

FINDING OF NO SIGNIFICANT IMPACT FOR THE ISSUANCE OF AN INCIDENTAL HARASSMENT AUTHORIZATION TO THE U.S. NAVY TO TAKE MARINE MAMMALS BY HARASSMENT INCIDENTAL TO ICE EXERCISES IN THE ARCTIC OCEAN AND ADOPTION OF THE NAVY'S FINAL SUPPLEMENTAL OVERSEAS ENVIRONMENTAL ASSESSMENT

I. INTRODUCTION

The National Marine Fisheries Service (NMFS) received an application requesting incidental take of marine mammals from the United State Department of the Navy (Navy) in connection with submarine training and testing activities analyzed in their 2018 Environmental Assessment/Overseas Environmental Assessment (EA/OEA) and 2020 Supplemental Overseas Environmental Assessment (Supplemental OEA) for Ice Exercises. 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, 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 address NMFS's determination to adopt the Navy's Final Supplemental OEA to support the analysis associated with our consideration to issue an Incidental Harassment Authorization (IHA) and the evaluation that issuance of this IHA will not significantly impact the quality of the human environment.

NMFS proposes to issue an IHA to the Navy pursuant to Section 101(a)(5)(D) of the MMPA and 50 Code of Federal Regulations (CFR) Part 216.² This IHA will be valid from 2/1/2020 through 1/31/2021 and authorizes takes, by Level B harassment, of marine mammals incidental to submarine training and testing activities in the Beaufort Sea and Arctic Ocean. NMFS proposed action is a direct outcome of the Navy's request for an IHA, which involves submarine active acoustic transmissions. Use of active sonar sources has the potential to cause marine mammal harassment in the form of behavioral disturbance and temporary hearing impairment and therefore, qualifies for an authorization from NMFS. An authorization for incidental takings shall be granted if NMFS finds that the taking 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 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 allowing the taking of marine mammals, consistent with provisions under the MMPA and incidental to an applicant's lawful activities, is considered a major federal action. Therefore, NMFS conducted an environmental review of the Navy's application and Final Supplemental EA/OEA and determined adopting this EA and preparing a Finding of No Significant

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

Impact (FONSI) is appropriate for NMFS's IHA to the Navy. This FONSI evaluates the context and intensity of the impacts on marine mammals associated with NMFS's consideration to issue this IHA to the Navy and documents NMFS's determination to adopt the Navy's Final Supplemental OEA pursuant to 40 CFR 1506.3.

II. BACKGROUND

Ice Exercises (ICEXs) are typically conducted every two to three years in the waters north of Alaska. ICEXs are conducted to allow for the continued training of submarine forces in the Arctic and to refine and validate procedures and required equipment. In addition to Navy submarine training and testing, military and academic institutions coordinate and collaborate with the Navy during each ICEX to further their research objectives of better understanding the Arctic environment, and the suitability and survivability of particular technologies in the environment. The primary purpose of the Navy's Proposed Action is to evaluate the employment and tactics of submarine operability in Arctic conditions; this overall purpose has not changed since it was fully analyzed in the 2018 ICEX EA/OEA. Secondarily, the Navy's Proposed Action would also test emerging technologies and assess capabilities in the Arctic and gather data on Arctic environmental conditions. The 2020 ICEX (ICEX20) would be conducted in a manner similar to the activities analyzed in the 2018 ICEX EA/OEA. The difference is ICEX20 includes no torpedo training exercises and there would be additional research activities.

NMFS previously issued an IHA to the Navy for the 2018 ICEX activities (ICEX18), effective from February 1, 2018 through May 1, 2018 (83 FR 6522; February 14, 2018). NMFS has also previously issued two IHAs to the Office of Naval Research (ONR) for harassment of marine mammals incidental oceanographic experiments as part of ONR's Arctic Research Activities (83 FR 48799, September 27, 2018; 84 FR 50007, September 24, 2019).

III. PROPOSED ACTION AND ALTERNATIVES SUMMARY

A. Navy Proposed Action

The Navy is proposing to conduct submarine training and testing activities, which includes the establishment of a tracking range and temporary ice camp, and if resources are available, conduct research in an Arctic environment. The purpose of the Proposed Action is to evaluate the employment and tactics of submarine operability in Arctic conditions. The Proposed Action would also evaluate emerging technologies and assess capabilities in the Arctic environment, and gather data on Arctic environmental conditions. The vast majority of submarine training and testing would occur near the ice camp, however, some submarine training and testing may occur throughout the deep Arctic Ocean basin near the North Pole, within the Study Area (shown in Figure 2-1 in the Navy's Supplemental EA/OEA). Though the Study Area is large, the area where the proposed ice camp would be located is a much smaller area. However, the Proposed Action would occur with an expanded ice camp proposed action area when compared to that defined in the 2018 ICEX EA/OEA. Though the configuration of equipment and/or the types of equipment may differ between the 2018 ICEX EA/OEA and this Supplemental EA/OEA, the general activities will remain the same. The Proposed Action for this Supplemental EA/OEA differs from the 2018 action in that (1) no torpedo exercises would occur; and (2) eastward expansion of the ice camp Study Area.

