DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 635

[Docket No. 130417378–6933–01]

RIN 0648–BD22

Atlantic Highly Migratory Species; Atlantic Shark Management Measures; Proposed Amendment 5b

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Proposed rule; request for comments.

SUMMARY: NMFS is amending the 2006 Consolidated Atlantic Highly Migratory Species (HMS) Fishery Management Plan (FMP) based on the results of the 2016 stock assessment update for Atlantic dusky sharks. Based on this assessment, NMFS determined that the dusky shark stock remains overfished and is experiencing overfishing. Consistent with the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), NMFS is proposing management measures that would reduce fishing mortality on dusky sharks and rebuild the dusky shark population consistent with legal requirements. The proposed measures could affect U.S. commercial and recreational fishermen who harvest sharks in the Atlantic Ocean, including the Gulf of Mexico and Caribbean Sea.

DATES: Written comments must be received by December 22, 2016. NMFS will hold six public hearings on Draft Amendment 5b and this implementing proposed rule on November 9, November 15, November 16, November 21, and November 28, 2016. NMFS will also hold an operator-assisted public hearing via conference call and webinar for this proposed rule on December 12, 2016, from 2:00 p.m. to 4:00 p.m. EST. For specific locations, dates and times see the **SUPPLEMENTARY INFORMATION** section of this document.

ADDRESSES: You may submit comments on this document, identified by NOAA–NMFS–2013–0070, by any one of the following methods:

- *Electronic Submission:* Submit all electronic public comments via the Federal e-Rulemaking Portal. Go to *www.regulations.gov/#!docketDetail;D=NOAA-NMFS-2013-0070,* click the ''Comment Now'' icon, complete the required fields, and enter or attach your comments.
- *Mail:* Submit written comments to Margo Schulze-Haugen, NMFS/SF1, 1315 East-West Highway, National Marine Fisheries Service, SSMC3, Silver Spring, MD 20910.

Instructions: Please include the identifier NOAA–NMFS–2013–0070 when submitting comments. Comments sent by any other method, to any other address or individual, or received after the close of the comment period, may not be considered by NMFS. All comments received are a part of the public record and generally will be posted for public viewing on *www.regulations.gov* without change. All personal identifying information (*e.g.,* name, address), confidential business information, or otherwise sensitive information submitted voluntarily by the sender will be publicly accessible. NMFS will accept anonymous comments (enter ''N/A'' in the required fields if you wish to remain anonymous). Attachments to electronic comments will be accepted in Microsoft Word, Excel, or Adobe PDF file formats only. Written comments regarding the burden-hour estimates or other aspects of the collection-of-information requirements contained in this proposed rule may be submitted to the Atlantic Highly Migratory Species Management Division by email to *OIRA_Submission@omb.eop.gov,* or fax to 202–395–7285.

NMFS will hold 6 public hearings and 1 conference call on this proposed rule. NMFS will hold public hearings in Manalapan, NJ; Newport, RI; Belle Chasse, LA; Houston, TX; Melbourne, FL; and Manteo, NC; and via a public conference call. For specific locations, dates and times see the **SUPPLEMENTARY INFORMATION** section of this document.

Copies of the supporting documents—including the draft environmental impact statement (DEIS), Regulatory Impact Review (RIR), Initial Regulatory Flexibility Analysis (IRFA), and the 2006 Consolidated Atlantic HMS FMP are available from the HMS Web site at *http://www.nmfs.noaa.gov/sfa/hms/* or by contacting Tobey Curtis at 978–281–9273.

FOR FURTHER INFORMATION CONTACT: Tobey Curtis at 978–281–9273 or Karyl Brewster-Geisz at 301–427–8503.

SUPPLEMENTARY INFORMATION:

Background

The Atlantic commercial shark fisheries are managed primarily under the authority of the Magnuson-Stevens Act. The 2006 Consolidated HMS FMP and its amendments are implemented by regulations at 50 CFR part 635. A brief summary of the background of this proposed rule is provided below. Additional information regarding Atlantic HMS management can be found in the Draft Environmental Impact Statement (DEIS) for Amendment 5b to the 2006 Consolidated HMS FMP (Amendment 5b), the 2006 Consolidated HMS FMP and its amendments, the annual HMS Stock Assessment and Fishery Evaluation (SAFE) Reports, and online at *http://www.nmfs.noaa.gov/sfa/hms/.*

Dusky Shark Stock Status and Management History

NMFS has prohibited the retention of dusky sharks in commercial and recreational fisheries since 2000. In 2008, in response to a 2006 stock assessment declaring dusky sharks to be overfished with overfishing occurring despite this complete prohibition, NMFS adopted a rebuilding plan for the stock. This rebuilding plan, set out in Amendment 2 to the Consolidated HMS FMP, undertook a suite of measures to address dusky shark overfishing, focusing primarily on bycatch of the species in other shark fisheries. Major components of this plan—which are unchanged by this action—include a continued prohibition on retention of dusky sharks (§§ 635.22(c)(4) and 635.24(a)(5)), time/area closures (§ 635.21(d)), and the prohibition of landing sandbar sharks (the historic target species for the large coastal shark fishery) outside of the shark research fishery along with significant retention limit reductions in the bottom longline fishery where interactions were commonly occurring (§§ 635.24(a)(1), (2), and (3)). The terminal year for rebuilding was set at 2108, consistent with the assessment, which concluded that the stock could rebuild within 100 to 400 years. In 2011, three years into this 100-year rebuilding plan, a benchmark stock assessment for dusky sharks was completed through the Southeast Data, Assessment, and Review (SEDAR) 21 process (76 FR 62331, October 7, 2011), the first assessment for dusky sharks conducted within the SEDAR process. The 2011 stock assessment provided an update to a 2006 dusky shark stock assessment and concluded that the stock remained overfished with overfishing occurring.

On October 7, 2011 (76 FR 62331), NMFS made stock status determinations for several shark species based on the results of the SEDAR 21 process. NMFS determined in the notice that dusky sharks, a prohibited species, were still overfished and still experiencing overfishing (*i.e.,* their stock status has not changed from a 2006 assessment). The stock assessment recommended a

decrease in dusky shark mortality of 58 percent against 2009 levels. NMFS announced its intent to prepare an Environmental Impact Statement (EIS) for Amendment 5 to the 2006 Atlantic Consolidated HMS FMP, which would assess the potential effects on the human environment of additional action proposed through rulemaking to rebuild and end overfishing of several stocks assessed in SEDAR 21, including dusky sharks, consistent with the Magnuson-Stevens Act.

NMFS considered alternatives to rebuild several overfished Atlantic shark species, including dusky sharks, in Draft Amendment 5 (77 FR 70552, November 26, 2012). The proposed measures were designed to reduce fishing mortality and effort, while ensuring that a limited sustainable shark fishery for certain species could be maintained consistent with legal obligations and the 2006 Consolidated HMS FMP. NMFS received substantial public comment disputing the basis for the proposed dusky shark measures, and NMFS decided further analysis was necessary on those measures in a separate FMP amendment, EIS, and proposed rule. NMFS finalized management measures for the other Atlantic shark species included in Draft Amendment 5 in the Final Amendment 5a and associated final rule (78 FR 40318, July 3, 2013), while announcing that dusky shark management measures would be included in an upcoming, separate rulemaking known as Amendment 5b (*i.e.,* this rule).

NMFS prepared a Predraft for Amendment 5b in March 2014 that considered the feedback received on Draft Amendment 5, solicited additional public input, and consulted with its Advisory Panel at the Spring 2014 meeting. The Predraft considered alternatives that were not included in Draft Amendment 5, as well as new information.

Following the Predraft for Amendment 5b, additional information regarding dusky sharks became available that was not available at the time of the SEDAR 21 stock assessment. NMFS, in response to two petitions from environmental groups regarding listing dusky sharks under the Endangered Species Act (ESA), conducted an ESA Status Review for the Northwest Atlantic population of dusky sharks, which was completed in October 2014. That status review included an updated analysis of three fishery-independent surveys, the Northeast Fisheries Science Center (NEFSC) Coastal Shark Bottom Longline Survey (NELL), the Virginia Institute of Marine Science Shark Longline Survey (VIMS LL), and the University of North Carolina Shark Longline Survey (UNC LL), using the same methodology as the SEDAR 21 Data Workshop (McCandless et al., 2014). The updated analysis included data from 2010—2012 and showed an increasing trend in dusky shark indices of abundance for all three surveys since 2009, the terminal year of data used for dusky sharks in the SEDAR 21 stock assessment. The ESA Status Review Team concluded that, based on the most recent stock assessment, abundance projections, updated analyses, and the potential threats and risks to population extinction, the dusky shark population in the Northwest Atlantic and Gulf of Mexico has a low risk of extinction currently and in the foreseeable future. On December 16, 2014, NMFS announced a 12-month finding that determined that the Northwest Atlantic and Gulf of Mexico population of dusky sharks did not warrant listing under the ESA at that time (79 FR 74954).

NMFS applied additional restrictions in the shark research fishery to reduce dusky shark mortality in 2013 (refer to the Amendment 5b DEIS; see **ADDRESSES**). This included establishing a dusky shark interaction cap for the entire shark research fishery of 45 dusky sharks per year, with more specific caps within the regions, which has been an effective way to minimize dusky shark dead discards within the limited shark research fishery, which only involves 6 to 10 participants annually.

By Fall 2015, as described in an HMS staff presentation to its Advisory Panel, the reductions in dusky shark mortality since 2009, and the increasing population trends from fishery-independent surveys, had indicated that management actions may have already reduced dusky shark mortality to levels prescribed by the SEDAR 21 stock assessment (*i.e.,* reduced mortality by at least 58 percent against 2009 levels). In light of this updated information, the Southeast Fisheries Science Center (SEFSC) prioritized an update of the SEDAR 21 dusky shark stock assessment using data through 2015, to be completed in summer 2016. It was determined that further action on Amendment 5b should wait until after the completion of the assessment update to ensure that it was based on the best available scientific information.

On October 27, 2015, the environmental advocacy organization Oceana filed a complaint against NMFS in Federal district court alleging violations of the Magnuson-Stevens Act and Administrative Procedure Act with respect to delays in taking action to rebuild and end overfishing of dusky sharks. A settlement agreement was reached between NMFS and the Plaintiffs on May 18, 2016, regarding the timing of the pending agency action. This settlement acknowledged that NMFS was in the process of developing an action to address overfishing and rebuilding of dusky sharks and that an assessment update was ongoing and stipulated that, based upon the results of the assessment update, NMFS would submit a proposed rule to the **Federal Register** no later than October 14, 2016.

A draft of the SEDAR 21 stock assessment update for dusky sharks became available in July 2016 and underwent internal NMFS peer review in August 2016. The assessment update added 2010–2015 data inputs from the same data sources vetted and approved in SEDAR 21 (fishery-dependent and -independent data, relative effort series, etc.) to the accepted models in order to update the status of the stock using the most recent data. Five model scenarios were run, all of which were considered to be plausible states of nature according to SEDAR 21 (*i.e.,* no single model is considered preferred to the others). The peer reviewers did not identify any issues or concerns with the methods applied or the results or conclusions of the assessment update. However, SEDAR 21 and the 2016 update noted a high level of uncertainty in the input observations, as well as the model outputs, beyond that of many other Atlantic shark stock assessments. The final SEDAR 21 stock assessment update report was made available in September 2016 and is available on the SEDAR Web site (*http://sedarweb.org/sedar-21*).

Despite including much of the same data as those used in the 2014 ESA Dusky Shark Status Review Report (McCandless et al., 2014), which suggested mostly positive trends in dusky shark relative abundance, the 2016 assessment update concluded that the stock is still overfished and experiencing overfishing, although the level of overfishing has decreased compared to previous assessments and is low. Specifically, Spawning Stock Fecundity (SSF) relative to SSF_{MSY} (proxy biomass target) ranges from 0.41 to 0.64 (*i.e.,* overfished) (median = 0.53). The fishing mortality rate (F) in 2015 relative to F_{MSY} is estimated to be 1.08–2.92 (median = 1.18) (values >1 indicate overfishing).

