BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XD635]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Trident Seafoods Bunkhouse Dock Replacement Project, Kodiak, Alaska

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

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to Trident Seafoods Corporation (Trident) to incidentally harass marine mammals during construction activities associated with the Bunkhouse Dock replacement project in Kodiak, Alaska.

DATES: This authorization is effective from March 1, 2024, through February 29, 2025.

ADDRESSES: 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.

FOR FURTHER INFORMATION CONTACT: Rachel Wachtendonk, 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 mitigation, monitoring and reporting of the takings are set forth. The definitions of all applicable MMPA statutory terms cited above are included in the relevant sections below.

Summary of Request

On June 15, 2023, NMFS received a request from Trident for an IHA to take marine mammals incidental to vibratory and impact pile driving to replace the Bunkhouse Dock at their facility in Kodiak, Alaska. Following NMFS' review of the application, Trident submitted a revised version on September 1, 2023. The application was deemed adequate and complete on October 26, 2023. Trident's request is for take of six species of marine mammals by Level B harassment only. Neither Trident nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

There are no changes from the proposed IHA to the final IHA.

Description of Specified Activity

Overview

Trident plans to remove and replace the Bunkhouse Dock on the shore of Near Island Channel in Kodiak, Alaska. Starting in March 2024 and lasting 8 weeks, Trident will use down-the-hole (DTH) drilling and vibratory pile driving to remove existing piles and install new ones.

The Bunkhouse Dock replacement will include the removal of 100 14-inch (in), or 36-centimeter (cm) diameter timber piles, 75 14-in (36-cm) steel H-piles, and 60 16-in (41-cm) diameter steel pipe piles. Once the existing piles are removed, 26 16-in (41-cm) diameter steel pipe piles and 52 24-in (61-cm) diameter steel pipe piles would be installed to support the new pier. The installation and removal of 52 temporary 24-in (61-cm) diameter steel pipe piles would be completed to support permanent pile installation. All piles will be removed with the deadpull method with the vibratory hammer being used if the deadpull method is unsuccessful. Temporary and permanent piles will be initially installed with the vibratory hammer followed by the DTH drill to embed them to their final depth.

A further detailed description of the planned construction project is provided in the **Federal Register** notice for the proposed IHA (88 FR 88874, December 26, 2023). Since that time, no changes have been made to the planned activities. Therefore, a detailed description is not provided here. Please refer to that **Federal Register** notice for the description of the specified activity. Mitigation, monitoring, and reporting measures are described in detail later in this document (please see **Mitigation** and **Monitoring and Reporting** sections).

Comments and Responses

A notice of NMFS' proposal to issue an IHA to Trident was published in the **Federal Register** on December 26, 2023 (88 FR 88874). That notice described, in detail, Trident's activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. In that notice, we requested public input on the request for authorization described therein, our analyses, the proposed authorization, and any other aspect of the notice of proposed IHA, and requested that interested persons submit relevant information, suggestions, and comments. During the 30-day public comment period, NMFS did not receive any public comments.

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 1 lists all species or stocks for which take is expected and 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 authorized, PBR and annual serious injury and mortality 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' Alaska SARs (Young *et al*., 2023), including the draft 2023 SARs. All values presented in table 1 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 1 -- Marine Mammal Species[1] Likely to Occur near the Project Area that May be Taken by Trident's 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/SI*
Order Artiodactyla – Cetacea – Mysticeti (baleen whales)						
Family Balaenopteridae (rorquals)						
Humpback Whale	*Megaptera novaeangliae*	Hawai'i[4]	-, -, N	11,278 (0.56, 7,265, 2020)	127	27.09
		Mexico-North Pacific[4]	T, D, Y	3,477 (0.101, 3,185, 2018)	43	22
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Killer Whale	*Orcinus orca*	Eastern North Pacific Alaska Resident[5]	-, -, N	1,920 (N/A, 1,920, 2019)	19	1.3
		Eastern North Pacific Gulf of Alaska, Aleutian Islands and Bering Sea Transient[6]	-, -, N	587 (N/A, 587, 2012)	5.9	0.8

Family Phocoenidae (porpoises)						
Dall's Porpoise	*Phocoenoides dalli*	Alaska[7]	-, -, N	UND (UND, UND, 2015)	UND	37
Harbor Porpoise	*Phocoena phocoena*	Gulf of Alaska	-, -, Y	31,046 (0.21, N/A, 1998)	UND	72
Order Carnivora – Pinnipedia						
Family Otariidae (eared seals and sea lions)						
Steller Sea Lion	*Eumetopias jubatus*	Western[8]	E, D, Y	49,837 (N/A, 49,837, 2022)	299	267
Family Phocidae (earless seals)						
Harbor Seal	*Phoca vitulina*	South Kodiak	-, -, N	26,448 (N/A, 22,351, 2017)	939	127

[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. In some cases, CV is not applicable.
[*]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.
[4]New SAR in 2022 following North Pacific humpback whale stock structure changes.
[5]Abundance estimates are based upon data collected more than 8 years ago and, therefore, current estimates are considered unknown.
[6]N_{est} is based upon counts of individuals identified from photo identification catalogs.
[7]The best available abundance estimate is likely an underestimate for the entire stock because it is based upon a survey that covered only a small portion of the stock's range.
[8]N_{est} is best estimate of counts, which have not been corrected for animals at sea during abundance surveys.

