E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

[RTID 0648-XF397]

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Yakutat Small Boat Harbor Replacement Project in Yakutat, Alaska

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

ACTION: Notice; issuance of an incidental harassment authorization.

SUMMARY: Notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to the City & Borough of Yakutat, Alaska (CBY) to incidentally harass marine mammals during construction activities associated with the Yakutat Small Boat Harbor Replacement Project in Yakutat, Alaska.

DATES: This authorization is effective for 1 year from the date of notification by the IHA-holder, not to exceed 1 year from the date of issuance (January 6, 2026).

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/action/incidental-take-authorization-city-borough-yakutat-alaskas-yakutat-small-boat-harbor.* In case of problems accessing these documents, please call the contact listed below.

FOR FURTHER INFORMATION CONTACT: Robert Pauline, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Marine Mammal Protection Act (MMPA) Background and Determinations

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Among the exceptions is section 101(a)(5)(D) of the MMPA (16 U.S.C. 1361 *et seq.*) which directs the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking by harassment 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 the public has an opportunity to comment on the proposed IHA.

Specifically, NMFS will issue an IHA if it 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 such species or stocks for taking for certain subsistence uses (referred to here as "mitigation"). NMFS must also prescribe requirements pertaining to the monitoring and reporting of such takings. The definitions of key terms, such as "take," "harassment," and "negligible impact," can be found in the MMPA and the NMFS' implementing regulations (see 16 U.S.C. 1362; 50 CFR 216.103).

Summary of Request

On September 30, 2025, a notice of NMFS' proposal to issue an IHA to CBY for take of marine mammals incidental to the Yakutat Small Boat Harbor Replacement Project Seward Cruise Ship Passenger Dock and Terminal Facility published in the **Federal Register** (90 FR 46812). Following NMFS' review of the application and

subsequent discussions between NMFS and CBY, the application was deemed adequate and complete on September 16, 2025.

CBY's request is for take of nine species of marine mammals by Level B harassment only, and for a subset of these species, Level A harassment. Neither CBY nor NMFS expect serious injury or mortality to result from this activity and, therefore, an IHA is appropriate.

Description of the Specified Activity

CBY is replacing the existing Yakutat Small Boat Harbor (YSBH) infrastructure which has been in use for approximately 60 years. The replacement project will improve accessibility, public safety, and continue to provide the current level of public service and vessel mooring in Yakutat, Alaska. The existing gangway, headwalk, mainwalk, finger, and seaplane floats will be removed. The existing approach dock will be extended. New modular floats will be installed following completion of the approach dock extension. Temporary and permanent piles will secure the floats during and after installation.

In-water pile driving would occur on approximately 54 non-consecutive days over the course of 1 year. The planned activities that have the potential to take marine mammals, by Level A and Level B harassment, include vibratory removal of current steel and timber piles, vibratory installation and removal of temporary steel pipe piles, vibratory and impact installation of permanent steel pipe piles, and down-the-hole drilling (DTH) of rock sockets.

A detailed description of the planned construction project is provided in the Federal Register notice for the proposed IHA (90 FR 46812, September 30, 2025). 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 specific activity.

Comments and Responses

NMFS published a notice of its proposal to issue an IHA to CBY in the **Federal Register** on September 30, 2025 (90 FR 46812). That notice described, in detail, CBY's specified activities, the marine mammal species that may be affected by the activities, 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 the proposed IHA, and requested that interested persons submit relevant information, suggestions, and comments.

No comments were received during the 30-day public comment period.

Changes from the Proposed IHA to Final IHA

Since the publication of the proposed IHA (90 FR 46812, September 30, 2025), NMFS has revised one of the assumptions made about construction processes and has corrected several minor errors and omissions.

Scientific papers by Miner (2020) and Heyvaert and Reyff (2021) were cited in the proposed IHA but were not included in the formal list of References. These items have since been added. A new reference above to Denes *et al.* (2016) has also been added to the list of References. The updated reference list may be found at: *https://www.fisheries.noaa.gov/action/incidental-take-authorization-city-borough-yakutat-alaskas-yakutat-small-boat-harbor*.