The rebuilding year was also updated according to the new model projections. The target rebuilding year was calculated as the amount of time needed for the stock to reach the target (SSF_{MSY}) with a 70% probability in the absence of fishing mortality (F=0) plus one mean

generation time (40 years). The updated projections estimate that the target rebuilding years range from 2084–2204, with a median of 2107. The previous rebuilding year under SEDAR 21 was 2108.

In order to achieve rebuilding by 2107 with a 50% probability, the final models projected that F on the stock would have to be reduced 24–80% (median = 35%) from 2015 levels. The assessment update states that the stock can sustain small amounts of fishing mortality during its rebuilding. When developing measures to address overfishing or rebuilding in HMS fisheries, NMFS' general approach is that measures should have at least a 50-percent probability of success in achieving those goals. For Atlantic highly migratory sharks, however, NMFS has, since 1999, typically used a 70-percent probability for sharks, in light of their late age to maturity, reproduction, population growth rate, and other considerations. Given particular issues specific to the 2016 SEDAR 21 dusky shark assessment update (explained below), NMFS used the F reduction associated with the 50-percent probability to develop Draft Amendment 5b.

While peer reviewers did not identify any issues with how the 2016 assessment update was conducted, SEDAR 21 and the 2016 update noted a high level of uncertainty in the input observations, as well as the model outputs, beyond that of many other Atlantic shark stock assessments. Data on dusky sharks is limited, given the retention prohibition and fact that interactions with prohibited sharks are rare events, and dusky shark sharks are often misidentified. Data input to the models came from different types of fishing vessels/gears and time series collected by different entities, including the Atlantic Shark Bottom Longline Observer Program, Shark Bottom Longline Research Fishery, the Atlantic Pelagic Observer Program, the recreational Large Pelagics Survey, the Northeast Fisheries Science Center's Bottom Longline Survey, and the Virginia Institute of Marine Science's Bottom Longline Survey. Based on these data, the five plausible model scenarios in the 2016 assessment update produced a very wide range of estimates (overfishing and overfished status) and outcomes (F reductions, rebuilding timelines, etc.). In light of the range of estimates and outcomes, NMFS used the median of the five scenarios in its development of measures in Draft Amendment 5b to address overfishing and rebuilding of dusky sharks. Given the range of plausible scenarios from the assessment update, using the median of multiple scenarios is an acceptable method because it is an objective approach for reconciling a range of management options. It is also consistent with the management approach to similar situations in other fisheries (*e.g.,* New England Fishery Management Council's Scientific and Statistical Committee's recommendation for yellowtail flounder in September 2009; Scott et al. 2016).

Because of the above issues, NMFS decided it was appropriate from a scientific, technical perspective to use the F reduction associated with the 50-percent probability when developing Draft Amendment 5b. While NMFS typically uses a 70-percent probability for Atlantic highly migratory shark species, the 2016 update has a higher level of uncertainty than other shark assessments and presents a more pessimistic view of stock status than was expected based on our preliminary review of the same information and other available information. Such information includes the information reviewed in the ESA Status Review, reductions in U.S. fleet fishing effort due to management actions, and updated age and growth information indicating that dusky sharks are more productive than previously thought (Natanson et al. 2014). This information could not be used in the 2016 assessment update, because assessment updates only incorporate data inputs (*e.g.,* time series, life history parameters, etc.) that were previously vetted through the SEDAR process and approved as part of the most recent benchmark assessment. Here, that was the 2011 benchmark stock assessment (SEDAR 21). Based on its review of the 2016 update, understanding about the operation of the HMS fisheries under current management measures, and other available information, the F estimate associated with the 50-percent probability more accurately reflects current fishing pressure and accounts for the new information on dusky shark productivity than the F estimate associated with the 70-percent probability. From a statistical perspective, the wider confidence band in the projections results in the F estimate associated with a 70-percent probability being substantially lower than the apical value. Thus, the F reduction associated with 70-percent goes well beyond what we would consider appropriately precautionary even for species with relatively slow life history such as sharks (refer to the Amendment 5b DEIS for more details; see **ADDRESSES**). NMFS also notes that the rebuilding year (*i.e.,* length of time the species could rebuild with no fishing mortality plus one mean generation time) was calculated using a 70-percent probability, as is typically done in assessments, which additionally increases the likelihood of achieving rebuilding within the mandated time period.

Therefore, based on the 2016 assessment update, NMFS needs to reduce dusky shark fishing mortality by approximately 35% relative to 2015 levels to rebuild the stock by the year 2107. NMFS also needs to address overfishing, but the level of overfishing is not high (median F_{2015}/F_{MSY} is 1.18). NMFS solicits public comment on its approach in Draft Amendment 5b based on the 2016 update, particularly ideas on different approaches and any scientific support for them.

Annual Catch Limits (ACLs) and Accountability Measures (AMs)

The Magnuson-Stevens Act requires that each FMP establish a mechanism for specifying ACLs at a level such that overfishing does not occur, including measures to ensure accountability (AMs) (16 U.S.C. 1853(a)(15)). In 2010, NMFS addressed these requirements for Atlantic highly migratory shark stocks in Amendment 3 to the 2006 Consolidated HMS FMP (Amendment 3) (NMFS 2010), including sharks in the prohibited shark complex, which includes dusky sharks. Draft Amendment 5b clarifies that the ACL for the 19 species of sharks in the prohibited shark complex is zero. NMFS believes that an ACL of zero is appropriate and, along with existing and proposed conservation and management measures, will prevent overfishing.

In its proposed revisions to the NS 1 guidelines (80 FR 2786; January 20, 2015), NMFS explains in § 600.310(g)(3) that if an ACL is set equal to zero and the AM for the fishery is a closure that prohibits fishing for a stock, additional AMs are not required if only small amounts of catch (including bycatch) occur, and the catch is unlikely to result in overfishing. According to the available analyses, prohibited shark species—basking sharks (Campana 2008), night sharks (Carlson et al. 2008), sand tiger sharks (Carlson et al., 2009), white sharks (Curtis et al. 2014), and bigeye thresher sharks (Young et al. 2016)—are not experiencing overfishing. While such analyses have not been completed for all other prohibited shark species, there is no information suggesting that overfishing is occurring on other members of this complex. In addition, commercial and recreational retention of prohibited sharks is prohibited, and there is only a small

amount of bycatch occurring for the complex. The annual number of observed bycatch mortalities of prohibited sharks ranged from 293 to 1,829 sharks per year over the time series, and the most recent observed three-year average annual mortality for all sharks in the complex was 498 sharks (refer to the DEIS for this action for more detail; see **ADDRESSES**).

NMFS acknowledges that, in addition to the small amount of bycatch, there is also information on a small amount of occasional prohibited shark landings. Based on observer and other data and input from the HMS AP, NMFS believes that these landings most likely are due to misidentification issues and lack of awareness of shark fishing regulations, which would be addressed through this action. Even though dusky sharks are experiencing overfishing, NMFS believes that an ACL of zero is still appropriate for the prohibited shark complex. The estimated level of overfishing for dusky sharks is not high (median F_{2015}/F_{MSY} is 1.18; values >1 indicates overfishing), and measures under Draft Amendment 5b and this proposed rule are expected to prevent this overfishing (*See* ''Proposed Measures'' below.) NMFS notes that there would be policy and scientific/data concerns if we were to specify an ACL other than zero. As noted earlier, there was a high level of uncertainty in the 2016 assessment update, given limited data on dusky sharks, multiple data sources, and five plausible model scenarios. The update had five different total allowable catch (TAC) estimates ranging from 7,117 to 47,400 lb (3.2 to 21.5 mt) dressed weight (median = 27,346 lb (12.4 mt) dressed weight). NMFS does not have a basis for picking one model over another, and is concerned that setting an ACL based on the highly uncertain TAC estimates could encourage increased catch. Retention of dusky sharks is prohibited, thus NMFS believes that the ACL for dusky sharks (along with other species in the prohibited shark complex) should be zero.

NMFS is proposing additional measures in Draft Amendment 5b and this proposed rule to prevent overfishing of dusky sharks (see ''Proposed Measures'' below). These measures are in addition to previously-adopted shark management measures. NMFS considers these and other management measures for dusky sharks (*e.g.,* prohibition on retention) to be AMs. After considering the proposed revisions to the NS1 guidelines at 50 CFR 600.310(g)(3), NMFS does not believe additional AMs are needed for dusky sharks or other prohibited sharks. Over the past years, NMFS has taken significant regulatory action that has reduced fishing effort and mortality on shark species. Most significantly, Amendment 2 regulations, which were implemented in July 2008 (73 FR 35778, June 24, 2008, as corrected at 73 FR 40658, July 15 2008), dramatically changed how the directed shark fishery (which had frequent interactions with dusky sharks) operates by, among other things, reducing the commercial trip limit from 4,000 lb (1.81 mt) dw to 36 non-sandbar LCS per trip (approximately 1,213 lb or 0.55 mt dw), significantly reducing the sandbar quota and prohibiting the retention of sandbar sharks outside a limited shark research fishery, and requiring that sharks be landed with their fins attached. Because dusky sharks have a similar distribution to sandbar sharks, and they were frequently caught together, measures that reduced sandbar shark catches also reduced dusky shark bycatch. To address bycatch of dusky sharks on bottom longline gear, the quota for sandbar sharks was reduced by 80 percent, leaving only a small, very closely monitored research fishery. Other measures to reduce dusky shark bycatch, which remain in place, included limiting the number of vessels authorized to land sandbar sharks and setting a finite number of trips that would be taken targeting sandbar sharks in the research fishery. Once this quota was met, there would be no more targeting or possession of sandbar sharks and other shark species within the shark research fishery. Implementing a more restrictive retention limit for non-sandbar LCS (*e.g.,* 36 non-sandbar LCS/vessel/trip for directed permit holders) was also adopted to result in reduced fishing effort targeting sharks with bottom longline (BLL) gear. NMFS also adopted measures that would not allow dusky sharks to be collected for public display, limiting the number of dusky sharks authorized for research, not allowing certain species of sharks that look like dusky sharks to be possessed in recreational fisheries, maintaining the mid-Atlantic shark closed area, and implementing additional time/area closures for BLL gear as recommended by the South Atlantic Fishery Management Council in its Amendment 14. These measures have already reduced effort and fishing mortality, which will increase the likelihood of rebuilding dusky sharks.

Additionally, Amendment 7 to the 2006 Consolidated HMS FMP in 2015 effected management measures in the pelagic longline fishery by implementing measures to control bluefin tuna bycatch in that fishery. As a result, pelagic longline fishery management and monitoring has changed significantly and, at least in the initial years of management under these controls, effort has decreased.

The time series NMFS used to evaluate the impact of conservation and management measures and fishing mortality on the prohibited shark complex begins in 2008 to coincide with the implementation of Amendment 2 and ends in 2015, the most recent year for which data are available. Bycatch data are not available in as timely a manner as data on landed catch, and interactions with prohibited sharks are rare events, which can be highly variable from year to year. Thus, three-year rolling averages were used to smooth interannual variability in the observed catches.

On an annual basis, NMFS will continue to monitor the prohibited shark complex, based on a comparison of the most recent three-year average mortality to previous three-year averages to evaluate the impact of conservation and management measures, and evaluate fishing mortality on the prohibited shark complex. NMFS anticipates that bycatch of dusky and other prohibited sharks will continue to occur; in other words, the three-year averages will be higher than zero. However, small amounts of bycatch are permissible where the ACL is set to zero and the bycatch is small and does not lead to overfishing. For the reasons discussed above, NMFS does not believe that further AMs are needed to prevent overfishing. If significant changes in the three-year average mortality occur, NMFS would evaluate trends in relative abundance data from species within the prohibited shark complex and evaluate current fisheries practices and look for patterns in bycatch mortality of species within the complex to determine if additional measures are needed to address overfishing.

