mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take).

(2) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.

• Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: February 28, 2025.

Kimberly Damon-Randall,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2025–03542 Filed 3–4–25; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE543]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Small Boat Harbor Preconstruction Activities (Geotechnical Surveys) in St. George, Alaska

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice; proposed incidental harassment authorization; request for comments on proposed authorization and possible renewal.

SUMMARY: NMFS has received a request from the United States Army Corps of Engineers (USACE) for authorization to take marine mammals incidental to geotechnical drilling in St. George, Alaska. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an incidental harassment authorization (IHA) to incidentally take marine mammals during the specified activities. NMFS is also requesting comments on a possible one-time, 1-year renewal that could be issued under certain circumstances and if all requirements are met, as described in Request for Public Comments at the end of this notice. NMFS will consider public comments prior to making any final decision on the issuance of the requested MMPA authorization and agency responses will be summarized in the final notice of our decision.

DATES: Comments and information must be received no later than April 4, 2025.

ADDRESSES: Comments should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service and should be submitted via email to *ITP.Fleming@noaa.gov.* Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.* In case of problems accessing these documents, please call the contact listed below.

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments, including all attachments, must not exceed a 25-megabyte file size. All comments received are a part of the public record and will generally be posted online at *https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act* without change. All personal identifying information (*e.g.,* name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

FOR FURTHER INFORMATION CONTACT: Kate Fleming, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed IHA is provided to the public for review.

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 will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking and other ''means of effecting the least practicable adverse impact'' on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (referred to in shorthand as ''mitigation''); and requirements pertaining to the monitoring and reporting of the takings. The definitions of all applicable MMPA statutory terms used above are included in the relevant sections below and can be found in section 3 of the MMPA (16 U.S.C. 1362) and NMFS regulations at 50 CFR 216.103.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.,* the issuance of an IHA) with respect to potential impacts on the human environment.

This action is consistent with categories of activities identified in Categorical Exclusion B4 (IHAs with no anticipated serious injury or mortality) of the Companion Manual for NAO 216–6A, which do not individually or cumulatively have the potential for significant impacts on the quality of the human environment and for which we have not identified any extraordinary circumstances that would preclude this categorical exclusion. Accordingly, NMFS has preliminarily determined that the issuance of the proposed IHA qualifies to be categorically excluded from further NEPA review.

Summary of Request

On October 30, 2024, NMFS received a request from USACE for an IHA to take marine mammals incidental to geotechnical surveys to be conducted as part of preconstruction activities associated with a new small boat harbor in St. George, Alaska. Following NMFS' review of the application, and discussions between NMFS and USACE, the application was deemed adequate and complete on January 29, 2025. The USACE submitted a final revised version on February 19, 2025. The USACE's request is for take of northern fur seal, by Level A and Level B harassment and, of harbor seal, by Level B harassment only. Neither USACE nor NMFS expect serious injury or mortality

to result from this activity and, therefore, an IHA is appropriate.

This proposed IHA would cover 1 year of preconstruction activity associated with a larger project involving construction of a new small boat harbor.

Description of Proposed Activity

Overview

The USACE is in the preconstruction, engineering, and design (PED) phase for constructing a small boat harbor in St. George, Alaska. Between April 15, 2025 and June 15, 2025, USACE would conduct Large Penetration Testing (LPT) and borehole drilling. These methods would introduce underwater sounds that may result in take, by Level A and Level B harassment, of marine mammals.

Dates and Duration

The proposed IHA would be effective from April 15, 2025 to June 15, 2025, reflecting a proposed seasonal work window designed to minimize effects on northern fur seal reproductive behavior. See Proposed Mitigation for further detail. The project would require approximately 15 days of geotechnical drilling. In-water construction activities would occur during daylight hours only, between a 14 to 18 hour daily work window.

Specific Geographic Region

St. George is on St. George Island, the southernmost and second largest group of five inactive volcanic islands that compose the Pribilof Archipelago located in the southern Bering Sea, approximately 760 miles [(mi.), (1,223 kilometers, (km)] west of Anchorage, Alaska and 220 mi. (354 km) north-northwest of Unalaska Island. St. George Island's position at the western margin of Alaska's continental shelf puts it in close proximity to much deeper waters of the Bering Sea's abyssal plain. The abrupt change in seafloor elevation occurring at the continental slope facilitates natural upwelling processes; as a result, surface waters in the region are extremely productive.

The project site is adjacent to St. George, on the north side of St. George Island, and spans the embayment between the Old Jetty (eastern side of the project area) east across to North Rookery (western side of the project area), which is the largest northern fur seal rookery in the world (Williams, 2024 personal communication) (see figure 2). Water depths at borehole locations range from approximately 3 feet [(ft.) (0.9 meters (m)] deep nearshore to approximately 20 ft. deep (6.1 m) near the entrance channel. The site experiences strong northerly winds and swell. Fog is highly variable but can persist for days or weeks, though USACE indicates that fog is most consistent in July and August.

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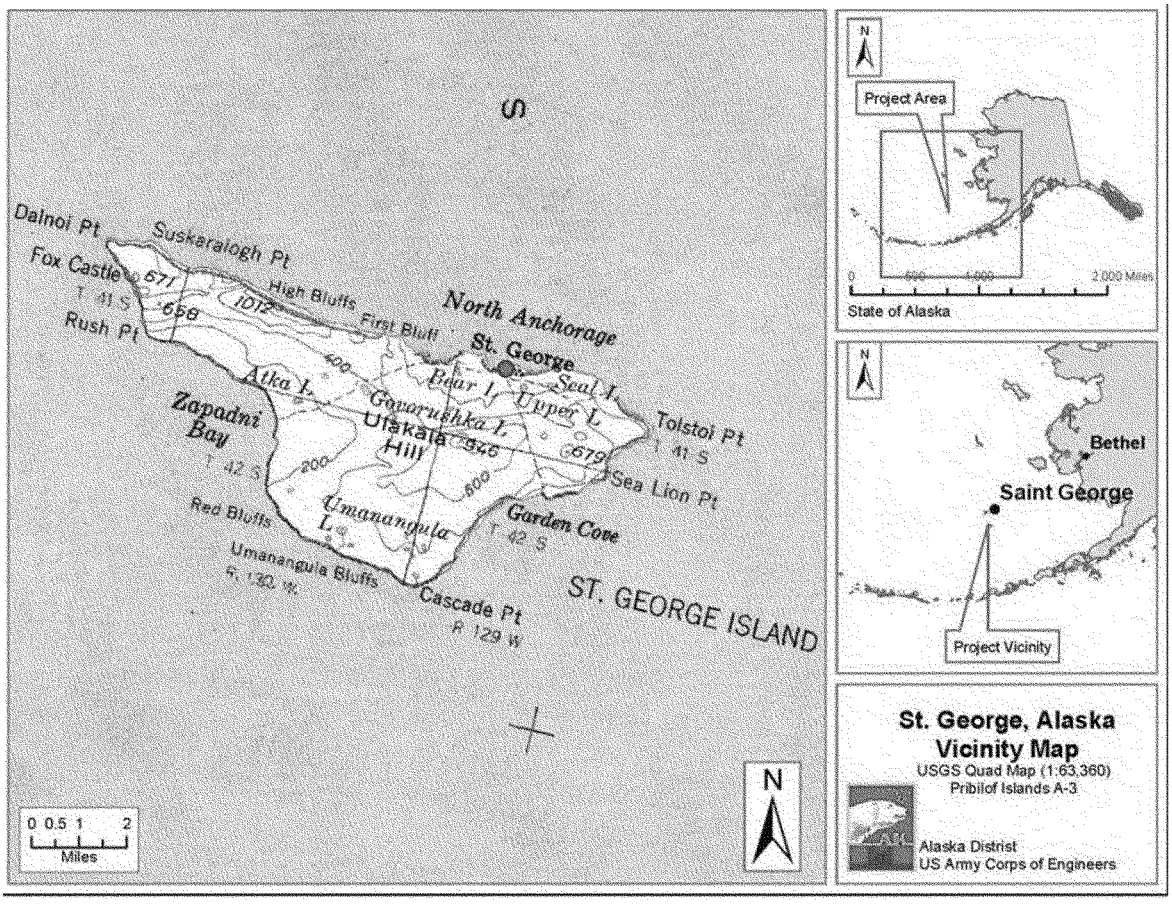

Figure 1 -- Location of North Anchorage, Where the St. George Island Geotechnical Survey Project Area is Planned

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Detailed Description of the Specified Activity

USACE plans to conduct geotechnical surveys in the embayment between the Old Jetty west to North Rookery, to inform preconstruction, engineering, and design for construction of a small boat harbor on St. George Island, Alaska. Activities to be completed during the period of the proposed IHA include geotechnical sampling at 15 borehole sites within the harbor footprint (figure 1–2 in application). Two additional sites would be sampled on land to the east of the in-water footprint. The geotechnical sampling would involve two components: (1) LPT, using a 2.5 in (6.4 centimeter) (inside diameter) to 3.0-inch (7.6 centimeter) (outside diameter) split barrel sampler, and impact hammer weighing 340 pounds (154 kilograms) falling 30 inches (76.2 centimeters), and (2) borehole drilling from a barge that will be positioned by a tugboat and held in position with a 4-point anchoring system or spuds.

The LPT is an impulsive sampling method, in which the sample tube is hammered into the ground at the bottom of the borehole. For all holes, LPT split barrel or grab samples would be obtained at the surface (a split barrel is a casing that can be split in half at the surface so that the soil can be examined), followed by LPT drive samples at 2.5 ft. (0.76 m), 5 ft. (1.5 m), 7.5 ft. (2.3 m), and 10 ft. (3 m) and at intervals of 5 ft. (1.5 m) to refusal depth (typically when bedrock is encountered). The number of blows needed for the tube to penetrate a fixed depth relates to the hardness of the ground.

Upon refusal, LPT equipment would be removed and borehole drilling, in which a drill rod lowered inside casings and driven by a motor to rotate advance along the substrate, would continue in the same hole that was created by LTP and the drill bit would be used to obtain rock core samples. USACE assumes that bedrock would be encountered 0–15 ft. below ground surface in all boreholes. Rock core samples would be obtained to the borehole termination depth indicated in figure 1–2 in USACE's application.

USACE estimates that one hole will be completed each day, with the boring component taking 10 hours and the LPT component taking 1 hour (table 1).

TABLE 1—SUMMARY OF PLANNED ACTIVITIES

Activity type	Total holes	Holes/day	Duration per hole (min)	Strikes per hole	Strikes or minutes per day
Borehole drilling	15	1	540	N/A	540
LPT			60	3,600	3,600

Proposed mitigation, monitoring, and reporting measures are described in detail later in this document (please see Proposed Mitigation and Proposed Monitoring and Reporting).

Description of Marine Mammals in the Area of Specified Activities

Sections 3 and 4 of the application summarize available information regarding status and trends, distribution and habitat preferences, and behavior and life history of the potentially affected species. NMFS fully considered all of this information, and we refer the reader to these descriptions, instead of reprinting the information. Additional information regarding population trends and threats may be found in NMFS' Stock Assessment Reports (SARs; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*) and more general information about these species (*e.g.,* physical and behavioral descriptions) may be found on NMFS' website (*https://www.fisheries.noaa.gov/find-species*).

Table 2 lists all species or stocks for which take is expected and proposed to be authorized for this activity and summarizes information related to the population or stock, including regulatory status under the MMPA and Endangered Species Act (ESA) and potential biological removal (PBR), where known. PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS' SARs). While no serious injury or mortality is anticipated or proposed to be authorized here, PBR and annual serious injury and mortality (M/SI) from anthropogenic sources are included here as gross indicators of the status of the species or stocks and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS' stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS' U.S. Alaska SARs. All values presented in table 2 are the most recent available at the time of publication and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments.*

TABLE 2—SPECIES [1] THAT MAY BE IMPACTED BY THE SPECIFIED ACTIVITIES

Common name	Scientific name	Stock	ESA/MMPA status/strategic (Y/N) [2]	Stock abundance (CV, N_{min}, most recent abundance survey) [3]	PBR	Annual M/S [4]
Order—Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Killer whale	*Orcinus orca*	Eastern North Pacific Alaska Resident.	-, -, N	1920 (N/A, 1,920, 2019) [5]	19	1.3

TABLE 2—SPECIES [1] THAT MAY BE IMPACTED BY THE SPECIFIED ACTIVITIES—Continued

Common name	Scientific name	Stock	ESA/ MMPA status/ strategic (Y/N) [2]	Stock abundance (CV, N_{min}, most recent abundance survey) [3]	PBR	Annual M/S [4]
		Eastern North Pacific Gulf of Alaska, Aleutian Islands and Bering Sea Transient.	-, -, N	587 (N/A, 587, 2012) [5]	5.9	0.8
Order Carnivora—Pinnipedia						
Family Otariidae (eared and sea lions):						
Northern fur seal	*Callorhinus ursinus*	Eastern Pacific	-, D, Y	626,618 (0.2, 530,376, 2019) [6].	11,403	373
Steller sea lion	*Eumetopias jubatus*	Western	E, D, Y	49,837 (N/A, 49,837, 2022) [7].	299	267
Family Phocidae (earless seals):						
Harbor seal	*Phoca vitulina*	Pribilof Islands	-, -, N	229 (N/A, 229, 2018) [8]	7	0

[1] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy; [*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies*)].

