

5.0 MITIGATION AND UNAVOIDABLE ADVERSE IMPACTS

In the draft Amendment, NOAA Fisheries identified a preferred alternative to allow vessels in the gillnet fishery to use the strikenet method only, due to expected large ecological benefits. However, public comment indicated that the social and economic impacts would be severe and NOAA Fisheries did not select alternative J3 as a preferred alternative in this final Amendment.

Several of the selected alternatives could also have adverse social and/or economic impacts. These alternatives include the resulting commercial LCS quota level (combination of alternatives A3 and C2), establishing trimester seasons (alternative B4), maintaining the current prohibited species group and establishing criteria for addition/removals to/from the list (alternative I6), requiring VMS on shark gillnet vessels during right whale calving season and on directed bottom longline vessels during time and area closures (alternative J4), requiring release equipment onboard and moving one nautical mile after a protected species interaction (alternative J5), and establishing a time/area closure in the mid-Atlantic region (alternative K2). Most of these alternatives only affect commercial fishermen, however, the alternative regarding the prohibited species group (alternative I6) could affect recreational fishermen as well.

The alternative to require commercial and recreational fishermen to attend workshops in regard to regulations, species identification, and release techniques (alternative J8) is not selected at this time. However, NOAA Fisheries intends to consider such mandatory workshops to increase outreach and compliance with regulations in future rulemaking. NOAA Fisheries will develop regulatory and other materials in the interim.

5.1 MITIGATION MEASURES

NOAA Fisheries is not selecting alternative J3, allowing only the strikenet method fishing in the shark gillnet fishery, and has revised alternative K2, the time/area closure in mid-Atlantic region to protect neonate and juvenile dusky and sandbar sharks, in part, to mitigate the social or economic impacts.

Alternative J3, allowing only the strikenet method fishing in the shark gillnet fishery, is not selected in this document because of public comment that it would force the entire shark gillnet fishery out of business. The measure was intended to reduce bycatch of marine mammals, sea turtles, and finfish by extending current requirements for strikenet fishing, which has little bycatch on non-shark species, from during the winter in right whale critical habitat to year-round in all areas. However, strikenet fishing requires shark species to school or form large aggregations in order to be effective and NOAA Fisheries received public comment that LCS do not school in the summer and that the SCS do not school. Thus, gillnet fishermen would not be able to fish effectively for LCS outside of the winter or for SCS, and would likely go out of business. As it was not NOAA Fisheries intent to close the fishery, this final Amendment does not select alternative J3. The selected alternatives (J4 and J5) maintain current requirements and allow drift gillnet fishing outside of right whale critical habitat during the winter. These

alternatives would provide positive ecological impacts with regard to bycatch by requiring VMS on gillnet vessels during right whale calving season and on directed bottom longline shark fishing vessels operating near the time/area closure off North Carolina as well as requiring the use of non-stainless steel corrodible hooks, the possession of release equipment on vessels with shark bottom longline gear (line cutters, dipnets, and, when approved, dehooking devices), and that bottom longline vessels move one nautical mile after an interaction with a protected species. Reducing bycatch and bycatch mortality is a priority, and NOAA Fisheries intends to consider other measures such as gear modifications or handling techniques in future rulemaking.

Alternative K2, the time/area closure in mid-Atlantic region, was reduced in size by 26,997 square nautical miles in response to public comment that the closure preferred in the draft Amendment was overly restrictive, does not accurately reflect recent trends in dusky shark catches, and that a closure could be more focused along depth contour lines. For dusky sharks, 90 percent of sharks caught in the original time/area closure were also caught within the revised time/area closure. Approximately 95 percent of neonates, 87 percent of juveniles, and 88 percent of adult dusky sharks were caught in the revised time/area closure. For sandbar sharks, 78 percent of sharks caught in the original time/area closure were also caught in the revised time area closure. Approximately 100 percent of neonates, 95 percent of juveniles, and 61 percent of adult sandbar sharks were caught in the revised time/area closure.

While the preferred alternative in the draft Amendment encompassed a larger area and a greater percentage of observed neonate and juvenile dusky and sandbar sharks, the area also would have closed all of North Carolina waters as well as areas of Virginia and South Carolina. The selected alternative still provides effective protection for neonate and juvenile dusky and sandbar sharks while also providing fishing opportunities in North Carolina both north and south of the closed area. Nevertheless, some fishermen may go out of business, particularly North Carolina fishermen. The time/area closure, even though revised and reduced in this document, would directly affect the estimated 13 active North Carolina fishermen and would require them to either change fishing areas or stop fishing during the closure. Additionally, those vessel owners who continue in the fishery near the closed area, would need to install VMS (alternative J4). While VMS has a large initial cost and smaller, continuing maintenance costs, it would also allow fishermen to transit the closed area and allow them to stay with their current dealer and with their family. Thus, over time, VMS, which is an effective enforcement tool, could help mitigate some of the adverse impacts associated with the closure. Finally, delaying the effective date of the time/area closure to January 2005 should also mitigate the negative impacts by providing time to adjust to these requirements.