NMFS solicits public comment on its approach to the ACL/AMs for the prohibited shark complex and whether other approaches might address the scientific and management concerns noted above.

Proposed Measures

The objectives of Draft Amendment 5b are to end overfishing and rebuild the dusky shark stock. This section summarizes NMFS' proposed, preferred measures. NMFS expects that these measures will prevent overfishing and achieve at least a 35% mortality reduction for dusky sharks to ensure stock rebuilding with at least 50%

probability in conjunction with the measures already in place. A description of other alternatives analyzed is provided in the Initial Regulatory Flexibility Analysis (IRFA) summary, below. NMFS' detailed analysis of a range of alternatives is in the DEIS for Draft Amendment 5b (see **ADDRESSES** for how to get a copy of the DEIS). In developing the alternatives, NMFS considered the existing rebuilding plan, other conservation and management measures that have been implemented in the HMS fisheries since 2008 and that have affected the shark fisheries or shark bycatch in other fisheries, public response to the results of SEDAR 21 and the 2016 SEDAR 21 update, public comments received on Draft Amendment 5 and the Amendment A5b Predraft and comments at Advisory Panel meetings during the course of development of this action.

A number of alternatives that were considered and/or commented on during the development of this action are not preferred alternatives at this time, because they are not needed to meet the objectives of the amendment and would result in negative economic impacts, would not meet the objectives of the amendment, would not be logistically/administratively feasible, are not scientifically supportable, and/or they would result in other unnecessary, negative impacts, as described in the DEIS (see **ADDRESSES**). In general terms, these non-preferred alternatives included requirements for vessels to carry shark identification placards, prohibiting recreational retention of all ridgeback sharks, increasing the recreational minimum size limit, allowing only catch and release of all sharks in the recreational fishery, limiting the number of hooks that could be deployed by pelagic longline vessels, dusky shark time-area closures, closure of the pelagic longline fishery, and individual dusky shark bycatch quotas.

As explained in this proposed rule and the DEIS, NMFS has already taken significant actions that reduce fishing effort and mortality. After extensive review of available management measures, NMFS has determined that the proposed measures will prevent overfishing and rebuild dusky sharks. However, we specifically request comment from the public on other potential management measures and any scientific, policy, or other support for them. In response to public comment, NMFS may make changes in Final Amendment 5b and the final rule by modifying the proposed measures or adopting different or additional measures, which are not currently preferred.

Recreational Measures

The two proposed recreational measures address permitting (Alternative A2) and gear use (Alternative A6a). The first proposed measure would require HMS permit holders that recreationally fish for, retain, possess, or land sharks to obtain a ''shark endorsement,'' which would require completing an online shark identification and fishing regulation training course, before they will be permitted to fish for, retain, possess, or land sharks. This would include HMS Angling and Charter/Headboat permit holders, as well as General category and Swordfish General Commercial permit holders when participating in a registered HMS fishing tournament. Obtaining the shark endorsement would be included in the annual HMS Angling, Charter/Headboat, Atlantic tunas General category, and Swordfish General Commercial permit application or annual renewal process and would not result in any additional fees beyond the cost of the permit itself. NMFS requests public input on how to most effectively implement the requirement through this process, including the appropriate effective date and implementation strategy. Unlike changing permit categories (which can only be done within 45 calendar days of the date of issuance of the permit), vessel owners could obtain a shark endorsement, which would be added to their relevant permit, throughout the year. An online quiz, administered during the application or renewal process, would be required in order to obtain the shark endorsement. This online quiz would focus on identification of prohibited species (*e.g.,* dusky sharks), current recreational rules and regulations, and safe handling instructions. Currently, retention of dusky sharks is prohibited in the recreational fishery. Mortality or landings in the recreational fishery, then, is likely a result of either species misidentification or a lack of knowledge about prohibited shark species regulations or safe handling to minimize harm to accidentally caught fish. The application process for the shark endorsement would also provide an opportunity for focused outreach, and the list of shark endorsement holders would allow for more targeted surveys, increasing the reliability of recreational shark catch estimates. As a result of this measure, NMFS expects accidental retention of dusky sharks to decrease and for dusky shark fishing mortality to decrease in recreational fisheries. Therefore, implementing this measure would likely result in direct short- and long-term moderate beneficial ecological impacts.

The second proposed measure would require HMS permit holders that recreationally fish for, retain, possess, or land sharks (the same permit holders as those described above) to use circle hooks when fishing for, retaining, possessing, or landing sharks. Any shark caught on a hook other than a circle hook would have to be released. This requirement is intended to apply across the recreational shark fishery. To ensure that the measure encompasses all shark fishing activity, we also specify that a person on board an HMS-permitted vessel fishing with natural baits and using wire or heavy (200 lb test or greater) monofilament or fluorocarbon leaders (*i.e.,* the terminal tackle most commonly used for shark fishing) would be presumed to be fishing for sharks. NMFS is specifically inviting public comment on whether this approach will ensure that the measure applies to the entire fishery or whether different indicators of recreational shark fishing should be adopted.

By requiring circle hooks across the recreational shark fishery, dusky shark mortality is expected to decrease. Most evidence suggests that circle hooks reduce shark at-vessel and post-release mortality rates without significantly reducing catchability compared to J-hooks, although it varies by species, gear configuration, bait, and other factors. Willey et al. (2016) found that 3% of sharks caught recreationally with circle hooks were deep hooked while 6% caught on J-hooks were deep hooked. Campana et al. (2009) observed that 96% of sharks that were deep hooked were severely injured or dead while 97% of sharks that were hooked superficially (mouth or jaw) were released healthy and with no apparent trauma. As deep hooked sharks are more likely to die, Willey et al.'s (2016) results indicate circle hooks could reduce mortality of sharks deep-hooked by J-hooks by approximately 48 percent (*i.e.,* a 50 percent reduction from 96 percent deep hooked sharks). For this reason, this alternative would likely have direct moderate beneficial impacts in both the short- and long-term for dusky sharks. Requiring these hooks whenever this gear/bait combination is used and further specifying that sharks may not be retained unless circle hooks have been used is expected to reduce dusky shark mortality because dusky sharks that are inadvertently caught in the recreational fishery would be more easily released in better condition,

reducing dead discards and post-release mortality.

Under these recreational measures combined, HMS permitted recreational vessels without a shark endorsement and/or not fishing with circle hooks would be prohibited from retaining any sharks.

Commercial Measures

In total, the DEIS considers nine main commercial alternatives that cover education, outreach, gear, and time/area measures for pelagic longline, bottom longline, and shark gillnet fisheries. The four commercial fishery measures that are proposed would address dusky shark post-release mortality (Alternatives B3 and B9), avoidance (Alternative B6), and outreach and education (Alternatives B5 and B6) and thus would decrease fishing mortality of dusky sharks in the commercial fisheries. The first proposed measure would require that all pelagic longline fishermen release all sharks that are not being boarded or retained by using a dehooker, or by cutting the gangion no more than three feet from the hook. This alternative would reduce post-release mortality on dusky sharks because using a dehooker or cutting the gangion no more than three feet from the hook would reduce the amount of trailing gear attached to released dusky sharks. A study on recreationally caught thresher sharks (Sepulveda et al. 2015), suggested that thresher sharks that had ~2 m of trailing gear had 88% higher mortality rates than those without. While this study focuses on thresher sharks and not dusky sharks, its conclusion regarding the effects of trailing gear on post-release mortality rates of sharks can be presumed to be generally applicable to other sharks, although further research would be needed to better quantify the percent mortality reductions that could be expected under different species and gear combinations. NMFS Tech Memo OPR–29 on marine turtle mortality indicates that reducing gear left on sea turtles reduces post-interaction mortality of mouth-hooked turtles by 25–33%, further supporting the approach that reducing trailing gear on animals generally improves post-release survival. Because it would apply to all sharks that are not being retained, it would also reduce misidentification problems that occur in identifying dusky sharks from other shark species, because fishermen would have to cut the gangion closer to the shark, allowing a better view for identification purposes. Therefore, implementing this measure is anticipated to have direct short- and long-term minor, beneficial ecological impacts.

The second proposed measure would require additional training on shark identification and safe handling for HMS permitted pelagic longline, bottom longline, and shark gillnet vessels. The course would be taught in conjunction with current Protected Species Safe Handling, Release, and Identification workshops that these vessel owners and operators are already required to attend. The training course would provide information regarding shark identification and regulations, as well as best practices to avoid interacting with dusky sharks and how to minimize mortality of dusky sharks and other prohibited species caught as bycatch. This training course requirement provides outreach to those who are likely to interact with dusky sharks, and should decrease interactions and post-release mortality of dusky sharks. Implementing this measure could result in direct, moderate, beneficial ecological impacts after these vessel owners and operators complete the training course.

In the third proposed measure, NMFS would develop additional outreach materials for commercial fisheries regarding shark identification, and require that all HMS permitted pelagic longline, bottom longline, and shark gillnet vessels abide by a dusky shark fleet communication and relocation protocol. The protocol would require vessels to report the location of dusky shark interactions over the radio to other vessels in the area and that subsequent fishing sets on that fishing trip could be no closer than 1 nautical mile from where the encounter took place. Providing the fleet with more information regarding dusky shark locations and avoiding areas and conditions where dusky sharks are located should reduce dusky shark bycatch. This additional awareness from enhanced outreach methods and the fleet communication and relocation protocol would have direct short- and long-term minor beneficial ecological impacts as it would help reduce bycatch of dusky sharks.

The fourth proposed measure would require the use of circle hooks by HMS directed limited access shark permit holders fishing with bottom longline gear. Circle hooks are already required in the pelagic longline fishery, and this would extend that requirement to the bottom longline fishery to help reduce dusky shark mortality. Currently, approximately 25% of bottom longline vessels do not solely use circle hooks, so this measure would result in additional reductions in dusky shark post-release mortality on those vessels that switch to circle hooks. As in the recreational fishery circle hook measure described above, implementing a circle hook requirement would reduce post-release mortality rates and have direct moderate beneficial impacts in both the short- and long-term for dusky sharks.

Request for Comments

NMFS is requesting comments on the alternatives and analyses described in this proposed rule and contained in Draft Amendment 5b and its DEIS, IRFA and RIR. Comments may be submitted via *http://www.regulations.gov,* mail, or fax. Comments may also be submitted at a public hearing (see Public Hearings and Special Accommodations below). We solicit comments on this proposed rule by December 22, 2016 (see **DATES** and **ADDRESSES**).

Public Hearings

Comments on this proposed rule may be submitted via *http://www.regulations.gov,* mail, or fax and comments may also be submitted at a public hearing. NMFS solicits comments on this proposed rule by December 22, 2016. During the comment period, NMFS will hold 6 public hearings and 1 conference call for this proposed rule. The hearing locations will be physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Guý DuBeck at 301–427–8503, at least 7 days prior to the meeting. NMFS has also asked to present information on the proposed rule and draft Amendment 5b to the Caribbean, Gulf of Mexico, South Atlantic, Mid-Atlantic, and New England Fishery Management Councils and the Atlantic States Marine Fisheries Commissions at their meetings during the public comment period. Please see their meeting notices for dates, times, and locations. In addition, NMFS will have an HMS Advisory Panel meeting on December 1–2, 2016, to discuss this rulemaking. NMFS will announce the location and times of HMS Advisory Panel meeting in a future **Federal Register** notice.