Several of the source level (SL) references shown in table 4 in this notice (table 5 in the proposed IHA) have been updated. Additionally, the SL for existing 16-inch (in) steel piles has been corrected to 163 dB RMS in this notice as it was erroneously listed as 160 dB RMS in the proposed notice. Note that 163 dB RMS was used to calculate associated isopleths in table 6 of the proposed notice. Therefore, there are no changes to isopleths derived from the non-impulsive, continuous removal of 16-in steel piles shown in table 6 of this notice.

NMFS has revised our assumptions related to the strike rate used to estimate harassment isopleths for DTH installation of 24-in steel piles. In the notice for the proposed IHA, we used 10 Hertz (Hz). However, upon receipt of updated information that a rate of 13 Hz is more appropriate for 24-in piles, we revised the rate to 13 Hz. This information is included in a new table 5 for this notice which contains all of the inputs applied to the User Spreadsheets used to calculate Level A harassment isopleths. Increasing the repetition rate to 13 Hz for DTH installation of 24-in piles resulted in an increase in auditory injury (AUD INJ) isopleth distances for all hearing groups. This is shown in table 6 in this notice. Shutdown zones for the DTH installation of 24-in piles described in table 9 of this notice have also been revised to reflect the larger Level A harassment isopleths.

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 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 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. Marine Mammal SARs. All values presented in table 1 are the most recent available at the time of publication (including from the draft 2024 SARs) and are available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments*.

Table 1 -- Species[1] with Estimated Take from 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/SI[4]
Order Artiodactyla—Infraorder Cetacea—Mysticeti (baleen whales)						
Family Eschrichtiidae:						
Gray whale	*Eschrichtius robustus*	E. North Pacific	-,-,N	26,960 (0.05, 25,849, 2016)	801	131
Family Balaenopteridae (rorquals):						
Humpback whale	*Megaptera novaeangliae*	Hawai'i[5]	-,-,N	11,278 (0.56, 7,265, 2020)	127	27.09
		Mex-North Pacific[6]	T, D, Y	918 (N/A, N/A, 2006)	UND	0.57

Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae:						
Beluga whale	*Delphinapterus leucas*	Cook Inlet	E, D, Y	331(0.076 311, 2022)[10]	0	0
Killer whale	*Orcinus orca*	E. North Pacific Alaska Resident	-,-,N	1,920, (N/A, 1,920, 2019)[7]	19	1.3
		ENP Gulf of Alaska, Aleutian Islands, and Bering Sea Transient stock	-,-,N	587 (N/A, 587, 2012)	5.9	0.8
		West Coast Transient	-,-,N	349 (N/A, 349, 2018)	3.5	0.4
Family Phocoenidae (porpoises):						
Harbor porpoise	*Phocoena phocoena*	Yakutat/SE AK Offshore	-,-,N	N/A (N/A, N/A, 1997)	UND[11]	22.5
Order - Carnivora - Pinnipedia						
Family Otariidae (eared seals and sea lions)						
California sea lion	*Zalophus californianus*	U.S.	-,-,N	257,606 (N/A, 233,515, 2014)	14,011	>321
Northern fur seal	*Callorhinus ursinus*	Eastern Pacific	-,D,Y	626,618 (0.2, 530,376, 2019)	11,403	373
Steller sea lion	*Eumetopias jubatus*	Eastern	-,-,N	36,308 (N/A, 36,308, 2022)[8]	2,178	93.2
		Western	E, D, Y	49,837 (N/A, 49,837, 2022)[9]	299	267
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina*	Prince William Sound	-,-,N	44,756 (N/A, 41,776, 2015)	1,253	413

[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/;* Committee on Taxonomy, 2022).