The Proposed Action, as well as the construction and demobilization of the ice camp, would occur over approximately six-week period from February through April (considered winter through early spring). The submarine training and testing and the research activities would occur over approximately four weeks during the six-week period. Graywater and reverse osmosis reject water discharges would occur over five and four weeks, respectively. Neither graywater nor reverse osmosis reject water would be discharged during the construction of the ice camp. Additionally, the reverse osmosis unit is expected to be the primary means of generating freshwater. The camp should be fully functional within five days after initial flights to drop-off equipment have been made.

For the purposes of the Supplemental EA/OEA, the ice camp would operate in the same manner as was described in the 2018 ICEX EA/OEA. The ice camp would consist of a command hut, dining tent, sleeping quarters, tents to house temporary visitors, an outhouse, a powerhouse, runway, and helipad. The number of structures/tents ranges from 10 to 20, and are typically 2 to 6 meters (m) by 6 to 10 m in size. Some tents may be octagon shaped that are approximately 6 m in diameter. Berthing tents would contain bunk beds, a heating unit, and a circulation fan. The completed ice camp, including runway, is approximately 1.6 kilometers (km) in diameter. Support equipment for the ice camp includes snowmobiles, gas powered augers and saws (for boring holes through the ice), and diesel generators.

All ice camp materials, fuel, and food would be transported from Prudhoe Bay, Alaska, and delivered by air-drop from military transport aircraft (e.g., C-17 and C-130), or by landing at the ice camp runway (e.g., small twin-engine aircraft and military and commercial helicopters). Aircraft would be used to transport personnel and equipment from the ice camp to Prudhoe Bay; up to nine round trips could occur daily during ice camp build-up and demobilization. During ice camp operations, one to three round trips per day would occur. At the completion of ICEX, the ice camp would be demobilized, and all personnel and materials would be removed from the ice floe. All shelters, solid waste, hazardous waste, and sanitary waste would be removed from the ice upon completion of ICEX and disposed of in accordance with applicable laws and regulations.

A portable tracking range for submarine training and testing would be installed in the vicinity of the ice camp; ten hydrophones, located on the ice and extending to 100 m below the ice, would be deployed. The hydrophones would be deployed by drilling/melting holes in the ice and lowering the cable down into the water column. Hydrophones would be linked remotely to the command hut. Acoustic communications with the submarines would be used to coordinate the training and research schedule with the submarines; an underwater telephone would be used as a backup to the acoustic communications. Recovery of the hydrophones is planned, however if emergency demobilization is required or the hydrophones are frozen in place and are unrecoverable, they would be left in place.

Freshwater would be primarily generated at the camp via reverse osmosis, secondary freshwater collection would be via ice mining which entails collecting and melting of multi-year ice. Freshwater would only be made available in the camp's dining facility. This water would be available for limited food preparation, dishwashing, and human consumption. Additionally, a hygiene station would be available at the ice camp for hand washing. The hygiene station would be located in the dining facility and consist of a gravity fed container which would provide water for hand sanitizing and/or face washing if needed. The hygiene station would utilize the same drain as the kitchen sink for grey water discharge. No shower facilities would be available at the camp.

Dishwashing and a hygiene station would use biodegradable, chlorine-, and phosphate-free detergent that meets the Environmental Protection Agency's Safer Choice standards (U.S. Environmental Protection Agency 2015). Prior to use, dishwashing water would be heated using an on-demand propane water heater. Wastewater generated during food preparation and dishwashing would be discharged to the Beaufort Sea via a single drain in the camp's dining facility. The drain would consist of a corrugated pipe, wrapped in electric heat tape to prevent the pipe from freezing, which would be placed through a hole drilled/melted into the ice. The drain would utilize a removable metal screen to capture solid debris (i.e., food particles) in the wastewater prior to discharge. The metal screen would have a mesh size of no greater than 0.16 centimeters (cm). Solids captured in the screen would be disposed of via the camp's solid waste containers and brought back to Prudhoe Bay, Alaska, for disposal. A tray ration heater would be used for the majority of food preparation. The tray ration heater utilizes approximately 20 gallons of heated potable water per meal to heat trays of individual rations. The water used for warming rations will be reused since the food would never come in direct contact. The use of the tray ration heater would largely eliminate the need to wash utensils and food preparation serving dishes, since the ration packaging and utensils will be disposed of in the ice camp's solid waste containers. The camp would have an average discharge rate of 100 gallons per day, with a maximum discharge rate of 195 gallons per day during the two weeks of peak camp operations. The estimated total discharge from the ice camp's dining facility is 2,925 gallons.