TABLE 1—DATES, TIMES, AND LOCATIONS OF UPCOMING PUBLIC HEARINGS AND CONFERENCE CALL

Venue	Date/time	Meeting location	Location contact information
Public Hearing	November 9, 2016, 5 p.m.–8 p.m.	Manalapan, NJ	Monmouth County Public Library—Headquarters, 125 Symmes Road, Manalapan, NJ 07726.
Public Hearing	November 15, 2016, 5:30 p.m.–8:30 p.m.	Newport, RI	Hotel Viking, 1 Bellevua Ave, Newport, RI 02840.
Public Hearing	November 15, 2016, 5 p.m.–8 p.m.	Belle Chasse, LA	Belle Chasse Branch Library, 8442 Louisiana 23, Belle Chasse, LA 70037.
Public Hearing	November 16, 2016, 5 p.m.–8 p.m.	Houston, TX	Clear Lake City-County Freeman Branch Library, 16616 Diana Lane, Houston, TX 77062.
Public Hearing	November 21, 2016, 5 p.m.–8 p.m.	Melbourne, FL	Melbourne Public Library, 540 E. Fee Ave, Melbourne, FL 32901.
Public Hearing	November 28, 2016, 5 p.m.–8 p.m.	Manteo, NC	Commissioners Meeting Room, Dare County Administration Building, 954 Marshall C. Collins Dr., Manteo, NC 27954.
Conference call ..	December 12, 2016, 2 p.m.–4 p.m.	.....	To participate in conference call, call: (888) 790–3514. Passcode: 1029249. To participate in webinar, RSVP at: *https://noaaevents2.webex.com/mw3100/mywebex/default.do?nomenu=true&siteurl=noaaevents2&service=6&rnd=0.5722618598976709&main_url=https%3A%2F%2Fnoaaevents2.webex.com%2Fec3100%2Feventcenter%2Fevent%2FeventAction.do%3FtheAction%3Ddetail%26%26%26EMK%3D4832534b0000000274c902c10b1213f88484f05821429342e756fdecbad04e74e804da6c498aaf5f%26siteurl%3Dnoaaevents2%26confViewID%3D422630081%26encryptTicket%3DSDJTSwAAAAJC7aKRCiFlqT_gqFltkrAG9vq8AwtwiNksxtKEngpmzQ2%26.*

The public is reminded that NMFS expects participants at the public hearings to conduct themselves appropriately. At the beginning of each public hearing, a representative of NMFS will explain the ground rules (*e.g.,* alcohol is prohibited from the hearing room; attendees will be called to give their comments in the order in which they registered to speak; each attendee will have an equal amount of time to speak; and attendees should not interrupt one another). At the beginning of the conference call, the moderator will explain how the conference call will be conducted and how and when attendees can provide comments. The NMFS representative will attempt to structure the meeting so that all attending members of the public will be able to comment, if they so choose, regardless of the controversial nature of the subject(s). Attendees are expected to respect the ground rules, and, if they do not, they may be asked to leave the hearing or may not be allowed to speak during the conference call.

Classification

Pursuant to the Magnuson-Stevens Act, the NMFS Assistant Administrator has determined that the proposed rule is consistent with the 2006 Consolidated HMS FMP and its amendments, other provisions of the Magnuson-Stevens Act, ATCA, and other applicable law, subject to further consideration after public comment.

This proposed rule has been determined to be not significant for purposes of Executive Order 12866.

NMFS prepared a DEIS for this proposed rule that discusses the impact on the environment that would result from this rule. A copy of the DEIS is available from NMFS (see **ADDRESSES**). The Notice of Availability of the DEIS is publishing in the **Federal Register** on the same day as this proposed rule. A summary of the impacts of the alternatives considered is described above.

Paperwork Reduction Act (PRA)

This proposed rule would require HMS-permitted recreational fishermen to obtain a shark endorsement in order to fish for, retain, possess, or land sharks. Public comment is sought regarding: whether this proposed collection of information is necessary for the proper performance of the functions of the agency, including whether the information shall have practical utility; the accuracy of the burden estimate; ways to enhance the quality, utility, and clarity of the information to be collected; and ways to minimize the burden of the collection of information, including through the use of automated collection techniques or other forms of information technology. Send comments on these or any other aspects of the collection of information to (enter office name) at the **ADDRESSES** above, and by email to *OIRA_Submission@omb.eop.gov* or fax to (202) 395–7285.

Notwithstanding any other provision of the law, no person is required to respond to, nor shall any person be subject to, a penalty for failure to comply with, a collection-of-information subject to the requirements of the PRA, unless that collection-of-information displays a currently valid OMB Control Number.

Regulatory Flexibility Act

An initial regulatory flexibility analysis (IRFA) was prepared, as required by section 603 of the Regulatory Flexibility Act (RFA). The IRFA describes the economic impact this proposed rule, if adopted, would have on small entities. A summary of the analysis follows. A copy of this analysis is available from NMFS (see **ADDRESSES**).

Description of the Reasons Why Action Is Being Considered

As described in the preamble of this rule and in the Draft Amendment 5b DEIS (see **ADDRESSES**), the proposed action is designed to provide measures in addition to those previously adopted to further address the overfished and overfishing occurring status of the dusky shark stock. NMFS previously considered alternatives for management of dusky sharks in Draft Amendment 5, which proposed measures that were designed to reduce fishing mortality and effort in order to prevent overfishing and rebuild various overfished Atlantic shark species, including dusky sharks, while ensuring that a limited sustainable shark fishery for certain species could be maintained consistent with legal obligations and the 2006 Consolidated HMS FMP. After reviewing all of the comments received,

NMFS determined further analyses were warranted on measures pertaining to dusky sharks in a separate FMP amendment (Amendment 5b), EIS, and this proposed rule.

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

The objectives of, and legal basis for, this proposed rule are summarized in the preamble of this rule and in the Draft Amendment 5b DEIS (see **ADDRESSES**).

Description and Estimate of the Number of Small Entities To Which the Proposed Rule Would Apply

This proposed rule is expected to directly affect commercial pelagic longline, bottom longline, shark gillnet, and recreational shark fishing vessels that possess HMS permits. To fish for Atlantic HMS, pelagic longline vessels must possess an Atlantic shark limited access permit, an Atlantic swordfish limited access permit, and an Atlantic Tunas Longline category permit. For the recreational management measures, the proposed management measures would only directly apply to small entities that are Charter/Headboat permit holders that provide for-hire trips that target sharks. Other HMS recreational fishing permit holders are considered individuals, not small entities.

For RFA purposes only, NMFS has established a small business size standard for businesses, including their affiliates, whose primary industry is commercial fishing (see 50 CFR 200.2). A business primarily engaged in commercial fishing (NAICS code 11411) is classified as a small business if it is independently owned and operated, is not dominant in its field of operation (including its affiliates), and has combined annual receipts not in excess of $11 million for all its affiliated operations worldwide. The Small Business Administration (SBA) has established size standards for all other major industry sectors in the U.S., including the scenic and sightseeing transportation (water) sector (NAICS code 487210, for-hire), which includes charter/party boat entities. The Small Business Administration (SBA) has defined a small charter/party boat entity as one with average annual receipts (revenue) of less than $7.5 million.

Regarding those entities that would be directly affected by the recreational management measures, HMS Angling (Recreational) category permits are typically obtained by individuals who are not considered businesses or small entities for purposes of the RFA. Additionally, while Atlantic Tunas General category and Swordfish General commercial permit holders hold commercial permits and are usually considered small entities, because the proposed management measures would only affect them when they are fishing under the recreational regulations for sharks during a registered tournament, NMFS is not considering them small entities for this rule. However, because vessels with the HMS Charter/Headboat category permit are for-hire vessels, these permit holders can be regarded as small entities for RFA purposes. At this time, NMFS is unaware of any charter/headboat businesses that could exceed the SBA receipt/revenue thresholds for small entities. Overall, the recreational alternatives would impact a portion of the 3,596 HMS Charter/Headboat permit holders interested in shark fishing.

Regarding those entities that would be directly affected by the commercial management measures, the average annual revenue per active pelagic longline vessel is estimated to be $187,000 based on the 170 active vessels between 2006 and 2012 that produced an estimated $31.8 million in revenue annually. The maximum annual revenue for any pelagic longline vessel between 2006 and 2015 was less than $1.9 million, well below the NMFS small business size standard for commercial fishing businesses of $11 million. Other non-longline HMS commercial fishing vessels typically generally earn less revenue than pelagic longline vessels. Therefore, NMFS considers all Atlantic HMS commercial permit holders to be small entities. The preferred commercial alternatives would apply to the 280 Atlantic tunas Longline category permit holders and 224 directed shark permit holders. Of these 280 permit holders, only 136 have Individual Bluefin Quotas (IBQ) shares required to go commercial pelagic longline fishing.

NMFS has determined that the preferred alternatives would not likely directly affect any small organizations or small government jurisdictions defined under RFA. More information regarding the description of the fisheries affected, and the categories and number of permit holders, can be found in Chapter 3 of the Draft Amendment 5b DEIS (see **ADDRESSES**).

Description of the Projected Reporting, Record-Keeping, and Other Compliance Requirements of the Proposed Rule

Several of the preferred alternatives in Draft Amendment 5b would result in reporting, record-keeping, and compliance requirements that may require new Paperwork Reduction Act (PRA) filings and some of the preferred alternatives would modify existing reporting and record-keeping requirements, and add compliance requirements. NMFS estimates that the number of small entities that would be subject to these requirements would include the Atlantic tuna Longline category (280), Directed and Incidental Shark Limited Access (224 and 275, respectively), and HMS Charter/Headboat category (3,596) permit holders.

Recreational Alternatives

The preferred recreational alternative, A2, would require recreational fishermen fishing for, retaining, possessing, or landing sharks to obtain a shark endorsement in addition to other existing permit requirements. Obtaining the shark endorsement would be included in the online HMS permit application and renewal processes and would require the applicant to learn about prohibited shark species identification, regulations, and safe handling guidelines, and then complete a short quiz focusing on shark species identification. The applicant would simply need to indicate the desire to obtain the shark endorsement, after which he or she would be directed to a short online quiz that would take minimal time to complete. Adding the endorsement to the permit and requiring applicants to take the online quiz to obtain the endorsement will require a modification to the existing PRA for the permits.

Commercial Measures Alternatives

Alternative B5, a preferred alternative, would require completion of shark identification and fishing regulation training as a new part of all Safe Handling and Release Workshops for HMS pelagic longline (PLL), BLL, and shark gillnet vessel owners and operators. The training course would provide information regarding shark identification and regulations, as well as best practices to avoid interacting with dusky sharks and how to minimize mortality of dusky sharks caught as bycatch. Compliance with this course requirement would be mandatory and be a condition for permit renewal. A certificate would be issued to all commercial pelagic longline vessel owners indicating compliance with this requirement and the certificate would be required for permit renewal.

Alternative B6, a preferred alternative, would require that all vessels with an Atlantic shark commercial permit and fishing with pelagic longline, bottom longline, or shark gillnet gear abide by a dusky shark fleet communication and relocation protocol. The protocol would require vessels to report the location of

dusky shark interactions over the radio to other pelagic longline, bottom longline, or shark gillnet vessels in the area and that subsequent fishing sets on that fishing trip could be no closer than 1 nautical mile (nm) from where the encounter took place.Identification of All Relevant Federal Rules Which May Duplicate, Overlap, or Conflict with the Proposed Rule

The proposed rule would not conflict with any relevant regulations, Federal or otherwise. Description of Any Significant Alternatives to the Proposed Rule That Accomplish the Stated Objectives of the Applicable Statutes and That Minimize Any Significant Economic Impact of the Proposed Rule on Small Entities

The RFA (5 U.S.C. 603 (c) (1)–(4)) lists four general categories of ''significant'' alternatives that would assist an agency in the development of significant alternatives. These categories of alternatives are:

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

In order to meet the objectives of this proposed rule, consistent with all legal requirements, NMFS cannot exempt small entities or change the reporting requirements only for small entities because all the entities affected are considered small entities. Thus, there are no alternatives discussed that fall under the first and fourth categories described above. Under the third category, ''use of performance rather than design standards,'' NMFS considers Alternative B5, which would provide additional training for pelagic longline, bottom longline, and shark gillnet fishermen, to be a performance standard rather than a design standard. Alternative B5's training requirement will apply to all commercial vessels and take place in conjunction with other currently required training workshops. As described below, NMFS analyzed several different alternatives in this proposed rulemaking and provides the rationale for identifying the preferred alternative to achieve the desired objective.