As indicated above, all six species (with eight managed stocks) in table 1 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur. All species that could potentially occur in the project area are included in table 5 of the IHA application. While gray whales, North Pacific right whales, minke whales, fin whales, Cuvier's beaked whales, sperm whales, Pacific white-sided dolphins, and northern fur seals in the area, the temporal and/or spatial occurrence of these species is such that take is not expected to occur, and they are not discussed further beyond the explanation provided here. These species are all considered to be rare (no sightings in

recent years) within the project area. Take of these species has not been requested nor authorized and these species are not considered further in this document.

A detailed description of the species likely to be affected by Trident's construction project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the **Federal Register** notice for the proposed IHA (88 FR 88874, December 26, 2023); since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. Please refer to that **Federal Register** notice for these descriptions. Please also refer to the NMFS website (*https://www.fisheries.noaa.gov/find-species*) for generalized species accounts.

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.*). Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.*, low-frequency cetaceans). Subsequently, NMFS (2018) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65-decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound

was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. Marine mammal hearing groups and their associated hearing ranges are provided in table 2.

Table 2 -- Marine Mammal Hearing Groups (NMFS, 2018)

Hearing Group	Generalized Hearing Range*
Low-frequency (LF) cetaceans (baleen whales)	7 Hz to 35 kHz
Mid-frequency (MF) cetaceans (dolphins, toothed whales, beaked whales, bottlenose whales)	150 Hz to 160 kHz
High-frequency (HF) cetaceans (true porpoises, *Kogia*, river dolphins, Cephalorhynchid, *Lagenorhynchus cruciger* & *L. australis*)	275 Hz to 160 kHz
Phocid pinnipeds (PW) (underwater) (true seals)	50 Hz to 86 kHz
Otariid pinnipeds (OW) (underwater) (sea lions and fur seals)	60 Hz to 39 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 are typically not as broad. Generalized hearing range chosen based on ~65-dB threshold from normalized composite audiogram, with the exception for lower limits for LF cetaceans (Southall *et al*., 2007) and PW pinniped (approximation).	

The pinniped functional hearing group was modified from Southall *et al*. (2007) on the basis of data indicating that phocid species have consistently demonstrated an extended frequency range of hearing compared to otariids, especially in the higher frequency range (Hemilä *et al*., 2006; Kastelein *et al*., 2009; Reichmuth and Holt, 2013).

For more detail concerning these groups and associated frequency ranges, please see NMFS (2018) for a review of available information.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

The effects of underwater noise from Trident's pile driving activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The notice of the proposed IHA (88 FR 88874, December 26, 2023) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from Trident's pile driving activities on marine

mammals and their habitat. That information and analysis is incorporated by reference into this final IHA determination and is not repeated here; please refer to the notice of the proposed IHA (88 FR 88874, December 26, 2023).

Estimated Take

This section provides an estimate of the number of incidental takes authorized through the IHA, which will inform both NMFS' consideration of "small numbers," and the negligible impact determinations.

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 be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to pile driving activities. Based on the nature of the activity, Level A harassment is neither anticipated nor authorized.

As described previously, no serious injury or mortality is anticipated or authorized for this activity. Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and is authorized.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals will be behaviorally harassed or incur some degree of permanent hearing impairment; (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 authorized take numbers.

Acoustic Thresholds

NMFS recommends the use of acoustic thresholds 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 permanent threshold shift (PTS) of some degree (equated to Level A harassment).

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.

Trident's planned activity includes the use of continuous (vibratory pile driving) sources, and therefore the RMS SPL threshold of 120 dB re 1 μPa is applicable. DTH drilling has both continuous and intermittent (impulsive) components as discussed in the *Description of Sound Sources* section above. When evaluating Level B harassment, NMFS recommends treating DTH as a continuous source and applying the RMS SPL thresholds of 120 dB re 1 μPa.

Level A harassment – NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Version 2.0; Technical Guidance, 2018) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). Trident's planned activity includes the use of non-impulsive (vibratory pile driving) sources. As described above, DTH includes both impulsive and non-impulsive characteristics. When evaluating Level A harassment, NMFS recommends treating DTH as an impulsive source.

These thresholds are provided in the table below. The references, analysis, and methodology used in the development of the thresholds are described in NMFS' 2018 Technical Guidance, which may be accessed at:

https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.

