

**FINDING OF NO SIGNIFICANT IMPACT
FOR THE ISSUANCE OF REGULATIONS AND LETTERS OF AUTHORIZATION TO
APACHE ALASKA CORPORATION FOR THE TAKE OF MARINE MAMMALS
INCIDENTAL TO SEISMIC SURVEYS IN COOK INLET, ALASKA
NATIONAL MARINE FISHERIES SERVICE**

BACKGROUND

National Oceanic Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS) is proposing to issue a final rule and annual Letters of Authorization (LOAs) to Apache Alaska Corporation (Apache). The regulations will be valid for five years beginning around April 30, 2016 and together with associated LOAs authorizes takes, by Level B harassment, of marine mammals incidental to oil and gas exploration activities within Cook Inlet, Alaska. NMFS promulgates regulations and issues LOAs pursuant to Section 101(a)(5)(A) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1631 *et seq.*) and the regulations governing the taking and importing of marine mammals, 50 CFR Part 216.

The proposed action for NMFS is a direct outcome of Apache's application requesting authorization for the unintentional taking marine mammal's incidental to oil and gas exploration activities that involve the conduct of seismic surveys. Seismic surveys have the potential to cause marine mammals near or within the survey area to be behaviorally disturbed, requiring an incidental take authorization from NMFS. The criteria for issuing regulations and LOAs require that the taking have a negligible impact on the species or stock(s) and, where relevant, will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses. In addition, the rule and LOA must set forth, where applicable, the permissible methods of taking, other means of effecting the least practicable adverse impact on the species or stock and its habitat (i.e., mitigation), and requirements pertaining to the monitoring and reporting of such takings.

The issuance of a final rule and annual LOAs to Apache allows the taking of marine mammals, consistent with provisions under MMPA, and is considered a major federal action under the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*). Therefore, NMFS prepared an Environmental Assessment (EA) titled, "*Issuance of Regulations and Letters of Authorization to Apache Alaska Corporation for the Take of Marine Mammals Incidental to Seismic Surveys in Cook Inlet, Alaska*" to evaluate the significance of the impacts of our proposed action. This EA was prepared in accordance with NEPA and the Council on Environmental Quality (CEQ) regulations in 40 CFR §§ 1500-1508. Based on the Final EA and Apache's application, NMFS's alternatives include:

- Alternative 1 (Preferred Alternative). Issue annual LOAs under a five-year rule to Apache authorizing unintentional take of marine mammal's incidental to the conduct of seismic surveys. The authorization includes the prescribed means of take and requires mitigation measures, monitoring and reporting.
- Alternative 2 (No Action Alternative). Do not authorize Apache for unintentional takes of marine mammal's incidental to seismic surveys. NMFS analyzed two possible outcomes: (1) Apache would proceed with the seismic surveys without the mitigation, monitoring, and

reporting measures prescribed in the rule and LOA; and (2) Apache would not conduct the survey.

ANALYSIS

The CEQ regulations at 40 CFR §1508.27 state that the significance of an action should be analyzed both in terms of “context” and “intensity”. Each criterion listed below this section is relevant to making a finding of no significant impact. We have considered each criterion individually, as well as in combination with the others. We analyzed the significance of this action based CEQ’s context and intensity criteria. These include:

1) 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 (FMP)?

Response: NMFS does not expect authorizing Apache for unintentional taking of marine mammals incidental to conducting seismic surveys to cause substantial damage to ocean and coastal habitats or essential fish habitat (EFH). There will be no effect to ocean and coastal habitats from NMFS’ incidental take regulations/LOAs, including the required mitigation and monitoring measures. Likewise, the authorization of incidental take of marine mammals and related mitigation and monitoring requirements for Apache will not directly or indirectly reduce the quality or quantity of EFH. No physical, biological, or chemical parameters of EFH will be affected. Since adverse impacts on EFH species is not expected, NMFS determined a consultation under the MSA is not required.

2) 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: Apache’s seismic surveys require the deployment of a submersible recording system in the inter-tidal and marine zones. The substrate of Cook Inlet consists of glacial silt, clay, cobbles, pebbles, and sand (Sharma and Burrell, 1970). Sediments like sand and cobble dissipate quickly when suspended but finer materials like clay and silt can create thicker plumes that may harm fish. However, the temporary increases in turbidity created by placing and removing nodes on the seafloor would settle to background levels within minutes after the cessation of the placement and retrieval. Sound generated by the acoustic sources (e.g., airguns and pingers) during the surveys will radiate throughout the water column until it dissipates to background levels. Scientific studies on the effects of acoustic sources like the sources used by Apache have not demonstrated adverse effects on the life stages, condition or amount of food resources used by marine mammals, except when exposed to sound levels within a few meters of the acoustic source in a few isolated cases. Where fish or invertebrates did respond to sound, the effects were temporary and of short duration. This limited response in combination with the limited temporal scale of the seismic surveying (patch shooting) would minimize any potential impacts on biodiversity or ecosystem, particularly to marine mammal prey species.

