

**FINDING OF NO SIGNIFICANT IMPACT
ISSUANCE OF AN INCIDENTAL HARASSMENT AUTHORIZATION
TO THE UNITED STATES GEOLOGICAL SURVEY TO
TAKE MARINE MAMMALS BY HARASSMENT
INCIDENTAL TO A MARINE GEOPHYSICAL SURVEY IN
THE NORTHWEST ATLANTIC OCEAN, AUGUST 2018**

I. INTRODUCTION AND BACKGROUND

The National Marine Fisheries Service (NMFS) received an application requesting incidental take of marine mammals from the United States Geological Survey (USGS) in connection with their proposal to conduct a marine geophysical survey in the northwestern Atlantic Ocean. NMFS is required to review applications and, if appropriate, issue Incidental Take Authorizations (ITAs) pursuant to the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1361 et seq.). In addition, the National Environmental Policy Act (NEPA), 40 Code of Federal Regulations (CFR) Parts 1500 -1508 (Council on Environmental Quality Regulations (CEQ)), and National Oceanic and Atmospheric Administration (NOAA) policy and procedures¹ require all proposals for major federal actions be reviewed with respect to environmental consequences on the human environment. The purpose of this document is to present the evaluation that issuance of an Incidental Harassment Authorization (IHA) to USGS will not significantly impact the quality of the human environment.

The National Marine Fisheries Service (NMFS) is proposing to issue an IHA to USGS pursuant to section 101(a)(5)(D) of the MMPA 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 August 1, 2018 through July 31, 2019, and authorizes takes, by Level B harassment, of marine mammals incidental to conducting a marine geophysical survey in the northwestern Atlantic Ocean during August 2018. NMFS's proposed action is a direct outcome of USGS's request, which involves a marine geophysical survey on the R/V *Hugh R. Sharp* (*Sharp*), a vessel owned and operated by the University of Delaware. Acoustic stimuli associated with the marine geophysical survey has the potential to cause marine mammals in the vicinity of the project area to be behaviorally disturbed, 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's 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.

NMFS's issuance of this IHA to USGS allowing the taking of marine mammals, consistent with provisions under the MMPA and incidental to this applicant's lawful activities, is considered a major federal action under NEPA. Therefore, NMFS determined preparing an Environmental

¹ NOAA Administrative Order (NAO) 216-6A "Compliance with the National Environmental Policy Act, Executive Orders 12114, Environmental Effects Abroad of Major Federal Actions; 11988 and 13690, Floodplain Management; and 11990, Protection of Wetlands" issued April 22, 2016 and the Companion Manual for NAO 216-6A "Policy and Procedures for Implementing the National Environmental Policy Act and Related Authorities" issued January 13, 2017

Assessment (EA) was appropriate for the issuance of this IHA to USGS. The EA titled, “*Issuance of an Incidental Harassment Authorization to the United States Geological Service to Take Marine Mammals by Harassment Incidental to a Marine Geophysical Survey in the Northwest Atlantic Ocean*” addresses the potential environmental impacts of two alternatives to meet NMFS’s purpose and need:

- Alternative 1 (Preferred Alternative): Issue an IHA to USGS for take, by harassment, of marine mammals during the marine geophysical survey, 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 the No Action Alternative, NMFS would not issue the IHA and NMFS assumes USGS would not conduct their planned marine geophysical survey. The No Action Alternative served as a baseline in the EA against which the impacts of the Preferred Alternative were compared and contrasted.

This Finding of No Significant Impact (FONSI) evaluates the context and intensity of the impacts of the selected alternative—Alternative 1 (Preferred Alternative)—in NMFS’s Final EA. Information in the EA specific to descriptions in the “Analysis Summary” below is incorporated by reference per 40 CFR 1502.21. The EA and this FONSI were prepared in accordance with CFR Parts 1500-1508 and NOAA policy and procedures.

II. ANALYSIS SUMMARY

The CEQ Regulations state that the significance of an action should be analyzed in terms of both “context” and “intensity” and lists ten criteria for intensity. The Companion Manual for NOAA Administrative Order 216-6A requires consideration of CEQ’s context and intensity criteria (40 CFR 1508.27(a) and 40 CFR 1508.27(b)) along with six additional factors for determining whether the impacts of a proposed action are significant. Each criterion is discussed below with respect to NMFS’s proposed action and is considered individually as well as in combination with the others.