Table 3 -- Thresholds Identifying the Onset of Permanent Threshold Shift

	PTS Onset Thresholds* (Received Level)	
Hearing Group	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	*Cell 1* $L_{p,0\text{-pk,flat}}$: 219 dB $L_{E,p,LF,24h}$: 183 dB	*Cell 2* $L_{E,p,LF,24h}$: 199 dB
Mid-Frequency (MF) Cetaceans	*Cell 3* $L_{p,0\text{-pk,flat}}$: 230 dB $L_{E,p,MF,24h}$: 185 dB	*Cell 4* $L_{E,p,MF,24h}$: 198 dB
High-Frequency (HF) Cetaceans	*Cell 5* $L_{p,0\text{-pk,flat}}$: 202 dB $L_{E,p,HF,24h}$: 155 dB	*Cell 6* $L_{E,p,HF,24h}$: 173 dB
Phocid Pinnipeds (PW) (Underwater)	*Cell 7* $L_{p,0\text{-pk.flat}}$: 218 dB $L_{E,p,PW,24h}$: 185 dB	*Cell 8* $L_{E,p,PW,24h}$: 201 dB
Otariid Pinnipeds (OW) (Underwater)	*Cell 9* $L_{p,0\text{-pk,flat}}$: 232 dB $L_{E,p,OW,24h}$: 203 dB	*Cell 10* $L_{E,p,OW,24h}$: 219 dB

* Dual metric thresholds for impulsive sounds: Use whichever results in the largest isopleth for calculating PTS onset. If a non-impulsive sound has the potential of exceeding the peak sound pressure level thresholds associated with impulsive sounds, these thresholds are recommended for consideration.

Note: Peak sound pressure level ($L_{p,0\text{-pk}}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1 μPa^2s. In this table, thresholds are abbreviated to be more reflective of International Organization for Standardization standards (ISO, 2017). The subscript "flat" is being included to indicate peak sound pressure are flat weighted or unweighted within the generalized hearing range of marine mammals (*i.e.*, 7 Hz to 160 kHz). The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The weighted cumulative sound exposure level thresholds 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 thresholds 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 planned project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.*, vibratory pile driving and removal, DTH drilling). The maximum (underwater) area ensonified above the thresholds for behavioral harassment referenced above is 125 km^2 (48.26 mi^2), that would be truncated by land masses that would obstruct underwater sound transmission and would extend into Near Island Channel and St. Paul Harbor (see figure 5 in Trident's application). Additionally, vessel traffic and other commercial and industrial activities in the project area may contribute to elevated background noise levels which may mask sounds produced by the project.

Transmission loss (*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:

$$TL = B \times \mathrm{Log}_{10}\,(R_1/R_2), \text{ where:}$$

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.

This formula neglects loss due to scattering and absorption, which is assumed to be zero here. The degree to which underwater sound propagates away from a sound source is dependent on a variety of factors, most notably the water bathymetry and presence or absence of reflective or absorptive conditions including in-water structures

and sediments. Spherical spreading occurs in a perfectly unobstructed (free-field) environment not limited by depth or water surface, resulting in a 6-dB reduction in sound level for each doubling of distance from the source (20×log[range]). Cylindrical spreading occurs in an environment in which sound propagation is bounded by the water surface and sea bottom, resulting in a reduction of 3 dB in sound level for each doubling of distance from the source (10×log[range]). A practical spreading value of 15 is often used under conditions, such as the project site, where water increases with depth as the receiver moves away from the shoreline, resulting in an expected propagation environment that would lie between spherical and cylindrical spreading loss conditions. Practical spreading loss is assumed here.

The intensity of pile driving sounds is greatly influenced by factors such as the type of piles, hammers, and the physical environment in which the activity takes place. In order to calculate the distances to the Level A harassment and the Level B harassment sound thresholds for the methods and piles being used in this project, the applicant and NMFS used acoustic monitoring data from other locations to develop proxy source levels for the various pile types, sizes and methods. The project includes vibratory and DTH pile installation of steel pipe piles and vibratory removal of steel pipe piles, steel H-piles, and timber piles. Source levels for each pile size and driving method are presented in table 4.

Table 4 -- Proxy Sound Source Levels for Pile Sizes and Driving Methods

Pile Type	Installation or Removal	RMS SPL (re 1 µPa)	SEL (re 1 μPa^2-sec)	Source
Vibratory Pile Driving				
14-in timber pile	Removal	162	NA	Caltrans, 2020
14-in H-pile	Removal	150		Caltrans, 2020
16-in steel pile	Installation	161		NAVFAC, 2015
16-in steel pile	Removal			NAVFAC, 2015
24-in steel pile	Installation and Removal			NAVFAC, 2015

DTH Drilling[1]				
16-in steel pile	Installation	162	141	Heyvaert & Reyff, 2021; Guan & Miner, 2020
24-in steel pile	Installation		154	Heyvaert & Reyff, 2021

[1]Sound source levels for DTH were adjusted by -5 dB to reflect the use of the bubble curtain.

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 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 pile driving, 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 PTS. Inputs used in the optional User Spreadsheet tool, and the resulting estimated isopleths, are reported below.

Table 5 -- NMFS User Spreadsheet Inputs

Pile size and type	Spreadsheet tab used	Weighting factor adjustment (kHz)	Transmission loss coefficient	Number of piles per day	Activity duration (minutes)
14-in timber pile vibratory removal	A.1 Vibratory pile driving	2.5	15	25	2
14-in steel H-pile vibratory removal	A.1 Vibratory pile driving	2.5	15	20	2
16-in steel pipe pile	A.1 Vibratory pile driving	2.5	15	20	2

vibratory removal					
16-in steel pipe pile vibratory installation	A.1 Vibratory pile driving	2.5	15	5	2
24-in steel pipe pile vibratory installation (temporary)	A.1 Vibratory pile driving	2.5	15	6	2
24-in steel pipe pile vibratory removal (temporary)	A.1 Vibratory pile driving	2.5	15	8	2
24-in steel pipe pile vibratory installation	A.1 Vibratory pile driving	2.5	15	4	2
16-in steel pipe pile DTH installation	E.2 DTH pile driving	2	15	6	45
24-in steel pipe pile DTH installation (temporary)	E.2 DTH pile driving	2	15	6	30
24-in steel pipe pile DTH installation	E.2 DTH pile driving	2	15	4	60