Disturbance to fish species associated with the seismic surveys (e.g., placement and retrieval of nodes and noise from airguns and pingers) would be minor due to the short duration fish species would be exposed to turbidity and noise. NMFS expects the fish species to return to pre-disturbance

behavior once seismic surveys cease. Therefore, seismic surveys will not have habitat-related effects that could cause significant or long-term consequences for individual marine mammals or their populations.

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

Response: We do not expect that our action of issuing Authorizations to Apache or Apache's proposed surveys would have a substantial adverse impact on public health or safety, as the taking, by harassment, of marine mammals would pose no human risk. The proposed activity would occur primarily offshore away from dense populations and other activity.

4) Can the proposed action reasonably be expected to adversely affect endangered or threatened species, their critical habitat, marine mammals, or other non-target species?

Response: We have authorized Apache to take marine mammals by Level B harassment (in the form of short-term and localized changes in behavior) of nine species of marine mammals, three of which are listed as endangered under the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*), but this will have a negligible impact on the species or stocks.

To reduce the potential for disturbance from acoustic stimuli associated with the activities to all marine mammals, Apache will implement several monitoring and mitigation measures for marine mammals, which are assessed in the EA. Taking these measures into consideration, we expect that the responses of marine mammals from the Preferred Alternative would be limited to temporary avoidance of the area, short-term behavioral changes, and/or low-level physiological effects, falling within the MMPA definition of "Level B harassment." We do not anticipate that take by injury (Level A harassment), serious injury, or mortality would occur, nor would we authorize take by injury, serious injury, or mortality. We expect that behavioral harassment takes would be at the lowest level practicable with the implementation of the mitigation measures prescribed in the final rule and LOA.

Apache's action falls within designated critical habitat for the Cook Inlet beluga whale. The NMFS Office of Protected Resources (OPR) Permits and Conservation Division (PR1) consulted with the NMFS Alaska Regional Office (AKRO) Protected Resources Division (PRD) on the issuance of this under Section 101(a)(5)(A) of the MMPA. On February 3, 2016, NMFS AKRO issued its Biological Opinion regarding this action. This consultation concluded that the issuance of regulations and subsequent LOAs is not likely to jeopardize the continued existence of Cook Inlet beluga whales, western Distinct Population Segment (DPS) of Steller sea lions, or humpback whales. NMFS concludes that the actions are not likely to adversely affect the critical habitat for Steller sea lions or Cook Inlet beluga whales and that the actions are likely to adversely affect the western DPS Steller sea lions, Cook Inlet beluga whales and humpback whales. Adverse effects are expected to be in the form of harassment.

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

Response: No significant social or economic effects are expected to result from issuance of the Authorizations. The seismic surveys would provide information valuable for exploring and developing oil fields in Cook Inlet. The primary impacts to the natural and physical environment are expected to be acoustic and temporary in nature, and not interrelated with significant social or economic impacts.

Marine mammals are hunted legally in Alaskan waters by coastal Alaska Natives. In Cook Inlet, native hunters historically have hunted beluga whales for food. Due to the dramatic decreases in the Cook Inlet beluga whale population, there is a moratorium on hunting for beluga whales currently in place, and the Authorization and underlying surveys will not result in removal of beluga whales from the population or otherwise adversely affect annual rates of recruitment or survival. There is a low level of subsistence hunting for harbor seals in Cook Inlet. Seal hunting occurs opportunistically among Alaska Natives who may be fishing or travelling in the upper Inlet near the mouths of the Susitna River, Beluga River, and Little Susitna River. Considering the limited time and area for the planned seismic surveys, the proposed action is not expected to have any significant impacts to the availability of harbor seals for subsistence harvest and would not result in directed or lethal takes of marine mammals. Moreover, the following measures are intended to reduce impacts to subsistence users:

- Mitigation measures will be implemented during seismic surveys to minimize effects on the behavior of marine mammals and, therefore, maintaining opportunities for harvest by Alaska Native communities
- Regional subsistence representatives may support recording marine mammal observations along with marine mammal biologists during the monitoring programs.
- Annual reports of marine mammal observations will be provided to regional subsistence representatives and others.

