

quota/increase in commercial SCS quota, and time/area closure off North Carolina during the winter commercial fishery. However, the final rule does not apply directly to them. Rather it applies only to permit holders and fishermen. As such, the economic impacts on these other sectors are not discussed in the FRFA.

Some of the preferred alternatives in this document may result in additional reporting, record-keeping, and compliance requirements. The final rule requires Atlantic directed shark fishermen located near the bottom longline time/area closure (approximately eight vessels) and approximately five shark gillnet vessels to install and activate a VMS unit. As discussed below, OMB has approved this collection of information. The costs associated with implementing a VMS program in the Atlantic shark gillnet fishery include an initial average cost per vessel of approximately \$2,275 (not including postage costs for returning certification statement), an average annual maintenance cost of approximately \$500/year, and approximately \$197.28/year for communications during the right whale calving season. Costs associated with implementing a VMS program in the directed shark bottom longline fishery include an initial average cost per vessel of approximately \$2,275 (not including postage costs for returning certification statement), an average annual maintenance cost of approximately \$500/year, and approximately \$305.28/year for communications during the seven month shark bottom longline time/area closure. The position reports generated by the VMS units are automatic so no time burden is imposed on the vessel operator. Installation of VMS will likely increase costs to the vessel owner but should not increase the needed skill level required for HMS fisheries.

The increase in the recreational bag and size limits, change in authorized gear types, addition of the bottom longline time/area closure, requirement to have and use release equipment, and requirement to move 1 nmi after interacting with a protected species may change the way and areas in which fishermen can fish and set their gear, require the possession and use of specific equipment, limit the gears authorized for use in recreational shark fisheries, and increase the skill level needed to participate in HMS fisheries. The increased recreational bag and size limit could result in positive economic benefits if they result in increased tournament participation and business profits within the charter/headboat

industry for sharks. NMFS does not expect changes to the recreational authorized gear to have any substantive economic impacts, because sharks caught recreationally in Federal waters cannot be sold and the majority of HMS recreational fishermen already use the gears being authorized in this final rule. The bottom longline time/area closure and VMS could have significant economic impacts, particularly for those fishermen in states bordering the closure (*i.e.*, North Carolina). However, for vessels not directly affected by the closure there might be a few economic benefits, and NMFS anticipates long-term benefits to the fishery as a whole when the LCS complex rebuilds. The bycatch release equipment and moving 1 nmi after an interaction would likely only have minor economic impacts (*e.g.*, the purchase of stainless-steel hooks and release equipment and minor increases in fuel costs to move one mile after an interaction). Although the release equipment is relatively simple to use, limited training may be required to use them effectively.

No economic impacts are anticipated from the display permit alternative, because this is an administrative name change that does not affect current application processes or related regulations. In addition, the quotas and fishing seasons in this final rule are not likely to change reporting or compliance in the fishery.

NMFS considered a number of alternatives that could minimize the economic impact of the preferred alternatives, particularly those pertaining to LCS commercial quota reductions, revised time/area closures, VMS requirements, and use of corrodible hooks and release equipment aboard bottom longline vessels. Detailed analyses relating to the economic impacts of each alternative considered are provided in the final Amendment 1; a summary is provided here.

The final actions for commercial management measures (*i.e.*, the LCS complex classification, regional quotas, trimester seasons, MSY based quotas, and no minimum size) were designed to minimize economic impacts incurred on fishermen, while simultaneously enhancing equity among users groups, allowing healthy stocks to be managed at optimum yield, and allowing overfished stocks to rebuild. For the LCS complex classification, NMFS considered four alternatives: (1) Ridgeback/non-ridgeback groups with different closure dates (no action); (2) ridgeback/non-ridgeback groups with the same closure date; (3) aggregate LCS complex (final action); and (4) species-specific groups. Compared with the

other alternatives considered, aggregating the LCS complex may reduce costs associated with the lengthening of trips (*i.e.*, fuel, bait, and ice) due to sorting inefficiencies and simplify compliance and reporting requirements. The other classification alternatives, in conjunction with the preferred alternative for the quota basis alternatives, could result in larger quotas; however, those classification alternatives were rejected because they could increase confusion in the fishery and, inconsistent with the Magnuson-Stevens Act, may result in delays for LCS to rebuild.

For quota administration, NMFS considered five alternatives: (1) Semi-annual seasons (no action); (2) no regional quotas (no action); (3) regional quotas (final action); (4) trimester seasons (final action); and (5) quarterly seasons. Implementation of regional quotas is not anticipated to result in any changes to economic benefits or costs because it maintains current fishing patterns based on dealer reports and is anticipated to enhance equity among user regions. Trimester seasons would spread open seasons out more evenly over the calendar year and could, in the long-term, result in greater economic stability for fishermen and associated communities because the amount of time between open and closed seasons would likely be reduced. Thus, in the long-term, the combination of regional quotas and trimester seasons could help minimize any economic impacts caused by other final actions. While maintaining the semiannual seasons and no regional quotas would have no negative economic impacts in the long- or short-term, these alternatives would have no positive economic benefits either.

NMFS considered a wide range of quotas that resulted from the combination of the four LCS complex classification alternatives and the three quota basis alternatives which included: (1) Quota basis from the 1999 HMS FMP (no action); quota based on MSY (final action); and (3) quota based on average landings for past three years. The economic impacts of the quota basis alternatives vary depending on the classification alternatives, thus, the two issues are considered together. Specifically, NMFS evaluated seven different commercial quotas for LCS (ranging from 816 mt dw and 2,559 mt dw) and three different commercial quotas for SCS (ranging from 300 mt dw to 454 mt dw). NMFS carefully considered the results of the 2002 stock assessments for LCS and SCS in evaluating possible quotas. The final action alternatives (quota based on MSY