Table 6 -- Calculated Level A and Level B Harassment Isopleths

Activity	Level A harassment zone (m)					Level B harassment zone (m)
	LF-cetaceans	MF-cetaceans	HF-cetaceans	Otariids	Phocids	
14-in timber pile vibratory removal	7.1	0.6	10.4	4.3	0.3	6,310
14-in steel H-pile vibratory removal	1	0.1	1.4	0.6	0	1,000
16-in steel pipe pile vibratory removal	5.2	0.5	7.7	3.2	0.2	5,415
16-in steel pipe pile vibratory installation	2.1	0.2	3.1	1.3	0.1	
24-in steel pipe pile vibratory installation (temporary)	2.3	0.2	3.5	1.4	0.1	

24-in steel pipe pile vibratory removal (temporary)	2.8	0.3	4.2	1.7	0.1	
24-in steel pipe pile vibratory installation	1.8	0.2	2.6	1.1	0.1	
16-in steel pipe pile DTH installation	47	1.7	56	1.8	25.2	6,310
24-in steel pipe pile DTH installation (temporary)	264.1	9.4	314.5	10.3	141.3	
24-in steel pipe pile DTH installation	319.9	11.4	381	12.5	171.2	

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.

When available, peer-reviewed scientific publications were used to estimate marine mammal abundance in the project area. Data from monitoring reports from projects on the Kodiak Ferry Terminal were used as well as reports from other projects in Kodiak, Alaska.

Here we describe how the information provided above is synthesized to produce a quantitative estimate of the take that is reasonably likely to occur and is authorized. Tables for each species are presented to show the calculation of take during the project. Both density and occurrence data was considered in incidental take estimations. Density data were used when there was no occurrence data available, or when occurrence and density data were similar. The take calculations for this project are:

Incidental take estimate = group size × days of pile driving activity, or

Incidental take estimate = (Activity Level B harassment area [km^2]

× estimated density [individuals/km^2]) × days of pile driving activity

Humpback Whale

Humpback whales are present in Kodiak year-round with peaks in the spring and fall. They are considered common in the project area, meaning there are multiple sightings every month, so they could occur daily in the project's action. In the project

area humpback whales are expected to occur at a density of 0.093 individuals per square kilometer area (Halpin *et al.*, 2009). Therefore, using the equation given above, the total number of Level B harassment takes for humpback whales would be 14. In the action area it is estimated that the majority of whales (89 percent) will be from the Hawai'i distinct population segment (DPS), 11 percent will be from the Mexico DPS, and 1 percent will be from the endangered western North Pacific DPS (Wade, 2021; Muto *et al*., 2022). Therefore 13 takes are assumed to be from the Hawai'i DPS and 1 take from the Mexico DPS.

The largest Level A harassment zone for humpback whales extends 319.9 m from the noise source (table 6). All construction work would be shut down prior to a humpback whale entering the Level A harassment zone specific to the in-water activity underway at the time. In consideration of the infrequent occurrence of humpback whales in the project area and shutdown requirements, no take by Level A harassment is anticipated or authorized for humpback whales.

Killer Whale

Killer whales are present in Kodiak year-round and are considered common in the project area, meaning there are multiple sightings every month, so they could occur daily in the project's action. A single group of up to six killer whales are expected to occur in the project area daily (Halpin *et al*., 2009). Therefore, using the equation given above, the total number of Level B harassment takes for killer whales would be 330. In the action area it is estimated that the majority of killer whales (80 percent) will be from the Alaska resident stock and 20 percent will be from the Gulf of Alaska/Aleutian Islands/Bering Sea transient stock (Muto *et al*., 2022). Therefore 264 takes are assumed to be from the Alaska resident stock and 66 takes from the Gulf of Alaska/Aleutian Islands/Bering Sea transient stock.

The largest Level A harassment zone for killer whales extends 11.4 m from the noise source (table 6). All construction work would be shut down prior to a killer whale entering the Level A harassment zone specific to the in-water activity underway at the time. In consideration of the small size of the Level A harassment zone and shutdown requirements, no take by Level A harassment is anticipated or authorized for killer whale.

Harbor Porpoise

Harbor porpoises are present in Kodiak year-round and are occur frequently in the project area, meaning there are multiple sightings every year, so they could occur monthly in the project's action. In the project area harbor porpoises are expected to occur at a density of 0.4547 individuals per square kilometer area (Marine Geospatial Ecology Lab, 2021). Therefore, using the equation given above, the total number of Level B harassment takes for harbor porpoises would be 65.

The largest Level A harassment zone for harbor porpoise extends 381 m from the noise source (table 6). All construction work would be shut down prior to a harbor porpoise entering the Level A harassment zone specific to the in-water activity underway at the time. In consideration of the relatively low anticipated exposure in the project area and the anticipated effectiveness of the shutdown requirements, no take by Level A harassment is anticipated or authorized for harbor porpoise.