In this rulemaking, NMFS considers two different categories of alternatives. The first category, recreational alternatives, covers seven main alternatives that address various strategies of reducing dusky shark mortality in the recreational fishery. The second category of alternatives, commercial measures, considers eight main alternatives that address various strategies of reducing dusky shark mortality in the commercial fishery.

The potential impacts these alternatives may have on small entities have been analyzed and are discussed in the following sections. The preferred alternatives include: Alternative A2, Alternative A6a, Alternative B3, Alternative B5, Alternative B6, and Alternative B9. The economic impacts that would occur under these preferred alternatives were compared with the other alternatives to determine if economic impacts to small entities could be minimized while still accomplishing the stated objectives of this rule.

Recreational Alternatives

Alternative A1

Alternative A1, the no action alternative, would not implement any management measures in the recreational shark fishery to decrease mortality of dusky sharks, likely resulting in direct, short- and long-term neutral economic impacts. Since there would be no changes to the fishing requirements, there would be no economic impacts on small entities. If more restrictive measures are required in the long-term under MSA or other statutes such as the Endangered Species Act, moderate adverse economic impacts may occur. NMFS does not prefer this alternative at this time, given that the purpose of this action is to address overfishing and rebuilding.

Alternative A2

Under Alternative A2, a preferred alternative, HMS Angling and Charter/Headboat permit holders would be required to obtain a shark endorsement, which requires completion of an online shark identification and fishing regulation training course and quiz in order to fish for, retain, possess, or land sharks. Obtaining the shark endorsement would be included in the online HMS permit application and renewal processes and would require the applicant to complete a training course focusing on shark species identification, fishing regulations, and safe handling. This alternative would likely result in no economic impacts since there would be no additional cost to the applicant and only a small additional investment in time. Obtaining the shark endorsement would be a part of the normal HMS permit application or renewal. The applicant would simply need to indicate the desire to obtain the shark endorsement, after which he or she would be directed to an online training course and quiz. The goal of the training course is to help prevent anglers from landing prohibited or undersized sharks, and thus, help rebuild stocks. Furthermore, the list of shark endorsement holders would allow for more targeted surveys and outreach, likely increasing the reliability of recreational shark catch estimates. This preferred alternative helps achieve the objectives of this proposed rule while minimizing any significant economic impacts on small entities.

Alternative A3

Alternative A3 would require participants in the recreational shark fishery (Angling and Charter/Headboat permit holders) to carry an approved shark identification placard on board the vessel when fishing for sharks. This alternative would likely result in short- and long-term minor economic impacts. The cost of obtaining a placard, which would be provided by NMFS, whether by obtaining a pre-printed one or self-printing, would be modest. To comply with the requirement of this alternative, the angler would need to keep the placard on board the vessel when fishing for sharks and, since carrying other documents such as permits and boat registration is already required, this is unlikely to be a large inconvenience. This alternative would have slightly more economic impacts than Alternative A2 on small entities and would likely be less effective than the training course in Alternative A2.

Alternative A4

Under Alternative A4, NMFS would extend the existing prohibition on the retention of certain ridgeback sharks (bignose, Caribbean reef, dusky, Galapagos, night, sandbar, and silky sharks) to include the rest of the ridgeback sharks, namely oceanic whitetip, tiger sharks, and smoothhound sharks, which currently may be retained by recreational shark fishermen (HMS Angling and Charter/Headboat permit holders) under certain circumstances. This alternative would simplify compliance with the ridgeback prohibition, which includes dusky sharks, for the majority of fishermen targeting sharks. Dusky shark mortality in the recreational fishery is in part due to misidentification of dusky sharks (which are prohibited) as one the retainable species. This alternative, however, could also potentially have adverse economic impacts for a small subset of fishermen that target oceanic whitetip, tiger, and smoothhound

sharks. These adverse impacts would be quite small, however, for oceanic whitetip and tiger sharks because few fishermen recreationally fish for these species. Based on MRIP data, however, this alternative could have considerable impacts on fishermen targeting sharks in the smoothhound shark complex because smoothhound sharks are commonly caught by recreational fishermen. Recreational fishermen with only state-issued permits would still be able to retain smoothhound sharks (those that hold an HMS permit must abide by Federal regulations, even in state waters). Alternative A4 would likely result in both direct short- and long-term, minor adverse economic impacts on HMS Charter/Headboat operators if prohibiting landing of additional shark species reduces demand for fishing charters. While this alternative may help reduce dusky mortality, the other proposed measures will address overfishing and rebuilding without the greater economic impacts associated with Alternative A4.

Alternative A5

Under Alternative A5, the minimum recreational size limit for authorized shark species, except for Atlantic sharpnose, bonnethead, and hammerhead (great, scalloped, and smooth) sharks, would increase from 54 to 89 inches fork length, which is the approximate length at maturity for dusky sharks. Under this alternative, increasing the recreational size limit would likely result in both direct short- and long-term, moderate adverse economic impacts for recreational fishermen, charter/headboat operators, and tournament operators. Because many shark species have a maximum size below an 89 inch size limit, there could be reduced incentive to fish recreationally for sharks due to the decreased potential to legally land these fish. Increasing the minimum size for retention would also impact the way that tournaments and charter vessels operate. While the impacts of an 89 inch fork length minimum size on tournaments awarding points for pelagic sharks may be lessened because these tournament participants target larger sharks, such as shortfin mako, blue, and thresher, that grow to larger than 89 inches fork length, this may not be the case for tournaments targeting smaller sharks. Tournaments that target smaller sharks, especially those that target shark species that do not reach sizes exceeding 89 inches fork length such as blacktip sharks, may be heavily impacted by this alternative. Reduced participation in such tournaments could potentially decrease the amount of monetary prizes offered to winners. Thus, implementation of this management measure could significantly alter the way some tournaments and charter vessels operate, or reduce both opportunities to fish for sharks and thus drastically reduce general interest and demand for recreational shark fishing, which could create adverse economic impacts. While this alternative may result in minor beneficial ecological impacts for dusky sharks, for the aforementioned reasons, NMFS does not prefer this alternative at this time.

Alternative A6a

Sub-alternative A6a is a preferred alternative and would require all persons on board vessels with Atlantic HMS permits participating in fishing tournaments that bestow points, prizes, or awards for sharks to use circle hooks when fishing for or retaining sharks, and require the use of circle hooks by all HMS recreational permit holders when fishing for or retaining sharks outside of a tournament. Any sharks caught on non-circle hooks would have to be released. It would be presumed that an operator is recreationally fishing for sharks if it is fishing with natural bait and using wire or heavy (200 pound test or greater) monofilament or fluorocarbon leader. Relative to the total cost of gear and tackle for a typical fishing trip, the cost associated with switching from J-hooks to circle hooks is negligible. Thus, the immediate cost in switching hook type is likely minimal. However, there is conflicting indication that the use of circle hooks may reduce or increase catch per unit effort (CPUE) resulting in lower catch of target species. In the event that CPUE is reduced, some recreational fishermen may choose not to fish for sharks or to enter tournaments that offer awards for sharks. These missed fishing opportunities could result in minor adverse economic impacts in the short- and long-term. However, since the economic impacts are minor and circle hooks would likely reduce fishing mortality for dusky sharks, NMFS prefers this alternative at this time.

Alternative A6b

Sub-Alternative Ab6 is similar to A6a, but instead of requiring circle hooks when fishing for sharks defined by deploying natural bait while using a wire or heavy (200 pound test or greater) monofilament or fluorocarbon leader, it instead requires circle hooks when fishing for sharks defined by deploying a 5/0 or greater size hook to fish with natural bait outside of a fishing tournament. This use of the hook size standard to determine if the trip could be targeting sharks may result in more recreational trips requiring circle hooks than under alterative A6a, but many of those trips might actually not be targeting sharks, but instead other large pelagic fish. The use of a heavy leader is probably more correlated with angling activity that is targeting sharks.

Alternative A6c

Sub-Alternative A6c is similar to A6a and A6b, but restricted to requiring the use of circle hooks by all HMS permit holders participating in fishing tournaments that bestow points, prizes, or awards for sharks. This alternative impacts a smaller universe of recreational fishermen, so the adverse impacts are smaller. However, given the limited scope of this requirement, the benefits to reducing dusky shark mortality via the use of circle hooks are also more limited.

Alternative A7

Alternative A7 would prohibit any HMS permit holders from retaining any shark species in the recreational fishery. Recreational fishermen may still fish for and target authorized shark species for catch and release. The large number of fishermen who already practice catch and release and the catch and release shark fishing tournaments currently operating would not be impacted. As this alternative would help eliminate accidental landings of already-prohibited dusky sharks, it would have minor beneficial ecological impacts. However, prohibiting retention of sharks could have major impacts on fishing behaviors and activity of other recreational shark fishermen and reduce their demand for charter/headboat trips. Only allowing catch and release of authorized sharks in the recreational fishery could impact some fishermen that retain sharks recreationally and tournaments that award points for landing sharks. Thus, prohibiting retention of Atlantic sharks in the recreational shark fisheries could drastically alter the nature of recreational shark fishing and reduce incentives to fish for sharks. Additionally, the reduced incentive to fish for sharks could negatively impact profits for the HMS Charter/Headboat industry. Because there could be major impacts to the recreational shark fisheries from this management measure, Alternative A7 would likely have direct short- and long-term, moderate adverse economic impacts on small business entities.

Commercial Alternatives

Alternative B1

Under Alternative B1, the no action alternative, NMFS would not implement any measures to reduce dusky shark mortality in the commercial shark or HMS fisheries. Since no management measures would be implemented under this alternative, NMFS would expect fishing practices to remain the same and economic impacts to be neutral in the short-term. Dusky sharks are a prohibited species and fishermen are not allowed to harvest this species. Thus, there would not be any economic impacts on the fishery in the short-term. If more restrictive measures are required in the long-term under MSA or other statutes such as the Endangered Species Act, moderate adverse economic impacts may occur. NMFS does not prefer this alternative at this time, given that the purpose of this action is to address overfishing and rebuilding.

Alternative B2

Under Alternative B2, HMS commercial fishermen would be limited to 750 hooks per pelagic longline set with no more than 800 assembled gangions onboard the vessel at any time. Based on average number of hooks per pelagic longline set data, the hook restriction in this alternative could have neutral economic impacts on fishermen targeting bigeye tuna, mixed tuna species, and mixed HMS species, because the average number of hooks used on pelagic longline sets targeting these species is slightly above or below the limit considered in this alternative. This alternative would likely have adverse economic impacts on pelagic longline fishermen who target dolphin fish, because these fishermen on average use 1,066 hooks per set. If NMFS implemented this alternative, fishermen targeting dolphin fish with pelagic longline gear would have to reduce their number of hooks by approximately 30 percent per set, which may result in a similar percent reduction in set revenue or could result in increased operating costs if fishermen decide to offset the limited number of hooks with more fishing sets. While this alternative would have minor beneficial ecological impacts, overall, Alternative B2 would be expected to have short- and long-term minor adverse economic impacts on the pelagic longline fishery.

Alternative B3

Under Alternative B3, a preferred alternative, HMS commercial fishermen must release all sharks that are not being boarded or retained by using a dehooker, or by cutting the gangion no more than three feet from the hook. This alternative would have neutral to adverse economic impacts on commercial shark fishermen using pelagic longline gear. Currently, fishermen are required to use a dehooking device if a protected species is caught. This alternative would require this procedure to be used on all sharks that would not be retained, or fishermen would have to cut the gangion to release the shark. Currently, it is common practice in the pelagic longline fishery to release sharks that are not going to be retained (especially larger sharks) by cutting the gangion, but they usually do not cut the gangion so only 3 feet remain, so there might be a slight learning curve. Using a dehooker to release sharks in the pelagic longline fishery is a less common practice; therefore, there may be more of a learning curve that would make using this technique more time consuming and would make fishing operations temporarily less efficient while fishermen become used to this technique. NMFS expects that these inefficiencies would be minimal and that fishermen would become adept in using a dehooker to release sharks over time given they are all practiced at using a dehooker to release protected species. Thus, Alternative B3 would be expected to have short- and long-term neutral economic impacts on the pelagic longline fishery.

