

**FINDING OF NO SIGNIFICANT IMPACT
ISSUANCE OF AN INCIDENTAL HARASSMENT AUTHORIZATION
TO THE LAMONT-DOHERTY EARTH OBSERVATORY TO
TAKE MARINE MAMMALS BY HARASSMENT
INCIDENTAL TO MARINE GEOPHYSICAL
SURVEYS IN THE SOUTHWEST PACIFIC OCEAN, 2017/2018**

BACKGROUND

The National Oceanic Atmospheric Administration's (NOAA), National Marine Fisheries Service (NMFS) is proposing to issue an Incidental Harassment Authorization (IHA) to the Lamont-Doherty Earth Observatory of Columbia University (L-DEO) pursuant to section 101(a)(5)(D) 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 Code of Federal Regulations (CFR) Part 216). This IHA will be valid from October 27, 2017 through October 26, 2018, and authorizes takes, by Level A and Level B harassment, of marine mammals incidental to conducting marine geophysical surveys in the southwest Pacific Ocean during the austral summer of 2017 and the austral fall of 2018.

NMFS' proposed action is a direct outcome of L-DEO's request which involves two two-dimensional geophysical surveys and one three-dimensional geophysical survey on the R/V *Marcus Langseth* (*Langseth*), a vessel owned by the National Science Foundation (NSF) and operated by L-DEO. Acoustic stimuli associated with the marine geophysical surveys have the potential to cause small numbers of marine mammals in the vicinity of the project area to be injured (Level A harassment) or behaviorally disturbed (Level B harassment), and therefore, the survey activities warrant an authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. §§ 1631 *et seq.*). NMFS' criteria for an IHA requires that the taking of marine mammals authorized by an IHA will 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 IHA 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, and requirements pertaining to the monitoring and reporting of such takings.

The issuance of an IHA to L-DEO allows the taking of marine mammals, consistent with provisions under the MMPA, and is considered a major federal action under the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*). This Finding of No Significant Impact (FONSI) evaluates the significance of the impacts of the selected alternative – Alternative 1 (Preferred Alternative) – in the Final Environmental Assessment (EA) prepared by NMFS titled, “*Issuance of an Incidental Harassment Authorization to the Lamont-Doherty Earth Observatory (L-DEO) to Take Marine Mammals by Harassment Incidental to Marine Geophysical Surveys in the Southwest Pacific Ocean, 2017/2018*”. The preparation of the Final EA and this FONSI were completed in accordance with NEPA and the Council on Environmental Quality (CEQ) regulations in 40 CFR Parts 1500-1508. The EA addresses the potential environmental impacts of two alternatives to meet NMFS' purpose and need:

- Alternative 1 (Preferred Alternative): Issue an IHA to L-DEO for take, by harassment, of marine mammals during the marine geophysical surveys, taking into account the prescribed means of take, mitigation measures, and monitoring requirements.

- **Alternative 2 (No Action Alternative):** For NMFS, denial of an MMPA authorization constitutes the NMFS No Action Alternative, which is consistent with our statutory obligation under the MMPA to grant or deny permit applications and to prescribe mitigation, monitoring and reporting with any authorizations. Under NMFS' No Action Alternative, there are two potential outcome scenarios. One is that L-DEO's activities occur in the absence of an MMPA authorization. In that case, (1) L-DEO would be in violation of the MMPA if takes occur and (2) mitigation, monitoring and reporting would not be prescribed by NMFS. The second potential outcome is L-DEO would not proceed with their proposed activities.

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 on 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: We do not expect our proposed action of issuing an IHA for the take of marine mammals incidental to the conduct of marine geophysical survey activities would cause substantial damage to the ocean and coastal habitats and/or essential fish habitat because our IHA is limited to the take of marine mammals incidental to geophysical survey activities and does not authorize the activity itself, thus it is limited to activities that do not have an effect on ocean and coastal habitats or essential fish habitat. Similarly, the mitigation and monitoring measures required by the IHA for L-DEO's proposed activities are limited to actions that minimize take of marine mammals and improve monitoring of marine mammals, and do not alter any aspect of the activity itself.

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: We do not expect our proposed action of issuing an IHA for the take of marine mammals incidental to the conduct of geophysical survey activities to have a substantial impact on biodiversity or ecosystem function within the affected environment. Our proposed action of authorizing incidental harassment for L-DEO's geophysical surveys would be limited to temporary injury or behavioral responses (such as brief masking of natural sounds) in marine mammals and temporary changes in animal distribution. The proposed action is not anticipated to have any substantial or long-term impacts to individual animals, populations, or species or stocks of marine mammals or any ecosystem functions of any species.

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

Response: We do not expect our proposed action of issuing an IHA to have a substantial adverse impact on public health or safety, as the taking, by harassment, of marine mammals would pose no risk to humans.