[2] 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.
[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. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.
[5] The best available abundance estimate for this stock is not considered representative of the entire stock as surveys were limited to a small portion of the stock's range. Based upon this estimate and the N_{min}, the PBR value is likely negatively biased for the entire stock.
[6] Abundance estimates are based upon data collected more than 8 years ago and, therefore, current estimates are considered unknown. SAR in 2022 following North Pacific humpback whale stock structure changes.
[7] Abundance estimates are based upon data collected more than 8 years ago and, therefore, current estimates are considered unknown.
[8] N_{est} 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.
[9] N_{est} 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.
[10] The Yakutat Bay beluga whales are a subset of the Cook Inlet beluga whale stock which are genetically and geographically separated and have been defined as a small and resident group.
[11] Undetermined

As indicated above, all 9 species (with 13 managed stocks) in table 1 temporally and spatially co-occur with the activity to the degree that take is reasonably likely to occur.

In addition to what is included in sections 3 and 4 of the IHA application, and NMFS' website (*https://www.fisheries.noaa.gov/find*-species), further detail informing the regional occurrence for select species of particularly or unique vulnerability (*i.e.*, information regarding ESA listed or MMPA depleted species, information regarding current Unusual Mortality Events (UME) and known important habitat areas such as Biologically Important Areas (BIAs)) (Van Parijs, 2015) were provided in the **Federal Register** notice for the proposed IHA (90 FR 46812, September 30, 2025). 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 the **Federal Register** notice for these descriptions.

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 2.

Table 2 -- 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 approximately 65 dB threshold from composite audiogram, previous analysis in NMFS (2018), and/or data from Southall *et al.* (2007) and Southall *et al.* (2019). Additionally, animals are able to detect very loud sounds above and below that "generalized" hearing range.

For more details 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

The effects of underwater noise from CBY's construction activities have the potential to result in behavioral harassment of marine mammals in the vicinity of the project area. The notice of proposed IHA (90 FR 46812**,** September 30, 2025) included a discussion of the effects of anthropogenic noise on marine mammals and the potential effects of underwater noise from CBY's construction activity on marine mammals and their habitat. That information and analysis is referenced in this final IHA determination and is not repeated here; please refer to the **Federal Register** notice of the proposed IHA (90 FR 46812, September 30, 2025).

Estimated Take of Marine Mammals

This section provides an estimate of the number of incidental takes authorized 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 pile driving and DTH has the potential to result in disruption of behavioral patterns for individual marine mammals. There is also some potential for AUD INJ (Level A harassment) to result, primarily for very high frequency species and/or phocids because predicted AUD INJ zones are larger than for high-frequency species and/or otariids.

However, the planned mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

For acoustic impacts, generally speaking, we estimate take by considering: (1) acoustic criteria above which NMFS believes there is some reasonable potential for marine mammals to 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 authorized 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; Southall *et al.*, 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, estimates of take by Level B harassment based on these behavioral harassment thresholds are expected to include any likely takes by temporary threshold shift (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.

CBY's planned activity includes the use of continuous (vibratory pile driving and DTH) and impulsive (DTH and impact pile driving) sources, and therefore the RMS SPL thresholds of 120 and 160 dB re 1 µPa 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). CBY's planned activity includes the use of impulsive (DTH and impact pile driving) and non-impulsive (vibratory pile driving and DTH) sources.

The 2024 Updated Technical Guidance criteria include both updated thresholds and updated weighting functions for each hearing group. The thresholds are provided in table 3 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 3 -- Thresholds Identifying the Onset of Auditory Injury

	AUD INJ Onset Acoustic Thresholds* (Received Level)	
Hearing Group	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 ($L_{p,0\text{-}pk}$) has a reference value of 1 µPa, and weighted cumulative sound exposure level ($L_{E,p}$) has a reference value of 1 µPa^{2}s. In this table, criteria 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 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 planned project. Marine mammals are expected to be affected via sound generated by the primary components of the project (*i.e.*, pile driving and removal, and DTH).