Dall's Porpoise

Dall's porpoises are present in Kodiak year-round and are occur frequently in the project area, meaning there are multiple sightings every year, so they could occur monthly in the project's action. In the project area Dall's porpoises are expected to occur at a density of 0.218 individuals per square kilometer (Marine Geospatial Ecology Lab, 2021). Therefore, using the equation given above, the total number of Level B harassment takes for Dall's porpoise would be 31.

The largest Level A harassment zone for Dall's porpoise extends 381 m from the noise source (table 6). All construction work would be shut down prior to a Dall's porpoise entering the Level A harassment zone specific to the in-water activity underway at the time. In consideration of the relatively low anticipated exposure in the project area and the anticipated effectiveness of the shutdown requirements, no take by Level A harassment is anticipated or authorized for Dall's porpoise.

Harbor Seal

Harbor seals are present in Kodiak year-round and are considered common in the project area, meaning there are multiple sightings every month, so they could occur daily in the project's action. In the project area Dall's porpoises are expected to occur at a density of 0.1689 individuals per square kilometer (Marine Geospatial Ecology Lab, 2021). Therefore, using the equation given above, the total number of Level B harassment takes for harbor seals would be 24.

The largest Level A harassment zone for harbor seals extends 171.2 m from the noise source (table 6). All construction work would be shut down prior to a harbor seal entering the Level A harassment zone specific to the in-water activity underway at the time. In consideration of the relatively low anticipated exposure in the project area and the anticipated effectiveness of the shutdown requirements, no take by Level A harassment is anticipated or authorized for harbor seals.

Steller Sea Lion

Steller sea lions are present in Kodiak year-round and are considered common in the project area, meaning there are multiple sightings every month, so they could occur daily in the project's action. During construction at the Kodiak Ferry Terminal (82 FR 10894, February 26, 2017) Steller sea lions were encountered daily during construction. Up to 40 Steller sea lions are expected to occur in the project area daily (Marine

Geospatial Ecology Lab, 2021). Therefore, using the equation given above, the total number of Level B harassment takes for Steller sea lions would be 2,200.

The largest Level A harassment zone for harbor seals extends 12.5 m from the noise source (table 6). All construction work would be shut down prior to a Steller sea lion entering the Level A harassment zone specific to the in-water activity underway at the time. In consideration of the small Level A harassment isopleth and shutdown requirements, no take by Level A harassment is anticipated or authorized for Steller sea lions.

Table 7 -- Estimated Take by Level A and Level B Harassment, by Species and Stock

Common Name	Stock	Stock Abundance[a]	Level A Harassment	Level B Harassment	Total take	Take as percentage of stock
Humpback whale	Hawai'i	11,278	0	13	13	0.1
	Mexico-North Pacific	3,477	0	1	1	0.03
Killer Whale	Alaska Resident	1,920	0	264	264	13.8
	Gulf of Alaska/Aleutian Islands/Bering Sea Transient	587	0	66	66	11.2
Harbor porpoise	Gulf of Alaska	31,946	0	65	65	0.08
Dall's porpoise	Alaska	13,110	0	31	31	0.24
Steller sea lion	Western U.S.	49,837	0	2,200	2,200	4.4
Harbor seal	South Kodiak Island	26,448	0	24	24	0.09

[a]Stock abundance is N_{best} according to NMFS 2022 and draft 2023 Stock Assessment Reports.

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, as well as subsistence uses. 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.

In addition to the measures described later in this section, Trident would employ the following standard mitigation measures:

- At the start of each day, the contractor(s) would hold a briefing with the Lead Protected Species Observer (PSO) to outline the activities planned for that day.
- If poor weather conditions restrict the PSO's ability to make observations within the Level A harassment zone of pile driving (*e.g.*, if there is excessive wind or fog), pile installation and removal would be halted.

The following measures would apply to Trident's mitigation requirements:

Shutdown and Monitoring Zones

Trident must establish shutdown zones and Level B monitoring zones for all pile driving activities. 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 animal (or in anticipation of an animal entering the defined area). Shutdown zones are based on the largest Level A harassment zone for each pile size/type and driving method, and behavioral monitoring zones are meant to encompass Level B harassment zones for each pile size/type and driving method, as shown in table 8. A minimum shutdown zone of 10 m would be required for all in-water construction activities to avoid physical interaction with marine mammals. Marine mammal monitoring will be conducted during all pile driving activities to ensure that marine mammals do not enter Level A shutdown zones. Shutdown zones for each activity type are shown in table 8.

Prior to pile driving, shutdown zones and monitoring zones will be established based on zones represented in table 8. Observers will survey the shutdown zones for at least 30 minutes before pile driving activities start. If marine mammals are found within the shutdown zone, pile driving will be delayed until the animal has moved out of the shutdown zone, either verified by an observer or by waiting until 15 minutes has elapsed without a sighting. If a marine mammal approaches or enters the shutdown zone during pile driving, the activity will be halted. Pile driving may resume after the animal has moved out of and is moving away from the shutdown zone or after at least 15 minutes has passed since the last observation of the animal.