Most freshwater for drinking and cooking would be produced by reverse osmosis through desalination. However, the camp may also utilize mining and melting of multi-year ice. The operation of a reverse osmosis system results in "reject water," or water that is of higher salinity (approximately three times the salinity) than the initial seawater input. This reject water would also be discharged at the camp via a single drain (corrugated pipe placed through a hole in the ice) co-located with the portable system. The average reject water production is expected to be 144 gallons per day. This amount is based on the unit not being operated continuously due to downtime associated with system maintenance and adjustments for flow rate. The maximum reject water production would be approximately 288 gallons per day. The extreme conditions of the ice camp would influence both the system's efficiency and ability to operate, which is why the output from the system would be variable. Assuming continuous operation (24 hours per day) for the 4 weeks of camp operations (excluding a week each for construction and demobilization), a maximum total discharge of reject water from the ice camp would be 8,064 gallons.

Sanitary/human waste generated at the camp would be collected in zero-discharge sanitary facilities (e.g., barrels lined with a plastic bag), which would then be containerized and flown back to Prudhoe Bay, Alaska, for disposal at appropriate facilities.

In addition to the main ice camp, two smaller, adjacent berthing areas are proposed for ICEX. These areas (used for expeditionary forces) would leverage the facilities provided by the main camp (e.g., sanitary facilities) while verifying these groups could function independently if necessary. All materials from these adjacent areas would be removed from the ice upon completion of the activities.

During the Proposed Action, flights to and from Prudhoe Bay would utilize the public airport in Deadhorse, Alaska. Up to nine round trips could occur daily during camp mobilization and demobilization. Regular round trips to the camp would average approximately one to three per day,

in addition to the regular traffic occurring at the airport. All flights would leave from Deadhorse Airport and fly directly to the ice camp. The approximate flight and transit corridor is shown in Figure 2-1. The flight corridor is approximately 25 miles wide and would be the most direct route to the camp.

An average of 6 to 12 personnel would stay at the local lodging facilities during the duration of the ICEX. Since the personnel would be staying in commercial lodging facilities, they would easily be absorbed into the communities' infrastructure and would not require any additional resources. The community is set up for transient type communities and handling influxes of groups such as oil and gas employees. The additional personnel would not impact any other resources because of the minimal amount of time spent in the area and the concentration of people moving from lodging to the ice camp.

Submarine activities associated with ICEX are classified, but generally entail safety maneuvers, and active sonar use. These maneuvers and sonar use are similar to submarine activities conducted in other undersea environments; they are being conducted in the Arctic to test their performance in a cold environment. Classified descriptions of submarine training and testing activities planned for ICEX can be provided to authorized individuals upon request.

Personnel and equipment proficiency testing and multiple research and development activities would be conducted (Table 2-1). Each type of activity scheduled for ICEX has been reviewed and placed into one of seven general categories of actions (Table 2-1); these categories of actions are analyzed herein. Due to the uncertainty of extreme cold, some activities may not be able to be conducted. Therefore, Table 2-1 is a potential list of activities, which may occur at the ice camp. All researcher personnel traveling to the ice camp would be berthed at the established ice camp facilities.

Typical platforms used for ice camp logistics and those necessary to support proposed research activities include on-ice vehicles (e.g., snowmobiles), aircraft, unmanned vehicles (both aerial and underwater), and passive devices. Although details on some specific systems are provided as examples, the general categories of platforms are analyzed for their potential effect to the environment. No additional platforms have been proposed that have not been previously analyzed in the ICEX EA/OEA; therefore, platform descriptions (i.e., on-ice vehicles, aircraft, unmanned devices, and passive scientific devices) can be found in the ICEX EA/OEA.

B. NMFS's Proposed Action

Sections 101(a)(5)(A) and (D) of the MMPA give NMFS the authority to authorize the incidental but not intentional take of small numbers of marine mammals by harassment, provided certain determinations are made and statutory and regulatory procedures are met. To authorize the incidental take of marine mammals, NMFS evaluates the best available scientific information to determine whether the take would have a negligible impact² on marine mammals or stocks, will be within small numbers of species or stock abundance and whether the activity would have an unmitigable impact on the availability of affected marine mammal species for subsistence use.

² NMFS defines "negligible impact" as "an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival." (50 CFR § 216.103)

NMFS cannot issue an ITA if it would result in more than a negligible impact on marine mammals or stocks or would result in an unmitigable impact on subsistence uses. NMFS must also prescribe the permissible methods of taking and other means of effecting the least practicable impact on the species or stocks of marine mammals and their habitat, paying particular attention to rookeries, mating grounds, and other areas of similar significance. Where applicable, NMFS must prescribe means of affecting the least practicable impact on the availability of the species or stocks of marine mammals for subsistence uses. ITAs also will include requirements pertaining to monitoring and reporting.

Since NMFS's proposed action would authorize take of marine mammals incidental to a subset of the activities analyzed in the Navy's Final Supplemental EA/OEA, these components of the Navy's proposed action are the subject of NMFS's proposed action. Therefore, NMFS's proposed action is a direct outcome of the Navy's request for an IHA and would authorize take of marine mammals incidental to a subset of the activities analyzed in the Navy's Final Supplemental EA/OEA.