Alternative B4

Under Alternative B4, NMFS considered various dusky shark hotspot closures for vessels fishing with pelagic longline gear. The hotspot closures considered are the same areas that were analyzed in Draft Amendment 5 and the A5b Predraft. These hotspot closure alternatives are located where increased levels of pelagic longline interactions with dusky sharks had been identified based on HMS Logbook data. During the months that hotspot closures are effective, Atlantic shark commercial permit holders (directed or incidental) would not be able to fish with pelagic longline gear in these areas. While these closures would result in minor ecological benefits, NMFS does not prefer them at this time because the preferred alternatives would address overfishing and rebuilding without the adverse social and economic impacts associated with these closures.

Alternative B4a—Charleston Bump Hotspot May

This alternative would define a rectangular area in a portion of the existing Charleston Bump time/area closure area, and prohibit the use of pelagic longline gear by all vessels during the month of May in that area. This alternative is expected to have moderate short and long-term direct adverse economic impacts on 46 vessels that have historically fished in this Charleston Bump area during the month of May. This closure would result in the loss of approximately $15,250 in gross revenues per year per vessel assuming no redistribution of effort outside of the closed area.

However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. Based on natural breaks in the percentage of sets vessels made inside and outside of this alternative's hotspot closure area, NMFS estimated that if a vessel historically made less than 40 percent of its sets in the hotspot closure area, it would likely redistribute all of its effort. If a vessel made more than 40 percent but less than 75 percent of its sets in the hotspot closure area, it would likely redistribute 50 percent of its effort impacted by the hotspot closure area to other areas. Finally, if a vessel made more than 75 percent of its sets solely within the hotspot closure area, NMFS assumed the vessel would not likely shift its effort to other areas. Based on these individually calculated redistribution rates, the percentage of fishing in other areas during the gear restriction time period, the percentage of fishing in other areas during the hotspot closure time period, and the catch per unit effort for each vessel in each statistical area, NMFS estimated the potential landings associated with redistributed effort associated with fishing sets displaced by the hotspot closure area. The net loss in fishing revenues as a result of the Charleston Bump Hotspot May closure after considering likely redistribution of effort is estimated to be $8,300 per vessel per year. Alternative B4a would result in moderate short- and long-term adverse economic impacts as a result of restricting pelagic longline vessels from fishing in the Charleston Bump Hotspot May area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4b—Hatteras Shelf Hotspot May

This alternative would prohibit the use of pelagic longline gear in the vicinity of the ''Hatteras Shelf'' area of the Cape Hatteras Special Research Area during the month of May where elevated levels of dusky shark interactions have been reported. This alternative is expected to have moderate

short and long-term direct adverse economic impacts on 42 vessels that have historically fished in this Hatteras Shelf Hotspot area during the month of May. The average annual revenue per vessel from 2008 through 2014 from all fishing sets made in this hotspot closure area has been approximately $9,980 during the month of May, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Hatteras Shelf Hotspot May closure on fishing revenues after considering likely redistribution of effort is estimated to be $5,990 per vessel per year. Alternative B4b would result in moderate adverse economic impacts as a result of restricting pelagic longline vessels from fishing in the Hatteras Shelf Hotspot May area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4c—Hatteras Shelf Hotspot June

This alternative would prohibit the use of pelagic longline gear in the vicinity of the ''Hatteras Shelf'' area of the Cape Hatteras Special Research Area during the month of June where elevated levels of dusky shark interactions have been reported. This alternative is expected to have moderate short and long-term direct adverse economic impacts on 37 vessels that have historically fished in this Hatteras Shelf Hotspot area during the month of June. The average annual revenue from 2008 through 2014 from all fishing sets made in this hotspot closure area has been approximately $7,640 per vessel during the month of June, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Hatteras Shelf Hotspot June closure on fishing revenues after considering likely redistribution of effort is estimated to be $4,010 per vessel per year. Alternative B4c would result in moderate adverse economic impacts as a result of restricting pelagic longline vessels from fishing in the Hatteras Shelf Hotspot June area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4d—Hatteras Shelf Hotspot November

This alternative would prohibit the use of pelagic longline gear in the vicinity of the ''Hatteras Shelf'' area of the Cape Hatteras Special Research Area during the month of November where elevated levels of dusky shark interactions have been reported. This alternative is expected to have minor short and long-term direct adverse economic impacts on 23 vessels that have historically fished in this Hatteras Shelf Hotspot area during the month of November. The average annual revenue from 2008 through 2014 from all fishing sets made in this hotspot closure area has been approximately $5,230 per vessel during the month of November, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Hatteras Shelf Hotspot November closure on fishing revenues after considering likely redistribution of effort is estimated to be $3,540 per vessel per year. Alternative B4d would result in minor adverse economic impacts as a result of restricting pelagic longline vessels from fishing in the Hatteras Shelf Hotspot November area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4e—Canyons Hotspot October

This alternative would prohibit the use of pelagic longline gear by all U.S. flagged-vessels permitted to fish for HMS in the three distinct closures in the vicinity of the Mid-Atlantic Canyons during the month of October where elevated levels of dusky shark interactions have been reported. This alternative is expected to have moderate short and long-term direct adverse economic impacts on 64 vessels that have historically fished in this Canyons Hotspot October area. The average annual revenue from 2008 through 2014 from all fishing sets made in this hotspot closure area has been approximately $9,950 per vessel during the month of October, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Canyons Hotspot October closure on fishing revenues after considering likely redistribution of effort is estimated to be $3,720 per vessel per year. Alternative B4e would result in moderate adverse economic impacts as a result of restricting pelagic longline vessels from fishing in the Canyons Hotspot October area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4f—Southern Georges Banks Hotspot July

This alternative would prohibit the use of pelagic longline gear by all U.S. flagged-vessels permitted to fish for HMS in July in an area adjacent to the existing Northeastern U.S. closure which is currently effective for the month of June, where elevated levels of dusky shark interactions have been reported. This alternative is expected to have moderate short- and long-term direct adverse economic impacts on 35 vessels that have historically fished in this Southern Georges Banks Hotspot area during the month of July. The average annual revenue from 2008 through 2014 from all fishing sets made in this hotspot closure area has been approximately $14,230 per vessel during the month of July, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Southern Georges Banks Hotspot July closure on fishing revenues after considering likely redistribution of effort is estimated to be $8,290 per vessel per year. Alternative B4f would result in moderate adverse economic impacts as a result of restricting longline vessels from fishing in the Southern Georges Banks Hotspot July area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4g—Southern Georges Banks Hotspot August

This alternative would prohibit the use of pelagic longline gear by all U.S. flagged-vessels permitted to fish for HMS in August in an area adjacent to the existing Northeastern U.S. closure, which is currently effective for the month of June, where elevated levels of dusky shark interactions have been reported. This alternative is expected to have moderate short and long-term direct adverse economic impacts on 35 vessels that have historically fished in this Southern Georges Banks Hotspot area during the month of August. The average annual revenue from 2008 through 2014 from all fishing sets made

in this hotspot closure area has been approximately $12,260 per vessel during the month of August, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Southern Georges Banks Hotspot August closure on fishing revenues after considering likely redistribution of effort is estimated to be $5,990 per vessel per year. Alternative B4g would result in moderate adverse economic impacts as a result of restricting pelagic longline vessels from fishing in the Southern Georges Banks Hotspot August area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4h—Charleston Bump Hotspot November

This alternative would prohibit the use of pelagic longline gear by all U.S. flagged-vessels permitted to fish for HMS in a portion of the existing Charleston Bump time/area closure during the month of November where elevated levels of dusky shark interactions have been reported. This alternative is expected to have minor short and long-term direct adverse economic impacts on 32 vessels that have historically fished in this Charleston Bump Hotspot area during the month of November. The average annual revenue from 2008 through 2014 from all fishing sets made in this hotspot closure area has been approximately $7,030 per vessel during the month of November, assuming that fishing effort does not move to other areas. However, it is likely that some of the vessels that would be impacted by this hotspot closure would redistribute their effort to other fishing areas. The net impact of the Charleston Bump Hotspot November closure on fishing revenues after considering likely redistribution of effort is estimated to be $2,720 per vessel per year. Alternative B4h would result in minor adverse social and economic impacts as a result of restricting pelagic longline vessels from fishing in the Charleston Bump Hotspot November area, thus causing decreased revenues and increased costs associated with fishing in potentially more distant waters if vessel operators redistribute their effort.

Alternative B4i—Conditional Access to Hotspot Closures

This alternative would allow PLL vessels that have demonstrated an ability to avoid dusky sharks and comply with dusky shark regulations to fish within any dusky hotspot closure adopted. This approach would address the fact that, according to HMS logbook data, relatively few vessels have consistently accounted for the majority of the dusky shark interactions and also address requests from PLL participants to increase individual accountability within the fishery. Depending on the metrics selected and fishery participant behavior, this alternative could have adverse socioeconomic effects on certain vessels that are both poor avoiders of dusky sharks and are non-compliant with the regulations. This alternative would require an annual determination of which vessels would qualify for conditional access based on dusky shark interactions. NMFS would analyzed the socioeconomic impact by using similar fishing effort redistribution proposed in Draft Amendment 7 and described in Alternative B5. This alternative would have neutral to beneficial effects for vessels that are still authorized to fish in a hotspot closure(s), and would reduce adverse socioeconomic effects of a closure(s). As explained above, NMFS is not preferring any hotspot closure alternative and thus is not preferring this alternative, which would work in conjunction with a closure.

Alternative B4j—Dusky Shark Bycatch Caps

This alternative would implement bycatch caps on dusky shark interactions over a three-year period in hotspot areas. Under this alternative, NMFS would allow pelagic longline vessels limited access to high dusky shark interaction areas with an observer onboard while limiting the number of dusky shark interactions that could occur in these areas. Once the dusky shark bycatch cap for an area is reached, that area would close until the end of the three-year bycatch cap period. This alternative could lead to adverse economic impacts by reducing annual revenue from fishing in the various hot spot areas depending on the number of hotspots where bycatch cap limits are reached, the timing of those potential closures during the year, and the amount of effort redistribution that occurs after the closures. In addition to direct impacts to vessels owners, operators, and crew members, this alternative would have moderate, adverse indirect impacts in the short and long-term on fish dealers, processors, bait/gear suppliers, and other shore-based businesses impacted by reduced fishing opportunities for pelagic longline vessel owners that would have fished in the hotspot area. As explained above, NMFS is not preferring any hotspot closure alternative and thus is not preferring this alternative, which would work in conjunction with a closure.

Alternative B5

Alternative B5, a preferred alternative, would provide additional training to pelagic longline, bottom longline, and shark gillnet vessel owners and operators as a new part of all currently required Safe Handling and Release Workshops. The training course would provide information regarding shark identification and regulations, as well as best practices to avoid interacting with dusky sharks and how to minimize mortality of dusky sharks caught as bycatch. This training course requirement provides targeted outreach to those who continue to interact with dusky sharks, which should decrease interactions with dusky sharks. This alternative would have minor adverse economic impacts since the fishermen would be required to attend a workshop, incur some travel costs, and would not be fishing while taking attending the workshop. Given the minor economic impacts and this alternative's potential to decrease dusky interactions and mortality, NMFS prefers this alternative.

Alternative B6

The economic impacts associated with Alternative B6, a preferred alternative, which would increase dusky shark outreach and awareness through development of additional commercial fishery outreach materials and establish a communication and fishing set relocation protocol for HMS commercial fishermen following interactions with dusky sharks and increase outreach, are anticipated to be neutral. These requirements would not cause a substantial change to current fishing operations, but have the potential to help fishermen become more adept in avoiding dusky sharks. If fishermen become better at avoiding dusky sharks, there is the possibility that target catch could increase. On the other hand, the requirement to move the subsequent fishing set one nautical mile from where a previous dusky shark interaction occurred could move fishermen away from areas where they would prefer to fish and it could increase fuel usage and fuel costs. Given the low economic impacts of this alternative and its potential to decrease dusky shark interactions, NMFS prefers this alternative.