All marine mammals would be monitored in the Level B harassment zones and throughout the area as far as visual monitoring can take place. If a marine mammal enters the Level B harassment zone, in-water activities would continue and PSOs would document the animal's presence within the estimated harassment zone.

If a species for which authorization has not been granted, or a species which has been granted but the authorized takes are met, is observed approaching or within the Level B harassment zone, pile driving activities will be shut down immediately. Activities will not resume until the animal has been confirmed to have left the area or 15 minutes has elapsed with no sighting of the animal.

Table 8 -- Shutdown and Level B Harassment Zones by Activity

Pile size, type, and method	Minimum shutdown zone					Level B Harassment Zone
	Low-frequency	Mid-frequency	High-frequency	Phocid	Otariid	
Barge movements, pile positioning	10	10	10	10	10	10
14-in timber pile vibratory removal	10	10	15	10	10	6,310
14-in steel H-pile vibratory removal	10	10	10	10	10	1,000
16-in steel pipe pile vibratory removal	10	10	10	10	10	5,415
16-in steel pipe pile vibratory installation	10	10	10	10	10	5,415
24-in steel pipe pile vibratory installation (temporary)	10	10	10	10	10	5,415
24-in steel pipe pile vibratory removal (temporary)	10	10	10	10	10	5,415
24-in steel pipe pile vibratory installation	10	10	10	10	10	5,415
16-in steel pipe pile DTH installation	50	10	60	30	10	6,310
24-in steel pipe pile DTH installation (temporary)	265	10	315	145	15	6,310
24-in steel pipe pile DTH installation	320	15	385	175	15	6,310

Protected Species Observers

The placement of PSOs during all pile driving activities (described in the **Monitoring and Reporting** section) would ensure that the entire shutdown zone is visible. Should environmental conditions deteriorate such that the entire shutdown zone

would not be visible (*e.g.*, fog, heavy rain), pile driving would be delayed until the PSO is confident marine mammals within the shutdown zone could be detected.

PSOs would monitor the full shutdown zones and as much of the Level B harassment zones as possible. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring 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.

Pre- and Post-Activity Monitoring

Monitoring must take place from 30 minutes prior to initiation of pile driving activities (*i.e.*, pre-clearance monitoring) through 30 minutes post-completion of pile driving. Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, PSOs would observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone would be considered cleared when a marine mammal has not been observed within the zone for a 30-minute period. If a marine mammal is observed within the shutdown zones, pile driving activity would be delayed or halted. If work ceases for more than 30 minutes, the pre-activity monitoring of the shutdown zones would commence. A determination that the shutdown zone is clear must be made during a period of good visibility (*i.e.*, the entire shutdown zone and surrounding waters must be visible to the naked eye).

Bubble Curtain

A bubble curtain must be employed during all impact DTH activities to interrupt the acoustic pressure and reduce impact on marine mammals. The bubble curtain must distribute air bubbles around 100 percent of the piling circumference for the full depth of the water column. The lowest bubble ring must be in contact with the mudline for the full circumference of the ring. The weights attached to the bottom ring must ensure 100

percent substrate contact. No parts of the ring or other objects may prevent full substrate contact. Air flow to the bubblers must be balanced around the circumference of the pile.

Based on our evaluation of the applicant's planned measures, NMFS has determined that the 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.

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

Monitoring shall be conducted by NMFS-approved observers in accordance with the monitoring plan and section 5 of the IHA. Trained observers shall be placed from the best vantage point(s) practicable to monitor for marine mammals and implement shutdown or delay procedures when applicable through communication with the equipment operator. Observer training must be provided prior to project start, and shall include instruction on species identification (sufficient to distinguish the species in the project area), description and categorization of observed behaviors and interpretation of behaviors that may be construed as being reactions to the specified activity, proper completion of data forms, and other basic components of biological monitoring, including tracking of observed animals or groups of animals such that repeat sound exposures may be attributed to individuals (to the extent possible).

Monitoring would be conducted 30 minutes before, during, and 30 minutes after pile driving/removal activities. In addition, observers shall record all incidents of marine mammal occurrence, regardless of distance from activity, and shall document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving/removal activities include the time to install or remove a single pile or series of

piles, as long as the time elapsed between uses of the pile driving equipment is no more than 30 minutes.

Between one and five PSOs will be on duty depending on the size of the monitoring zone. Locations from which PSOs would be able to monitor for marine mammals are readily available from publicly accessible shoreside areas at the Near Island Channel and surrounding waters. Monitoring locations would be selected by the Contractor during pre-construction. PSOs would monitor for marine mammals entering the Level B harassment zones; the position(s) may vary based on construction activity and location of piles or equipment.

PSOs would scan the waters using binoculars, and/or spotting scopes, and would use a handheld range-finder device to verify the distance to each sighting from the project site. All PSOs would be trained in marine mammal identification and behaviors and are required to have no other project-related tasks while conducting monitoring. In addition, monitoring would be conducted by qualified observers, who would be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to the hammer operator via a radio. Trident would adhere to the following observer qualifications:

(i) Independent observers (*i.e.*, not construction personnel) are required;

(ii) One PSO would be designated as the lead PSO or monitoring coordinator and that observer must have prior experience working as an observer;

(iii) Other observers may substitute education (degree in biological science or related field) or training for experience; and

(iv) Trident must submit observer Curricula Vitae for approval by NMFS. Additional standard observer qualifications include:

- Ability to conduct field observations and collect data according to assigned protocols;

- Experience or training in the field identification of marine mammals, including the 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 and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; 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.