C. Alternatives Considered by the Navy

In the Navy's 2018 ICEX final EA/OEA, the Navy considered three alternatives, including a No Action Alternative where the Navy would not establish an ice camp and no submarine training, testing, or research activities would be conducted. Alternative 1 in the Navy's 2018 ICEX EA/OEA included only submarine activities, while Alternative 2 (the Preferred Alternative) included submarine activities plus research activities. The Navy analyzed two alternatives in their ICEX20 Final Supplemental EA/OEA, the action alternative (the Proposed Action) and the No Action alternative. Under the Navy's Final Supplemental EA/OEA No Action Alternative, ICEX20 would occur as it was analyzed in the 2018 ICEX EA/OEA (Alternative 2 in the 2018 EA/OEA). This alternative requires no subsequent analysis of potential consequences to environmental resources, as all potential consequences to environmental resources have already been analyzed.

Under the Proposed Action, the Navy would conduct the submarine training and testing activities as described above; in contrast to ICEX18, the Proposed Action would not include torpedo exercises. The ice camp would be established approximately 100-200 nautical miles north of Prudhoe Bay, Alaska, and the exact location cannot be identified ahead of time as required conditions (*e.g.*, ice cover) cannot be forecasted until exercises are expected to commence. The vast majority of submarine training and testing would occur near the ice camp; however some submarine training and testing may occur throughout the deep Arctic Ocean basin near the North Pole. Though the Study Area is large, the area where the proposed ice camp would be located is a much smaller area. Prior to the set-up of the ice camp, reconnaissance flights would be conducted to locate suitable ice conditions required for the location of the ice camp. The reconnaissance flights would occur over an area of approximately 70,374 square kilometers (km²); the actual ice camp is no more than 1.6 km in diameter (approximately 2 km² in area). The research activities would involve gathering data on environmental conditions and evaluating various technologies in Arctic conditions. Research activities are conducted for acoustic data collection to assess the effects of the changing arctic environment on acoustic propagation which, among other things, is critical to provide a better understanding of how military equipment, sensors and training and operations events may be affected by the changing Arctic environment effects to acoustic propagation.

Other action alternatives considered but not carried forward for detailed analysis include geographic, seasonal, and operational variations. However, holding ICEX20 in a different location or at a different time of year would not satisfy the purpose and need. ICEX must be conducted during a time of year when there are sufficient hours of daylight to support several hours of training and testing each day. The training location must be on a large area of stable ice that does not have (and is not likely to develop) open leads or “gaps” and can sustain a runway and camp for several weeks. The location must have sufficient water depth to accommodate safe submarine activities, and the location must be in sufficient proximity to shore logistics centers to allow to transfers of personnel and equipment to and from the ice camp. Holding ICEX20 closer to shore would not afford sufficiently thick ice to support an ice camp as well as the submarine tracking range to conduct the required submarine training and testing. Additionally, submarines need a relatively deep depth in which to operate. Positioning the camp further from shore would put the camp beyond the reach of logistics support required to sustain the activity. Seasonal alternatives are likewise not feasible because the combination of ice conditions and sufficient daylight required to support the ice camp are only available in the timeframe identified for the Proposed Action. Finally, altering how submarine training and testing is conducted (*e.g.*, reducing source level or limiting duration) is not feasible because the training and test plans are designed to specifically meet or test certain objectives. Conducting the training and testing differently would not meet the purpose and need of these requirements. Therefore, the Study Area is the only suitable location, February through April is the only suitable timeframe, and the Proposed Action must be conducted as proposed to meet training and testing objectives.

D. Alternatives Considered by NMFS

In accordance with NEPA and CEQ Regulations, NMFS is also required to consider a reasonable range of alternatives to a Proposed Action. Since NMFS is adopting the Navy’s Final Supplemental EA/OEA, it reviewed this document to determine whether the Navy’s document met this requirement. NMFS determined the Navy’s analysis of alternatives in their Final EA is adequate for purposes of NEPA and the CEQ regulations and therefore chose not to supplement this EA by developing and evaluating additional alternatives. Although the NMFS No Action Alternative would not meet the NMFS purpose and need to allow incidental takes of marine mammals under certain conditions, CEQ regulations require consideration and analysis of a No Action Alternative for the purposes of presenting a comparative analysis to the action alternatives. Thus, based on the statutory framework explained in Section III, paragraph B above, NMFS considers two alternatives, a No Action Alternative in which NMFS denies the Navy’s application and an action alternative in which it grants the application and issues an IHA to the Navy.

The alternatives analysis in Section 2.3 in the Navy’s 2018 EA/OEA and the 2020 Final Supplemental EA/OEA support NMFS’s alternatives described below.

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 ITA requests and to prescribe mitigation, monitoring, and reporting with any authorizations. Under NMFS’s No Action Alternative, NMFS would not issue the IHA to the Navy, and NMFS assumes the Navy would not conduct their submarine training and testing activities.