[2] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[3] NMFS marine mammal stock assessment reports online at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region.* CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance.

[4] These values, found in NMFS's SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.,* commercial fisheries, ship strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range.

[5] Nest is based upon counts of individuals identified from photo-ID catalogs.

[6] Survey years = Sea Lion Rock—2014; St. Paul and St. George Is—2014, 2016, 2018; Bogoslof Is.—2015, 2019.

[7] Nest is best estimate of counts, which have not been corrected for animals at sea during abundance surveys. Estimates provided are for the U.S. only. The overall N_{min} is 73,211 and overall PBR is 439.

[8] Nest is best estimate of counts, which have not been corrected for animals at sea during abundance surveys.

In addition, the northern sea otter and Pacific walrus may be found in the Pribilof Islands. However, these species are managed by the U.S. Fish and Wildlife Service and are not considered further in this document.

Killer Whale

Both transient and resident killer whales occur in the Pribilof Island region. While data are limited, the transient ecotype has been observed and reported in nearshore waters of the Pribilof Islands preying on pinnipeds, including from vantage points near the project area in the spring and summer (Robson *et al.,* 2010).

Northern Fur Seal

About half of the world's population of northern fur seals breeds on the Pribilof Islands (St. George Island, St. Paul Island, and Sea Lion Rock) (NMFS, 2024). There are six northern fur seal rookeries on St. George Island. North Rookery, directly adjacent to the western portion of the project site, represents 28 percent of all northern fur seals breeding and resting on St. George and is the largest northern fur seal colony on the island (Williams, 2024 personal communication). Northern fur seals exhibit strong natal site fidelity, sexual segregation, and seasonally migrate (Gentry, 1998).

While northern fur seals spend a majority of their days each year at sea, they will haul out on land during the spring and summer to breed and molt (NMFS, 2024). Adult males are the first to return from their seasonal migration, landing and hauling out along the shoreline as early as April. Adult males will land at a number of sites where they begin to determine which site to establish their breeding territory for the arrival of females in mid-June and July. Specifically at North Rookery, the distribution of adult male breeding territories has shifted south and east along the shoreline towards the Old Jetty and dock (Williams, 2024, personal communication). In April and May, non-breeding aged (*i.e.,* those less than 7 years old) males will land and haul out along the rocky shoreline adjacent to the Access Ramp labeled in figure 4–3 in the USACE's application. Depending on the distribution and density of territories and adult male defensive behavior the non-breeding males will navigate up the access ramp area inland or spread south along the narrow shoreline bounded by a cliff that prevents inland access. Meanwhile, territorial males will occupy and defend prime breeding territories before females arrive (the green areas in figure 4–3 in the USACE's application). Pregnant females arrive around mid-June each year and primarily concentrate in the yellow shaded areas of figure 4–3 in the USACE's application. They give birth just days after arrival on land and then mate (NMFS, 2024). In August, most territorial males will abandon their breeding sites. Females will begin their winter migration in November. Pups are nursed until weaning (about 4 months) and leave their breeding site before their mothers to forage independently for the first time.

While breeding, territorial males fast and do not leave their territories. Females cycle between land to nurse their pups and sea to forage, with their foraging bouts at sea increasing as their pup grows (Gentry, 1998). Non-breeding males are excluded by territorial males from this terrestrial habitat that is often referred to as the rookery or breeding area. Thus non-breeding males occupy separate habitat inland or adjacent on the coast, often called hauling grounds, during the breeding season, and they cycle between resting on the hauling grounds and foraging at sea (Sterling and Ream, 2004).

The NMFS Alaska Regional Office estimates that land-based counts of females represent one-third to one-quarter of the northern fur seals that utilize the immediate area across a 1–3 week period (Williams, 2024, personal communication). Less information is available regarding non-breeding males utilizing the site in April and May. Historic counts of non-breeding males for North Rookery are not available.

USACE estimated 126 to 300 northern fur seals hauled out in the project site during monitoring events conducted on 5 days in April and June, 2024 (see

Appendix B in the USACE's application).

Steller Sea Lion

Steller sea lions are year-round residents of the Pribilof Islands with critical habitat identified at Walrus Island (NMFS, 2008). The spring-time occurrence of Steller sea lions on St. George Island near the project area is highly variable across years, with consistently occupied non-breeding hauling grounds at East Reef Rookery, Dalnoi Point and Tolstoi Points. Steller sea lions may also be found intermittently resting at North and South Rookery or in the water transiting among resting sites at times intermixed with northern fur seals (Williams 2024, personal communication). Typically there are no Steller sea lions present on land adjacent to the bay where the project is to occur in the spring, but occasionally they haul out at sites across North Rookery (primarily the western end, but extending east towards the work site), East Reef rookery, and East Cliffs rookery in groups of up to 100 (Williams 2024, personal communication). When present, they tend to travel through the project area and do not linger. During monitoring events conducted on 5 days in April and June 2024, USACE observed 3 to 14 Steller sea lions traveling near the western portion of the project area each survey day.

Harbor Seal

Harbor seals inhabit the Pribilof Island region year-round in far smaller numbers than northern fur seal. The Pribilof Islands stock of harbor seals inhabit all of the Pribilof Islands with the highest numbers found on Otter Island followed by St. George Island (Muto *et al.,* 2019). Harbor seals occur to the west of the project area on the north shore of St. George Island at a site named Needlerock (Williams, 2024, personal communication). Additionally, USACE reports that local residents of St. George indicate that it is uncommon to observe harbor seals in the area of Harbor Cove (see application). However, between three and eight harbor seals were observed near the Old Jetty on 3 days in April, 2024, during USACE's monitoring events. No harbor seals were observed on land or in the water during monitoring events conducted on 2 days in June, 2024.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007, 2019) recommended that marine mammals be divided into hearing groups based on directly measured (behavioral or auditory evoked potential techniques) or estimated hearing ranges (behavioral response data, anatomical modeling, *etc.*). Generalized hearing ranges were chosen based on the ~65 decibel (dB) threshold from composite audiograms, previous analyses in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). We note that the names of two hearing groups and the generalized hearing ranges of all marine mammal hearing groups have been recently updated (NMFS 2024) as reflected below in table 3.

TABLE 3—MARINE MAMMAL HEARING GROUPS

[NMFS, 2024]

Hearing group	Generalized hearing range *
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 36 kHz.
High-frequency (HF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz.
Very High-frequency (VHF) cetaceans (true porpoises, *Kogia,* river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*).	200 Hz to 165 kHz.
Phocid pinnipeds (PW) (underwater) (true seals)	40 Hz to 90 kHz.
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 68 kHz.

* Represents the generalized hearing range for the entire group as a composite (*i.e.,* all species within the group), where individual species' hearing ranges may not be as broad. Generalized hearing range chosen based on ~65 dB threshold from composite audiogram, previous analysis in NMFS 2018, and/or data from Southall *et al.* 2007; Southall *et al.* 2019. Additionally, animals are able to detect very loud sounds above and below that ''generalized'' hearing range.

For more detail concerning these groups and associated frequency ranges, please see NMFS (2024) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section provides a discussion of the ways in which components of the specified activity may impact marine mammals and their habitat. The Estimated Take of Marine Mammals section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The Negligible Impact Analysis and Determination section considers the content of this section, the Estimated Take of Marine Mammals section, and the Proposed Mitigation section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and whether those impacts are reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.

Description of Sound Sources

The marine soundscape is comprised of both ambient and anthropogenic sounds. Ambient sound is defined as the all-encompassing sound in a given place and is usually a composite of sound from many sources both near and far [American National Standards Institute (ANSI), 1995]. The sound level of an area is defined by the total acoustical energy being generated by known and unknown sources. These sources may include physical (*e.g.,* waves, wind, precipitation, earthquakes, ice, atmospheric sound), biological (*e.g.,* sounds produced by marine mammals, fish, and invertebrates), and anthropogenic sound (*e.g.,* vessels, dredging, aircraft, construction).

The sum of the various natural and anthropogenic sound sources at any given location and time—which comprise ''ambient'' or ''background'' sound—depends not only on the source levels (as determined by current

weather conditions and levels of biological and shipping activity) but also on the ability of sound to propagate through the environment. In turn, sound propagation is dependent on the spatially and temporally varying properties of the water column and sea floor, and is frequency-dependent. As a result of the dependence on a large number of varying factors, ambient sound levels can be expected to vary widely over both coarse and fine spatial and temporal scales. Sound levels at a given frequency and location can vary by 10–20 dB from day to day (Richardson *et al.,* 1995). The result is that, depending on the source type and its intensity, sound from the specified activity may be a negligible addition to the local environment or could form a distinctive signal that may affect marine mammals.

In-water activities associated with this project would include use of geotechnical survey techniques (LPT and borehole drilling). The sounds produced by these activities fall into one of two general sound types: impulsive and non-impulsive. Impulsive sound (*e.g.,* explosions, gunshots, sonic booms, impact pile driving, LPT) produce signals that are brief (typically considered to be less than 1 second), broadband, atonal transients (ANSI, 1986; National Institute for Occupational Safety and Health (NIOSH), 1998; International Organization for Standardization (ISO), 2003; ANSI, 2005) and occur either as isolated events or repeated in some succession. Impulsive sounds are all characterized by a relatively rapid rise from ambient pressure to a maximal pressure value followed by a rapid decay period that may include a period of diminishing, oscillating maximal and minimal pressures, and generally have an increased capacity to induce physical injury as compared with sounds that lack these features.

Non-impulsive sounds can be tonal, narrowband, or broadband, brief or prolonged, and may be either continuous or non-continuous (ANSI, 1995; NIOSH, 1998). Some of these non-impulsive sounds can be transient signals of short duration but without the essential properties of impulses (*e.g.,* rapid rise time). Examples of non-impulsive sounds include those produced by vessels, aircraft, machinery operations such as borehole drilling or dredging, vibratory pile driving, and active sonar systems. The duration of such sounds, as received at a distance, can be greatly extended in a highly reverberant environment.

LPT is an impulsive sound source, similar to impact pile driving. Sound generated by impact hammers is characterized by rapid rise times and high peak levels, a potentially injurious combination (Hastings and Popper, 2005). Borehole drilling is a continuous non-impulsive sound source similar to vibratory pile driving. Non-impulsive sounds are typically characterized by slow rise times and often lower source levels, which reduces the probability and severity of injury, and sound energy is distributed over a greater amount of time (Nedwell and Edwards, 2002; Carlson *et al.,* 2005).

The likely or possible impacts of USACE's proposed activity on marine mammals could involve both non-acoustic and acoustic stressors. Potential non-acoustic stressors could result from the physical presence of equipment and personnel; however, any impacts to marine mammals are expected to be primarily acoustic in nature. Acoustic stressors include effects of heavy equipment operation during geotechnical surveys.

Acoustic Effects

The introduction of anthropogenic noise into the aquatic environment from geotechnical surveys is the means by which marine mammals may be harassed from USACE's specified activity. In general, animals exposed to natural or anthropogenic sound may experience behavioral, physiological, and/or physical effects, ranging in magnitude from none to severe (Southall *et al.,* 2007, 2019). In general, exposure to impact hammering and drilling noise has the potential to result in behavioral reactions (*e.g.,* avoidance, temporary cessation of foraging and vocalizing, changes in dive behavior) and, in limited cases, an auditory threshold shift (TS). Exposure to anthropogenic noise can also lead to non-observable physiological responses such an increase in stress hormones. Additional noise in a marine mammal's habitat can mask acoustic cues used by marine mammals to carry out daily functions such as communication and predator and prey detection. The effects of geotechnical surveys on marine mammals are dependent on several factors, including, but not limited to, sound type (*e.g.,* impulsive vs. non-impulsive), the species, age and sex class (*e.g.,* adult male vs. mom with calf), duration of exposure, the distance between the sampling site and the animal, received levels, behavior at time of exposure, and previous history with exposure (Wartzok *et al.,* 2004; Southall *et al.,* 2007). Here, we discuss physical auditory effects (TSs) followed by behavioral effects and potential impacts on habitat.

