FINDING OF NO SIGNIFICANT IMPACT FOR THE ISSUANCE OF AN INCIDENTAL HARASSMENT AUTHORIZATION TO LAMONT-DOHERTY EARTH OBSERVATORY TO TAKE MARINE MAMMALS INCIDENTAL TO CONDUCTING A MARINE GEOPHYSICAL SURVEY IN THE ATLANTIC OCEAN OFFSHORE NORTH CAROLINA, SEPTEMBER THROUGH OCTOBER, 2014

NATIONAL MARINE FISHERIES SERVICE

BACKGROUND

We (National Marine Fisheries Service, Office of Protected Resources, Permits and Conservation Division) propose to issue an Incidental Harassment Authorization (Authorization) to Lamont-Doherty Earth Observatory of Columbia University (Lamont-Doherty) under the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1631 *et seq.*) for the incidental taking of small numbers of marine mammals, incidental to the conduct of a marine geophysical (seismic) survey in federal waters in the northwest Atlantic Ocean, September through October, 2014.

Under the MMPA, NMFS, shall grant authorization for the incidental taking of small numbers of marine mammals if we find that the taking will have a negligible impact on the species or stock(s), and will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant). The Authorization must prescribe, where applicable, the permissible methods of taking; other means of effecting the least practicable impact on the species or stock and its habitat; and requirements pertaining to the mitigation, monitoring and reporting of such taking.

Our proposed action is a direct outcome of Lamont-Doherty requesting an authorization to take marine mammals, by harassment, incidental to conducting a marine seismic survey within the Atlantic Ocean. Lamont-Doherty's seismic survey activities, which have the potential to behaviorally disturb marine mammals, warrant an incidental take authorization from us under section 101(a)(5)(D) of the MMPA.

In accordance with the National Environmental Policy Act (NEPA; 42 U.S.C. 4321 *et seq.*), we completed an Environmental Assessment (EA) titled, *Issuance of an Incidental Harassment Authorization to Lamont-Doherty Earth Observatory to Take Marine Mammals by Harassment Incidental to a Marine Geophysical Survey in the Atlantic Ocean Offshore North Carolina, September through October, 2014*. We incorporate this EA in its entirety by reference.

We have prepared this Finding of No Significant Impact (FONSI) to evaluate the significance of the impacts of our selected alternative—Alternative 1 (Preferred Alternative) titled, "Issuance of an Authorization with Mitigation Measures," and our conclusions regarding the impacts related to our proposed action. Based on our review of Lamont-Doherty's proposed seismic survey and the measures contained within Alternative 1, we have determined that no significant direct, indirect, or cumulatively significant impacts to the human environment would occur from implementing the Preferred Alternative.

ANALYSIS

NAO 216-6 (May 20, 1999) contains criteria for determining the significance of the impacts of a proposed action. In addition, 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 the NAO 216-6 criteria and 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: Our action of issuing an Authorization for the take of marine mammals incidental to the conduct of a seismic survey is not expected to cause substantial damage to the ocean and coastal habitats and/or essential fish habitat. The mitigation and monitoring measures required by the Authorization would not affect ocean and coastal habitats or essential fish habitat.

   There are 72 marine species with EFH overlapping the proposed survey area. Effects on EFH by Lamont-Doherty's survey and issuance of the Authorization assessed here would be temporary and minor. The main effect would be short-term disturbance that might lead to temporary and localized relocation of the EFH species or their food. The actual physical and chemical properties of the EFH will not be impacted. Therefore, NMFS, Office of Protected Resources, Permits and Conservation Division has determined that the issuance of an Authorization for the taking of marine mammals incidental to Lamont-Doherty's seismic survey will not have an adverse impact on EFH, and an EFH consultation 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: We do not expect our action to have a substantial impact on biodiversity or ecosystem function within the affected environment. Our proposed action of authorizing Level B harassment for Lamont-Doherty's seismic survey would be limited to temporary behavioral responses (such as brief masking of natural sounds) and temporary changes in animal distribution. These effects would be short-term and localized.

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

   Response: The proposed survey activities would occur in the Atlantic Ocean, approximately 17 to 422 kilometers (km) (10 to 262 miles (mi)) off the coast of Cape Hatteras, NC between approximately 32-37° N and approximately 71.5-77° W and away from any populated area. We do not expect our action 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 Authorization would likely result in limited adverse effects to 30 species of marine mammals. The EA evaluates the affected environment and potential effects of our proposed action, indicating that Lamont-Doherty's seismic survey has the potential to affect marine mammals in a way that requires authorization under the MMPA. The activities and any 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 Level B harassment (in the form of short-term and localized changes in behavior and displacement) of small numbers, relative to the population sizes, of 30 species of marine mammals. The impacts of the seismic survey on marine mammals relate to acoustic activities, and we expect these to be temporary in nature and not result in substantial impact to marine mammals or to their role in the ecosystem.

The seismic surveys may have the potential to adversely affect the following species listed as threatened or endangered marine mammals under the Endangered Species Act of 1973 (ESA; 16 U.S.C. 1531 *et seq.*): blue, fin, humpback, North Atlantic right, sei, and sperm whales. A September 2014 Biological Opinion issued under the ESA concluded that Lamont-Doherty's project was not likely to jeopardize the continued existence of any listed species and would not affect critical habitat.

