alternatives 1 and 2. Based on the 2005 Canadian porbeagle stock assessment, the 2006 dusky shark stock assessment and the 2005/2006 LCS stock assessment, NMFS has determined that a number of shark species are overfished and overfishing is occurring. An amendment is needed to implement management measures to rebuild overfished stocks and prevent overfishing. The management measures proposed in Amendment 2 to the Consolidated HMS FMP would reduce fishing effort and mortality to rebuild overfished Atlantic shark species while ensuring that a limited shark fishery can be maintained. NMFS prefers to close the LCS fishery in all regions to reduce fishing effort, and to avoid additional overharvests of sandbar and dusky sharks that could be detrimental to these sharks stocks given their overfished status. Closing the LCS fishery would also reduce bycatch of prohibited shark species and protected resources providing ecological benefits to these species. Therefore, the ecological benefits of keeping the LCS fishery closed in all regions until Amendment 2 to the Consolidated HMS FMP is effective may outweigh the potential economic impacts associated with the closure.

9.2 Overview of the Shark Fishery

The shark fisheries of the Atlantic and Gulf of Mexico extend from Maine to Texas, and include Puerto Rico and the U.S. Virgin Islands. The geographic extent of the shark directed and incidental commercial permit holders is large, but is currently concentrated in the waters off four states; Florida (54 percent of shark permits), New Jersey (9 percent of shark permits), Louisiana (8 percent of shark permits) and North Carolina (6 percent of shark permits). The shark fishery is notable for the degree of flexibility of the commercial fishing fleet. Of the 529 vessels in the 2007 fleet, 231 vessels (44 percent) held directed shark fishery permits. The remaining 56 percent (298 vessels) hold incidental catch permits that target species other than sharks. Vessels which engage in the directed shark fishery do so on a seasonal basis, depending on area and the length of the fishing season, and fish for other species at other times of the year.

Shark directed and incidental permit holders also possess permits in other HMS and non-HMS fisheries (Table 9.2). Of the 529 directed and incidental shark permit holders, 81 percent also hold king or Spanish mackerel permits, 48 percent hold dolphin/wahoo permits, 34 percent hold directed swordfish permits, 22 percent hold snapper/grouper permits and 29 percent hold charter/head boat permits. Currently, there are 269 Federally permitted shark dealers, the majority of which are located in Florida (38 percent). Table 9-3 shows the number of shark dealers permitted in each state in 2007. Dealers that possess shark permits also hold dealer permits for other species such as swordfish, dolphin/wahoo, reef fish and snapper/grouper. The additional permits that the commercial shark fishermen and dealers possess may help mitigate economic and social impacts of the preferred management measures.

Table 9-1 Distribution by state of shark directed and incidental permit and non-HMS fisheries permits that are possessed by commercial shark permits as of May 11, 2007.

State	Shark Directed	Shark Incidental	Swordfish Directed	Swordfish Incidental	GOM Reef Fish	Dolphin/Wahoo	*Mackerel: King and Spanish	Lobster	Snapper/Grouper	**Charter Head Boat General	*** Other	# Vessels / # Permits
ME	3	3	3			2						6/11
NH		1										1/1
MA	2	11	8	2		5	5	2			1	13/36
RI		8	2	2		1					4	8/17
CT		2	1									2/3
NY	6	7	9	2		10	2		1	1	1	13/39
NJ	25	20	21	13		21	25	2	2	3	7	45/139
DE	4	1	5			5						5/15
MD	4	2	6			5	2			3		6/22
VA	1	4		3		3	3		2			5/16
NC	16	16	9	9		25	45		13	7	9	32/149
SC	5	11	1			12	12		13	6	1	15/61
GA	2	1				2	3	4	2	3		3/17
FL	141	144	70	30	128	156	296	47	81	131	20	284/1252
AL	2	1		1	1	1	2					3/8
MS	1	5			4		9				3	6/21
LA	5	37	30	8	10	4	14				3	42/111
TX	2	8	2	4	9	3	5				1	10/34