Alternative B7

NMFS would seek, through collaboration with the affected states

and the ASMFC, to extend the end date of the existing state shark closure from July 15 to July 31. Currently, the states of Virginia, Maryland, Delaware, and New Jersey have a state-water commercial shark closure from May 15 to July 15. Extending the closure period in state waters would result in minor beneficial ecological impacts. In 2014, 621 lb dw of aggregated LCS and 669 lb dw of hammerhead sharks were landed by commercial fishermen in Virginia, Maryland, and New Jersey from July 15 to July 31. Based on 2014 ex-vessel prices, the annual gross revenues loss for aggregated LCS and hammerhead shark meat to the regional fleet in revenues due to an extended closure date would be $847, while the shark fins would be $207. Thus the total loss annual gross revenue for aggregated LCS and hammerhead sharks would be $1,054. Extending this closure by 16 days could cause a reduction of commercial fishing opportunity, likely resulting in minor adverse economic impacts due to reduced opportunities to harvest aggregated LCS and hammerhead sharks. In the long-term, this reduction would be neutral since fishermen would be able to adapt to the new opening date.

Alternative B8

Under Alternative B8, NMFS would remove pelagic longline gear as an authorized gear for Atlantic HMS. All commercial fishing with pelagic longline gear for HMS in the Atlantic, Gulf of Mexico, and Caribbean would be prohibited, which would have beneficial ecological impacts. However, this would greatly reduce fishing opportunities for pelagic longline fishing vessel owners. Prohibiting the use of pelagic longline fishing gear would result in direct and indirect, major adverse economic impacts in the short and long-term for pelagic longline vessel owners, operators, and crew.

Between 2008 and 2014, 168 different vessels reported using pelagic longline fishing gear in Atlantic HMS Logbooks. Average annual revenues were estimated to be approximately $34,322,983 per year based on HMS logbook records, bluefin tuna dealer reports, and the eDealer database. In 2014, there were 110 active pelagic longline vessels which produced approximately $33,293,118 in revenues. The 2014 landings value is in line with the 2008 to 2014 average. Therefore, NMFS expects future revenues forgone revenue on a per vessel basis to be approximately $309,000 per year based on 110 vessels generating an estimated $34 million in revenues per year. This displacement of fishery revenues would likely cause business closures for a majority of these pelagic longline vessel owners. Given the magnitude of the economic impact of this alternative, it is not a preferred alternative.

Alternative B9

Under Alternative B9, a preferred alternative, NMFS would require the use of circle hooks by all HMS directed shark permit holders in the bottom longline fishery. This requirement would likely reduce the mortality associated with dusky shark bycatch in the bottom longline fishery. There is negligible cost associated with switch from J-hooks to circle hooks. However, it is possible that circle hooks may reduce catch per unit effort (CPUE) resulting in lower catch of target species. To the extent that CPUE is reduced, some commercial fishermen using BLL gear may experience reduced landings and associated revenue with the use of circle hooks. This alternative would require the 224 vessels that hold a shark directed limited access permit as of 2015 to use circle hooks. However, 104 of the 224 vessels have an Atlantic tunas longline permit, which requires fishermen to use circle hooks with pelagic longline gear. Thus, those vessels would already possess and use circle hooks. The remaining 120 permit holders would be required to use circle hooks when using bottom longline gear. Given the low switching costs from J-hooks to circle hooks and the potential to reduce dusky shark mortality, NMFS prefers this alternative.

Alternative B10

Under this alternative, NMFS would annually allocate individual dusky shark bycatch quota (IDQ) to each individual shark directed or incidental limited access permit holder in the HMS pelagic and bottom longline fisheries for assignment to permitted vessels. These allocations would be transferable between permit holders. When each vessel's IDQ is reached, the vessel would no longer be authorized to fish for HMS for the remainder of the year. The concept of this alternative is similar to the Individual Bluefin Tuna Quota (IBQ) Program implemented in Amendment 7 to the 2006 Consolidated HMS FMP (79 FR 71510; December 2, 2014), which established individual quotas for bluefin tuna bycatch in the pelagic longline fishery and authorized retention and sale of such bycatch. Under this alternative, however, NMFS would continue to prohibit retention and sale of dusky sharks. The goal of individual quotas generally is to provide strong individual incentives to reduce interactions while providing flexibility for vessels to continue to operate in the fishery; however, several unique issues associated with dusky sharks would make these goals difficult to achieve.

In order to achieve the mortality reductions based upon the 2016 SEDAR 21 dusky shark assessment update, the number of dusky shark interactions may need to be substantially reduced. NMFS expects the allocations to each vessel may be extremely low and highly inaccurate/uncertain. As stated above, there is significant uncertainty in estimating dusky shark catches and calculating the appropriate level of catch for this alternative to be feasible. It is not clear that an IDQ system without an appropriate scientific basis would actually reduce interactions with dusky sharks. To the extent that any reduction actually occurred, some vessels would be constrained by the amount of individual quota they are allocated and this could reduce their annual revenue. If a pelagic longline vessel interacts with dusky sharks early in the year and uses their full IDQ allocation, they may be unable to continue fishing with pelagic longline or bottom longline gear for the rest of the year if they are unable to lease quota from other IDQ holders. This would result in reduced revenues and potential cash flow issues for these small businesses.

If vessel owners are only allocated a very low amount of IDQs, it is very unlikely that an active trading market for IDQs will emerge. The initial allocations could be insufficient for many vessels to maintain their current levels of fishing activity and they may not be able to find IDQs to lease or have insufficient capital to lease a sufficient amount of IDQs. Some vessel owners may view the risk of exceeding their IDQ allocations and the associated costs of acquiring additional quota to outweigh the potential profit from fishing, so they may opt to not continue participating in the fishery. The annual transaction costs associated with matching lessor and lessees, the costs associated with drafting agreements, and the uncertainty vessel owners would face regarding quota availability would reduce some of the economic benefits associated with leasing quota and fishing. There would also be increased costs associated with bottom longline vessels obtaining and installing EM and VMS units. Some bottom longline vessel owners might have to consider obtaining new vessels if their current vessels cannot be equipped with EM and VMS. There would be increased costs associated with VMS reporting of dusky interactions. Some fishermen would also need to ship EM hard drives

after each trip and they may need to consider acquiring extra hard drives to avoid not having one available when they want to go on a subsequent trip.

NMFS is not preferring this alternative, as it does not further the objectives of this action. Given the challenges in properly identifying dusky sharks, every shark would need to be brought on board the vessel and ensure an accurate picture of identifying features was taken by the EM cameras. Such handling would likely increase dusky shark and other shark species mortality, and this action is supposed to reduce mortality. In addition, this alternative is also unlikely to minimize the economic impact of this rule as compared to the preferred alternatives given the potential for reduced fishing revenues, monitoring equipment costs, and transaction costs.

List of Subjects in 50 CFR Part 635

Fisheries, Fishing, Fishing vessels, Foreign relations, Imports, Penalties, Reporting and recordkeeping requirements, Treaties.

Dated: October 12, 2016.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For reasons set out in the preamble, 50 CFR part 635 is proposed to be amended as follows:

PART 635—ATLANTIC HIGHLY MIGRATORY SPECIES

■ 1. The authority citation for part 635 continues to read as follows:

Authority: 16 U.S.C. 971 *et seq.;* 16 U.S.C. 1801 *et seq.*

■ 2. In § 635.2:

■ a. Remove the definition of ''Protected species safe handling, release, and identification workshop certificate''; and

■ b. Add new definitions for ''Safe handling, release, and identification workshop certificate'' and ''Shark endorsement'' in alphabetical order to read as follows:

§ 635.2 Definitions.

* * * * *

Safe handling, release, and identification workshop certificate means the document issued by NMFS, or its designee, indicating that the person named on the certificate has successfully completed the Atlantic HMS safe handling, release, and identification workshop.

* * * * *

Shark endorsement means an authorization added to an HMS Angling, HMS Charter/Headboat, Atlantic Tunas General, or Swordfish General Commercial permit that allows for the retention of authorized Atlantic sharks consistent with all other applicable regulations in this part.

* * * * *

■ 3. In § 635.4, revise paragraphs (b)(1), (c)(1), and (c)(2), and add paragraphs (c)(5) and (j)(4) to read as follows:

§ 635.4 Permits and fees.

* * * * *

(b) * * *

(1) The owner of a charter boat or headboat used to fish for, retain, possess, or land any Atlantic HMS must obtain an HMS Charter/Headboat permit. In order to fish for, retain, possess, or land Atlantic sharks, the owner must have a valid shark endorsement issued by NMFS, and persons on board must use circle hooks as specified at § 635.21(f) and (k). A vessel issued an HMS Charter/Headboat permit for a fishing year shall not be issued an HMS Angling permit, a Swordfish General Commercial permit, or an Atlantic Tunas permit in any category for that same fishing year, regardless of a change in the vessel's ownership.

(c) * * *

(1) The owner of any vessel used to fish recreationally for Atlantic HMS or on which Atlantic HMS are retained or possessed recreationally, must obtain an HMS Angling permit, except as provided in § 635.4(c)(2). In order to fish for, retain, possess, or land Atlantic sharks, the owner must have a valid shark endorsement issued by NMFS, and persons on board must use circle hooks as specified at § 635.21(f) and (k). Atlantic HMS caught, retained, possessed, or landed by persons on board vessels with an HMS Angling permit may not be sold or transferred to any person for a commercial purpose. A vessel issued an HMS Angling permit for a fishing year shall not be issued an HMS Charter/Headboat permit, a Swordfish General Commercial permit, or an Atlantic Tunas permit in any category for that same fishing year, regardless of a change in the vessel's ownership.

(2) A vessel with a valid Atlantic Tunas General category permit issued under paragraph (d) of this section or with a valid Swordfish General Commercial permit issued under paragraph (f) of this section may fish in a recreational HMS fishing tournament if the vessel has registered for, paid an entry fee to, and is fishing under the rules of a tournament that has registered with NMFS' HMS Management Division as required under § 635.5(d). When a vessel issued a valid Atlantic Tunas General category permit or a valid Swordfish General Commercial permit is fishing in such a tournament, such vessel must comply with HMS Angling category regulations, except as provided in paragraphs (c)(3) and (c)(4) and in addition to paragraph (c)(5) of this section.

* * * * *

(5) In order to fish for, retain, possess, or land sharks, the owner of a vessel fishing in a registered recreational HMS fishing tournament and issued either an Atlantic Tunas General category or Swordfish General Commercial permit must have a shark endorsement, and persons on board must use circle hooks as specified at § 635.21(f) and (k).

* * * * *

(j) * * *

(4) In order to obtain a shark endorsement to fish for, retain, or land sharks, a vessel owner with a vessel fishing in a registered recreational HMS fishing tournament and issued or required to be issued either an Atlantic Tunas General category or Swordfish General Commercial permit or a vessel owner of a vessel issued or required to be issued an HMS Angling or HMS Charter/Headboat permit must take a shark endorsement online quiz. After completion of the quiz, NMFS will issue the vessel owner a new or revised permit with the shark endorsement for the vessel. The vessel owner can take the quiz at any time during the fishing year, but his or her vessel may not leave the dock on a trip during which sharks will be fished for, retained, or landed unless a new or revised permit with a shark endorsement has been issued by NMFS for the vessel. The addition of a shark endorsement to the permit does not constitute a permit category change and does not change the timing considerations for permit category changes specified in paragraph (j)(3) of this section.

* * * * *

■ 4. In § 635.8, revise paragraphs (a), (c)(2), (c)(3), (c)(5), (c)(6), and (c)(7) as follows:

§ 635.8 Workshops.