Action Alternative: NMFS issues the IHA to the Navy authorizing take of marine mammals incidental to the subset of activities described under the Navy’s Preferred Alternative (the Proposed Action in Section 2.3.2) in the Final Supplemental EA/OEA, with the mitigation, monitoring and

reporting measures in Section 6.2 in the Final EA and in NMFS's proposed IHA under "Summary of Requests" and "Description of Specified Activities".

IV. ENVIRONMENTAL REVIEW

NMFS independently reviewed the Navy's Final Supplemental EA/OEA and concludes the impacts evaluated by the Navy are substantially the same as the impacts of NMFS' proposed action to issue an IHA for the take of marine mammals incidental to submarine training and testing activities in the Arctic Ocean. In particular, the Final Supplemental EA/OEA contains an adequate evaluation of the direct, indirect and cumulative impacts on marine mammals, including species listed under the Endangered Species Act (ESA) and the marine environment. The Final Supplemental EA/OEA also addresses NOAA's required components for adoption because it meets the requirements for an adequate EA under the CEQ regulations and NOAA policy and procedures. For example, the Final EA includes:

- a discussion of the Navy's proposed action and purpose and need for the action and a discussion of the MMPA authorization process necessary to support implementation of the action
- evaluation of a reasonable range of alternatives to the proposed action, including a no action alternative, and alternatives to mitigate adverse effects to marine mammals
- a description of the affected environment including the status of all marine mammals species likely to be affected
- a description of the environmental impacts of the proposed action and alternatives, including direct, indirect and cumulative impacts on marine mammals and projected estimate of incidental take
- identification and evaluation of reasonable mitigation measures to avoid or minimize adverse impacts to marine mammals
- a listing of agencies consulted

V. PUBLIC INVOLVEMENT

NMFS did not participate as a cooperating agency during the development of the Navy's EA/OEA. Regarding the current IHA under consideration, NMFS relied substantially on the public process pursuant to the MMPA to develop and evaluate environmental information relevant to an analysis under NEPA. NMFS made the IHA application available for public review and comment and, separately, published the proposed IHA in the Federal Register (FR) on December 17, 2019 (84 FR 68886). There, NMFS alerted the public it intended to use the MMPA public review process for the proposed IHA to solicit relevant environmental information and provide the public an opportunity to submit comments. In addition, we indicated that we believed it was appropriate to adopt the Navy's Supplemental EA/OEA and provided a link to the Navy's NEPA website hosting the Supplemental EA/OEA with the publication of the proposed IHA.

During the public comment period, NMFS only received comments from the Marine Mammal Commission (MMC). The MMC concurred with NMFS' preliminary findings in the proposed IHA Federal Register notice, and recommended that NMFS issue the IHA subject to the inclusion of the proposed mitigation, monitoring, and reporting measures identified in that notice. We considered

the MMC's comments in response to the publication of the proposed IHA and used these comments to inform our analysis under the MMPA and to develop mitigation, monitoring and other conditions for the final IHA. NMFS's responses to specific comments in the Final IHA is available for review on NMFS's website: <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities>.

VI. ANALYSIS SUMMARY

The environmental consequences to the marine environment and protected resources are important to the evaluation leading to the decision to issue any given ITA. In particular, because NMFS's action is specific to authorizing incidental take of marine mammals, the key factors relevant to, and considered in a decision to issue any given ITA, are related to NMFS's statutory mission under the MMPA. The information in the following subsections discusses key factors considered in the analysis in the EA along with the evaluation and reasons why the impacts of our proposed action will not significantly impact the quality of the human environment.

A. Environmental Consequences

In the Final Supplemental EA/OEA, the Navy presented the baseline environmental conditions and impacts for affected resources in the Arctic Ocean. The affected environment and environmental consequences are described in Sections 3 and 4 of the Navy's Final Supplemental EA/OEA. Since the anticipated impacts of NMFS's proposed action is predominantly to marine mammals, which, if affected, would be through the introduction of sound into the marine environment during ICEX20, the analysis in the Navy's Final Supplemental EA/OEA specifically describes and addresses the following key issues and environmental concerns:

- Impacts of acoustic stressors such as underwater acoustic transmissions, aircraft noise, on-ice vehicle noise, and vessel noise on Essential Fish Habitat, marine mammals, invertebrates, and marine birds including species listed as threatened or endangered under the Endangered Species Act (ESA)
- Impacts of physical stressors (including risk of strikes from aircraft, on-ice vehicles, and vessels, and human presence) on marine mammals, marine birds, invertebrates, and fish
- Impacts of seafloor bottom disturbance on the physical environment and invertebrates
- Impacts of expended material, including risk of entanglement, on invertebrates, marine mammals, and fish

The Acoustic Transmissions section 4.1.1 of the Navy's Final Supplemental EA/OEA, and the Aircraft Noise section 4.1.2 and On-Ice Vehicle Noise section 4.1.3 of the Navy's 2018 Final EA/OEA contain the majority of the analysis that relates to NMFS's action of issuing an IHA for ICEX20. This includes the assessment by the Navy to provide a qualitative evaluation of potential impacts to marine mammals, including descriptions of the potential acoustic impacts used to indicate at what received sound levels marine mammals will experience certain effects (equivalent to regulatory definitions of harassment pursuant to the MMPA). Other subsections contain analyses related to potential impacts on marine mammal habitat and prey along with the potential for cumulatively significant impacts to marine mammals, all of which supports this analysis for issuance of the IHA to the Navy. The principal types of impacts from the submarine sonar

transmissions are limited to underwater noise (and its effects on marine biota). The Navy's Preferred Alternative is expected to result in elevated noise levels that may affect marine mammals; these effects are expected to be limited to behavioral harassment (Level B harassment), with a slight potential for temporary auditory threshold shifts (TTS).