The project includes vibratory pile installation and removal, impact pile driving, and DTH. Source levels for these activities are based on reviews of measurements of the same or similar types and dimensions of piles available in the literature. Source levels for each pile size are presented in table 4. Source levels for vibratory installation and removal of piles of the same diameter are assumed to be the same.

Table 4 -- Estimates of Mean Underwater Sound Levels Generated During In-water Vibratory and Impact Pile Installation and Vibratory Pile Removal

Source	Source Type	RMS Source Level (SPL RMS)	Sound Exposure Level (SEL)	Peak Source Level (SPL RMS)	Reference
		Proxy sound source levels at 10m (dB re 1 µPa or dB re 1 µPa^2-sec)			
Existing steel piles (16” steel pipe)[1]	Non-impulsive, continuous removal	163			Naval Base Kitsap Bangor Test Pile (Navy (2012)) and EHW-2 (Navy (2013)), Gustavus (Miner, 2020)
Existing timber piles (12" timber)	Non-impulsive, continuous removal	162.0			Caltrans 2020
Trestle template piles (24” steel pipe or equivalent)	Non-impulsive, continuous installation & removal	163.0			Naval Base Kitsap Bangor Test Pile (Navy (2012)) and EHW-2 (Navy (2013)), Gustavus (Miner, 2020)

Trestle piles (12.75" steel pipe)	Non-impulsive, continuous installation	160.0			Caltrans 2020
	Impulsive installation	177.0	167.0	192.0	Caltrans 2015, 2020
Float piles (24" steel pipe)	Non-impulsive, continuous installation	163.0			Naval Base Kitsap Bangor Test Pile (Navy (2012)) and EHW-2 (Navy (2013)), Gustavus (Miner, 2020)
	Impulsive Installation	190	177	203	Caltrans 2015
	DTH Drilling	167.0	159.0	184.0	Heyvaert & Reyff 2021

Note: peak = peak sound level; rms = root mean square; SEL = sound exposure level.
[1]NMFS applied data from vibratory driving of 24-in piles to smaller 16-in piles in this analysis due to concerns about data quality of measurements of smaller piles.

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:

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

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 Shipyard Cove where the YSBH is located 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 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 auditory injury. Inputs used in the User Spreadsheet (*e.g.,* number of piles per day, duration and/or strikes per pile) are found in tables 4 and 5. The resulting estimated isopleths are reported in table 6.

Table 5 – NMFS User Spreadsheet Inputs

Pile size and type	Spreadsheet tab used	Distance associated with sound pressure level (m)	Trans-mission loss constant	Strike rate (avg. strikes per second)	Weighting factor adjustment (kHz)	Number of piles per day	Duration single pile (minutes)	Number of strikes per pile	Duration of sound production in a day (seconds)
Existing steel piles (16” steel pipe)	A.1. Vibratory pile driving	10	15		2.5	15	15		13,500
Existing timber piles (12" timber)	A.1. Vibratory pile driving	10	15		2.5	15	15		13,500
Trestle template piles (24” steel pipe or equivalent)	A.1. Vibratory pile driving	10	15		2.5	4	20		4,800
Trestle piles (12.75" steel pipe)	A.1. Vibratory pile driving	10	15		2.5	4	20		4,800
	E.1. Impact pile driving	10	15		2	4		500	
Float piles (24" steel pipe)	A.1. Vibratory pile driving	10	15		2.5	5	20		6,000
	E.1. Impact pile driving	10	15		2	5		1000	
	E.2: DTH Drilling	10	15	13	2	2	180		21,600

