

Finding of No Significant Impact for Research on Decreasing or Eliminating Predation of Pre-weaned Hawaiian Monk Seal Pups by Sharks in the Northwestern Hawaiian Islands, Pacific Islands Fisheries Science Center, Monk Seal Research Program, Honolulu, Hawaii

National Marine Fisheries Service

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

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

Response: No. The proposed activities are not expected to jeopardize the sustainability of the population that is the focus of this research, i.e., the Galapagos shark population at French Frigate Shoals (FFS). Specifically, the proposed research involves monitoring shark behavior, deployment of a suite of deterrent devices, and lethal removal of no more than 40 individual Galapagos sharks. The population size of Galapagos sharks at the study site was estimated in 1984 to be 703 individuals, but has probably increased since then as longline fishing has been prohibited in the area for over a decade. More recent estimates range from 1,600 to 4,380 individuals. The removal of 40 individuals is a small fraction (0.01-5.7%) of whichever estimate is used and will therefore not jeopardize the sustainability of the population.

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

Response: No. Gear will be designed to minimize the chance of catching fish species other than Galapagos sharks. Moreover, gear will be monitored at all times it is deployed, and any non-target species will be released expeditiously to prevent mortality. No significant effects on protected species are anticipated (see Question 5, below). No ecosystem-level effects due to this research are anticipated because the project affects a small sample size of individuals in a localized region, therefore minimizing potential effects on a greater geographic scale.

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

Response: No. The proposed research will occur in a very limited area at French Frigate Shoals. Moreover, because the study site is within the Papahānaumokuākea Marine National Monument,

strict measures will be taken to eliminate damage to coral and habitat. Fishing gear will be deployed only over sandy bottom substrate, which will be minimally impacted.

4) Can the proposed action be reasonably expected to have a substantial adverse impact on public health or safety?

Response: No. The proposed actions will occur in remote areas which are not accessible to the public. Fishing gear will be monitored at all times, so there is no chance that any of the materials could be transported into public areas.

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

Response: No. Potential effects of shark deterrents on endangered or threatened species and marine mammals have been evaluated and will cause no adverse impact. Mitigation measures will be in place during all fishing activities. Specifically, if gear is subject to prolonged investigation by such species (i.e., Hawaiian monk seals, green turtles, or inshore cetaceans), the gear will be pulled up and moved to another site, or redeployed at the same site only after the investigating animals have left the area. Gear and bait will also be designed to minimize chances of hooking or entangling a protected species. If a protected species should become hooked or entangled, fishing activities will be stopped.

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

Response: No. Although the research involves decreasing or eliminating predation by Galapagos sharks on Hawaiian monk seal pups, the sharks' predatory behavior on nursing pups is atypical, having been observed at only one site (French Frigate Shoals), despite monitoring of shark and monk seal behaviors at all other NWHI locations. Galapagos sharks' typical prey includes demersal fishes and cephalopods. Moreover, data indicate that only a small subset of the Galapagos shark population at FFS is preying on seal pups, and removal efforts will be targeted at these individuals. The proposed activities will therefore have minimal impact on overall Galapagos shark predator-prey relationships.

The research will also help ensure the continued existence of the FFS subpopulation of Hawaiian monk seals, a critical component of the ecosystem. In 2008, 12 nursing pups died or disappeared (30%) out of 41 births at FFS, with eight of the losses due to Galapagos sharks. This level of mortality cannot be sustained by the seal subpopulation at FFS, where the total subpopulation and annual pup production are projected to continue declining for the foreseeable future due to a consistently unbalanced age structure.

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

Response: No. The affected area is not accessible to the public. Tourism and commercial and recreational fishing are prohibited. Therefore, these activities would have no impact on social or economic activities in the affected areas.

8) Are the effects on the quality of the human environment likely to be highly controversial?

Response: No. As noted, the proposed research involves small-scale, short-term experiments in restricted, remote areas, and will have no significant or controversial effects on the human environment. Because a very small number of sharks will be affected relative to the population size, these activities should not prompt significant controversy. On the other hand, failing to control this known source of pup mortality to a species that is highly endangered could be controversial, so these activities should actually reduce the level of controversy associated with monk seal management as a whole.

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

Response: No. The proposed research activities will occur within a unique area, the Papahānaumokuākea Marine National Monument, and are therefore subject to strict measures and conditions of the Monument permitting process. Adhering to these conditions will prevent substantial impacts.

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

Response: No. The procedures, methods and mitigation measures proposed in this document have been used in the past, and will be further tested prior to initiation of the activity. Risks have been evaluated and an Operational Risk Management Plan is being finalized.

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

Response: No. As noted in responses to questions above, these experiments involve short-term field activities, minimally affecting existing robust populations of sharks in the affected geographic areas. Non-target species, including both protected species and other non-target marine organisms, are not anticipated to be affected significantly.

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

Response: No. The proposed research activities will occur at great distance from any districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places. Similarly, no cultural or historical resources are present at the study site. The research procedures will not cause loss or destruction of scientific resources.

13) Can the proposed action reasonably be expected to result in the introduction or spread of a nonindigenous species?

Response: No. The proposed research activities are not expected to result in the introduction or spread of a nonindigenous species. The species involved in the proposed research activities are native to the study regions. Research activities (and personnel) also will be bound by strict quarantine procedures which are delineated as part of the Monument permitting process. Such procedures have been standard practice for the Protected Species Division for many years within the Monument, as well as within USFWS Refuges prior to creation of the Monument.

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

Response: No. The purpose of this research is to reduce or eliminate a localized, unique phenomenon. The Environmental Assessment identifies a suite of contingencies which must be met in order to continue the program, as well as circumstances which would lead to cessation of the research. The latter includes evidence that shark predation on seal pups were likely to continue despite deterrent or removal efforts. The research will not effect any decision towards large scale predator removal, as that activity has already been considered and rejected.

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

Response: No. The proposed research activities comply with applicable Federal and state environmental regulations, including applicable permit requirements. Monument permits authorizing the activity will be in place before any research is conducted.

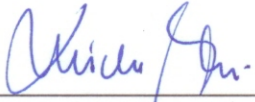
16) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?


Response: No. As noted in responses to questions above, this research involves short-term and localized field activities, minimally affecting existing robust populations of sharks in the affected geographic areas. Non-target species, including both protected species and other non-target marine organisms, are not anticipated to be affected significantly.

DETERMINATION

In view of the information presented in this document and the analysis contained in the supporting Environmental Assessment prepared for Research on Decreasing or Eliminating Predation of Pre-weaned Hawaiian Monk Seal Pups by Sharks in the Northwestern Hawaiian Islands, conducted by Pacific Islands Fisheries Science Center, Monk Seal Research Program, Honolulu, Hawaii, it is hereby determined that such research will not significantly impact the quality of the human environment as described above and in the supporting Environmental

Assessment. In addition, all beneficial and adverse impacts of the proposed action have been addressed to reach the conclusion of no significant impacts. Accordingly, preparation of an EIS for this action is not necessary.



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4/20/09

Date