Alternatives A3/C2 could also have significant adverse economic impacts in the short-term, particularly on small entities, and could cause some vessel owners to go out of business. While alternatives A3 and C2, in combination, result in a lower LCS commercial quota than in recent years, the alternatives themselves do not necessarily require the quota to be lower. In fact, the same alternatives, result in a quota for SCS that is higher than recent landings. Based on these two alternatives, the LCS commercial quota could increase over time as the LCS stocks rebuild,

depending on the results of any future stock assessments. Additionally, under alternative C2, the quota level is considered a landings quota. In other words, dead discards would not be taken off the quota (they were already considered in calculating the quota level). State landings after a Federal closure would still be taken off the quota. Additionally, if fishermen reduce discards and/or if recreational landings decrease as a result of increased compliance, then the proportion of MSY available to commercial fishermen could increase, resulting in increased quota levels.

As described in Chapters 4, 6, 7, and 8, the adverse impacts of some of the selected alternatives would be minor and may help mitigate the impacts of other selected alternatives while also meeting the objectives of this Amendment and the Magnuson-Stevens Act. NOAA Fisheries attempted to mitigate the economic and social impacts as much as possible in designing the alternatives. For example, as reflected in Appendix 4, NOAA Fisheries analyzed whether the VMS requirement would be required fleet-wide or could be narrowly tailored. Appendix 4 indicates that VMS is not needed on all directed shark fishermen with bottom longline gear onboard. The selected alternative does not consider putting VMS on all directed shark fishermen, thus, the negative economic impact of VMS is reduced for the fishery as a whole. Additionally, delaying the effective date of the VMS requirement for directed shark bottom longline vessels to January 2005 and for shark gillnet vessels to November 15, 2004, should also mitigate the impacts by providing time to adjust to these requirements (purchase and install equipment, etc.).

Establishing trimester seasons (alternative B4) could have short-term social and economic impacts because of the change in fishing practices and the need to build markets during times when the fishery had traditionally been closed. However, over time, because the openings of the fishery would be spread farther throughout the year, trimester seasons should have positive economic and social impacts. NOAA Fisheries is delaying the effective date of the trimester seasons to January 2005 to mitigate any impacts by providing time to adjust. Alternative I6, maintaining the current prohibited list and establishing criteria for additions/removals, would impose no immediate impacts but could have adverse impacts if additional species not currently included on the list are added in the future. Conversely, alternative I6 could have positive impacts if certain species are removed from the list. This would allow fishermen to target a greater range of shark species. Alternative J5 requires fishermen to buy and use release equipment such as dipnets, line cutters, and dehooking devices. The total cost of the equipment should be minimal and would be a one-time cost. Moving after a marine mammal interaction could increase the cost of a trip; however, few marine mammals have been observed or reported caught with bottom longline.

Most of the shark fishermen are likely to continue to derive their income predominantly from commercial fishing activities. Because the majority of shark fishermen hold permits in other fisheries and fish in other fisheries at least part of the year, fishermen who are adversely affected may increase participation in other fisheries in which they already participate and some fishermen might shift to participate in recreational fisheries by converting to charterboat operations. However, some vessel owners, particularly bottom longline fishermen in the mid-

Atlantic region, might choose to exit all commercial fisheries. If they do, they would be able to sell their shark limited access permits to other interested fishermen (predominantly those fishermen in other geographic areas). Since other fisheries use bottom longline gear as well, fishermen choosing to exit commercial fisheries may also be able sell their vessels and their gear.

Finally, NOAA Fisheries is producing a *Guide to Sharks, Tunas, and Billfish of the U.S. Atlantic and Gulf of Mexico* that is intended to increase accurate species-specific identification of HMS caught in recreational and commercial fisheries. The guide was developed for use in the field and is a working reference offering at-a-glance physical descriptions, habitat and distribution information, and diagnostic and field photographs, including side-by-side comparisons of many similar species. The guide should be available winter 2003.

5.2 UNAVOIDABLE ADVERSE IMPACTS

As described above, the selected alternatives may have adverse ecological, economic, and/or social impacts. The reasons for selecting those alternatives are outlined in the previous sections of this document. The selected alternatives, including those with adverse impacts, are necessary to rebuild LCS within the rebuilding time frame, consistent with the Magnuson-Stevens Act, and minimize impacts on juvenile sharks, marine mammals, and sea turtles, consistent with the 2002 stock assessments, the Magnuson-Stevens Act, ESA, and MMPA. In considering the alternatives, NOAA Fisheries selected alternatives that would minimize the adverse impacts while maximizing the positive impacts. Thus, any resulting adverse impacts are unavoidable.

5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The selected alternatives would not result in any irreversible and irretrievable commitment of resources. There may be some adverse ecological impacts because alternative J3 was not selected, thus the selected alternatives J4 and J5 would maintain current bycatch levels. However, alternatives J4 and J5 would have positive impacts by reducing bycatch mortality. Moreover, alternative K2 would reduce bycatch and bycatch mortality of fish, sea turtles, and marine mammals. The selected alternatives would aid in rebuilding LCS populations within the rebuilding time frame and prevent overfishing.

References for Section 5.0

No references cited.

References for Section 5.1

No references cited.

References for Section 5.2

No references cited.

References for Section 5.3

No references cited.