The anticipated impacts of the Navy's activities associated with the proposed action are primarily from increased levels of underwater sound resulting from submarine acoustic transmissions. The analysis in the Final Supplemental EA/OEA indicated these impacts would be highly localized and short term in nature. Underwater sound associated with ICEX20 could have an effect on the wildlife in the Study Area in the Beaufort Sea and Arctic Ocean basin. As such, the Final Supplemental EA/OEA analyzed the impacts to wildlife as well as impacts to fish, marine birds, invertebrates, and Essential Fish Habitat. The Final Supplemental EA/OEA concludes the impacts associated with the proposed action are minor, temporary, and result in no significant impacts, including impacts on species listed under the ESA. No marine mammals are anticipated to be exposed to sound levels resulting in injury or mortality during ICEX20.

B. Significance Evaluation

The CEQ Regulations state that the significance of an action be analyzed in terms of both "context" and "intensity" and lists ten criteria for intensity. The Companion Manual for NAO 216-6A requires consideration of CEQs 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 proposed action and is considered individually as well as in combination with the others. In addition, NMFS relied on the analysis in the Navy's Final Supplemental EA/OEA, incorporating certain material by reference per 40 CFR 1502.21 in the evaluation discussed below. The Navy's Final Supplemental EA/OEA and other information and documentation are available on NMFS's website:

<https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities>.

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 ICEX20 for marine mammal species expected to occur in the Study 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 from submarine acoustic transmissions. The sonar associated with proposed submarine training and testing introduces sound into the water column, which has the potential to behaviorally disturb marine mammals, and may result in temporary hearing impairment. 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 fact that the submarine acoustic transmissions will occur over the course of four weeks and will primarily be in the vicinity

of the established ice camp, representing a small portion of the Study Area. The ice camp will be established prior to ringed seal breeding season to ensure that ringed seals do not establish birthing lairs in the ice near the camp. While seals will be displaced from the ice camp area, the proportion of ice excluded for use by ringed seals is small relative to the overall amount of available ice habitat. While NMFS predicts direct adverse effects to individuals it does not anticipate population-level effects that would rise to the level of significance. Effects to marine mammal populations are expected to be negligible for all species.

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

The issuance of this IHA to the Navy to authorize take of marine mammals is not likely to have the potential for this kind of effect because the proposed ICES activities will take place in offshore areas and is unlikely to overlap with activities conducted by the public. NMFS only authorizes the take of marine mammal species associated with these activities, 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, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas?

Authorizing the harassment of marine mammals through this IHA has no foreseeable impact to unique areas, such as historic or cultural resources, parkland, prime farmlands, wetlands, wild and scenic rivers or ecologically critical areas. To the extent the harassment authorized under the IHA impacts ecologically critical areas, this impact is 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 the Navy 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 or the effects to marine mammals. NMFS has assessed and authorized incidental take for similar acoustic sources and activities conducted by the Navy and developed relatively standard mitigation and monitoring measures, all of which have been vetted during past public comment periods. Additionally, other agencies and the public had the opportunity to review and comment on this action, when the notice of the Proposed IHA published in the Federal Register on December 17, 2019 (84 FR 68886). In response to the notice of the Proposed IHA, NMFS received comments from the Marine Mammal Commission, and 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 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 the issuance of the IHA is not unique or unknown, nor is there significant uncertainty about impacts. NMFS has previously issued authorizations for use of similar acoustic sources to the Navy around the world and in the Arctic and conducted NEPA analysis 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's 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.

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 the Navy 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' 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 Navy's ICEx20 activities have no unique aspects that would suggest it would be a precedent for any future actions.

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

The Navy considered cumulative impacts from its proposed action and other past, present, and reasonably foreseeable projects in the Study Area and found that they were not significant because of the relative scale of the projects and the nature and magnitude of specific impacts. The ice camp would be established and dismantled within six weeks from February to April 2020, and submarine training and testing would occur for only four weeks during that time. The numbers of marine mammals authorized to be taken represent less than one percent of their relative stock abundance. As stated in the proposed IHA, due to the nature of ONR's research activities, and implementation of mitigation and monitoring measures, NMFS anticipates impacts to marine mammals to be limited to short term lower-level behavioral harassment, such as alteration of dive or foraging behavior or avoidance. Although animals may modify their behavior as a result of exposure to elevated sound levels, these changes would be within the normal range of behaviors for the animal (*e.g.*, using a different breathing hole). Thus, even repeated harassment to some small subset of

the overall stock is unlikely to result in any significant decrease in fitness for the affected individual, and would not result in any adverse impact to the stock as a whole. Any future authorizations would have to undergo the same process and would take the Navy's proposed activities into consideration when addressing cumulative effects.