To reduce the potential for disturbance from the activities, Lamont-Doherty will 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 be limited to temporary displacement from the area and/or short-term behavioral changes, 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 have we authorized take by injury, serious injury, or mortality. We expect that harassment takes 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 Authorization 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 Authorization would not adversely affect low-income or a 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, as there are no such uses of marine mammals in the proposed action area. Therefore, we expect that no significant social or economic effects would result from our issuance of an Authorization or Lamont-Doherty's proposed seismic survey.

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

Response: 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 no different than past geophysical surveys, is not unusually large or substantial, and will include the same or similar mitigation and monitoring measures required in past surveys. Previous projects of this type required marine mammal monitoring and monitoring reports, which have been reviewed by us to ensure that activities have a negligible impact on marine mammals.

NMFS received comments from nine private citizens, 2 municipalities, 3 organizations, and the Marine Mammal Commission. Members of the public commented on their general opposition towards any type of seismic study within the Atlantic Ocean and Lamont-Doherty's action. We fully considered all of the public comments in preparing the proposed Authorization and the EA. Although some members of the public have raised concern over the effects of the survey, 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 our proposed Authorization would not result in significant impacts to the human environment.

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 issuance of an Authorization for the take of marine mammals incidental to the conduct of a seismic survey would not impact the survey area. There are no unique areas, such as historic or cultural resources, park land, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas that could potentially be affected by our proposed action. The impacts to EFH and habitat from Lamont-Doherty's action would likely have minor adverse effects but would be localized and short-term in nature. (See responses to questions 1 and 2.)

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 research seismic 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 conducted NEPA analysis on those projects. In no case have impacts to marine mammals from these past activities, as determined from monitoring reports, exceeded our analysis under the MMPA and NEPA. Therefore, we expect any potential effects from the issuance of our Authorization 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 issuance of an Authorization for the take of marine mammals incidental to the conduct of a seismic survey the impacts of the seismic survey 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 Authorization with prescribed mitigation and monitoring measures for the seismic survey; (b) past, present, and reasonably foreseeable future seismic surveys in the Atlantic Ocean offshore North Carolina; (c) military activities; (d) unusual mortality event for bottlenose dolphins; (e) future oil and gas exploration; and (f) climate change.

The proposed action of Lamont-Doherty conducting the survey in the Atlantic Ocean and our proposed action of issuing an Authorization to Lamont-Doherty for the incidental take (Level B behavioral harassment) of a small number of marine mammals are interrelated. The survey conducted under the requirements of an Authorization authorizing Level B harassment of marine mammals is not expected to result in cumulatively significant impacts when considered in relation to other separate actions with individually insignificant effects.

We have issued incidental take authorizations for other research surveys that may have resulted in the harassment of marine mammals, but these research seismic 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 aware of one other research seismic survey in the Atlantic Ocean scheduled for offshore North Carolina. On August 21, 2014, we issued an Authorization for the USGS survey for the take of marine mammals, by Level B harassment, incidental to conducting a seismic survey in the Atlantic Ocean off the eastern seaboard, August to September, 2014 and April to August, 2015. The USGS prepared a separate EA for their action and issued a FONSI. NMFS adopted the EA on August 21, 2014 and determined that the issuance of the Authorization was not likely to result in significant impacts on the human environment and prepared a FONSI.

Both USGS surveys, which span the course of two years, are dispersed both geographically and temporally, and are short-term in nature. All of the Authorization holders would be required to use mitigation and monitoring measures to minimize impacts to marine mammals and other living marine resources in the activity area. 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 Lamont-Doherty's proposed survey in the Atlantic 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 the proposed action is not an undertaking with the potential to affect historic resources. The issuance of an Authorization for the take of marine mammals incidental to the conduct of a seismic survey would not 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.

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 *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: Our action of issuing an Authorization for the take of marine mammals incidental to the conduct of a seismic survey would not set a precedent for future actions with significant effects or represent a decision in principle. Each MMPA authorization applied for under section 101(a)(5) must contain information identified in our implementing regulations. We consider each activity specified in an application separately and, if we issue an Authorization, we must determine that the impacts from the specified activity would result in a negligible impact to the affected species or stocks. Our issuance of an Authorization 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 threaten a violation of any Federal, State, or local law or requirements imposed for the protection of the environment?

Response: The issuance of an Authorization 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 would not result in any significant cumulative adverse effects on target or non-target species incidentally taken by harassment due to seismic survey activities.

We have determined that marine mammals may exhibit behavioral changes such as avoidance of 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 seismic research surveys (to Lamont-Doherty and other agencies) 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 will be ensonified (not more than 33 days), the action will 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 and the analysis contained in the supporting EA titled *Issuance of an Incidental Harassment Authorization to Lamont-Doherty Earth Observatory to Take Marine Mammals by Harassment Incidental to a Marine Geophysical Survey in the Atlantic Ocean Offshore North Carolina, September through October, 2014,* and documents that it references, we have determined that issuance of an Incidental Harassment Authorization to Lamont-Doherty in accordance with Alternative 1 the EA would not significantly impact the quality of the human environment, as described in this FONSI and in the EA.

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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Date