Data Collection

PSOs would use approved data forms to record the following information:

- Dates and times (beginning and end) of all marine mammal monitoring.
- PSO locations during marine mammal monitoring.

Construction activities occurring during each daily observation period, including how many and what type of piles were driven or removed and by what method (*i.e.*, vibratory or DTH).

- Weather parameters and water conditions.
- The number of marine mammals observed, by species, relative to the pile location and if pile driving or removal was occurring at time of sighting.
- Distance and bearings of each marine mammal observed to the pile being driven or removed.
- Description of marine mammal behavior patterns, including direction of travel.

- Age and sex class, if possible, of all marine mammals observed.
- Detailed information about implementation of any mitigation triggered (such as shutdowns and delays), a description of specific actions that ensued, and resulting behavior of the animal if any.

Reporting

A draft marine mammal monitoring report would be submitted to NMFS within 90 days after the completion of pile driving and removal activities. It would include an overall description of work completed, a narrative regarding marine mammal sightings, and associated PSO data sheets. Specifically, the report must include:

- Dates and times (begin and end) of all marine mammal monitoring.
- Construction activities occurring during each daily observation period, including the number and type of piles driven or removed and by what method (*i.e.*, vibratory driving) and the total equipment duration for cutting for each pile.
- PSO locations during marine mammal monitoring.
- 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;
- Upon observation of a marine mammal, the following information: name of PSO who sighted the animal(s) and PSO location and activity at time of sighting; time of sighting; 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; distance and bearing of each marine mammal observed relative to the pile being driven for each sighting (if pile driving was occurring at time of sighting); estimated number of animals (min/max/best estimate); estimated number of animals by cohort (adults,

juveniles, neonates, group composition, *etc.*); animal's closest point of approach and estimated time spent within the harassment zone; 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.
- Detailed information about any implementation of any mitigation triggered (*e.g.*, shutdowns and delays), a description of specific actions that ensued, and resulting changes in behavior of the animal(s), if any.

If no comments are received from NMFS within 30 days, the draft final report would constitute the final report. If comments are received, a final report addressing NMFS comments must be submitted within 30 days after receipt of comments.

Reporting Injured or Dead Marine Mammals

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA (if issued), such as an injury, serious injury or mortality, Trident would immediately cease the specified activities and report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the Alaska Regional Stranding Coordinator. The report would include the following information:

- Description of the incident;
- Environmental conditions (*e.g.*, Beaufort sea state, visibility);
- Description of all marine mammal observations in the 24 hours preceding the incident;
- Species identification or description of the animal(s) involved;
- Fate of the animal(s); and

- Photographs or video footage of the animal(s) (if equipment is available).

Activities would not resume until NMFS is able to review the circumstances of the prohibited take. NMFS would work with Trident to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. Trident would not be able to resume their activities until notified by NMFS via letter, email, or telephone.

In the event that Trident discovers an injured or dead marine mammal, and the lead PSO determines that the cause of the injury or death is unknown and the death is relatively recent (*e.g.*, in less than a moderate state of decomposition as described in the next paragraph), Trident would immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinator. The report would include the same information identified in the paragraph above. Activities would be able to continue while NMFS reviews the circumstances of the incident. NMFS would work with Trident to determine whether modifications in the activities are appropriate.

In the event that Trident discovers an injured or dead marine mammal and the lead PSO determines that the injury or death is not associated with or related to the activities authorized in the IHA (*e.g.*, previously wounded animal, carcass with moderate to advanced decomposition, or scavenger damage), Trident would report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources, NMFS, and the NMFS Alaska Stranding Hotline and/or by email to the Alaska Regional Stranding Coordinator, within 24 hours of the discovery. Trident would provide photographs, video footage (if available), or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network

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 discussion of our analysis applies to all the species listed in table 1, given that the anticipated effects of this activity on these different marine mammal stocks are expected to be similar. There is little information about the nature or severity of the impacts, or the size, status, or structure of any of these species or stocks that would lead to a different analysis for this activity.

Pile driving and removal activities 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 harassment from

underwater sounds generated from pile driving and removal. Level A harassment is extremely unlikely given the small size of the Level A harassment isopleths and the required mitigation measures designed to minimize the possibility of injury to marine mammals (see **Mitigation** section). No mortality is anticipated given the nature of the activity. Pile installation and removal activities are likely to result in the Level B harassment of marine mammals that move into the ensonified zone, primarily in the form of disturbance or displacement of marine mammals. Take would occur within a limited, confined area of each stock's range. Level B harassment would be reduced to the level of least practicable adverse impact through use of mitigation measures described herein. Further, the amount of take authorized is small when compared to stock abundance.