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?

NMFS' proposed action is limited to the authorization to harass marine mammals consistent with the MMPA definition of "Level B harassment." Therefore, there is no potential to adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or cause the loss or destruction of significant scientific, cultural, or historical resources. In addition, the Study Area lies outside of U.S. territorial waters, in the U.S. Exclusive Economic Zone (EEZ) and high seas. No significant scientific, cultural, or historical resources exist in the Study Area.

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?

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/or temporary displacement, of Arctic ringed seals and Beringia DPS bearded seals, which are both listed as threatened under the ESA. NMFS Alaska Regional office (AKR) issued a Biological Opinion on January 27, 2020, concluding that the issuance of an IHA to the Navy for ICEX20 is not likely to jeopardize the continued existence of Arctic ringed seals or Beringia DPS bearded seals.

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, with limited potential for temporary threshold shift, falling within the MMPA definition of "Level B harassment." We do not anticipate that take by serious injury or mortality would occur, nor have we authorized take by serious injury or mortality. Therefore, the issuance of the IHA to the Navy will not have a significant impact on endangered or threatened species or critical habitat.

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 the Navy 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 destroy or adversely modify critical habitat. The Navy 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 geophysical survey activities.

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

In addition to considering estimates of the number of marine mammals that might be “taken” through harassment, NMFS considered other factors, such as the likely nature of any responses (e.g., intensity, duration), the context of any responses (e.g., critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assessed the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS’s implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (e.g., as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

The Navy calculated the number animals that will be taken by Level B harassment from submarine acoustic transmissions using the Navy Acoustic Effects Model (NAEMO) and behavioral response function. The numbers of marine mammals that we propose for authorized take would be considered small relative to the relevant populations (less than one percent for all stocks) for the species for which abundance estimates are available.

Additionally, the proposed activity is temporary and of relatively short duration. Potential adverse effects on prey species would also be temporary and spatially limited. No mortality is anticipated or authorized. Furthermore, alternate areas of similar habitat value for affected marine mammals would be available allowing animals to temporarily vacate the affected areas to avoid exposure to sound.

For these reasons, impacts resulting from this activity are not expected to adversely affect the marine mammal species or stocks as defined in the MMPA. Accordingly, NMFS determined that the specified activity would have a negligible impact on the affected species and stocks of marine mammals.

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

NMFS’s action is the authorization of the taking of marine mammals incidental to submarine training and testing as part of ICEX activities in the Beaufort Sea and Arctic Ocean, north of Alaska. Issuance of the IHA would not result in impacts to the managed fish species, as it would only authorize harassment to marine mammals.

The Navy described the Essential Fish Habitat (EFH) for Arctic cod within the Study Area in Section 3.2.5 as well as impacts to fish species and fisheries in Section 4.2.3.2 and impacts to EFH in Section 4.1.1.3 of the 2018 Final EA/OEA. The Navy concluded that there could be changes in behavior and other non-lethal, short-term, temporary impacts, and injurious or mortal impacts on a small number of individuals in isolated cases of vessel strike or entanglement, but that there would be no significant impacts on fish populations.

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?

Our action of issuing an IHA to ONR to incidentally take marine mammals due to research activities would not cause substantial damage to the ocean and coastal habitats and/or EFH. The only fish species for which EFH has been designated within the Study Area is Arctic cod. Elevated sound levels from submarine acoustic transmissions have the potential to impact Arctic cod EFH. The Navy concluded in their 2018 EA/OEA that the effects from ICEX activities may result in the reduction of quantity or quality of EFH and therefore initiated consultation with NMFS Office of Habitat Conservation under the Magnuson-Stevens Fishery Conservation and Management Act. NMFS concluded that the Proposed Action would not likely reduce the quantity or quality of EFH for previous ICEX events on November 9, 2015. Since NMFS determined that the Proposed Action would not likely reduce the quantity or quality of Essential Fish Habitat and no conservation recommendations were provided, consultation was not reinitiated for ICEX in 2020.

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

NMFS's action is the authorization of the taking of marine mammals incidental to the Navy's ICEX activities in the Beaufort Sea and Arctic Ocean. Issuance of the IHA would not result in impacts to the vulnerable marine or coastal ecosystems, as it would only authorize harassment to marine mammals.