NMFS defines a noise-induced TS as a change, usually an increase, in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018, 2024). The amount of TS is customarily expressed in dB. A TS can be permanent or temporary. As described in NMFS (2018, 2024), there are numerous factors to consider when examining the consequence of TS, including, but not limited to, the signal temporal pattern (*e.g.,* impulsive or non-impulsive), likelihood an individual would be exposed for a long enough duration or to a high enough level to induce a TS, the magnitude of the TS, time to recovery (seconds to minutes or hours to days), the frequency range of the exposure (*i.e.,* spectral content), the hearing and vocalization frequency range of the exposed species relative to the signal's frequency spectrum (*i.e.,* how animal uses sound within the frequency band of the signal; *e.g.,* Kastelein *et al.,* 2014), and the overlap between the animal and the source (*e.g.,* spatial, temporal, and spectral).

Auditory Injury and Permanent Threshold Shift (PTS)—NMFS defines auditory injury as ''damage to the inner ear that can result in destruction of tissue . . . which may or may not result in PTS'' (NMFS, 2024). NMFS defines PTS as a permanent, irreversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2024). Available data from humans and other terrestrial mammals indicate that a 40-dB TS approximates PTS onset (Ward *et al.,* 1958, 1959; Ward, 1960; Kryter *et al.,* 1966; Miller, 1974; Ahroon *et al.,* 1996; Henderson *et al.,* 2008). PTS levels for marine mammals are estimates, as with the exception of a single study unintentionally inducing PTS in a harbor seal (Kastak *et al.,* 2008), there are no empirical data measuring PTS in marine mammals largely due to the fact that, for various ethical reasons, experiments involving anthropogenic noise exposure at levels inducing PTS are not typically pursued or authorized (NMFS, 2018).

Temporary Threshold Shift (TTS)—A temporary, reversible increase in the threshold of audibility at a specified frequency or portion of an individual's hearing range above a previously established reference level (NMFS, 2018). Based on data from cetacean TTS measurements (Southall *et al.,* 2007, 2019), a TTS of 6 dB is considered the minimum TS clearly larger than any day-to-day or session-to-session

variation in a subject's normal hearing ability (Schlundt *et al.,* 2000; Finneran *et al.,* 2000, 2002). As described in Finneran (2015), marine mammal studies have shown the amount of TTS increases with cumulative sound exposure level (SEL_{cum}) in an accelerating fashion: At low exposures with lower SEL_{cum}, the amount of TTS is typically small and the growth curves have shallow slopes. At exposures with higher SEL_{cum}, the growth curves become steeper and approach linear relationships with the noise SEL.

Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in *Auditory Masking,* below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that takes place during a time when the animal is traveling through the open ocean, where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. We note that reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa (Southall *et al.,* 2007), so we can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

Many studies have examined noise-induced hearing loss in marine mammals (see Finneran (2015) and Southall *et al.* (2019) for summaries). TTS is the mildest form of hearing impairment that can occur during exposure to sound (Kryter, 2013). While experiencing TTS, the hearing threshold rises, and a sound must be at a higher level in order to be heard. In terrestrial and marine mammals, TTS can last from minutes or hours to days (in cases of strong TTS). In many cases, hearing sensitivity recovers rapidly after exposure to the sound ends. For cetaceans, published data on the onset of TTS are limited to captive bottlenose dolphin (*Tursiops truncatus*), beluga whale, harbor porpoise, and Yangtze finless porpoise (*Neophocoena asiaeorientalis*) (Southall *et al.,* 2019). For pinnipeds in water, measurements of TTS are limited to harbor seals, elephant seals (*Mirounga angustirostris*), bearded seals (*Erignathus barbatus*) and California sea lions (*Zalophus californianus*) (Kastak *et al.,* 2007; Kastelein *et al.,* 2019b, 2019c, 2021, 2022a, 2022b; Reichmuth *et al.,* 2019; Sills *et al.,* 2020). TTS was not observed in spotted (*Phoca largha*) and ringed (*Pusa hispida*) seals exposed to single airgun impulse sounds at levels matching previous predictions of TTS onset (Reichmuth *et al.,* 2016). These studies examine hearing thresholds measured in marine mammals before and after exposure to intense or long-duration sound exposures. The difference between the pre-exposure and post-exposure thresholds can be used to determine the amount of threshold shift at various post-exposure times.

The amount and onset of TTS depends on the exposure frequency. Sounds at low frequencies, well below the region of best sensitivity for a species or hearing group, are less hazardous than those at higher frequencies, near the region of best sensitivity (Finneran and Schlundt, 2013). At low frequencies, onset-TTS exposure levels are higher compared to those in the region of best sensitivity (*i.e.,* a low frequency noise would need to be louder to cause TTS onset when TTS exposure level is higher), as shown for harbor porpoises and harbor seals (Kastelein *et al.,* 2019a, 2019c). Note that in general, harbor seals and harbor porpoises have a lower TTS onset than other measured pinniped or cetacean species (Finneran, 2015). In addition, TTS can accumulate across multiple exposures, but the resulting TTS will be less than the TTS from a single, continuous exposure with the same sound exposure level (SEL) (Mooney *et al.,* 2009; Finneran *et al.,* 2010; Kastelein *et al.,* 2014, 2015). This means that TTS predictions based on the total, cumulative SEL will overestimate the amount of TTS from intermittent exposures, such as sonars and impulsive sources. Nachtigall *et al.* (2018) describe measurements of hearing sensitivity of multiple odontocete species (bottlenose dolphin, harbor porpoise, beluga, and false killer whale (*Pseudorca crassidens*)) when a relatively loud sound was preceded by a warning sound. These captive animals were shown to reduce hearing sensitivity when warned of an impending intense sound. Based on these experimental observations of captive animals, the authors suggest that wild animals may dampen their hearing during prolonged exposures or if conditioned to anticipate intense sounds. Another study showed that echolocating animals (including odontocetes) might have anatomical specializations that might allow for conditioned hearing reduction and filtering of low-frequency ambient noise, including increased stiffness and control of middle ear structures and placement of inner ear structures (Ketten *et al.,* 2021). Data available on noise-induced hearing loss for mysticetes are currently lacking (NMFS, 2018). Additionally, the existing marine mammal TTS data come from a limited number of individuals within these species.

Relationships between TTS and PTS thresholds have not been studied in marine mammals, and there is no PTS data for cetaceans, but such relationships are assumed to be similar to those in humans and other terrestrial mammals. PTS typically occurs at exposure levels at least several decibels above that inducing mild TTS (*e.g.,* a 40-dB threshold shift approximates PTS onset (Kryter *et al.,* 1966; Miller, 1974), while a 6-dB threshold shift approximates TTS onset (Southall *et al.,* 2007, 2019). Based on data from terrestrial mammals, a precautionary assumption is that the PTS thresholds for impulsive sounds (such as impact pile driving pulses as received close to the source) are at least 6 dB higher than the TTS threshold on a peak-pressure basis and PTS cumulative sound exposure level thresholds are 15 to 20 dB higher than TTS cumulative sound exposure level thresholds (Southall *et al.,* 2007, 2019). Given the higher level of sound or longer exposure duration necessary to cause PTS as compared with TTS, it is considerably less likely that PTS could occur.

Activities for this project include LPT and borehole drilling. For the proposed project, these activities would not occur at the same time and there would likely be pauses in activities producing the sound during each day. Given these pauses and the fact that many marine mammals are likely moving through the project areas and not remaining for extended periods of time, the potential for TS declines.

Behavioral Harassment—Exposure to noise from borehole drilling and LPT also has the potential to behaviorally disturb marine mammals. Generally speaking, NMFS considers a behavioral disturbance that rises to the level of harassment under the MMPA a non-minor response—in other words, not every response qualifies as behavioral disturbance, and for responses that do, those of a higher level, or accrued across a longer duration, have the potential to affect foraging, reproduction, or survival. Behavioral disturbance may include a variety of effects, including subtle changes in behavior (*e.g.,* minor or brief avoidance of an area or changes

in vocalizations), more conspicuous changes in similar behavioral activities, and more sustained and/or potentially severe reactions, such as displacement from or abandonment of high-quality habitat. Behavioral responses may include changing durations of surfacing and dives, changing direction and/or speed; reducing/increasing vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); eliciting a visible startle response or aggressive behavior (such as tail/fin slapping or jaw clapping); avoidance of areas where sound sources are located. Pinnipeds may increase their haul out time, possibly to avoid in-water disturbance (Thorson and Reyff, 2006). Behavioral responses to sound are highly variable and context-specific and any reactions depend on numerous intrinsic and extrinsic factors (*e.g.,* species, state of maturity, experience, current activity, reproductive state, auditory sensitivity, time of day), as well as the interplay between factors (*e.g.,* Richardson *et al.,* 1995; Wartzok *et al.,* 2004; Southall *et al.,* 2007, 2019; Weilgart, 2007; Archer *et al.,* 2010). Behavioral reactions can vary not only among individuals but also within an individual, depending on previous experience with a sound source, context, and numerous other factors (Ellison *et al.,* 2012), and can vary depending on characteristics associated with the sound source (*e.g.,* whether it is moving or stationary, number of sources, distance from the source). In general, pinnipeds seem more tolerant of, or at least habituate more quickly to, potentially disturbing underwater sound than do cetaceans, and generally seem to be less responsive to exposure to industrial sound than most cetaceans. Please see appendices B and C of Southall *et al.* (2007) and Gomez *et al.* (2016) for reviews of studies involving marine mammal behavioral responses to sound.

Habituation can occur when an animal's response to a stimulus wanes with repeated exposure, usually in the absence of unpleasant associated events (Wartzok *et al.,* 2004). Animals are most likely to habituate to sounds that are predictable and unvarying. It is important to note that habituation is appropriately considered as a ''progressive reduction in response to stimuli that are perceived as neither aversive nor beneficial,'' rather than as, more generally, moderation in response to human disturbance (Bejder *et al.,* 2009). The opposite process is sensitization, when an unpleasant experience leads to subsequent responses, often in the form of avoidance, at a lower level of exposure.

As noted above, behavioral state may affect the type of response. For example, animals that are resting may show greater behavioral change in response to disturbing sound levels than animals that are highly motivated to remain in an area for feeding (Richardson *et al.,* 1995; Wartzok *et al.,* 2004; National Research Council (NRC), 2005). Controlled experiments with captive marine mammals have showed pronounced behavioral reactions, including avoidance of loud sound sources (Ridgway *et al.,* 1997; Finneran *et al.,* 2003). Observed responses of wild marine mammals to loud pulsed sound sources (*e.g.,* seismic airguns) have been varied but often consist of avoidance behavior or other behavioral changes (Richardson *et al.,* 1995; Morton and Symonds, 2002; Nowacek *et al.,* 2007).

Available studies show wide variation in response to underwater sound; therefore, it is difficult to predict specifically how any given sound in a particular instance might affect marine mammals perceiving the signal. If a marine mammal does react briefly to an underwater sound by changing its behavior or moving a small distance, the impacts of the change are unlikely to be significant to the individual, let alone the stock or population. However, if a sound source displaces marine mammals from an important feeding or breeding area for a prolonged period, impacts on individuals and populations could be significant (*e.g.,* Lusseau and Bejder, 2007; Weilgart, 2007; NRC, 2005). However, there are broad categories of potential response, which we describe in greater detail here, that include alteration of dive behavior, alteration of foraging behavior, effects to breathing, interference with or alteration of vocalization, avoidance, and flight.

Changes in dive behavior can vary widely and may consist of increased or decreased dive times and surface intervals as well as changes in the rates of ascent and descent during a dive (*e.g.,* Frankel and Clark, 2000; Costa *et al.,* 2003; Ng and Leung, 2003; Nowacek *et al.,* 2004; Goldbogen *et al.,* 2013a, 2013b). Variations in dive behavior may reflect interruptions in biologically significant activities (*e.g.,* foraging) or they may be of little biological significance. The impact of an alteration to dive behavior resulting from an acoustic exposure depends on what the animal is doing at the time of the exposure and the type and magnitude of the response.