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

Source	Source Type	AUD INJ Isopleths(m)/area (km^2)					Disturbance Isopleth (m) /area (km^2)
		(LF) Low Frequency Cetaceans	(HF) High Frequency Cetaceans	(VHF) Very High Frequency Cetaceans	Phocid Pinnipeds (PW)	Otariid Pinnipeds (OW)	
Pile Removal							
Existing steel piles (16" steel pipe)	Non-impulsive, continuous removal	30.3 0.0437	11.6 0.0345	24.7 0.0312	39 0.0436	13.1 0.0354	7,356.4 4.4207
Existing timber piles (12" timber)	Non-impulsive, continuous removal	26.0 0.0396	10.0 0.0312	21.2 0.0396	33.4 0.0436	11.2 0.0354	6,309.6 4.4207
Temporary Piles							
Trestle template piles (24" steel pipe or equivalent)	Non-impulsive, continuous installation & removal	15.2 0.0354	5.8 0.0312	12.4 0.0396	19.5 0.0354	6.6 0.0312	7,356.4 4.4207
New Pile Installation							
Trestle piles (12.75" steel pipe)	Non-impulsive, continuous installation	9.6 0.0312	3.7 0.0312	7.8 0.0312	12.3 0.0354	4.2 0.0312	4,641.6 4.4207
	Impulsive installation	135.5 0.1019	17.3 0.0354	209.6 0.1495	120.3 0.0968	44.9 0.0464	135.9 0.1019
Float piles (24" steel pipe)	Non-impulsive, continuous installation	17.6 0.0354	6.8 0.0312	14.4 0.0354	22.7 0.0396	7.6 0.0312	7,356.4 4.4207
	Impulsive Installation	1,158.3 1.1225	147.8 0.1100	1,792.4 2.6634	1,028.9 0.9918	383.5 0.2436	1,000 0.9446
	DTH Drilling	1,071.7 1.0798	136.7 0.1010	1,658.5 2.3357	952.21 0.8803	354.9 0.2325	13,593.6 4.4207[1]

[1] – Even though the isopleth is larger than other isopleths, the associated area is equivalent to areas of several other isopleths due clipping of the ensonified area by landforms.

Marine Mammal Occurrence and Take Estimate

In this section we provide information about the occurrence of marine mammals, including density or other relevant information which will inform the take calculations.

CBY calculated occurrence estimates based on literature and communication with locals in the Yakutat area, notably a local charter boat operator. They then multiplied that

occurrence by estimated days, weeks, or months of work. After reviewing their occurrence estimates, NMFS believed some of the estimates to be inconsistent with the cited literature and local observations. Following careful review of the analysis and literature presented by CBY in its application, including marine mammal occurrence data and estimates, NMFS has determined that the occurrence estimates for some species represent the best available scientific information for marine mammal abundance in the action area. The following paragraphs explain how the local abundance of authorized species was determined (table 7). Table 8 depicts the authorized take by stock, harassment type, and as a percentage of stock abundance.

Humpback whale

Dalheim *et al.* (2019) reported an average group size between 1.2 and 2 humpback whales while the Yakutat Charter Boat Company reports group sizes ranging up to 10 individuals, but typically an average of 3 whales per group. It was assumed that there would be three whales per group with one group sighting per day over 54 days. Approximately 97.6 percent likely originate from the Hawai‘i stock while 2.4 percent are from the Mexico Distinct Population Segment (DPS) (Wade 2021). No take by Level A harassment is expected due to the large shutdown zone and easy observability of animals from this species.

Gray whale

The local boat charter company reports gray whales are occasionally seen travelling in groups of three. It was assumed that there would be one whale spotted every three days. No take by Level A is expected due to the large shutdown zone and easy observability of animals from this species.

Killer whale

Killer whale group sizes in Southeast Alaska vary by ecotype and by season (Dalheim *et al*. 2009). Resident killer whales had group sizes of 15.6-70 in the spring, 25-

45 in the summer, and 15-36 in the fall; and transient killer whales had group sizes of 1-14–5.6 in the spring, 4.25-14.5 in the summer, and 1-16.33 in the fall. The local charter boat reports the whales are intermittently spotted about once a month, traveling in groups of up to 10 individuals. Therefore, it is assumed that there will be a single group of 10 animals spotted once per month. For the purpose of estimating the percentage of each stock taken, it is assumed that all takes would accrue to each stock.