(a) Safe handling release, disentanglement, and identification workshops. (1) Both the owner and operator of a vessel that fishes with longline or gillnet gear must be certified by NMFS, or its designee, as having completed a safe handling, release, and identification workshop before a shark or swordfish limited access vessel permit, pursuant to § 635.4(e) and (f), is renewed. For the purposes of this section, it is a rebuttable presumption

that a vessel fishes with longline or gillnet gear if: Longline or gillnet gear is onboard the vessel; logbook reports indicate that longline or gillnet gear was used on at least one trip in the preceding year; or, in the case of a permit transfer to new owners that occurred less than a year ago, logbook reports indicate that longline or gillnet gear was used on at least one trip since the permit transfer.

(2) NMFS, or its designee, will issue a safe handling, release, and identification workshop certificate to any person who completes a safe handling, release, and identification workshop. If an owner owns multiple vessels, NMFS will issue a certificate for each vessel that the owner owns upon successful completion of one workshop. An owner who is also an operator will be issued multiple certificates, one as the owner of the vessel and one as the operator.

(3) The owner of a vessel that fishes with longline or gillnet gear, as specified in paragraph (a)(1) of this section, is required to possess on board the vessel a valid safe handling, release, and identification workshop certificate issued to that vessel owner. A copy of a valid safe handling, release, and identification workshop certificate issued to the vessel owner for a vessel that fishes with longline or gillnet gear must be included in the application package to renew or obtain a shark or swordfish limited access permit.

(4) An operator that fishes with longline or gillnet gear as specified in paragraph (a)(1) of this section must possess on board the vessel a valid safe handling, release, and identification workshop certificate issued to that operator, in addition to a certificate issued to the vessel owner.

* * * * *

(c) * * *

(2) If a vessel fishes with longline or gillnet gear as described in paragraph (a) of this section, the vessel owner may not renew a shark or swordfish limited access permit, issued pursuant to § 635.4(e) or (f), without submitting a valid safe handling, release, and identification workshop certificate with the permit renewal application.

(3) A vessel that fishes with longline or gillnet gear as described in paragraph (a) of this section and that has been, or should be, issued a valid limited access permit pursuant to § 635.4(e) or (f), may not fish unless a valid safe handling, release, and identification workshop certificate has been issued to both the owner and operator of that vessel.

* * * * *

(5) A vessel owner, operator, shark dealer, proxy for a shark dealer, or participant who is issued either a safe handling, release, and identification workshop certificate or an Atlantic shark identification workshop certificate may not transfer that certificate to another person.

(6) Vessel owners issued a valid safe handling, release, and identification workshop certificate may request, in the application for permit transfer per § 635.4(l)(2), additional safe handling, release, and identification workshop certificates for additional vessels that they own. Shark dealers may request from NMFS additional Atlantic shark identification workshop certificates for additional places of business authorized to receive sharks that they own as long as they, and not a proxy, were issued the certificate. All certificates must be renewed prior to the date of expiration on the certificate.

(7) To receive the safe handling, release, and identification workshop certificate or Atlantic shark identification workshop certificate, persons required to attend the workshop must first show a copy of their HMS permit, as well as proof of identification to NMFS or NMFS' designee at the workshop. If a permit holder is a corporation, partnership, association, or any other entity, the individual attending on behalf of the permit holder must show proof that he or she is the permit holder's agent and provide a copy of the HMS permit to NMFS or NMFS' designee at the workshop. For proxies attending on behalf of a shark dealer, the proxy must have documentation from the shark dealer acknowledging that the proxy is attending the workshop on behalf of the Atlantic shark dealer and must show a copy of the Atlantic shark dealer permit to NMFS or NMFS' designee at the workshop.

■ 5. In § 635.19, revise paragraph (d) to read as follows:

§ 635.19 Authorized gears.

* * * * *

(d) *Sharks.* (1) No person may possess a shark without a permit issued under § 635.4.

(2) No person issued a Federal Atlantic commercial shark permit under § 635.4 may possess a shark taken by any gear other than rod and reel, handline, bandit gear, longline, or gillnet, except that smoothhound sharks may be retained incidentally while fishing with trawl gear subject to the restrictions specified in § 635.24(a)(7).

(3) No person issued an HMS Commercial Caribbean Small Boat permit may possess a shark taken from the U.S. Caribbean, as defined at § 622.2 of this chapter, by any gear other than with rod and reel, handline or bandit gear.

(4) Persons on a vessel issued a permit with a shark endorsement under § 635.4 may possess a shark only if the shark was taken by rod and reel or handline, except that persons on a vessel issued both an HMS Charter/Headboat permit (with or without a shark endorsement) and a Federal Atlantic commercial shark permit may possess sharks taken by rod and reel, handline, bandit gear, longline, or gillnet if the vessel is engaged in a non for-hire fishing trip and the commercial shark fishery is open pursuant to § 635.28(b).

* * * * *

■ 6. In § 635.21:

■ a. Add paragraph (c)(6);

■ b. Revise the introductory text for paragraph (d)(2);

■ c. Add paragraphs (d)(2)(iii) and (d)(4);

■ d. Revise paragraph (f); and

■ e. Add paragraphs (g)(5) and (k).

The additions and revisions read as follows:

§ 635.21 Gear operation and deployment restrictions.

* * * * *

(c) * * *

(6) The owner or operator of a vessel permitted or required to be permitted under this part and that has pelagic longline gear on board must undertake the following shark bycatch mitigation measures:

(i) Handling and release requirements. Any hooked or entangled sharks that are not being retained must be released using dehookers or line clippers or cutters. If using a line clipper or cutter, the gangion must be cut so that less than three feet (91.4 cm) of line remains attached to the hook.

(ii) *Fleet communication and relocation protocol.* The owner or operator of any vessel that catches a dusky shark must broadcast the location of the dusky shark interaction over the radio to other fishing vessels in the surrounding area. Subsequent fishing sets by that vessel on that trip must be at least 1 nmi from the reported location of the dusky shark catch.

(d) * * *

(2) The operator of a vessel required to be permitted under this part and that has bottom longline gear on board must undertake the following bycatch mitigation measures:

* * * * *

(iii) *Fleet communication and relocation protocol.* The owner or operator of any vessel that catches a dusky shark must broadcast the location

of the dusky shark interaction over the radio to other fishing vessels in the surrounding area. Subsequent fishing sets by that vessel on that trip must be at least 1 nmi from the reported location of the dusky shark catch.

* * * * *

(4) Vessels that have bottom longline gear on board and that have been issued, or are required to have been issued, a directed shark limited access permit under § 635.4(e) must have only circle hooks as defined at § 635.2 on board.

* * * * *

(f) *Rod and reel.* (1) Persons who have been issued or are required to be issued a permit under this part and who are participating in a ''tournament,'' as defined in § 635.2, that bestows points, prizes, or awards for Atlantic billfish must deploy only non-offset circle hooks when using natural bait or natural bait/artificial lure combinations, and may not deploy a J-hook or an offset circle hook in combination with natural bait or a natural bait/artificial lure combination.

(2) A person on board a vessel that has been issued or is required to be issued a permit with a shark endorsement under this part and who is participating in an HMS registered tournament that bestows points, prizes, or awards for Atlantic sharks must deploy only circle hooks when fishing for, retaining, possessing, or landing sharks. For the purposes of this requirement, an owner or operator is fishing for sharks if they are using natural bait and wire or heavy (200 pound test or greater) monofilament or fluorocarbon leaders.

(3) A person on board a vessel that has been issued or is required to be issued an HMS Angling permit with a shark endorsement or an HMS Charter/Headboat permit with a shark endorsement must deploy only circle hooks when fishing for, retaining, possessing, or landing sharks. Any shark caught on non-circle hooks must be released. For the purposes of this requirement, an owner or operator is fishing for sharks if they are using natural bait and wire or heavy (200 pound test or greater) monofilament or fluorocarbon leaders.

(g) * * *

(5) *Fleet communication and relocation protocol.* The owner or operator of any vessel issued or required to be issued a Federal Atlantic commercial shark limited access permit that catches a dusky shark must broadcast the location of the dusky shark interaction over the radio to other fishing vessels in the surrounding area. Subsequent fishing sets by that vessel that trip must be at least 1 nmi from the reported location of the dusky shark catch.

* * * * *

(k) *Handline.* (1) A person on board a vessel that has been issued or is required to be issued a permit with a shark endorsement under this part and who is participating in an HMS registered tournament that bestows points, prizes, or awards for Atlantic sharks must deploy only circle hooks when fishing for, retaining, possessing, or landing sharks. Any shark caught on non-circle hooks must be released. For the purposes of this sections, an owner or operator is fishing for sharks if they are using natural bait and wire or heavy (200 pound test or greater) monofilament or fluorocarbon leaders.

(2) A person on board a vessel that has been issued or is required to be issued an HMS Angling permit with a shark endorsement or a person on board a vessel with an HMS Charter/Headboat permit with a shark endorsement must deploy only circle hooks when fishing for, retaining, possessing, or landing sharks. Any shark caught on non-circle hooks must be released. For the purposes of this requirement, an owner or operator is fishing for sharks if they are using natural bait and wire or heavy (200 pound test or greater) monofilament or fluorocarbon leaders.

■ 7. In § 635.22, revise paragraph (c)(1) to read as follows:

§ 635.22 Recreational retention limits.

(c) * * *

(1) The recreational retention limit for sharks applies to any person who fishes in any manner, except to persons aboard a vessel that has been issued a Federal Atlantic commercial shark vessel permit under § 635.4. The retention limit can change depending on the species being caught and the size limit under which they are being caught as specified under § 635.20(e). If a commercial Atlantic shark quota is closed under § 635.28, the recreational retention limit for sharks and no sale provision in paragraph (a) of this section may be applied to persons aboard a vessel issued a Federal Atlantic commercial shark vessel permit under § 635.4, only if that vessel has also been issued an HMS Charter/Headboat permit with a shark endorsement under § 635.4 and is engaged in a for-hire fishing trip. A person on board a vessel that has been issued or is required to be issued a permit with a shark endorsement under § 635.4 must use circle hooks as specified in § 635.21(f) and (k) in order to retain sharks per the retention limits specified in this section.

* * * * *

■ 8. In § 635.71, revise paragraphs (a)(50) through (52), and add paragraphs (d)(21) through (d)(26) to read as follows:

§ 635.71 Prohibitions.

* * * * *

(a) * * *

(50) Fish without being certified for completion of a NMFS safe handling, release, and identification workshop, as required in § 635.8.

(51) Fish without having a valid safe handling, release, and identification workshop certificate issued to the vessel owner and operator on board the vessel as required in § 635.8.

(52) Falsify a NMFS safe handling, release, and identification workshop certificate or a NMFS Atlantic shark identification workshop certificate as specified at § 635.8.

* * * * *

(d) * * *

(21) Fish for, retain, possess, or land sharks without a shark endorsement when issued an Atlantic HMS Angling permit, HMS Charter/Headboat permit, an Atlantic Tunas General Category permit, or a Swordfish General Commercial permit, as specified in § 635.4(c).

(22) Fish for, retain, possess, or land sharks without deploying circle hooks when fishing at a registered HMS fishing tournament that has awards or prizes for sharks, as specified in § 635.21(f) and (k) and § 635.22(c)(1).

(23) Fish for, retain, possess, or land sharks without deploying circle hooks when issued an Atlantic HMS Angling permit or HMS Charter/Headboat permit with a shark endorsement, as specified in in § 635.21(f) and (k) and § 635.22(c)(1).

(24) Release sharks with more than 3 feet (91.4 cm) of trailing gear, as specified in § 635.21(c)(6).

(25) Fail to follow the fleet communication and relocation protocol for dusky sharks as specified at § 635.21(c)(6), (d)(2), and (g)(5).

(26) Deploy bottom longline gear without circle hooks, or have on board both bottom longline gear and non-circle hooks, as specified at § 635.21(d)(4).

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