Disruption of feeding behavior can be difficult to correlate with anthropogenic sound exposure, so it is usually inferred by observed displacement from known foraging areas, the appearance of secondary indicators (*e.g.,* bubble nets or sediment plumes), or changes in dive behavior. As for other types of behavioral response, the frequency, duration, and temporal pattern of signal presentation, as well as differences in species sensitivity, are likely contributing factors to differences in response in any given circumstance (*e.g.,* Croll *et al.,* 2001; Nowacek *et al.,* 2004; Madsen *et al.,* 2006; Yazvenko *et al.,* 2007). A determination of whether foraging disruptions incur fitness consequences would require information on or estimates of the energetic requirements of the affected individuals and the relationship between prey availability, foraging effort and success, and the life history stage of the animal.

Variations in respiration naturally vary with different behaviors and alterations to breathing rate as a function of acoustic exposure can be expected to co-occur with other behavioral reactions, such as a flight response or an alteration in diving. However, respiration rates in and of themselves may be representative of annoyance or an acute stress response. Various studies have shown that respiration rates may either be unaffected or could increase, depending on the species and signal characteristics, again highlighting the importance in understanding species differences in the tolerance of underwater noise when determining the potential for impacts resulting from anthropogenic sound exposure (*e.g.,* Kastelein *et al.,* 2001, 2005, 2006; Gailey *et al.,* 2007). For example, harbor porpoise' respiration rate increased in response to pile driving sounds at and above a received broadband Sound Pressure Level (SPL) of 136 dB (zero-peak SPL: 151 dB re 1 micropascal (μPa); SEL of a single strike: 127 dB re 1 μPa^2-s) (Kastelein *et al.,* 2013).

Marine mammals vocalize for different purposes and across multiple modes, such as whistling, echolocation click production, calling, and singing. Changes in vocalization behavior in response to anthropogenic noise can occur for any of these modes and may result from a need to compete with an increase in background noise or may reflect increased vigilance or a startle response. For example, in the presence of potentially masking signals, humpback whales and killer whales have been observed to increase the length of their songs (Miller *et al.,* 2000; Fristrup *et al.,* 2003) or vocalizations (Foote *et al.,* 2004), respectively, while North Atlantic right whales (*Eubalaena*

glacialis) have been observed to shift the frequency content of their calls upward while reducing the rate of calling in areas of increased anthropogenic noise (Parks *et al.,* 2007). In some cases, animals may cease sound production during production of aversive signals (Bowles *et al.,* 1994).

Avoidance is the displacement of an individual from an area or migration path as a result of the presence of a sound or other stressors, and is one of the most obvious manifestations of disturbance in marine mammals (Richardson *et al.,* 1995). For example, gray whales are known to change direction—deflecting from customary migratory paths—in order to avoid noise from seismic surveys (Malme *et al.,* 1984). Avoidance may be short-term, with animals returning to the area once the noise has ceased (*e.g.,* Bowles *et al.,* 1994; Goold, 1996; Stone *et al.,* 2000; Morton and Symonds, 2002; Gailey *et al.,* 2007). Longer-term displacement is possible, however, which may lead to changes in abundance or distribution patterns of the affected species in the affected region if habituation to the presence of the sound does not occur (*e.g.,* Blackwell *et al.,* 2004; Bejder *et al.,* 2006; Teilmann *et al.,* 2006).

A flight response is a dramatic change in normal movement to a directed and rapid movement away from the perceived location of a sound source. The flight response differs from other avoidance responses in the intensity of the response (*e.g.,* directed movement, rate of travel). Relatively little information on flight responses of marine mammals to anthropogenic signals exist, although observations of flight responses to the presence of predators have occurred (Connor and Heithaus, 1996; Bowers *et al.,* 2018). The result of a flight response could range from brief, temporary exertion and displacement from the area where the signal provokes flight to, in extreme cases, marine mammal strandings (England *et al.,* 2001). However, it should be noted that response to a perceived predator does not necessarily invoke flight (Ford and Reeves, 2008), and whether individuals are solitary or in groups may influence the response.

Behavioral disturbance can also impact marine mammals in more subtle ways. Increased vigilance may result in costs related to diversion of focus and attention (*i.e.,* when a response consists of increased vigilance, it may come at the cost of decreased attention to other critical behaviors such as foraging or resting). These effects have generally not been demonstrated for marine mammals, but studies involving fishes and terrestrial animals have shown that increased vigilance may substantially reduce feeding rates (*e.g.,* Beauchamp and Livoreil, 1997; Fritz *et al.,* 2002; Purser and Radford, 2011). In addition, chronic disturbance can cause population declines through reduction of fitness (*e.g.,* decline in body condition) and subsequent reduction in reproductive success, survival, or both (*e.g.,* Harrington and Veitch, 1992; Daan *et al.,* 1996; Bradshaw *et al.,* 1998). However, Ridgway *et al.* (2006) reported that increased vigilance in bottlenose dolphins exposed to sound over a 5-day period did not cause any sleep deprivation or stress effects.

Many animals perform vital functions, such as feeding, resting, traveling, and socializing, on a diel cycle (24-hour cycle). Disruption of such functions resulting from reactions to stressors such as sound exposure are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.,* 2007). Consequently, a behavioral response lasting less than 1 day and not recurring on subsequent days is not considered particularly severe unless it could directly affect reproduction or survival (Southall *et al.,* 2007). Note that there is a difference between multi-day substantive (*i.e.,* meaningful) behavioral reactions and multi-day anthropogenic activities. For example, just because an activity lasts for multiple days does not necessarily mean that individual animals are either exposed to activity-related stressors for multiple days or, further, exposed in a manner resulting in sustained multi-day substantive behavioral responses.

Stress Responses—An animal's perception of a threat may be sufficient to trigger stress responses consisting of some combination of behavioral responses, autonomic nervous system responses, neuroendocrine responses, or immune responses (*e.g.,* Seyle, 1950; Moberg, 2000). In many cases, an animal's first and sometimes most economical (in terms of energetic costs) response is behavioral avoidance of the potential stressor. Autonomic nervous system responses to stress typically involve changes in heart rate, blood pressure, and gastrointestinal activity. These responses have a relatively short duration and may or may not have a significant long-term effect on an animal's fitness.

Neuroendocrine stress responses often involve the hypothalamus-pituitary-adrenal system. Virtually all neuroendocrine functions that are affected by stress—including immune competence, reproduction, metabolism, and behavior—are regulated by pituitary hormones. Stress-induced changes in the secretion of pituitary hormones have been implicated in failed reproduction, altered metabolism, reduced immune competence, and behavioral disturbance (*e.g.,* Moberg, 1987; Blecha, 2000). Increases in the circulation of glucocorticoids are also equated with stress (Romano *et al.,* 2004).

The primary distinction between stress (which is adaptive and does not normally place an animal at risk) and ''distress'' is the cost of the response. During a stress response, an animal uses glycogen stores that can be quickly replenished once the stress is alleviated. In such circumstances, the cost of the stress response would not pose serious fitness consequences. However, when an animal does not have sufficient energy reserves to satisfy the energetic costs of a stress response, energy resources must be diverted from other functions. This state of distress will last until the animal replenishes its energetic reserves sufficient to restore normal function.

Relationships between these physiological mechanisms, animal behavior, and the costs of stress responses are well-studied through controlled experiments and for both laboratory and free-ranging animals (*e.g.,* Holberton *et al.,* 1996; Hood *et al.,* 1998; Jessop *et al.,* 2003; Krausman *et al.,* 2004; Lankford *et al.,* 2005). Stress responses due to exposure to anthropogenic sounds or other stressors and their effects on marine mammals have also been reviewed (Fair and Becker, 2000; Romano *et al.,* 2002b) and, more rarely, studied in wild populations (*e.g.,* Romano *et al.,* 2002a). For example, Rolland *et al.* (2012) found that noise reduction from reduced ship traffic in the Bay of Fundy was associated with decreased stress in North Atlantic right whales. These and other studies lead to a reasonable expectation that some marine mammals will experience physiological stress responses upon exposure to acoustic stressors and that it is possible that some of these would be classified as ''distress.'' In addition, any animal experiencing TTS would likely also experience stress responses (NRC, 2003), however distress is an unlikely result of this project based on observations of marine mammals during previous, similar projects in the area.

Auditory Masking—Since many marine mammals rely on sound to find prey, moderate social interactions, and facilitate mating (Tyack, 2008), noise from anthropogenic sound sources can interfere with these functions, but only if the noise spectrum overlaps with the hearing sensitivity of the receiving marine mammal (Southall *et al.,* 2007;

Clark *et al.,* 2009; Hatch *et al.,* 2012). Chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals that utilize sound for vital biological functions (Clark *et al.,* 2009). Acoustic masking is when other noises such as from human sources interfere with an animal's ability to detect, recognize, or discriminate between acoustic signals of interest (*e.g.,* those used for intraspecific communication and social interactions, prey detection, predator avoidance, navigation) (Richardson *et al.,* 1995; Erbe *et al.,* 2016). Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction. The ability of a noise source to mask biologically important sounds depends on the characteristics of both the noise source and the signal of interest (*e.g.,* signal-to-noise ratio, temporal variability, direction), in relation to each other and to an animal's hearing abilities (*e.g.,* sensitivity, frequency range, critical ratios, frequency discrimination, directional discrimination, age or TTS hearing loss), and existing ambient noise and propagation conditions (Hotchkin and Parks, 2013).

Under certain circumstances, marine mammals experiencing significant masking could also be impaired from maximizing their performance fitness in survival and reproduction. Therefore, when the coincident (masking) sound is human-made, it may be considered harassment when disrupting or altering critical behaviors. It is important to distinguish TTS and PTS, which persist after the sound exposure, from masking, which occurs during the sound exposure. Because masking (without resulting in TS) is not associated with abnormal physiological function, it is not considered a physiological effect, but rather a potential behavioral effect (though not necessarily one that would be associated with harassment).

The frequency range of the potentially masking sound is important in determining any potential behavioral impacts. For example, low-frequency signals may have less effect on high-frequency echolocation sounds produced by odontocetes but are more likely to affect detection of mysticete communication calls and other potentially important natural sounds such as those produced by surf and some prey species. The masking of communication signals by anthropogenic noise may be considered as a reduction in the communication space of animals (*e.g.,* Clark *et al.,* 2009) and may result in energetic or other costs as animals change their vocalization behavior (*e.g.,* Miller *et al.,* 2000; Foote *et al.,* 2004; Parks *et al.,* 2007; Di Iorio and Clark, 2010; Holt *et al.,* 2009). Masking can be reduced in situations where the signal and noise come from different directions (Richardson *et al.,* 1995), through amplitude modulation of the signal, or through other compensatory behaviors (Hotchkin and Parks, 2013). Masking can be tested directly in captive species (*e.g.,* Erbe, 2008), but in wild populations it must be either modeled or inferred from evidence of masking compensation. There are few studies addressing real-world masking sounds likely to be experienced by marine mammals in the wild (*e.g.,* Branstetter *et al.,* 2013).

Marine mammals at or near the project site may be exposed to anthropogenic noise, which may lead to some habituation, but is also a source of masking. Vocalization changes may result from a need to compete with an increase in background noise and include increasing the source level, modifying the frequency, increasing the call repetition rate of vocalizations, or ceasing to vocalize in the presence of increased noise (Hotchkin and Parks, 2013).

Masking is more likely to occur in the presence of broadband, relatively continuous noise sources such as borehole drilling. Energy distribution of borehole drilling covers a broad frequency spectrum, and sound from borehole drilling would be within the audible range of pinnipeds and cetaceans present in the proposed action area. While some construction during the USACE's activities may mask some acoustic signals that are relevant to the daily behavior of marine mammals, the short-term duration and time of year make it very unlikely that the fitness of individual marine mammals would be impacted.

Airborne Acoustic Effects—Airborne noise would primarily be an issue for pinnipeds that are swimming or hauled out near the project site within the range of noise levels elevated above the acoustic criteria. We recognize that pinnipeds in the water could be exposed to airborne sound that may result in behavioral harassment when looking with their heads above water. Most likely, airborne sound would cause behavioral responses similar to those discussed above in relation to underwater sound. For instance, anthropogenic sound could cause hauled out pinnipeds to exhibit changes in their normal behavior, such as reduction in vocalizations, or cause them to temporarily abandon the area and move further from the source. However, these animals would previously have been ''taken'' because of exposure to underwater sound above the behavioral harassment thresholds, which are in all cases larger than those associated with airborne sound. Thus, the behavioral harassment of these animals is already accounted for in these estimates of potential take. Therefore, we do not believe that authorization of incidental take resulting from airborne sound for pinnipeds is warranted, and airborne sound is not discussed further. Cetaceans are not expected to be exposed to airborne sounds that would result in harassment as defined under the MMPA.