No take by Level A harassment is proposed or authorized due to the small AUD INJ zone and high visibility of this species.

Harbor porpoise

An average group size of two has been reported by Zerbini *et al.* (2022) while NMFS has indicated that group sizes can be as large as 10 (NMFS 2025). Dalheim *et al*. (2009) reported a mean group size of 1.2-2.7. For estimated authorized take it was assumed that there would be three animals per group with a single group observed per day for 54 days of in-water driving. Take by Level A harassment is not proposed or authorized since the Level A harassment zone is larger than the Level B harassment zone during impact driving and DTH. The apportioning of Level A and Level B harassment takes is described below.

Beluga whale

Observation of beluga whales in the project area is uncommon. This is not surprising given the small number of animals (< 20) in this small resident population and relatively large habitat area. Lucey *et al*. (2015) reported two sightings of beluga whales in Yakutat Bay off Khantaak Island, within approximately 5 miles of the project site. The sightings occurred in March 2003 and June 2008. Lucey *et al.* (2015) also compiled 76 beluga sightings from 1938 to 2013 within Yakutat Bay. The average group size was reported to be 6 to 10 individuals per sighting. Sightings of belugas from 1976 to 2000 in the Yakutat area from various sources were compiled in Laidre *et al*. (2000). Sightings in

the 1990s tended to be groups of 1 to 11 individuals. The core habitat area for this small resident population is Disenchantment Bay, approximately 50 kilometers (km) to the northwest. Given the rarity of this group, NMFS considers it reasonably likely that groups of up to 10 belugas may occur within the project area up to 2 times over the course of the project. No take by Level A harassment is proposed or authorized due to the small AUD INJ zone.

Steller sea lion

A marine mammal monitoring report from the Ocean Cape Seafoods Dock Fender Repairs project in Monti Bay reported a single occurrence of an unidentified otariid, presumably a Steller sea lion, during 1 week in October 2016 (Bacon *et al.,* 2016). The local boat charter reported a single animal camped out at the YSBH harbor, but no other information about regular occurrences was available. Steller sea lions are also known to congregate around fishing boats in harbors and marinas. Since the YSBH houses a number of commercial fishing vessels, it was conservatively assumed that six animals could be observed per day over 54 days of in-water work. No take by Level A harassment is proposed or authorized due to the small AUD INJ zone.

California sea lion

California sea lion sightings in Southeast and Southcentral Alaska are relatively rare but do occur on occasion (Woodford 2020). There are no records of California sea lions in the Global Biodiversity Information Facility (GBIF) in the project area (GBIF 2024). A marine mammal monitoring report from the Ocean Cape Seafoods Dock Fender Repairs project in Monti Bay reported one occurrence of a single unidentified otariid during 1 week in Oct 2016 (Bacon *et al.* 2016). CBY conservatively proposed, and NMFS concurs, that there could be a single sighting per week over the 24-week project timeline. No take by Level A harassment is proposed or authorized due to the small AUD INJ zone.

Northern fur seal

Northern fur seals are uncommon in the project area as there are no definitive observations on record. A marine mammal monitoring report from the Ocean Cape Seafoods Dock Fender Repairs project in Monti Bay reported one occurrence of a single unidentified otariid, which may have been a fur seal, during 1 week in October 2016 (Bacon *et al.,* 2016). CBY conservatively proposed, and NMFS concurs that a single animal could be observed during each month of the proposed project. No take by Level A harassment is proposed or authorized due to the small AUD INJ zone.

Harbor seal

The local charter boat reports that harbor seals are not typically observed entering Shipyard Cove, but are regularly recorded in Yakutat Bay and associated fjords of Disenchantment Bay, where they use glacial ice for critical life stages like pupping and molting. Records of harbor seals in the GBIF show 30 occurrences reported by the public and agencies within and immediately offshore of Yakutat Bay in the past 20 years (GBIF 2024). It is conservatively assumed that three harbor seals would be observed per day over 54 in-water workdays. Take by Level A harassment is authorized because the Level A harassment zone is larger than the Level B harassment zone for impact driving and DTH activities. The apportioning of Level A and Level B harassment takes is described below.