Based on reports in the literature as well as monitoring from other similar activities, behavioral disturbance (*i.e.*, level B harassment) would likely be limited to reactions such as increased swimming speeds, increased surfacing time, or decreased foraging (if such activity were occurring) (*e.g.*, Thorson and Reyff, 2006; HDR, Inc., 2012; Lerma, 2014; ABR, 2016). Most likely for pile driving, individuals would simply move away from the sound source and be temporarily displaced from the areas of pile driving, although even this reaction has been observed primarily only in association with impact pile driving. The pile driving activities analyzed here are similar to, or less impactful than, numerous other construction activities conducted in Alaska, which have taken place with no observed severe responses of any individuals or known long-term adverse consequences. Level B harassment would be reduced to the level of least practicable adverse impact through use of mitigation measures described herein and, if sound produced by project activities is sufficiently disturbing, animals are likely to simply avoid the area while the activity is occurring. While vibratory driving associated with the project may produce sound at distances of many kilometers from the project site, thus overlapping with some likely less-disturbed habitat, the project site itself is located

in a busy harbor and the majority of sound fields produced by the specified activities are close to the harbor. Animals disturbed by project sound would be expected to avoid the area and use nearby higher-quality habitats.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat. The project activities would not modify existing marine mammal habitat for a significant amount of time. The activities may cause some fish or invertebrates to leave the area of disturbance, thus temporarily impacting marine mammals' foraging opportunities in a limited portion of the foraging range; but, because of the short duration of the activities, the relatively small area of the habitat that may be affected, and the availability of nearby habitat of similar or higher value, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences.

The waters around Kodiak Island are part of the Alaska humpback whale feeding Biologically Important Area (BIA; Ferguson *et al.*, 2015). Humpback whales are present around Kodiak, although the majority of sightings have occurred outside of Near Island Channel. The area of the BIA that may be affected by the planned project is small relative to the overall area of the BIA. The humpback whale feeding BIA is active between May and November while the planned project is scheduled to occur between March and June, resulting in only 2 months of overlap. Additionally, pile driving associated with the project is expected to take only 55 days, further reducing the temporal overlap with the BIA. Therefore, the planned project is not expected to have significant adverse effects on the foraging of Alaska humpback whale. No areas of specific biological importance (*e.g.*, ESA critical habitat, other BIAs, or other areas) for any other species are known to co-occur with the project area.

In summary and as described above, the following factors primarily support our 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, mortality, or Level A harassment is anticipated or authorized;
- The anticipated incidents of Level B harassment would consist of, at worst, temporary modifications in behavior that would not result in fitness impacts to individuals;
- The ensonified areas from the project are very small relative to the overall habitat ranges of all species and stocks;
- The lack of anticipated significant or long-term negative effects to marine mammal habitat or any other areas of known biological importance; and
- The mitigation measures are expected to reduce the effects of the specified activity to the level of least practicable adverse impact.

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 monitoring and mitigation measures, NMFS finds that the total marine mammal take from the planned 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.

Table 7 demonstrates the number of animals that could be exposed to received noise levels that could cause Level B harassment for the work in Kodiak, Alaska. Our analysis shows that less than 14 percent of each affected stock could be taken by harassment. The numbers of animals authorized to be taken for these stocks would be considered small relative to the relevant stock's abundances, even if each estimated taking occurred to a new individual—an extremely unlikely scenario.

Based on the analysis contained herein of the planned activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS 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.

In the Kodiak area sea lions and harbor seals are available for subsistence harvest under the MMPA. Limited subsistence harvests of marine mammals outside of Near Island Channel has occurred in the past, with the most recent recorded/documented

harvests of marine mammals in Kodiak in 2011. The planned activity will take place in Near Island Channel, and no activities overlap with current subsistence hunting areas; therefore, there are no relevant subsistence uses of marine mammals adversely impacted by this action. The planned project is not likely to adversely impact the availability of any marine mammal species or stocks that are commonly used for subsistence purposes or to impact subsistence harvest of marine mammals in the region.

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 mitigation and monitoring measures, NMFS has determined that there will not be an unmitigable adverse impact on subsistence uses from Trident's planned activities.

Endangered Species Act

There are two marine mammal species (Mexico DPS humpback whale and western DPS Steller sea lion) with confirmed occurrence in the project area that are listed as endangered under the ESA. The NMFS Alaska Regional Office issued a Biological Opinion under section 7 of the ESA, on the issuance of an IHA to Trident under section 101(a)(5)(D) of the MMPA by the NMFS Office of Protected Resources. The Biological Opinion concluded that the proposed action is not likely to jeopardize the continued existence of Mexico DPS humpback whales or western DPS Steller sea lions, and is not likely to destroy or adversely modify Mexico DPS humpback whale and western DPS Steller sea lion critical habitat.

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 evaluate our proposed action (*i.e.*, the issuance of an IHA) and alternatives 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 determined that the issuance of this IHA qualifies to be categorically excluded from further NEPA review.

Authorization

NMFS has issued an IHA to Trident for the potential harassment of small numbers of six marine mammal species incidental to the Bunkhouse Dock replacement project in Kodiak, Alaska, that includes the previously explained mitigation, monitoring and reporting requirements.

Dated: March 6, 2024.

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Catherin Marzin,

Deputy Director, Office of Protected Resources,

National Marine Fisheries Service.

[FR Doc. 2024-05163 Filed: 3/11/2024 8:45 am; Publication Date: 3/12/2024]