1. Can the proposed action reasonably be expected to cause both beneficial and adverse impacts that overall may result in a significant effect, even if the effect will be beneficial?

NMFS’s proposed action is not expected to cause either beneficial or adverse impacts resulting in any significant effects. NMFS is proposing to authorize take incidental to a geophysical survey for marine mammal species expected to occur in the survey area. Therefore, impacts from NMFS’s proposed action are expected to be predominantly to marine mammals, which, if affected, would be through the introduction of sound into the marine environment during the geophysical survey. Airguns emit low-frequency noise into the water column, which has the potential to behaviorally disturb marine mammals. In addition, noise can mask the detection or interpretation of important sounds. Given their reliance on sound for basic biological functioning (e.g., foraging, mating), marine mammals are the species most vulnerable to increased noise in the marine environment, although marine mammal prey (e.g., fish and squid) may be impacted in some of the same ways. However, NMFS expects its action to have only intermittent, localized impacts on marine mammals and their habitat due to the small size of the airgun array and the short duration (less than a month)

of the survey. While NMFS predicts behavioral harassment to individual marine mammals, it does not anticipate population-level effects that would rise to the level of significance. Effects to marine mammal populations from the USGS's activities are expected to be negligible.

2. Can the proposed action reasonably be expected to significantly affect public health or safety?

The issuance of this IHA to USGS to authorize take of marine mammals is not likely to have the potential for this kind of effect because the proposed marine geophysical survey will take place offshore in a broad area (i.e., not within approximately 65 km of the coastline) and is unlikely to overlap with activities conducted by the public. NMFS only authorizes the take of marine mammal species associated with this survey, which does not involve the public or expose the public directly (e.g., chemicals, diseases) or indirectly (e.g., food sources) to hazardous or toxic materials in a way that would be linked to the quality of the environment and well-being of humans.

3. Can the proposed action reasonably be expected to result in significant impacts to unique characteristics of the geographic area, such as proximity to historic or cultural resources, parklands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

NMFS issuance of an IHA to USGS cannot reasonably be expected to result in substantial impacts to unique areas, such as parklands, prime farmlands, wetlands, or wild and scenic rivers, because none of these are found in the location that USGS is proposing to conduct the marine geophysical survey. Authorizing the harassment of marine mammals through this IHA has no foreseeable impact on historical or cultural resources. To the extent, the harassment authorized under the IHA impacts ecologically critical areas, these impacts are not substantial. NMFS only anticipates marine mammals might be displaced temporarily and will not permanently vacate any areas, due to the harassment authorized in this IHA. We expect natural processes and the environment to recover from any such displacement.

4. Are the proposed action's effects on the quality of the human environment likely to be highly controversial?

The effects of issuing an IHA to USGS 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 no 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 and 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 May 31, 2018 (83 FR 25268). In response to the notice of the Proposed IHA, NMFS received comments from the Marine Mammal Commission, and we fully considered all comments in preparing the IHA and the EA. 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.

5. Are the proposed action's effects on the human environment likely to be highly uncertain or involve unique or unknown risks?

The potential risks associated with marine geophysical surveys are neither unique nor unknown nor is there significant uncertainty about the impacts to marine mammals from USGS's proposed marine geophysical survey. NMFS has 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 activities. Therefore, we expect any potential effects from the issuance of this IHA to be similar to prior, similar activities that are not likely to be highly uncertain or involve unique or unknown risks.

6. Can the proposed action reasonably be expected to establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration?

The issuance of this IHA to USGS is not expected to set a precedent for future actions with significant effects nor represent a decision in principle regarding future considerations. The issuance of an IHA to take marine mammals incidental to the proposed activities is a routine process under the MMPA. To ensure compliance with statutory and regulatory standards, NMFS's 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, ESA, and NMFS implementing regulations on a case-by-case basis. The project has no unique aspects that would suggest it would be a precedent for any future actions. For these reasons, the issuance of an IHA to USGS to conduct a marine geophysical survey would not be precedent setting.

7. Is the proposed action related to other actions that when considered together will have individually insignificant but cumulatively significant impacts?

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 a marine geophysical 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 IHA with prescribed mitigation and monitoring measures for the marine geophysical survey; (b) past, present, and reasonably foreseeable future marine geophysical surveys in the northwest Atlantic Ocean; and (c) climate change.