Total exposure estimates were calculated by multiplying the number of days of work (54 days total; 22 days of vibratory-only activities, and 32 days of vibratory, impact, and DTH activities) by the occurrence estimates for each species, and total exposures were then divided into estimates of take by Level A and Level B harassment. For days with impact and DTH activities, there is potential for take by Level A harassment for very high-frequency cetaceans (harbor porpoises) and phocid pinnipeds (harbor seals) due to the larger Level A harassment zones associated with animals in

these hearing groups. In some instances, the largest zones for some species are greater than the shutdown zones due to the cryptic nature and assumed lower detectability of some species and the sensitivity of these species' hearing thresholds. CBY calculated estimated take by Level A harassment for these species by calculating the ratio of the area of the Level A harassment zones to the area of the maximum Level B harassment zone. This ratio was multiplied by the exposure estimate for days with impact driving and DTH activities to get the estimated take by Level A harassment. Take by Level B harassment was then calculated by subtracting the calculated take by Level A harassment from the total exposure estimate. This was only necessary for harbor porpoises and harbor seals as they are the only species for which the Level A harassment zones exceeded the Level B harassment zone. Calculations are presented below.

Harbor Porpoise

3 animals/day x 22 days vibratory driving = 66 exposures

3 animals/day x 32 days vibratory/ impact/ DTH = 96 exposures

Ratio of Maximum Level A harassment area (2.663)/ Maximum Level B harassment area (4.4207) = 0.60

Level A harassment estimate = 0.60 * 96 animals = 58 takes by Level A harassment

Level B harassment estimate = 66 + 96 - 58 = 104 takes by Level B harassment

Harbor Seal

3 animals/day x 22 days vibratory driving = 66 exposures

3 animals/day x 32 days vibratory/ impact/ DTH = 96 exposures

Ratio of Maximum Level A harassment area (0.991)/Maximum Level B harassment area (4.4207) = 0.22

Level A harassment estimate = 0.22 * 96 animals = 22 takes by Level A harassment

Level B harassment estimate = 66 + 96 - 22 = 140 takes by Level B harassment

Table 7 -- Species Occurrence and Total Exposure Estimates

Species	Abundance Estimate
Humpback whale	3 whales/group x 1 group/day x 54 days =162 spilt between 2 stocks
Gray whale	1 whale every 3 days =18
Killer whale	10 whales/group x 1 group/every month (7) =70 split between 3 stocks
Harbor porpoise	3/group x 1 group/day x 54 days in-water driving = 162 animals split between Level A and Level B harassment takes
Beluga whale	10/group x 2 groups over project duration =20
Steller Sea lion	6/day x 54 days vibratory = 324
California sea lion	1/week x 24 weeks = 24
Northern fur seal	1 animal/month x 7 months = 7
Harbor seal	3/day x 54 days = 162 animals split between Level A and Level B harassment takes

Table 8 -- Authorized Take by Stock, Harassment Type, and as a Percentage of Stock Abundance

Species	Stock	Stock Abundance	Level A Harassment Take	Level B Harassment Take	Percentage
Humpback whale	Hawai‘i	11,278	0	158	1.4
	Mex-North[1] Pacific/ Mexico DPS	N/A (918)	0	4	0.4
Gray whales	ENP	29,260	0	18	0.06
Killer whales	ENP Alaska Resident	1,920	0	70	3.6
	ENP Gulf of Alaska, Aleutian Islands, and Bering Sea Transient	302	0		23.1