State	Shark Directed	Shark Incidental	Swordfish Directed	Swordfish Incidental	GOM Reef Fish	Dolphin/Wahoo	*Mackerel: King and Spanish	Lobster	Snapper/Grouper	**Charter Head Boat General	*** Other	# Vessels / # Permits
WV	1				1		2					1/4
PA		3		2		1	4					3/10
No Vessel ID	11	13	15	2							4	26/38
Totals 2007	231	298	182	78	153	256	429	55	114	154	54	529 / 2,004

* of shark directed permit holders, 107 have Spanish mackerel permits, and 87 have king mackerel permits and of shark incidental permit holders, 121 have Spanish mackerel permits, and 117 have king mackerel permits

** charter/head boat permits include Gulf of Mexico reef fish, migratory pelagics, Atlantic dolphin/wahoo, and Atlantic snapper/grouper

*** Other includes shrimp permits and swordfish handgear permits

Table 9-2 Distribution of HMS permits possessed by the directed and incidental shark permit holders as of June 2006.

Swordfish Directed	Swordfish Incidental	Charter/Headboat	Tuna Longline	General Category Tuna Permit
182	78	9	140	28

Table 9-3 Number of HMS and non-HMS Dealer Permits by state as of May 22, 2007.

State	Sharks	Domestic Swordfish	Dolphin/Wahoo	Reef Fish	Rock Shrimp	Snapper/Grouper	Golden Crab	Wreckfish	Total # of Permits
AL	4	1	2	4	1	2	1	1	16
CA	11	11	2		2	2			28
FL	102	76	37	79	21	65	18	15	413
GA	1	1	1		1	1		1	6
HI	16	16				4			36
LA	12	10	6	11	1	8		1	49
MA	14	14	10	2	1	3	1	1	46
MD	2	2	2						6
MO	1		1	1		1			4
MS	1			1					2
NC	23	15	22	4	2	23		7	96
NJ	15	15	7	1	2	4	1	1	46
NY	17	17	15	10	2	5	2	2	70
PA	1	1	1	1	1	1	1	1	8
PR	1	1							2
RI	6	6	6			1	1	1	21
SC	21	8	15			15		3	62
TX	17	10	3	15	2	4			51
VA	4	2	2			2		1	11
Totals 2007	269	206	132	129	36	141	25	35	973

9.3 State and Community Profiles

Section 9.4 of the Consolidated HMS FMP provides a comprehensive summary of the states and communities that participate in HMS fisheries and are affected by HMS regulations.

Literature Cited

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

10.0 OTHER CONSIDERATIONS

10.1 National Standards

The analyses in this document are consistent with the National Standards (NS) set forth in the 50 C.F.R. part 600 regulations.

The actions described in this Environmental Assessment and associated final rule are consistent with NS 1 in that they would not implement measures that exacerbate overfishing or prevent overfished species of sharks in the Atlantic Ocean from rebuilding. Closing the LCS fishery in all regions during the 2008 first trimester and not allowing fishermen to catch the available LCS quota would prevent further overharvests, provide the most ecological benefits to overfished sandbar and dusky shark populations, and reduce fishing pressure on other LCS species. Amendment 1 to the FMP for Atlantic Tunas, Swordfish, and Sharks established a rebuilding plan for LCS that incorporated the results of the 2002 LCS stock assessment and established optimum yield for the LCS fishery by setting baseline LCS quotas. In order to strike a balance between preventing further overfishing, achieving optimum yield from the fishery, and avoiding safety at sea concerns (National Standard 10), NMFS prefers to close the LCS fishery during the 2008 first trimester season. The small amount of LCS quota that is available due to the LCS closure may help offset the amount of overharvests that need to be accounted for in Amendment 2 to the Consolidated HMS FMP to achieve optimum yield per the results of the 2006 LCS stock assessments.