The proposed action of USGS conducting a marine geophysical survey over the northwest Atlantic Ocean and our action of issuing an IHA to USGS for the incidental take of a small number of marine mammals are interrelated. The survey conducted pursuant to the requirements of an IHA that authorizes 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 marine geophysical surveys that may have resulted in the harassment of marine mammals, but this survey is short-term in nature, covers a small geographic area and uses 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 in the northwest Atlantic in August 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 USGS's proposed survey in the northwest Atlantic Ocean are expected to be no more than minor and short-term with no potential to contribute to cumulatively significant impacts.

8. Can the proposed action reasonably be expected 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?

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.

9. Can the proposed action reasonably be expected to have a significant impact on endangered or threatened species, or their critical habitat as defined under the Endangered Species Act of 1973?

The issuance of this IHA to USGS is not expected to have a significant impact on endangered or threatened species or critical habitat under the ESA. Based on the results of the ESA section 7 consultation along with mitigation measures designed to avoid or minimize impacts to ESA-listed species and critical habitat (summarized below), NMFS expects that any impacts to ESA-listed marine mammals, as well as their critical habitat, will be short-term and limited to harassment.

There are three marine mammal species under NMFS's jurisdiction listed as endangered under the ESA with confirmed or possible occurrence in the proposed project area including the fin whale, sei whale, and sperm whale. We determined that harassment and other acoustic impacts are expected to be solely an outcome of acoustic exposure from airguns used during the marine geophysical survey, and will be temporary in nature. To reduce potential exposure, NMFS is requiring multiple monitoring and mitigation measures for marine mammals. These are described in detail in the Final EA and the proposed IHA but in summary, includes:

- Establishment of an exclusion zone (100 m) within which marine mammals could be exposed to received sound levels associated with injury;
- Implementation of airgun shutdown procedures during the activity when marine mammals are detected within or about to enter the exclusion zone, to reduce the noise exposure level to below that which could cause injury to marine mammals; and

- Implementation of airgun ramp-up procedures when the array is started, to provide marine mammals with a warning and to allow marine mammals to vacate the area.

NMFS's OPR Permits and Conservation Division requested an Endangered Species Act (ESA) Section 7 consultation on the proposed action with NMFS's ESA Interagency Cooperation Division on the proposed issuance of the IHA to USGS, pursuant to Section 7 of the ESA, on May 3, 2018. The ESA Interagency Cooperation Division found that NMFS's issuance of this IHA to USGS will not jeopardize the continued existence of endangered or threatened species and would not affect critical habitat, and issued a BiOp providing conclusions specific to NMFS's actions associated with USGS's proposed marine geophysical survey.

10. Can the proposed action reasonably be expected to threaten a violation of Federal, state, or local law or requirements imposed for environmental protection?

The issuance of this IHA to USGS would not violate any federal, state, or local laws for environmental protection. NMFS compliance with environmental laws and regulations is based on NMFS's action and the nature of the applicant's activities. NMFS complied with the MMPA's requirements in issuing this IHA. NMFS also 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 adversely modify critical habitat.

11. Can the proposed action reasonably be expected to adversely affect stocks of marine mammals as defined in the Marine Mammal Protection Act?

USGS's proposed geophysical survey activity has the potential to take marine mammals by Level B harassment, as defined by the MMPA. However, while take of marine mammals is expected, we do not expect adverse impacts at the population level, including stocks of marine mammals. Importantly, effects on individuals or groups of animals does not necessarily translate into an adverse effect to a stock or species, unless such effects result in reduced fitness for those individuals and, ultimately, accrue to the point that there is reduced reproduction or survival leading to effects on annual rates of recruitment or survival for the species. Adverse effects on stocks could potentially result from direct mortality or serious injury or from harassment impacting critical biological functioning and behaviors, such as feeding, mating, calving, or communicating, in a manner that reduces reproductive fitness or survivorship in enough individuals to negatively affect population rates. The loss or serious injury of an individual, or significant reductions in health or reproductive rates, could trigger population impacts if birth rates or emigration do not offset the loss of individuals. For this proposed activity, impacts to marine mammals would occur through noise exposure from use of airguns and associated increases in ambient noise. Prolonged or repeat exposure could lead to physiological effects or behavioral disruption, though the magnitude of impact depends on multiple factors, including biological (e.g., age, sex) and behavioral state (e.g., diving, directionality of the individual at the time of exposure) of the marine mammal(s), as well as characteristics of the sound source and physical environment (e.g., bottom type, weather). However, due to the required mitigation and monitoring, short-term duration, and small array of the survey, NMFS does not anticipate the activity having adverse effects on marine mammal species or stocks.