Marine Mammal Habitat Effects

The USACE's proposed construction activities could have localized, temporary impacts on marine mammal habitat and their prey by increasing in-water SPLs and slightly decreasing water quality. Increased noise levels may affect acoustic habitat (see *Auditory Masking*) and adversely affect marine mammal prey in the vicinity of the project area (see discussion below). During LPT and borehole drilling, elevated levels of underwater noise would ensonify a portion of the embayment between Old Jetty and North Rookery, where activities are planned, where both fish and mammals occur and could affect foraging success. Additionally, marine mammals may avoid the area during survey activities; however, displacement due to noise is expected to be temporary and is not expected to result in long-term effects to the individuals or populations. In-water geotechnical survey activities could also cause short-term effects on water quality due to increased turbidity. It is not expected that turbidity associated with geotechnical surveys would be different from pile installation, which is typically localized to about a 25 ft (7.6 m) radius around the pile (Everitt *et al.,* 1980). It is expected that the sediments of the project site would settle out rapidly when disturbed. Cetaceans are not expected to be close enough to the geotechnical survey areas to experience effects of turbidity, and any pinnipeds could avoid localized areas of turbidity.

In-water Construction Effects on Potential Foraging Habitat—The proposed activities would not result in permanent impacts to habitats used directly by marine mammals. The total seafloor area affected by geotechnical survey activities is small compared to the vast foraging areas available to

marine mammals, and the localized areas affected by the activity are not of particular value.

Avoidance by potential prey (*i.e.,* fish or, in the case of transient killer whales, other marine mammals) of the immediate area due to the temporary loss of this foraging habitat is also possible. The duration of fish and marine mammal avoidance of this area after geotechnical survey activities is unknown, but a rapid return to normal recruitment, distribution, and behavior is anticipated. Any behavioral avoidance by fish or marine mammals of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity.

In-water Construction Effects on Potential Prey—Sound may affect marine mammals through impacts on the abundance, behavior, or distribution of prey species (*e.g.,* crustaceans, cephalopods, fish, zooplankton). Marine mammal prey varies by species, season, and location and, for some, is not well documented. Here, we describe studies regarding the effects of noise on known marine mammal prey.

Fish utilize the soundscape and components of sound in their environment to perform important functions such as foraging, predator avoidance, mating, and spawning (*e.g.,* Zelick *et al.,* 1999; Fay, 2009). Depending on their hearing anatomy and peripheral sensory structures, which vary among species, fishes hear sounds using pressure and particle motion sensitivity capabilities and detect the motion of surrounding water (Fay *et al.,* 2008). The potential effects of noise on fishes depends on the overlapping frequency range, distance from the sound source, water depth of exposure, and species-specific hearing sensitivity, anatomy, and physiology. Key impacts to fishes may include behavioral responses, hearing damage, barotrauma (pressure-related injuries), and mortality.

Fish react to sounds which are especially strong and/or intermittent low-frequency sounds, and behavioral responses such as flight or avoidance are the most likely effects. Short duration, sharp sounds can cause overt or subtle changes in fish behavior and local distribution. The reaction of fish to noise depends on the physiological state of the fish, past exposures, motivation (*e.g.,* feeding, spawning, migration), and other environmental factors. Hastings and Popper (2005) identified several studies that suggest fish may relocate to avoid certain areas of sound energy. Additional studies have documented effects of underwater anthropogenic noise on fish, although several are based on studies in support of large, multiyear bridge construction projects (*e.g.,* Popper and Hastings, 2009; Scholik and Yan 2001; Scholik and Yan 2002). Several studies have demonstrated that impulse sounds might affect the distribution and behavior of some fishes, potentially impacting foraging opportunities or increasing energetic costs (*e.g.,* Fewtrell and McCauley, 2012; Pearson *et al.,* 1992; Skalski *et al.,* 1992; Santulli *et al.,* 1999; Paxton *et al.,* 2017). However, some studies have shown no or slight reaction to impulse sounds (*e.g.,* Pena *et al.,* 2013; Wardle *et al.,* 2001; Jorgenson and Gyselman, 2009; Cott *et al.,* 2012). More commonly, though, the impacts of noise on fish are temporary.

SPLs of sufficient strength have been known to cause injury to fish and fish mortality. However, in most fish species, hair cells in the ear continuously regenerate and loss of auditory function likely is restored when damaged cells are replaced with new cells. Halvorsen *et al.* (2012a) showed that a TTS of 4–6 dB was recoverable within 24 hours for one species. Impacts would be most severe when the individual fish is close to the source and when the duration of exposure is long. Injury caused by barotrauma can range from slight to severe and can cause death, and is most likely for fish with swim bladders. Barotrauma injuries have been documented during controlled exposure to impact pile driving (Halvorsen *et al.,* 2012b; Casper *et al.,* 2013).

The greatest potential impact to fishes during geotechnical survey activities would occur during LPT sampling, which is estimated to occur on up to 15 days for a maximum of 1 hour and 3600 strikes per day. In-water construction activities would only occur during daylight hours, allowing fish to forage and transit the project area in the evening. Borehole drilling would possibly elicit behavioral reactions from fishes such as temporary avoidance of the area but is unlikely to cause injuries to fishes or have persistent effects on local fish populations.

The most likely impact to fishes from geotechnical survey activities in the project area would be temporary behavioral avoidance of the area. The duration of fish avoidance of the area after geotechnical survey activity stops is unknown but a rapid return to normal recruitment, distribution, and behavior is anticipated. There are times of known seasonal marine mammal foraging when fish are aggregating but the impacted areas are small portions of the total foraging habitats available in the regions. In general, impacts to marine mammal prey species are expected to be minor and temporary. Further, it is anticipated that preparation activities for geotechnical surveys and upon initial startup of devices would cause fish to move away from the affected area where injuries may occur. Therefore, relatively small portions of the proposed project area would be affected for short periods of time, and the potential for effects on fish to occur would be temporary and limited to the duration of sound-generating activities.

In summary, given the short daily duration of sound associated with individual geotechnical survey events and the relatively small areas being affected, geotechnical survey activities associated with the proposed action are not likely to have a permanent adverse effect on any fish habitat, or populations of fish species. Any behavioral avoidance by fish of the disturbed area would still leave significantly large areas of fish and marine mammal foraging habitat in the nearby vicinity. Thus, we conclude that impacts of the specified activity are not likely to have more than short-term adverse effects on any prey habitat or populations of prey species. Further, any impacts to marine mammal habitat are not expected to result in significant or long-term consequences for individual marine mammals, or to contribute to adverse impacts on their populations.

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes proposed for authorization through the IHA, which will inform NMFS' consideration of ''small numbers,'' the negligible impact determinations, and impacts on subsistence uses.

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance, which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would primarily be by Level B harassment, as use of acoustic sources (LPT and borehole drilling) has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for auditory injury

(AUD INJ) (Level A harassment) to result, for northern fur seal because fur seals are common in the immediate vicinity of the planned activity and predicted AUD INJ are larger than planned shutdown zones. AUD INJ is unlikely to occur for other species. The proposed mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

As described previously, no serious injury or mortality is anticipated or proposed to be authorized for this activity. Below, we describe how the proposed take numbers are estimated.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic criteria above which NMFS believes the best available science indicates marine mammals will likely be behaviorally harassed or incur some degree of AUD INJ; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) the number of days of activities. We note that while these factors can contribute to a basic calculation to provide an initial prediction of potential takes, additional information that can qualitatively inform take estimates is also sometimes available (*e.g.,* previous monitoring results or average group size). Below, we describe the factors considered here in more detail and present the proposed take estimates.

Acoustic Criteria

NMFS recommends the use of acoustic criteria that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur AUD INJ of some degree (equated to Level A harassment). We note that the criteria for AUD INJ, as well as the names of two hearing groups, have been recently updated (NMFS 2024) as reflected below in the Level A harassment section.

Level B Harassment—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source or exposure context (*e.g.,* frequency, predictability, duty cycle, duration of the exposure, signal-to-noise ratio, distance to the source), the environment (*e.g.,* bathymetry, other noises in the area, predators in the area), and the receiving animals (hearing, motivation, experience, demography, life stage, depth) and can be difficult to predict (*e.g.,* Southall *et al.,* 2007, 2021; Ellison *et al.,* 2012). Based on what the available science indicates and the practical need to use a threshold based on a metric that is both predictable and measurable for most activities, NMFS typically uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS generally predicts that marine mammals are likely to be behaviorally harassed in a manner considered to be Level B harassment when exposed to underwater anthropogenic noise above root-mean-squared pressure received levels (RMS SPL) of 120 dB (referenced to 1 micropascal (re 1 μPa)) for continuous (*e.g.,* vibratory pile driving, drilling) and above RMS SPL 160 dB re 1 μPa for non-explosive impulsive (*e.g.,* seismic airguns) or intermittent (*e.g.,* scientific sonar) sources. Generally speaking, Level B harassment take estimates based on these behavioral harassment thresholds are expected to include any likely takes by TTS as, in most cases, the likelihood of TTS occurs at distances from the source less than those at which behavioral harassment is likely. TTS of a sufficient degree can manifest as behavioral harassment, as reduced hearing sensitivity and the potential reduced opportunities to detect important signals (conspecific communication, predators, prey) may result in changes in behavior patterns that would not otherwise occur.

USACE's geotechnical survey activities includes the use of continuous (borehole drilling) and impulsive (LPT) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 μPa, respectively are applicable.

Level A Harassment—NMFS' Updated Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 3.0) (Updated Technical Guidance, 2024) identifies dual criteria to assess AUD INJ (Level A harassment) to five different underwater marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). USACE's proposed activity includes the use of impulsive (*i.e.,* LPT) and non-impulsive (*i.e.,* borehole drilling) sources.

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group. The thresholds are provided in the table below. The references, analysis, and methodology used in the development of the criteria are described in NMFS' 2024 Updated Technical Guidance, which may be accessed at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance-other-acoustic-tools.*

TABLE 4—THRESHOLDS IDENTIFYING THE ONSET OF AUDITORY INJURY

Hearing group	AUD INJ onset acoustic thresholds * (received level)	
	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1:* $L_{pk,flat}$ 222 dB; $L_{E,LF,24h:}$ 183 dB	*Cell 2:* $L_{E,LF,24h}$: 197 dB.
High-Frequency (HF) Cetaceans	*Cell 3:* $L_{pk,flat}$ 230 dB; $L_{E,HF,24h}$: 193 dB	*Cell 4:* $L_{E,HF,24h}$: 201 dB.
Very High-Frequency (VHF) Cetaceans	*Cell 5:* $L_{pk,flat}$ 202 dB; $L_{E,VHF,24h}$: 159 dB	*Cell 6:* $L_{E,VHF,24h}$: 181 dB.
Phocid Pinnipeds (PW) (Underwater)	*Cell 7:* $L_{pk,flat}$ 223 dB; $L_{E,PW,24h}$: 183 dB	*Cell 8:* $L_{E,PW,24h}$: 195 dB.
Otariid Pinnipeds (OW) (Underwater)	*Cell 9:* $L_{pk,flat}$ 230 dB; $L_{E,OW,24h}$: 185 dB	*Cell 10:* $L_{E,OW,24h}$: 199 dB.

* Dual metric criteria for impulsive sounds: Use whichever criteria results in the larger isopleth for calculating AUD INJ onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level criteria associated with impulsive sounds, the PK SPL criteria are recommended for consideration for non-impulsive sources.

Note: Peak sound pressure level (Lp,0-pk) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1 µPa²s. In this table, criteria are abbreviated to be more reflective of International Organization for Standardization (ISO) standards (ISO 2017; ISO 2020). The subscript "flat" is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals underwater (*i.e.,* 7 Hz to 165 kHz). The subscript associated with cumulative sound exposure level criteria indicates the designated marine mammal auditory weighting function (LF, HF, and VHF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level criteria could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these criteria will be exceeded.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that are used in estimating the area ensonified above the acoustic thresholds, including source levels and transmission loss coefficient.

The sound field in the project area is the existing background noise plus additional construction noise from the proposed project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.,* LPT and borehole drilling).

Sound Source Levels of Proposed Activities— The intensity of geotechnical survey activity sounds is greatly influenced by factors such as the size of hammers and the physical environment (*e.g.,* sediment type) in which the activity takes place. The USACE evaluated sound source level (SL) measurements available for similar geotechnical surveys to determine suitable proxies for the planned activities. The proxy source levels initially proposed by USACE were less conservative compared to what might be realized by the actual activities taking place, as the values were derived in one case, from a project that was conducted in a dissimilar sediment type from a jacked up drill rig, and in another case, from a project that did not report its parameters and environmental characteristics. NMFS has instead relied on alternative proxy SLs in our evaluation of the impacts of the USACE's planned activities (table 1) on marine mammals, with USACE concurrence.

