

5.0 MITIGATION AND UNAVOIDABLE IMPACTS

The preferred alternatives, as a suite of management measures, will have significant conservation benefits by reducing leatherback and loggerhead sea turtle mortality and reducing leatherback sea turtle interactions. Overall, NOAA Fisheries anticipates significant positive ecological impacts due to the reductions in mortalities of both species, especially as fishermen become more adept at using the release and disentanglement gears. While opening the NED to pelagic longline fishing (alternative A10 (b)) could increase sea turtle interactions as compared to the no action alternative, the gear restrictions under alternative A10 (b) are expected to reduce the incidental capture and mortality of sea turtles in regard to historical bycatch levels. The preferred alternatives could have adverse social and/or economic impacts. These alternatives would: limit vessels with pelagic longline gear onboard, at all times, to possessing and or using only specific hook and bait types in the NED, and non-NED areas; allow fishing in the NED subject to the hook and bait requirements; and require the possession and use of specific release and disentanglement gears.

5.1 MITIGATION MEASURES

As described in the previous chapters in this document, the expected impacts of the preferred alternatives may range from minor to substantial. Some of the preferred alternatives may help mitigate the impacts of other preferred alternatives while also meeting the objectives of this rulemaking, consistent with the ESA, the Magnuson-Stevens Act, and other applicable law. For example, any adverse ecological impact of allowing fishing in the NED is expected to be mitigated by gear modifications in the NED (alternative A10 (b)) and the other sectors of the fishery (alternative A5 (b)), as well as the required use of additional release and disentanglement gears (A16). Additionally, NOAA Fisheries attempted to mitigate the economic and social impacts as much as possible in designing the alternatives considered. For example, although preferred alternatives A5 (b) and A10 (b) limit pelagic longline fishermen to 16/0 or larger and 18/0 or larger circle hooks, they do allow for some choice in the possession and use of flat and offset hooks (up to 10 degrees) and in the use of baits. Alternatives A5 (b) and A10 (b) increase flexibility and may reduce the social and economic impacts identified for the hook and bait alternatives preferred in the DSEIS (A3 and A10 (a)). In addition, preferred alternative A16 would require the possession and use of release and disentanglement gear meeting specific design standards. The design standards allow for construction of some of the equipment, subject to NOAA Fisheries approval, from material that is readily available and using skills that most fishermen likely possess. Further, the design standards were developed in cooperation with the fishing industry during the NED research experiment. The use of these gears may not only result in positive ecological impacts but may also reduce fishing costs by retrieving hooks. The potential savings from the retrieval of hooks may help to mitigate any negative impacts resulting from the preferred hook and bait alternatives. Additionally, anticipated increases in vessel revenues, from increased swordfish catches (by weight), may potentially mitigate decreased revenues stemming from reduced tuna catches and other costs associated with purchase of gear required to comply with new management measures.

The June 1, 2004, BiOp identified the Reasonable and Prudent Alternative (RPA) necessary to avoid jeopardy for leatherback sea turtles, and listed the Reasonable and Prudent Measures and Terms and Conditions necessary to authorize continued take of Atlantic sea turtles as part of the pelagic longline ITS. The RPA includes: 1) maximization of pelagic longline gear removal to maximize post-release survival of incidentally-captured sea turtles; 2) improve the accuracy and timeliness of sea turtle reporting and analysis, and take corrective action to prevent long-term elevated mortality; and, 3) confirm the effectiveness of hook and bait combinations.

Additionally, each element of the RPA has several sub-components. These sub-components include: distribution of training materials that demonstrate careful release of sea turtles; establishment of a fishery outreach point of contact (POC); implementation of training workshops and a certification process; enhanced observer coverage; quarterly and annual monitoring of estimates; further research and evaluation of circle hooks; and, corrective action, if necessary, to ensure that the ITS is not exceeded and that the net mortality performance standards are achieved.

NOAA Fisheries will undertake additional rulemaking and non-regulatory actions, as required, to implement additional mitigation measures consistent with the 2004 BiOp. The June 1, 2004, BiOp is discussed further in Section 4.3.

5.2 UNAVOIDABLE ADVERSE IMPACTS

As described above, in aggregate, the preferred alternatives are expected to have positive ecological impacts on sea turtles and other incidentally caught species. For species that are overfished (e.g. North Atlantic swordfish, bigeye tuna), there could be potential increases in catches (by weight) resulting from the preferred hook and bait alternatives (A5 (b) and A10 (b)). However, such increases would only have negligible adverse ecological impacts given that the U.S. catches swordfish and non-bluefin tuna constitute a small percentage of international catches. Further, the U.S. has been well below its ICCAT quota for swordfish, so any potential increase in catches of that species are not expected to have a significant impact on rebuilding. Should catches of target species decrease under the preferred alternatives, minor adverse impacts may develop if fishermen increase effort to offset decreased catches; however these potential adverse ecological impacts are uncertain and may not actually be realized. The preferred alternatives may have adverse economic and/or social impacts. The reasons for selecting the preferred alternatives are outlined in the previous chapters of this document. The preferred alternatives, including those with adverse impacts, are necessary to reduce the incidental take and mortality of threatened and endangered Atlantic sea turtles associated with the operation of the Atlantic pelagic longline fishery. The preferred alternatives are consistent with the HMS FMP, the Magnuson-Stevens Act, the ESA, and other applicable law. In considering the alternatives, NOAA Fisheries preferred alternatives that would minimize the adverse impacts while maximizing the positive impacts. Thus, any resulting economic or social impacts are unavoidable.

5.3 IRREVERSIBLE AND IRRETRIEVABLE COMMITMENT OF RESOURCES

The preferred alternatives would not result in any irreversible and irretrievable commitment of resources. In aggregate, the preferred alternatives are expected to protect and conserve threatened and endangered Atlantic sea turtles in U.S. Atlantic fisheries consistent with the ESA. These alternatives are also expected to reduce the bycatch mortality of target and other non-target species consistent with the MSA, ATCA, and other applicable law.

References Cited in Chapter 5

No references cited.