12. Can the proposed action reasonably be expected to adversely affect managed fish species?

NMFS expects issuing this IHA to USGS for the take of marine mammals incidental to conducting a marine geophysical survey to cause short-term minor impacts to some managed fish species. No gear type associated with the survey is anticipated to physically impact important habitat for managed fish species. Individual fish may be directly impacted by noise from use of airguns, but such impacts are expected to be limited to temporary displacement. In addition, marine mammals have not been identified as a main prey component of managed fish species in this area, so authorizing the incidental take of marine mammals will not reduce the quantity and/or quality of EFH (see related response to question 13 below) and for more details, see Chapter 4 in the Final EA.

13. Can the proposed action reasonably be expected to adversely affect essential fish habitat as defined under the Magnuson-Stevens Fishery Conservation and Management Act?

We do not expect issuing this IHA to USGS for the take of marine mammals incidental to a marine geophysical survey to cause adverse effects to EFH. Effects of NMFS's action—the issuance of this IHA—are limited to impacts to marine mammals and their habitat. The proposed marine geophysical survey may result in temporarily elevated noise levels within the survey area but this is short in duration and intermittent within the survey area. Therefore, authorizing the take of marine mammals is unlikely to affect water quality or substrate necessary to provide spawning, feeding, breeding or growth to maturity functions for managed fish. In accordance with 2017 guidance issued by NMFS's Office of Habitat Conservation concerning incidental take authorizations and EFH, we determined the issuance of this IHA will not result in adverse impacts to EFH and, further, that it will not require separate consultation per Section 305(B)(2) of the MSA as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267).

14. Can the proposed action reasonably be expected to adversely affect vulnerable marine or coastal ecosystems, including but not limited to, deep coral ecosystems?

We do not expect authorizing USGS to take, by harassment, marine mammals during a marine geophysical survey to cause substantial damage to the marine and coastal ecosystems. NMFS is not authorizing or conducting geophysical survey activities. NMFS is authorizing the take, by Level B harassment only, of small numbers of marine mammals and prescribing mitigation and monitoring associated with any such takes. This authorization may result in the temporary disturbance of marine mammals, which will not cause substantial damage to ocean or coastal habitats or essential fish habitat. Similarly, the mitigation and monitoring measures required by the IHA for USGS's proposed activities are limited to actions that minimize take of marine mammals and improve monitoring of marine mammals. Such actions do not cause substantial damage to marine and coastal ecosystems.

15. Can the proposed action reasonably be expected to adversely affect biodiversity or ecosystem functioning (e.g., benthic productivity, predator-prey relationships, etc.)?

We do not expect issuing an IHA for USGS's marine geophysical survey to have a substantial impact on biodiversity or ecosystem function within the affected environment. Any harassment authorized by the IHA would be limited to temporary behavioral responses (such as brief masking of natural sounds) in marine mammals and temporary changes in animal distribution. These effects would be short-term and localized and will not have a substantial impact on biodiversity or ecosystem function. Current research indicates that some fish species and other marine mammal

prey (e.g., squid, zooplankton) can be affected by ocean noise, though the degree of impact depends on many environmental and biological conditions. Any potential impacts to fish is expected to be temporary and localized, and result in short-term displacement, at most.

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

NMFS issuance of an IHA to USGS does not have the potential to introduce or spread non-indigenous species because it does not encourage or require the R/V *Sharp* to conduct long-range vessel transit that would lead to the introduction or spread of non-indigenous species. The R/V *Sharp* complies with all international and U.S. national ballast water requirements to prevent the spread of a non-indigenous species.

III. DETERMINATION

Based on the information presented herein and the analysis in the Final EA, it is hereby determined the issuance of an IHA to USGS for take, by harassment, of small numbers of marine mammals incidental to the conduct of a marine geophysical survey in accordance with Alternative 1 (Preferred Alternative) will not significantly impact the quality of the human environment. USGS's application and NMFS proposed and final IHA Federal Register notices and Biological Opinion further support this determination. 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.

Donna S. Wieting
Director, Office of Protected Resources,
National Marine Fisheries Service

Date