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 determined that our issuance of an IHA would likely result in limited adverse effects to 38 species of marine mammals. The EA evaluates the affected environment and potential effects of our proposed action, indicating that L-DEO's geophysical surveys have the potential to affect marine mammals in a way that requires authorization under the MMPA. The activities and required mitigation measures would not affect physical habitat features, such as substrates and water quality.

We have determined that the proposed activities may result in some harassment (primarily in the form of short-term and localized changes in behavior and displacement) of small numbers, relative to the population sizes, of 38 species of marine mammals. The impacts of the marine geophysical surveys on marine mammals relate to acoustic impacts of L-DEO's proposed surveys, and we expect these to be temporary in nature and not result in a substantial impact to marine mammals or to their role in the ecosystem.

The proposed geophysical survey may have the potential to adversely affect the following marine mammal species listed as threatened or endangered under the Endangered Species Act (ESA; 16 U.S.C. 1531 *et seq.*): southern right whale, fin whale, sei whale, blue whale, sperm whale, South Island Hector's dolphin and Maui dolphin. A Biological Opinion issued on October 26, 2017 under section 7 of the ESA concluded that L-DEO's project was not likely to jeopardize the continued existence of any ESA-listed species and would not destroy or adversely modify critical habitat.

To reduce the potential for disturbance from the activities, L-DEO would implement several monitoring and mitigation measures for marine mammals, which are outlined in the EA. Taking these measures into consideration, we expect that the responses of marine mammals from the Preferred Alternative would primarily be in the form of temporary displacement from the area and/or short-term behavioral changes, as well as a limited amount of permanent threshold shift (PTS) in a small number of marine mammals, falling within the MMPA definition of "Level B harassment" and "Level A harassment." We do not anticipate that take by serious injury or mortality would occur, nor have we authorized take by serious injury or mortality. NMFS' predicted estimates for Level A harassment take for some species are likely overestimates of the injury that will occur, as NMFS expects that successful implementation of the required visual and acoustic mitigation measures would avoid Level A take in some instances. Also, NMFS expects that some individuals would avoid the source at levels expected to result in injury. We anticipate that any PTS incurred would be in the form of only a small degree of PTS, and not total deafness. Thus, we expect that impacts would be at the lowest level practicable due to the incorporation of the proposed mitigation measures.

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

Response: We expect that the primary impacts to the natural and physical environment would be temporary in nature and not interrelated with significant social or economic impacts. Issuance of an IHA would not result in inequitable distributions of environmental burdens or access to environmental goods as the action is confined to university personnel and contractors.

We have determined that issuance of the IHA would not adversely affect any low-income or minority population, as our action only affects marine mammals. Further, there would be no impact of the activity on the availability of the species or stocks of marine mammals for subsistence uses.

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

Response: The effects of issuing an IHA to L-DEO on the quality of the human environment are not likely to be highly controversial. Although there is some lack of agreement within the scientific and stakeholder communities about the potential effects of noise on marine mammals, there is not a substantial dispute about the size, nature, or effect of our proposed action. 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 not substantially different than past geophysical surveys, is not unusually large or substantial, and would include the same or similar mitigation and monitoring measures required in past surveys. Previous projects of this type required marine mammal monitoring reports, which we have reviewed to ensure that the authorized activities have a negligible impact on marine mammals.

To allow other agencies and the public the opportunity to review and comment on the action, NMFS published a notice of the Proposed IHA in the *Federal Register* on September 27, 2017 (82 FR 45116). In response to the notice of the Proposed IHA, NMFS received comments from the Marine Mammal Commission, the Marine Seismic Research Oversight Committee, and from the public, and we fully considered all comments in preparing the IHA and the Final EA. None of the comments indicated that the proposed activities or the effects of the activities on the quality of the human environment were likely to be highly controversial. We have determined, based on the best available scientific literature, the limited duration of the project, and the low-level effects to marine mammals, that the issuance of an IHA would have a negligible impact on the affected species or stocks of marine mammals.

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: The proposed action cannot 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 because none of these are found in the project area. Similarly, as described in the response to question 1 above, our IHA is limited to the take of marine mammals incidental to marine geophysical survey activities, and does not authorize the activity itself, thus it is limited to activities that do not have an effect on cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, essential fish

habitat, or ecologically critical areas. The natural processes in the environment are expected to fully recover from any impacts resulting from the activities.

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

Response: The potential risks associated with marine geophysical surveys are neither unique nor unknown nor is there significant uncertainty about impacts. We have issued authorizations for similar activities or activities with similar types of marine mammal harassment in the Atlantic, Pacific, and Southern Oceans, and the Mediterranean Sea, and conducted NEPA analyses on those projects. As discussed in the response to question 6 above, the scope of this action is not substantially different than past geophysical surveys, is not unusually large or substantial, and would include the same or similar mitigation and monitoring measures required in past surveys. Therefore, we expect any potential effects from the issuance of our IHA to be similar to prior activities which 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 and the documents it references analyzed the impacts of the issuance of an IHA for the take of marine mammals incidental to the conduct of marine geophysical 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 an IHA with prescribed mitigation and monitoring measures for the marine geophysical survey; (b) past, present, and reasonably foreseeable future marine geophysical surveys in the southwestern Pacific Ocean; and (c) climate change.