NMFS anticipates that any effects from Apache's proposed seismic surveys on marine mammals, especially harbor seals and Cook Inlet beluga whales, which are or have been taken for subsistence uses, would be short-term, site specific, and limited to inconsequential changes in behavior and mild stress responses. NMFS does not anticipate that the authorized taking of affected species or stocks would reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by: (1) Causing the marine mammals to abandon or avoid hunting areas; (2) directly displacing subsistence users; or (3) placing physical barriers between the marine mammals and the subsistence hunters. If these events occur, they would occur at a level that can be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

NMFS has determined (based on the foregoing) that Apache's activities would not have an unmitigable adverse impact on the availability of marine mammals for taking by subsistence users. The incidental take authorizations for the proposed seismic surveys are not expected to result in any conflict between the industry and subsistence users. As a result of mitigation measures that would be implemented to reduce the potential for natural and physical effects and the continued cooperation between Apache and local subsistence communities, no significant social and economic impacts are expected.

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

Response: NMFS has issued numerous Authorizations for seismic survey activities, including ones for similar projects in other parts of Alaska. The anticipated impacts on marine mammals are not highly controversial. There has been no substantial dispute with the size, nature, or effect of the proposed action. Nor is there any information to suggest that the Authorization may cause substantial degradation to any element of the human environment, including marine mammals. For several years, we have assessed and authorized incidental take for multiple geophysical surveys conducted within the same year and have developed relatively standard mitigation and monitoring measures, all of which have been vetted during past public comment periods. The scope of this action is similar to past geophysical surveys, is not unusually large or substantial, and would include the same or more stringent mitigation and monitoring measures than required in past surveys.

Previous projects of this type required marine mammal monitoring and monitoring reports, which we have reviewed to ensure that the authorized activities have a negligible impact on marine mammals.

During the 30-day public comment period, NMFS received fourteen comment letters. In general, the comments focused on mitigation and monitoring of seismic operations, the analysis of impacts on Cook Inlet beluga whales provided in the application and *Federal Register* notice announcing the proposed Authorization, and some of the proposed mitigation and monitoring measures. Based on these comments, NMFS included one new mitigation measure of passive acoustic monitoring (PAM) and has re-calculated the levels of take expected during these surveys based upon the best available scientific information. NMFS was still able to meet the requirements for issuing Authorizations under the MMPA (See response to question 8).

7) 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, essential fish habitat, or ecologically critical areas?

Response: Issuance of Authorizations for Apache's proposed seismic surveys are not expected to result in substantial impacts to unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish habitat, or ecologically critical areas as it would only authorize harassment to marine mammals. The action area does not contain, and is not adjacent to, areas of notable visual, scenic, historic, or aesthetic resources that would be substantially impacted. The surrounding water is primarily used for shipping traffic and is already impacted by human development. The impacts to EFH and habitat for federally listed species are likely to be minor, localized and short-term. (See responses to questions 1, 2, and 4.)

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

Response: The potential risks to marine mammals and their habitat associated with seismic surveys are not unique or unknown, nor is there significant uncertainty about impacts. NMFS has issued numerous Authorizations for seismic activities in Alaskan waters and conducted NEPA analyses on those projects. Each Authorization required marine mammal monitoring, and monitoring reports have been reviewed by NMFS to ensure that activities have a negligible impact on marine mammals. In no case have impacts to marine mammals, as determined from monitoring reports, exceeded NMFS' analysis under the MMPA and NEPA. Therefore, the effects on the human environment are not likely to be highly uncertain or involve unique or unknown risks.

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

Response: The EA analyzed the issuance of regulations and subsequent LOAs for the take of marine mammals incidental to Apache's seismic surveys and the impacts of the seismic surveys in light of other human activities within the study area. We expect the following combination to result in no more than minor and short-term impacts to marine mammals in the survey area in terms of overall disturbance effects: (a) our issuance of LOAs with prescribed mitigation and monitoring measures for the seismic surveys; (b) past, present, and reasonably foreseeable future seismic surveys in Cook Inlet; (c) military activities; and (d) climate change.

Apache's conduct of seismic surveys in Cook Inlet and our proposed action of issuing regulations and subsequent LOAs for the incidental take of a small number of marine mammals are interrelated. The surveys conducted, subject to the requirements of the LOAs authorizing harassment of marine mammals, are not expected to result in cumulatively significant impacts when considered in relation to other separate actions with individually insignificant effects.