TABLE 5—ESTIMATES OF MEAN UNDERWATER SOUND LEVELS GENERATED DURING GEOTECHNICAL SURVEYS

	dB RMS	dB Peak	dB SEL	Reference distance (m)	Reference
LPT	197	213	182	1	Huang *et al.,* 2023.
Borehole Drilling	155.9	N/A	N/A		

Note: dB peak = peak sound level; rms = root mean square; SEL = sound exposure level.

TL is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. *TL* parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater *TL* is:

$TL = B \times \mathrm{Log10}\ (R_1/R_2)$,

Where

TL = transmission loss in dB

B = transmission loss coefficient

R_1 = the distance of the modeled SPL from the driven pile, and

R_2 = the distance from the driven pile of the initial measurement

Absent site-specific acoustical monitoring with differing measured *TL,* a practical spreading value of 15 is used as the *TL* coefficient in the above formula. Site-specific *TL* data for the Sitka Sound are not available; therefore, the default coefficient of 15 is used to determine the distances to the Level A harassment and Level B harassment thresholds.

The ensonified area associated with Level A harassment is more technically challenging to predict due to the need to account for a duration component. Therefore, NMFS developed an optional User Spreadsheet tool to accompany the 2024 Updated Technical Guidance that can be used to relatively simply predict an isopleth distance for use in conjunction with marine mammal density or occurrence to help predict potential takes. We note that because of some of the assumptions included in the methods underlying this optional tool, we anticipate that the resulting isopleth estimates are typically going to be overestimates of some degree, which may result in an overestimate of potential take by Level A harassment. However, this optional tool offers the best way to estimate isopleth distances when more sophisticated modeling methods are not available or practical. For stationary sources such as geotechnical survey activities (LPT and borehole drilling), the optional User Spreadsheet tool predicts the distance at which, if a marine mammal remained at that distance for the duration of the activity, it would be expected to incur AUD INJ. Inputs used in the optional User Spreadsheet tool (*e.g.,* number of holes per day, duration, and strikes/hole) are presented in table 6 and the resulting estimated isopleths, are reported below in table 7.

TABLE 6—USER SPREADSHEET INPUTS

	Impact	Vibratory
	LPT	Borehole drilling
Spreadsheet Tab Used	E.1) Impact Pile Driving	A.1) Vibratory Pile Driving.
Source Level (SPL)	182 SEL	155.9 RMS.
Transmission Loss Coefficient	15	
Weighting Factor Adjustment (kHz)	2	2.5.
Activity Duration per day (minutes)	60	540.

TABLE 6—USER SPREADSHEET INPUTS—Continued

	Impact	Vibratory
	LPT	Borehole drilling
Number of strikes per pile	3,600	N/A
Number of piles per day	1	
Distance of sound pressure level measurement	1	

TABLE 7—LEVEL A HARASSMENT AND LEVEL B HARASSMENT ISOPLETHS AND ASSOCIATED AREAS FROM GEOTECHNICAL SURVEYS

Activity type	Level A harassment: isopleths (m)					Level B harassment isopleth (m)
	LF	HF	VHF	PW	OW	
LPT	200.5	25.6	310.2	178.1	66.4	293
Drilling	1.8	0.7	1.5	2.3	0.8	247

Abbreviations: LF = low-frequency cetaceans, HF = high-frequency cetaceans, VHF = very high-frequency cetaceans, PW = phocid pinnipeds in water, OW = otariid pinnipeds in water.

Level A harassment zones are typically smaller than Level B harassment zones. Calculation of Level A harassment isopleths include a duration component, which in the case of LPT, is estimated through the total number of daily strikes and the associated pulse duration. For a stationary sound source such as LPT, we assume there that an animal is exposed to all of the strikes expected within a 24-hour period. Calculation of a Level B harassment zone does not include a duration component.

Marine Mammal Occurrence and Take Estimation

In this section, we provide information about the occurrence of marine mammals, including density or other relevant information which will inform the take calculations. We also describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and proposed for authorization.

Potential exposures to LPT and borehole drilling noise for each acoustic threshold were estimated using data reported by the USACE from monitoring events conducted on 5 days across April and June 2024 (table 8). Northern fur seal were the only pinnipeds observed on land. The USACE reported an estimate of a single daily point count of the number of northern fur seals present at north rookery and along the shoreline towards the Old Jetty. For pinnipeds observed in the water (northern fur seal, Steller sea lion, and harbor seal), USACE reported the total number of each species observed over the course of a day. Individual sightings of pinniped groups in the water were not reported. Northern fur seal in the water were described to be moving from west to east. Steller sea lion were described to be observed near the Old Jetty in groups up to 8 to 10, and were passing through rather than lingering. On 3 days, groups of up to eight harbor seal were observed inside the Old Jetty.

TABLE 8—MONITORING DATA COLLECTED AND REPORTED BY USACE BETWEEN OLD JETTY AND NORTH ROOKERY IN 2024

Date	Hours of observation	Total hours of observation	Daily total marine mammals observed in water [1]			Daily estimates of marine mammals observed on land		
			NOFS	HASL	STSL	NOFS [2]	HASL	STSL
4/23/2024	14:30–22:00	7.5	16	6	3	No Data	No Data	No Data.
4/24/2024	08:15–22:30	14.25	22	8	11	126	0	0.
4/25/2024	08:30–23:45	15.25	32	3	14	No Data	No Data	No Data.
6/14/2024	18:00–0000	6	98	0	5	245	0	0.
6/15/2024	09:00–23:45	13.75	110	0	4	300	0	0.

[1] Individual sightings of groups of marine mammals throughout the observation period were not reported.
[2] The USACE indicated that they counted northern fur seal hauled out along approximately 1/3 of the rookery and extrapolated this number to estimate the total number of seals present along the rest of the shoreline.

The take estimate was determined using the following equation: take estimate = number of expected animals * number of planned survey days.

Northern Fur Seal

Initially, the USACE used both land-based and in-water counts to estimate the number of expected northern fur seals to be taken each survey day. For the six boreholes closest to North Rookery, USACE used the maximum number estimated on the beach across all five surveys (n = 300) and maximum number estimated in the water across all five surveys (n = 110). For the remaining nine boreholes, USACE assumed half the maximum number on the shore across all five surveys would be taken (n = 150) and the maximum number estimated in the water across all five surveys (n = 110). NMFS agrees with USACE's rationale for estimating take using on-land numbers, but disagrees that in-water counts should be used in take estimates. These observations were not recorded in concert with land-based observations and as such would double-count the number of northern fur seals that might be taken. Additionally since fine-scale data regarding pinniped use in the area are not available, NMFS finds that it is more appropriate to base

take estimates on the maximum number estimated on land for all borehole locations and the USACE agreed. The USACE concurred with this approach. As noted previously, NMFS assumes, that the number of hauled out northern fur seals at north rookery represent approximately one-third of the total population of northern fur seal in the area (Williams 2024, personal communication), and as such, the maximum count of land-based seals is multiplied by 3. As such, a total of 13,500 takes by Level B harassment of northern fur seal are proposed for authorization (15 construction days × 300 northern fur seals * 3 = 13,500 takes by Level B harassment.

During LPT activities, the Level A harassment zone (66.4 m) is larger than the shutdown zone (50 m) for northern fur seal. As such, and given the frequent occurrence of fur seals in the immediate vicinity of the project area, it is possible that northern fur seal may enter the Level A harassment zone and stay long enough to incur AUD INJ before exiting. The ratio of the Level A harassment area that exceeds the shutdown zone (0.007 km^2) to the largest Level B harassment area (0.27 km^2) is 0.026. This activity is predicted to take place 10 percent of each survey day. As such, 35 takes by Level A harassment is proposed for authorization (0.026 × 900 northern fur seal × 15 survey days × .10 = 35 takes by Level A harassment).

Any individuals exposed to the higher levels associated with the potential for PTS closer to the source might also be behaviorally disturbed; however, for the purposes of quantifying take we do not count those exposures of one individual as a take by both Level A harassment and Level B harassment. Therefore, NMFS proposes to authorize 35 takes by Level A harassment and 13,465 takes by Level B harassment for northern fur seal, for a total of 13,500 takes.

Harbor Seal

To estimate take for harbor seal, USACE used the maximum number of harbor seal observed in one day, across all survey days (n = 8). Because harbor seal are uncommon in the area and were only observed near the Old Jetty, USACE estimated take by Level B harassment to occur on 7 of the 15 construction days to correspond with the surveys that are completed closer to the Old Jetty. However, since fine-scale data regarding harbor seal use in the area are not available, NMFS finds it more appropriate to estimate that take by Level B harassment might occur at any of the borehole locations, and USACE agreed. As such, 120 takes by Level B harassment are proposed for authorization (8 harbor seal × 15 construction days). No takes by Level A harassment are requested or proposed for authorization given the relative rarity of harbor seal occurrence in conjunction with planned shutdown requirements.

Steller Sea Lion

The spring-time occurrence of Steller sea lions on St. George Island near the project area is highly variable across years. Typically there are no Steller sea lions present on land adjacent to the bay where the project is to occur in the spring, but occasionally they haul out at sites across North Rookery (primarily the western end, but extending east towards the work site), East Reef rookery, and East Cliffs rookery in groups of up to 100 (Williams 2024, personal communication). When present, they tend to travel through the project area and do not linger. During monitoring events conducted on 5 days in April and June 2024, USACE observed 3 to 14 Steller sea lions traveling near the western portion of the project area each survey day. USACE plans to shut down upon observation of Steller sea lions. Given the plan to shut down, and because Steller sea lions inconsistently occur in the project area, are conspicuous, and do not tend to linger, no takes are expected to occur and none are proposed for authorization.

Killer Whale

Killer whale have been observed in nearshore habitats of the Pribilofs including from viewing locations near the project site. Killer whale are conspicuous and USACE plans to shut down upon observation of killer whale nearing the Level B harassment zone. Shutdown zones for killer whale have been established at 300 m during borehole drilling and 400 m during LPT, whereas the calculated Level B harassment zones are 247 m and 293 m, respectively. As such, no takes by Level B or Level A harassment is requested or authorized.

TABLE 9—TAKE BY STOCK AND HARASSMENT TYPE AND AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Level A harassment	Level B harassment	Take as percentage of stock abundance
Harbor Seal	Pribilof	0	120	[1] 52
Northern Fur Seal	E. Pacific	35	13,465	2
Steller Sea Lion	Western DPS	0	0	0
Killer Whale	Eastern North Pacific Alaska Resident	0	0	0
	Eastern North Pacific Gulf of Alaska, Aleutian Islands and Bering Sea Transient.	0	0	0

[1] These numbers represent the estimated incidents of take, not the number of individuals taken (see Small Numbers section).

Proposed Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable impact on the species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock for taking for certain subsistence uses. NMFS regulations require applicants for incidental take authorizations to include information about the availability and feasibility (economic and technological) of equipment, methods, and manner of conducting the activity or other means of effecting the least practicable adverse impact upon the affected species or stocks, and their habitat (50 CFR 216.104(a)(11)).

In evaluating how mitigation may or may not be appropriate to ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, NMFS considers two primary factors:

(1) The manner in which, and the degree to which, the successful implementation of the measure(s) is expected to reduce impacts to marine

mammals, marine mammal species or stocks, and their habitat. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned), the likelihood of effective implementation (probability implemented as planned), and;

(2) The practicability of the measures for applicant implementation, which may consider such things as cost, and impact on operations.

Mitigation for Marine Mammals and Their Habitat

Temporal Work Restriction—Temporal restrictions in places where marine mammals are concentrated, engaged in biologically important behaviors, and/or present in sensitive life stages are effective measures for reducing the magnitude and severity of human impacts. NMFS is requiring a temporal work restriction to minimize the consequences of noise exposure to northern fur seal at North Rookery incidental to USACE's geotechnical surveys. This temporal work restriction is expected to greatly reduce the number and severity of northern fur seal takes that would otherwise occur should activities be conducted after arrival of pregnant females to the area in mid-June.

Shutdown Zones—For all in-water survey activities, USACE proposes to implement shutdowns within designated zones. The purpose of a shutdown zone is generally to define an area within which shutdown of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). Shutdown zones vary based on the activity type and marine mammal hearing group (table 10). For harbor seal, the shutdown zones are based on the estimated Level A harassment isopleth. For northern fur seal, the shutdown zone for LPT is set at 50 m (slightly less than the estimated Level A harassment zone of 66 m) to minimize practicability concerns, *i.e.,* that increased shutdowns may result in failure to complete the project in a timely fashion (given that non-breeding male northern fur seal are common in the project area).