The proposed action of L-DEO conducting the marine geophysical surveys in the southwestern Pacific Ocean and our proposed action of issuing an IHA to L-DEO for the incidental take of a small number of marine mammals are interrelated. The surveys conducted pursuant to the requirements of the IHA that authorizes 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. NMFS has assessed L-DEO's proposed activities in relation to its possible cumulative impacts with climate change, coastal development, marine pollution, disease, and increased vessel traffic. When considering these, NMFS determined that L-DEO's activities would not increase the cumulative impacts.

We have issued incidental take authorizations for other marine geophysical surveys that may have resulted in the harassment of marine mammals, but these surveys are dispersed both geographically (throughout the world) 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 unaware of any other marine geophysical surveys scheduled to occur off the coast of New Zealand in the southwestern Pacific Ocean from October 2017 through March 2018. Also, we are unaware of any synergistic impacts to marine resources associated with reasonably foreseeable future actions that may be planned to occur within the same region. 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 L-DEO's proposed survey in the southwestern Pacific Ocean 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 our proposed action is not an undertaking with the potential to affect historic resources because our proposed action is limited to the issuance of an IHA to incidentally harass marine mammals. The issuance of an IHA is not expected to adversely affect districts, sites, highways, structures, or objects 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 either because such resources do not exist within the project area or are not expected to be adversely affected.

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

Response: Our proposed action does not have the potential to introduce or spread non-indigenous species because it does not encourage or require the R/V *Langseth* to conduct long-range vessel transit that would lead to the introduction or spread of non-indigenous species. The *Langseth* complies with all international and U.S. national ballast water requirements to prevent the spread of a non-indigenous species.

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: The issuance of this IHA to L-DEO is not expected to set a precedent for future actions with significant effects nor represent a decision in principle regarding future considerations. NMFS' actions under section 101(a)(5)(D) of the MMPA must be considered individually and be based on the best available information, which is continuously evolving. Issuance of an IHA to a specific individual or organization for a given activity does not guarantee or imply that NMFS will authorize others to conduct similar activities. Subsequent requests for incidental take authorizations would be evaluated upon their own merits relative to the criteria established in the MMPA and 50 CFR Part 216 on a case-by-case basis. The project has no unique aspects that would suggest it would be a precedent for any future actions.

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

Response: The issuance of an IHA would not violate any federal, state, or local laws for environmental protection. NMFS' compliance with environmental laws, regulations and Executive Orders (EOs) is based on NMFS' proposed action and the nature of the applicant's proposed activities. NMFS consulted under Section 7 of the ESA to determine if the issuance of this IHA would likely jeopardize the continued existence of listed species or result in an adverse

modification of critical habitat. The consultation concluded that issuance of an IHA would not jeopardize any listed species or destroy or adversely modify critical habitat. There are no other environmental laws, regulations, EOs, consultations, federal permits or licenses applicable to NMFS for issuance of this authorization to L-DEO. In addition, L-DEO fulfilled its responsibilities under the MMPA for this action and will be required to obtain any additional federal, state and local permits necessary to carry out the proposed activities.

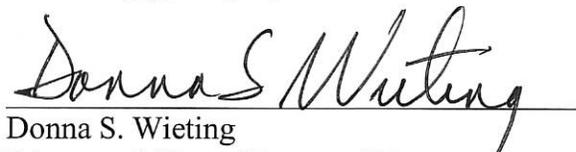
14) Can the proposed action reasonably be expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species?

Response: The proposed action would not result in any significant cumulative adverse effects on target or non-target species incidentally taken by harassment due to marine geophysical survey activities. We have determined that marine mammals may exhibit behavioral changes such as avoidance or changes in movement within the action area. However, we do not expect the authorized harassment to result in significant cumulative adverse effects on the affected species or stocks.

We have issued incidental take authorizations for other marine geophysical research surveys that may have resulted in the harassment of marine mammals, but they are dispersed both geographically (throughout the world) and temporally, are short-term in nature, and all use mitigation and monitoring measures to minimize impacts to marine mammals. Because of the relatively short time that the project area would be ensonified, the action would not result in synergistic, or cumulative adverse effects that could have a substantial effect on any species.

DETERMINATION

In view of the information presented in this document, L-DEO's application and the analysis contained in the Final EA prepared by NMFS, it is hereby determined the issuance of an IHA to L-DEO for the take, by harassment, of small numbers of marine mammals incidental to the conduct of marine geophysical surveys in accordance with Alternative 1 (Preferred Alternative) will not significantly impact the quality of the human environment. 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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OCT 27 2017

Date