We have issued Authorizations to Apache and other industry surveys' harassment of marine mammals, but these surveys are dispersed both geographically (throughout the Inlet) and temporally, are short-term in nature, and use mitigation and monitoring measures to minimize impacts to marine mammals and to minimize other potential adverse environmental impacts in the activity area.

We are aware of no additional seismic surveys scheduled for Cook Inlet at this time, one geophysical survey, and one test well drilling project. These projects are dispersed across the Cook Inlet region and are not confined to one specific location. In addition, we are unaware of any synergistic impacts to marine resources associated with reasonably foreseeable future actions that may be planned or occur within the same region of influence. The Cumulative Effects section of the EA and the material incorporated by reference go into more detail regarding other past, present, and reasonably foreseeable future actions, but concludes that the impacts of Apache's proposed surveys in Cook Inlet are expected to be no more than minor and short-term with no potential to contribute to cumulatively significant impacts.

10) 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: We have determined that the issuance of Authorizations to Apache and Apache's proposed seismic surveys would not adversely affect entities listed in or eligible for listing in the National Register of Historic Places or cause loss or destruction of significant scientific, cultural, or historical resources. The proposed action is limited to the authorization to harass marine mammals consistent with the MMPA definition of "Level B harassment." As described above, there will not be significant social or economic impacts on the coastal inhabitants of Alaska or an unmitigable adverse impact on the subsistence uses of marine mammals by these residents.

11) Can the proposed action reasonably be expected to result in the introduction or spread of a non-indigenous species?

Response: The issuance of Authorizations to Apache or Apache's proposed seismic surveys are not expected to result in the introduction or spread of a non-indigenous species into the human environment, and Apache is responsible for ensuring that their vessel operations ships comply with all international and U.S. national ballast water requirements. For example, Apache may implement measures to mitigate the accidental introduction or spread of non-indigenous species (e.g., sterilization of materials placed in water bodies).

12) Is the proposed action likely to establish a precedent for future actions with significant effects or does it represent a decision in principle about a future consideration?

Response: Our proposed action of issuing Authorizations would not set a precedent for future actions with significant effects or represent a decision in principle. Each application for an MMPA

Authorization must contain information identified in our implementing regulations. We consider each application separately and, if we issue Authorizations to an applicant, we must determine that the impacts from the specified activity would result in a negligible impact to the affected species or stocks and would not have an unmitigable adverse impact on the availability of marine mammals for subsistence uses. Our issuance of Authorizations may inform the environmental review for future projects, but would not establish a precedent or represent a decision in principle about a future consideration.

13) Can the proposed action reasonably be expected to violate any Federal, State, or local law or requirements imposed for the protection of the environment?

Response: The issuance of Authorizations would not result in any violation of federal, state, or local laws for environmental protection. The applicant is required to obtain any additional federal, state and local permits necessary to carry out the proposed activities.

14) 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: The proposed action allows for the taking, by incidental harassment, of marine mammals during the proposed seismic surveys in Cook Inlet, Alaska. We have determined that marine mammals may exhibit behavioral changes such as avoidance of or changes in movement within the action area. We do not expect that the issuance of Authorizations will result in any significant cumulative adverse effects on target or non-target species incidentally taken by harassment due to elevated sound levels or human presence.

Cumulative effects refer to the impacts on the environment that result from a combination of past, existing, and reasonably foreseeable human activities and natural processes. Because of the relatively small area of potential ensonification and the temporary nature of the ensonification, along with the corresponding mitigation measures, the action would not result in synergistic or cumulative adverse effects that could have a substantial effect on any species.

The proposed seismic surveys do not target any marine species, and we do not expect it to result in any individual, long-term, or cumulative adverse effects on the species incidentally taken by harassment due to these seismic surveys. The potential temporary behavioral disturbance of marine species might result in short-term behavioral effects for these marine species within the disturbed areas, but we expect no long-term displacement of marine mammals as a result of the proposed action conducted under the requirements of the Authorizations. Thus, we do not expect any cumulative adverse effects on any species as a result of our action.

DETERMINATION

In view of the information presented in this document, Apache's application, and the analysis contained in the Final EA prepared by NMFS, it is hereby determined the issuance of a final rule and annual LOAs to Apache would not significantly affect the quality of the human. In addition, we have addressed all beneficial and adverse impacts of the action to reach the conclusion of no significant impacts. Accordingly, the preparation of an Environmental Impact Statement for this action is not necessary.


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MAY 26 2016

Date