TABLE 10—PROPOSED SHUTDOWN ZONES

Activity	Shutdown zones (m)					
	LF	HF	VHF	PW	OW	
					Northern fur seal	Other OW
Borehole Drilling	300			10	10	300
LPT	400			200	50	400

Construction supervisors and crews, Protected Species Observers (PSOs), and relevant USACE staff must avoid direct physical interaction with marine mammals during construction activity. If a marine mammal comes within 10 m of such activity, operations must cease and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions, as necessary to avoid direct physical interaction. If an activity is delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the shutdown zone indicated in table 10, or 15 minutes have passed without re-detection of the animal.

Finally, construction activities must be halted upon observation of a species for which incidental take is not authorized or a species for which incidental take has been authorized but the authorized number of takes has been met entering or within any harassment zone. If a marine mammal species not covered under the IHA enters a harassment zone, all in-water activities will cease until the animal leaves the zone or has not been observed for at least 15 minutes, and NMFS would be notified about species and precautions taken. Borehole drilling and LPT will proceed if the unauthorized species is observed leaving the harassment zone or if 15 minutes have passed since the last observation.

Protected Species Observers (PSOs)—The number and placement of PSOs during all construction activities (described in the Proposed Monitoring and Reporting section) would ensure that the entire shutdown zone is visible during all in-water LPT and borehole drilling activities. In such cases, PSOs would monitor the shutdown zone and beyond to the greatest extent practicable. USACE would employ at least two PSOs for all geotechnical survey activities.

Monitoring for Level A and Level B Harassment—PSOs would monitor the shutdown zones and beyond to the extent that PSOs can see. Monitoring beyond the shutdown zones enables observers to be aware of and communicate the presence of marine mammals in the project areas outside the shutdown zones and thus prepare for a potential cessation of activity should the animal enter the shutdown zone. If a marine mammal enters either harassment zone, PSOs will document the marine mammal's presence and behavior.

Pre- and Post-Activity Monitoring—Prior to the start of daily in-water construction activity, or whenever a break in geotechnical survey activities of 30 minutes or longer occurs, PSOs would observe the shutdown zones and as much as the harassment zones as possible for a period of 30 minutes. Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead PSO to determine that the shutdown zones are clear of marine mammals. If the shutdown zone is obscured by fog or poor lighting conditions, in-water construction activity will not be initiated until the entire shutdown zone is visible. Geotechnical survey activities may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals. If a marine mammal is observed entering or within shutdown zones, geotechnical survey activity must be delayed or halted. If geotechnical survey activities are delayed or halted due to the presence of a marine mammal, the activity may not commence or resume until either the animal has voluntarily exited and been visually confirmed beyond the

shutdown zone or 15 minutes have passed without re-detection of the animal. If a marine mammal for which take by Level B harassment is authorized is present in the Level B harassment zone, activities may begin.

Soft Start—Note that while NMFS typically requires soft starts for impact pile driving activities, USACE indicated this mitigation measure is not appropriate for LPT because it is not possible to decrease the impact from the LPT because the number of blows per fixed distance driven is an indicator of soil properties that are used in design.

Based on our evaluation of the applicant's proposed measures, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for subsistence.

Proposed Monitoring and Reporting

In order to issue an IHA for an activity, section 101(a)(5)(D) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for authorizations must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present while conducting the activities. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring.

Monitoring and reporting requirements prescribed by NMFS should contribute to improved understanding of one or more of the following:

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.,* presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the activity; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas);
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors;
- How anticipated responses to stressors impact either: (1) long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks;
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat); and,
- Mitigation and monitoring effectiveness.

Visual Monitoring—Marine mammal monitoring during geotechnical survey activities must be conducted by NMFS-approved PSOs in a manner consistent with the following:

- PSOs must be independent (*i.e.,* not construction personnel), and have no other assigned tasks during monitoring periods;
- At least one PSO must have prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization;
- Other PSOs may substitute other relevant experience, education (degree in biological science or related field) or training for experience performing the duties of a PSO during construction activities pursuant to a NMFS-issued incidental take authorization;
- Where a team of three or more PSOs is required, a lead observer or monitoring coordinator will be designated. The lead observer will be required to have prior experience working as a marine mammal observer during construction activity pursuant to a NMFS-issued incidental take authorization; and,
- PSOs must be approved by NMFS prior to beginning any activity subject to this IHA.

PSOs should also have the following additional qualifications:

- Ability to conduct field observations and collect data according to assigned protocols;
- Experience or training in the field identification of marine mammals, including identification of behaviors;
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;
- Writing skills sufficient to prepare a report of observations including, but not limited to, the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates, times, and reason for implementation of mitigation (or why mitigation was note implemented when required); and marine mammal behavior; and,
- Ability to communicate orally, by radio or in person, with project personnel to provide real-time information on marine mammals observed in the area as necessary.

Visual Monitoring of the Project Area—Visual monitoring of the project area would be conducted by a minimum of two trained PSOs positioned at suitable vantage points (see figure 3–2 in the Marine Mammal Mitigation and Monitoring Plan). During all geotechnical activities, at least two PSOs would be assigned to each active survey location to monitor the shutdown zones and harassment zones. At least one of these PSOs would observe from the cliffs adjacent to the project site. When conducting geotechnical survey activities at offshore locations, one of these PSOs would be placed on the barge.

Monitoring of the project area would be conducted 30 minutes before, during, and 30 minutes after all in water construction activities. In addition, PSOs will record all incidents of marine mammal occurrence, regardless of distance from activity, and will document any behavioral reactions in concert with distance from geotechnical survey activities. Geotechnical survey activities include the time to conduct LPT and borehole drilling, as long as the time elapsed between uses of the geotechnical survey equipment is no more than 30 minutes.

Visual Monitoring of North Rookery—To inform take estimates for future construction activities, PSOs would also conduct daily morning counts of hauled out pinnipeds at North Rookery, from the Northern Point of north Rookery and following the rocky shoreline to the south, during the project period and in the morning, prior to commencing work. USACE would determine the site specific counting area each day based on accessibility, any need to avoid seals above the cliffs, and visibility below the cliffs. USACE would provide coordinates identifying the PSO monitoring location and the start and end location of where counts are conducted each day.

Reporting

USACE would submit a draft marine mammal monitoring report to NMFS within 90 days after the completion of geotechnical survey activities, or 60 days prior to a requested date of issuance of any future IHAs for the project, or other projects at the same location, whichever comes first. The

marine mammal monitoring report will include an overall description of work completed, a narrative regarding marine mammal sightings during all visual monitoring, and associated PSO data sheets. Specifically, the report will include:

- Dates and times (begin and end) of all marine mammal monitoring;
- Geotechnical survey activities occurring during each daily observation period, including: (1) the number and type of survey activities completed and the method (*e.g.,* LPT or borehole drilling); and, (2) total duration of driving time for each survey location (borehole drilling) and number of strikes for each survey location (LPT);
- PSO locations during marine mammal monitoring;
- Start and end location of monitoring area associated with Visual Monitoring of North Rookery morning counts;
- Environmental conditions during monitoring periods (at beginning and end of PSO shift and whenever conditions change significantly), including Beaufort sea state and any other relevant weather conditions including cloud cover, fog, sun glare, and overall visibility to the horizon, and estimated observable distance;
- During all monitoring efforts, upon observation of a marine mammal, the following information: (1) name of PSO who sighted the animal(s) and PSO location and activity at time of sighting; (2) time of sighting; (3) identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentified), PSO confidence in identification, and the composition of the group if there is a mix of species; (4) distance and location of each observed marine mammal relative to the survey location for each sighting; (5) estimated number of animals (min/max/best estimate); (6) estimated number of animals by cohort (adults, juveniles, neonates, group composition, *etc.*);
- During monitoring associated with geotechnical activities only, the following information (1) animal's closest point of approach and estimated time spent within the harassment zone; and, (2) description of any marine mammal behavioral observations (*e.g.,* observed behaviors such as feeding or traveling), including an assessment of behavioral responses thought to have resulted from the activity (*e.g.,* no response or changes in behavioral state such as ceasing feeding, changing direction, flushing, or breaching);
- Number of marine mammals detected within the harassment zones, by species; and,
- Detailed information about implementation of any mitigation (*e.g.,* shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

A final report must be prepared and submitted within 30 calendar days following receipt of any NMFS comments on the draft report. If no comments are received from NMFS within 30 calendar days of receipt of the draft report, the report shall be considered final. All PSO data would be submitted electronically in a format that can be queried, such as a spreadsheet or database, and would be submitted with the draft marine mammal report.

In the event that personnel involved in the geotechnical activities discover an injured or dead marine mammal, the Holder must report the incident to the Office of Protected Resources (OPR), NMFS (*PR.ITP.MonitoringReports@noaa.gov* and *itp.fleming@noaa.gov*) and Alaska Regional Stranding network (877–925–7773) as soon as feasible. If the death or injury was clearly caused by the specified activity, the Holder must immediately cease the activities until NMFS OPR is able to review the circumstances of the incident and determine what, if any, additional measures are appropriate to ensure compliance with the terms of this IHA. The Holder must not resume their activities until notified by NMFS. The report must include the following information:

- Time, date, and location (latitude/longitude) of the first discovery (and updated location information if known and applicable);
- Species identification (if known) or description of the animal(s) involved;
- Condition of the animal(s) (including carcass condition if the animal is dead);
- Observed behaviors of the animal(s), if alive;
- If available, photographs or video footage of the animal(s); and,
- General circumstances under which the animal was discovered.

Negligible Impact Analysis and Determination

NMFS has defined 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). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.,* population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be ''taken'' through harassment, NMFS considers other factors, such as the likely nature of any impacts or responses (*e.g.,* intensity, duration), the context of any impacts or responses (*e.g.,* critical reproductive time or location, foraging impacts affecting energetics), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' 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 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).

To avoid repetition the majority of our analysis applies to all the species listed in table 2, given that many of the anticipated effects of this project on different marine mammal stocks are expected to be relatively similar in nature. Where there are meaningful differences between species or stocks, or groups of species, in anticipated individual responses to activities, impact of expected take on the population due to differences in population status, or impacts on habitat, they are described independently in the analysis below.

Geotechnical surveys associated with the project, as outlined previously, have the potential to disturb or displace marine mammals. Specifically, the specified activities may result in take, in the form of Level B and Level A harassment, from underwater sounds generated by borehole drilling and LPT. Potential takes could occur if individuals are present in the ensonified zone when these activities are underway.

Takes by Level B harassment would be due to potential behavioral disturbance and TTS.

Takes by Level A harassment would be due to auditory injury. No serious injury or mortality would be expected, even in the absence of required mitigation measures, given the nature of the activities. The potential for harassment would be further minimized through the implementation of planned mitigation measures (see Proposed Mitigation section). A low amount of

take by Level A harassment is expected for northern fur seal (n=35) to account for the possibility that an animal would enter the Level A harassment zone and remain within that zone for a duration long enough to incur auditory injury before moving away. Any take by Level A harassment of northern fur seal is expected to arise from, at most, a small degree of PTS (*i.e.,* minor degradation of hearing capabilities within regions of hearing that align most completely with the energy produced by LPT such as the low-frequency region below 2 kHz), not severe hearing impairment or impairment within the ranges of greatest hearing sensitivity. Animals would need to be exposed to higher levels and/or longer duration than are expected to occur here in order to incur any more than a small degree of PTS. Some subset of northern fur seal or harbor seal that are behaviorally harassed could also simultaneously incur some small degree of TTS for a short duration of time. However, since the hearing sensitivity of individuals that incur TTS is expected to recover completely within minutes to hours, it is unlikely that the brief hearing impairment would affect the individual's long-term ability to forage and communicate with conspecifics, and would therefore not likely impact reproduction or survival of any individual marine mammal, let alone adversely affect rates of recruitment or survival of the species or stock. Likewise, due to the small degree anticipated, any PTS potential would not be expected to affect the reproductive success or survival of any individuals, much less result in adverse impacts on the species or stock.