We do not expect the issuance of an IHA for the take of marine mammals incidental to the Navy's ICEX activities would cause substantial damage to marine habitats or coastal habitats. The submarine acoustic transmissions would occur for only four weeks between February and April 2020. All ice camp equipment deployed as part of ICEX20 would be removed from the Study Area. No damage to marine habitats is expected from the Navy's activities. No damage is expected for coastal habitats because the Study Area is in deep waters of the Arctic, well offshore of any coastal habitat. No deep sea corals or coral reefs are present in the Study Area. Furthermore, the IHA is limited to the take of marine mammals incidental to submarine training and testing activities and does not authorize the activity itself, thus it is limited to activities that do not have an effect on vulnerable marine or coastal ecosystems. Mitigation and monitoring measures required by the IHA for Navy'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.

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 that our action of issuing an IHA to the Navy would have a substantial impact on biodiversity and/or ecosystem function within the Study Area. The impacts of the proposed action on marine mammals are specifically related to the sound produced by submarine acoustic transmissions. Any impacts are expected to be limited to behavioral reactions (e.g., avoidance), and temporary auditory disruption (TTS), and only during times when acoustic sources are transmitting. Any impacts would be temporary and localized in

nature and not result in substantial impacts to marine mammals or to their role in the ecosystem. The IHA would authorize the Level B harassment of ringed seals and bearded seals, and neither serious injury nor mortality would be authorized.

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

The issuance of an IHA to the Navy will not result in the introduction or spread of a non-indigenous species into the human environment, as equipment that could cause such effects is not proposed for use. Moreover, the IHA does not mandate marine transits outside of the local area or have any relation to bilge water or other potential causes of the introduction or spread of a non-indigenous species.

VII. CONDITIONS – MITIGATION, MONITORING AND REPORTING

NMFS does not authorize the Navy's ICEX submarine training and testing activities, however, NMFS does authorize the incidental take of marine mammals under its jurisdiction in connection with these activities and prescribes, where applicable, the methods of taking and other means of effecting the least practicable impact on the species and stocks and their habitats. NMFS's issuance of this IHA is thus conditioned upon reporting requirements and the implementation of mitigation and monitoring designed to reduce impacts to marine mammals to the level of least practicable impact. These conditions are summarized below and are described in detail in Section 6 of the Navy's Supplemental EA/OEA as well as the final IHA, available on NMFS's website at <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities>.

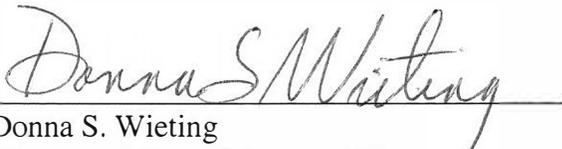
Ice camp deployment will begin in mid-February and must be completed by March 15, prior to the beginning of ringed seal whelping season. Completing camp deployment before ringed seal pupping begins will allow ringed seals to avoid the camp area prior to pupping and mating seasons, reducing potential impacts. Camp location will not be in proximity to pressure ridges in order to allow camp deployment and operation of an aircraft runway. This will minimize physical impacts to subnivean lairs. Camp deployment will gradually increase over five days, allowing seals to relocate to lairs that are not in the immediate vicinity of the camp. Personnel on all on-ice vehicles must observe for marine and terrestrial animals; any marine or terrestrial animal observed on the ice must be avoided by 328 ft (100 m). Personnel operating on-ice vehicles must also avoid areas of deep snowdrifts near pressure ridges, which are preferred areas for subnivean lair development. All material (*e.g.*, tents, unused food, excess fuel) and wastes (*e.g.*, solid waste, hazardous waste) must be removed from the ice floe upon completion of ICEX20.

For activities involving active acoustic transmissions from submarines and torpedoes, passive acoustic sensors on the submarines must listen for vocalizing marine mammals for 15 minutes prior to the initiation of exercise activities. If a marine mammal is detected, the submarine must delay active transmissions, and not restart until after 15 minutes have passed with no marine mammal detections. If there are no animal detections, it may be assumed that the vocalizing animal is no longer in the immediate area and is unlikely to be subject to harassment. Ramp up procedures are not proposed as Navy determined, and NMFS accepts, that they would result in an unacceptable impact on readiness and on the realism of training.

The Navy will provide NMFS with a draft exercise monitoring report within 90 days of the conclusion of the planned activity. The report must include data regarding sonar use, the number of sonar shutdowns during monitoring, the number of marine mammal acoustic detections, including the date and time when first and last heard, length of shut down, the types and nature of sounds heard (e.g., clicks, whistles, creaks, burst pulses, continuous, sporadic, strength of signal), and any additional information recorded such as water depth of the acoustic receiver (if not classified), bearing of the animal to the submarine (if determinable), species or taxonomic group (if determinable), spectrogram screenshot, and any other notable information. The report must also include details of any marine mammal sightings on the ice, including the marine mammal's location (latitude and longitude), the number of individuals and age classes of each species observed, and their behavior and distance from project activities.

VIII. DETERMINATION

Based on the information presented herein along with the application and analysis in the Final Supplemental EA/OEA prepared by the Navy, it is hereby determined the issuance of the IHA to the Navy 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.



Donna S. Wieting
Director, Office of Protected Resources

JAN 30 2020

Date