This rulemaking is consistent with NS2, as the baseline LCS quotas and quota adjustments that NMFS proposed in this rulemaking were established in Amendment 1 to the FMP for Atlantic Tunas, Swordfish and Sharks and were based on the 2002 LCS stock assessment. Due to recent LCS overharvests during the first trimester season, the adjusted LCS quotas for the 2008 first trimester season are significantly reduced. The small amount of available LCS quota would lead to substantially shortened seasons or closures during the 2008 first trimester season. Although the 2002 LCS stock assessment was the best available science when the current LCS baseline quotas were established, NMFS also considered the results of the 2006 LCS stock assessment when determining the most appropriate course of action for the LCS fishery in this rulemaking. Thus, while this rulemaking does not propose changes to the LCS baseline quotas it does consider how the proposed changes in Amendment 2 to the Consolidated HMS FMP could impact the shark fishery. Overall, the 2008 first trimester baseline quotas are based on the best available science (NS2) when those quotas were established, which is the 2002 LCS stock assessment and the adjustments are based on the best available landings data in recent years. Changes to the LCS baseline quotas, as proposed in Amendment 2 to the Consolidated HMS FMP, are based on the 2006 LCS stock assessment and were considered as part of this rulemaking.

This rule is also consistent with NS3 as the Atlantic shark fishery is managed as a unit throughout its range and sharks taken and landed from state waters are counted against the federal fishery quota for the applicable region and time period, consistent with 50 CFR 635.27 (b)(1)(vi)(C). Deducting state landings from federal quotas is necessary to manage stocks throughout the range and does not discriminate between residents of different states (NS4). Some residents may be impacted differently but this measure is needed to prevent overfishing.

These landings are also included when assessing the stock. The shark fishery is not the only fishery where NMFS deducts state landings from Federal quotas. Other fisheries in the southeast region such as snapper/grouper and reef fish fisheries also deduct state landings from federal quotas, consistent with 50 CFR Part 622.42. However, to improve consistency between state and federal regulations, NMFS is actively working with the Atlantic States Marine Fishery Commission and, as part of Amendment 2 to the Consolidated HMS FMP, wrote letters to all states comparing their regulations with Federal regulations.

This final action does not negatively impact the efficiency in utilizing the resource (NS 5). With regard to NS 6, the preferred alternative takes into account any variations that may occur in the fishery and the fishery resources. Additionally, NMFS considered the costs and benefits of these management measures economically and socially (NS 7 and 8) in sections 6, 7, 8, and 9 of this document. The preferred measure is consistent with regional and trimester quotas and does not increase fishing effort for Atlantic sharks, therefore, impacts to bycatch species and protected species are similar to those previously analyzed in the Consolidated HMS FMP (NS 9). Finally, this final rule would not require fishermen to fish in an unsafe manner due to the closure of the LCS fishery versus a five day season as proposed in the status quo alternative. The measures in this action could reduce derby fishing conditions and safety at sea concerns (NS 10) that would arise if NMFS opened the fishery for a short period of time. Given a six day season that begins January 1, fishermen may feel forced to fish in poor weather conditions or force fishermen to fish for species they are less efficient at targeting.

10.2 Paperwork Reduction Act

This action does not contain a collection-of-information requirement for purposes of the Paperwork Reduction Act.

10.3 Federalism

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

11.0 LIST OF PREPARERS

This document was prepared by a team of individuals from the Highly Migratory Species Management Division (HMS), Office of Sustainable Fisheries (F/SF1), NMFS, including:

LeAnn Southward Hogan, M.S., Fisheries Management Specialist
Heather Balchowsky, B.S., Fisheries Biologist
Karyl Brewster-Geisz, M.S., Fishery Management Specialist
Margo Schulze-Haugen, M.S., Chief, HMS Management Division

Individuals in NOAA's Office of General Counsel for Fisheries contributed to the preparation of this document.