Effects on individuals that are taken by Level B harassment in the form of behavioral disruption, on the basis of reports in the literature as well as monitoring from other similar activities, would likely be limited to reactions such as avoidance, increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.,* Thorson and Reyff, 2006). Most likely, individuals would simply move away from the sound source and temporarily avoid the area where geotechnical surveys are occurring. If sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activities are occurring. We expect that any avoidance of the project areas by marine mammals would be temporary in nature and that any marine mammals that avoid the project areas during geotechnical surveys would not be permanently displaced. Indirect effects on marine mammal prey during the geotechnical surveys are expected to be minor, and these effects are unlikely to cause substantial effects on marine mammals at the individual level. Given the time of year in which project activities are planned, short-term avoidance of the project areas and energetic impacts of interrupted foraging or other important behaviors is unlikely to affect the reproduction or survival of individual marine mammals, and the effects of behavioral disturbance on individuals is not likely to accrue in a manner that would affect the rates of recruitment or survival of any affected stock.

For harbor seal, take would occur within a limited, relatively confined area of the stock's range, which is not of particular importance for harbor seal that may occur there. Given the availability of suitable habitat nearby, any displacement of marine mammals from the project areas is not expected to affect marine mammals' fitness, survival, and reproduction due to the limited geographic area that would be affected in comparison to available habitat elsewhere on the island. Additionally, NMFS anticipates that the prescribed mitigation will minimize the duration and intensity of expected harassment events.

While the project site is located adjacent to the largest northern fur seal rookery in the world, the exposure of northern fur seal to sound from the proposed activities would be minimized by the time of year the work is planned and required proposed mitigation measures (*e.g.,* shutdown zones). Beginning in April, adult males will land at a number of sites where they begin to determine which site to establish their breeding territory before the arrival of females in mid-June and July. Non-breeding aged males will land and haul out along the rocky shoreline adjacent to the Access Ramp labeled in figure 4–3 in the USACE's application, while, territorial males will occupy and defend prime breeding territories before females arrive in mid-June and July. Pregnant females arrive around mid-June each year. They give birth just days after arrival on land and then mate (NMFS, 2024). Pups are nursed until weaning (about 4 months) and leave their breeding site before their mothers to forage independently for the first time.

All in-water geotechnical survey activities would be conducted between April 15 and June 15. The planned temporal work restriction is established to ensure that project activities do not impact northern fur seals during sensitive life stages (*i.e.,* when pregnant and pupping northern fur seals are present). The temporal work restriction would also greatly reduce the overall number of takes of northern fur seal as fewer northern fur seal are present in the spring compared to the summer.

While the project site is adjacent to the largest northern fur seal rookery in the world, the effects of the activities on marine mammal habitat generally, such as sedimentation and impacts to the availability of prey species, are expected to be limited both spatially and temporally, constrained to the immediate area around each geotechnical survey location and returning to baseline levels quickly. Some fish may leave the area of disturbance, thus temporarily impacting foraging opportunities for non-breeding male northern fur seals (territorial males do not forage after establishing territories) and harbor seal in a limited portion of the foraging range; but, because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

In addition, it is unlikely that minor noise effects in a small, localized area of habitat would have any effect on each stock's ability to recover. In combination, we believe that these factors, as well as the available body of evidence from other similar activities, demonstrate that the potential effects of the specified activities would have only minor, short-term effects on individuals. The specified activities are not expected to impact rates of recruitment or survival and would therefore not result in population-level impacts.

In summary and as described above, the following factors primarily support our preliminary determination that the impacts resulting from this activity are not expected to adversely affect any of the species or stocks through effects on annual rates of recruitment or survival:

- No serious injury or mortality is anticipated or authorized;
- Level A harassment, for northern fur seal only, would be very small amounts of a low degree;
- Anticipated take by Level B harassment are relatively low for all stocks;
- Level B harassment would be primarily in the form of behavioral disturbance, resulting in avoidance of the project areas around where borehole drilling or LPT is occurring, with some low-level TTS that may limit the detection of acoustic cues for relatively brief amounts of time in relatively confined footprints of activities;
- Effects on species that serve as prey for marine mammals from the activities

are expected to be short-term and, therefore, any associated impacts on marine mammal feeding are not expected to result in significant or long-term consequences for individuals, or to accrue to adverse impacts on their populations;

- The ensonified areas are very small relative to the overall habitat ranges of all species and stocks, and would not adversely affect any areas of known biological importance;
- The lack of anticipated significant or long-term negative effects to marine mammal habitat; and,
- USACE would implement mitigation measures including visual monitoring, and shutdown zones to minimize the numbers of marine mammals exposed to injurious levels of sound.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily finds that the total marine mammal take from the proposed activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted previously, only take of small numbers of marine mammals may be authorized under sections 101(a)(5)(A) and (D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, where estimated numbers are available, NMFS compares the number of individuals taken to the most appropriate estimation of abundance of the relevant species or stock in our determination of whether an authorization is limited to small numbers of marine mammals. When the predicted number of individuals to be taken is fewer than one-third of the species or stock abundance, the take is considered to be of small numbers. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

The amount of take NMFS proposed to authorize is below one-third of the estimated stock abundance for all species, except for Pribilof Island harbor seals (table 2).

The total number of takes proposed for authorization of harbor seal, if assumed to accrue solely to new individuals of the Pribilof Island stock, is >50 percent of the total stock abundance, which is currently estimated as 229. However, these numbers represent the estimated incidents of take, not the number of individuals taken. That is, it is expected that a relatively small subset of these harbor seal would be harassed by project activities, as harbor seal primarily occur to the west on the far side of St. George Island. (Williams, 2024, personal communication). Given that the specified activity will be stationary within an area not recognized as any special significance that would serve to attract or aggregate harbor seals we therefore believe that the estimated numbers of takes, were they to occur, likely represent repeated exposures of a much smaller number of harbor seals and that these estimated incidents of take represent small numbers of harbor seal.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals would be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

In order to issue an IHA, NMFS must find that the specified activity will not have an ''unmitigable adverse impact'' on the subsistence uses of the affected marine mammal species or stocks by Alaskan Natives. NMFS has defined ''unmitigable adverse impact'' in 50 CFR 216.103 as an impact resulting from the specified activity: (1) That is likely to reduce the availability of the species to a level insufficient for a harvest to meet subsistence needs by: (i) Causing the marine mammals to abandon or avoid hunting areas; (ii) Directly displacing subsistence users; or (iii) Placing physical barriers between the marine mammals and the subsistence hunters; and (2) That cannot be sufficiently mitigated by other measures to increase the availability of marine mammals to allow subsistence needs to be met.

Alaska Natives on St. George Island harvest subsistence resources, including northern fur seal, harbor seal, and Steller sea lion. Pribilovians on St. George Island may harvest up to a total of 500 male fur seals each year over the course of both the sub-adult harvest and the male young of the year harvest (50 CFR 216.72), On St. George Island, the open season for male sub-adult fur seal harvest runs from June 23 through August 8 annually, while the male young of the year fur seal open season spans from September 16 through November 30 annually. The most recent monitoring report available indicates that only 10 male sub-adult fur seal and 6 male young of the year fur seal were harvested in 2023 (Kashevarof, 2023a; Kashevarof, 2023b). There are no formal seasons for harbor seals or Steller sea lion, but historically they are spring, winter, and fall (Williams, 2025, personal communication).

USACE contacted Mark Merculief, the mayor St. George, Alaska, and described him as a subsistence hunter who personally knows every subsistence hunter in St. George community. Mayor Merculief indicated that in recent years there have been no subsistence efforts for marine mammals during the planned project period.

The proposed project is not likely to adversely impact the availability of any marine mammal species or stocks that are commonly used for subsistence purposes or impact subsistence harvest of marine mammals in the region because:

- Geotechnical surveys are planned to be conducted prior to the opening of subsistence hunting for northern fur seal and during a time when other pinnipeds have not been subsistence harvested in recent years;
- Geotechnical surveys are temporary and localized to between the Old Jetty and North Rookery;
- Mitigation measures will be implemented to avoid disturbance of Steller sea lion in the area and minimize disturbance of harbor seal and northern fur seal;
- The project is not expected to result in significant changes to availability of subsistence resources.

Based on the description of the specified activity, the measures described to minimize adverse effects on the availability of marine mammals for subsistence purposes, and the proposed mitigation and monitoring measures, NMFS has preliminarily determined that there will not be an unmitigable adverse impact on subsistence uses from USACE's proposed activities.

Endangered Species Act

Section 7(a)(2) of the ESA of 1973 (16 U.S.C. 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally whenever we propose to authorize take for endangered or threatened species.

No incidental take of ESA-listed species is proposed for authorization or

expected to result from this activity. Therefore, NMFS has determined that formal consultation under section 7 of the ESA is not required for this action.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to USACE for conducting geotechnical survey activities in St. George, Alaska between April 15, 2025 and June 15, 2025, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. A draft of the proposed IHA can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-construction-activities.*

Request for Public Comments

We request comment on our analyses, the proposed authorization, and any other aspect of this notice of proposed IHA for the proposed geotechnical survey activities. We also request comment on the potential renewal of this proposed IHA as described in the paragraph below. Please include with your comments any supporting data or literature citations to help inform decisions on the request for this IHA or a subsequent renewal IHA.

On a case-by-case basis, NMFS may issue a one-time, 1-year renewal IHA following notice to the public providing an additional 15 days for public comments when (1) up to another year of identical or nearly identical activities as described in the Description of Proposed Activity section of this notice is planned or (2) the activities as described in the Description of Proposed Activity section of this notice would not be completed by the time the IHA expires and a renewal would allow for completion of the activities beyond that described in the *Dates and Duration* section of this notice, provided all of the following conditions are met:

- A request for renewal is received no later than 60 days prior to the needed renewal IHA effective date (recognizing that the renewal IHA expiration date cannot extend beyond 1 year from expiration of the initial IHA);
- The request for renewal must include the following:

(1) An explanation that the activities to be conducted under the requested renewal IHA are identical to the activities analyzed under the initial IHA, are a subset of the activities, or include changes so minor (*e.g.,* reduction in pile size) that the changes do not affect the previous analyses, mitigation and monitoring requirements, or take estimates (with the exception of reducing the type or amount of take); and

(2) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized; and

- Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures will remain the same and appropriate, and the findings in the initial IHA remain valid.

Dated: February 28, 2025.

Kimberly Damon-Randall,

Director, Office of Protected Resources, National Marine Fisheries Service.

[FR Doc. 2025–03543 Filed 3–4–25; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648–XE691]

New England Fishery Management Council; Public Meeting

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Notice of public meeting.

SUMMARY: The New England Fishery Management Council (Council) is scheduling a public hybrid meeting of its Joint Skate and Monkfish Committees to consider actions affecting New England fisheries in the exclusive economic zone (EEZ). Recommendations from this group will be brought to the full Council for formal consideration and action, if appropriate.

DATES: This meeting will be held on Thursday, March 20, 2025 at 9 a.m.

ADDRESSES: *Meeting address:* This meeting will take place at Hampton Inn, 20 Hotel Drive, South Kingstown, RI 02879; telephone: (401) 788–3500.

Webinar registration URL information: *https://nefmc-org.zoom.us/meeting/register/UIhZi_rqTEyS9ePBCCBueA.*

Council address: New England Fishery Management Council, 50 Water Street, Mill 2, Newburyport, MA 01950.

FOR FURTHER INFORMATION CONTACT: Cate O'Keefe, Executive Director, New England Fishery Management Council; telephone: (978) 465–0492.

SUPPLEMENTARY INFORMATION:

Agenda

The Joint Skate and Monkfish Committees will meet to discuss Overview of 2025 Council work priorities for the Skate and Monkfish Fishery Management Plans. They will review research updates on skate and monkfish. The committees will also discuss the plans for the 2025 Monkfish and Skate Management Track Assessments. Also, on the agenda is the development of separate specifications actions for the Monkfish and Skate Fishery Management Plans (a) Fishing years 2026–2028 monkfish specifications; initiate Framework Adjustment 17, (b) Fishing years 2026–2027 skate specifications, (c) Range of potential measures (monkfish and skate possession limits, Monkfish Days-At-Sea). They will also review plans for the Joint Monkfish-Skate Plan Development Teams to develop joint analyses on monkfish and skate fisheries overlap. Other business will be discussed if necessary.

Although non-emergency issues not contained on the agenda may come before this Council for discussion, those issues may not be the subject of formal action during this meeting. Council action will be restricted to those issues specifically listed in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Act, provided the public has been notified of the Council's intent to take final action to address the emergency. The public also should be aware that the meeting will be recorded. Consistent with 16 U.S.C. 1852, a copy of the recording is available upon request.

Special Accommodations

This meeting is physically accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Cate O'Keefe, Executive Director, at (978) 465–0492, at least 5 days prior to the meeting date.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: February 28, 2025.

Diane M. DeJames-Daly,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2025–03553 Filed 3–4–25; 8:45 am]

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