	West Coast Transient	349	0		20.0
Harbor porpoises	Yakutat/Southeast Alaska Offshore Waters stock)	UNK (11,146)	58	94	1.5
Beluga whales	Cook Inlet stock	331	0	20	6.04
Steller sea lions	Eastern DPS	36,308	0	297	0.8
	Western DPS[2]	49,837	0	27	0.05
California sea lions	U.S. stock	257,606	0	24	<0.01
Northern fur seals	Eastern Pacific	62,6618	0	7	<0.01
Harbor seals	Prince William Sound	44,756	22	140	0.4

[1] For MMPA take apportionment and ESA section 7 consultation purposes, 2.4 percent are designated to the Mexico-North Pacific stock, and the remaining are designated to the Hawai'i stock (Wade 2021).
[2] Approximately 8.2 percent of SSLs in this area are from the WDPS (NMFS 2020).

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.

The mitigation requirements described below were proposed by CBY in its adequate and complete application or are the result of subsequent coordination between NMFS and CBY. CBY has agreed that all of the mitigation measures are practicable. NMFS has fully reviewed the specified activities and the mitigation measures to determine if the mitigation measures would result in the least practicable adverse impact on marine mammals and their habitat, as required by the MMPA, and has determined the measures are appropriate. NMFS describes these below and has included them in the issued IHA.

CBY must ensure that construction supervisors and crews, the monitoring team, and relevant CBY staff are trained prior to the start of all pile driving and DTH activity, so that responsibilities, communication procedures, monitoring protocols, and operational procedures are clearly understood. New personnel joining during the project must be trained prior to commencing work.

Pre- and Post-Activity Monitoring

- Monitoring must take place from 30 minutes prior to initiation of pile driving and DTH activity (*i.e.*, pre-clearance monitoring) through 30 minutes post-completion of pile driving and DTH activity; and,
- Pre-start clearance monitoring must be conducted during periods of visibility sufficient for the lead protected species observer (PSO) to determine that the shutdown zones indicated in table 9 are clear of marine mammals. Pile driving and DTH may commence following 30 minutes of observation when the determination is made that the shutdown zones are clear of marine mammals.

Soft Start

CBY must use soft start techniques when impact pile driving. Soft start requires contractors to provide an initial set of three strikes at reduced energy, followed by a 30-second waiting period, then two subsequent reduced-energy strike sets. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

Shutdown Zones

CBY would establish shutdown zones for all pile driving activities. The purpose of a shutdown zone is generally to define an area within which shut down of the activity would occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area).

If a marine mammal is observed entering or within the shutdown zones indicated in table 9, pile driving and DTH must be delayed or halted. For in-water heavy machinery activities other than pile driving, if a marine mammal comes within 10 m, work must stop and vessels must reduce speed to the minimum level required to maintain steerage and safe working conditions. A 10-m shutdown zone would also serve to protect marine mammals from physical interactions with project vessels during pile driving and other construction activities, such as barge positioning or drilling. 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 9, or 15 minutes have passed without re-detection of the animal. 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 the harassment zone.

All marine mammals would be monitored to the extent possible based on PSO locations. If a marine mammal enters the Level B harassment zone, in-water activities would continue and the animal's presence within the estimated harassment zone would be documented.

CBY would also establish shutdown zones for all marine mammals for which take has not been authorized or for which incidental take has been authorized but the authorized number of takes has been met. If a marine mammal species for which take is not authorized by this IHA enters the shutdown zone, all in-water activities would cease until the animal leaves the zone or has not been observed for at least 15 minutes. Pile driving would proceed if the non-IHA species is observed to leave the Level B harassment zone or if 15 minutes have passed since the last observation.

If shutdown and/or clearance procedures would result in an imminent safety concern, as determined by CBY or its designated officials, the in-water activity would be allowed to continue until the safety concern has been addressed, and the animal would be continuously monitored.

Table 9 -- Shutdown Zones and Level B Harassment Zones

Pile Size/Type	Construction Method	Shutdown Zones – Authorized Species (m)	Monitoring Zone (m)

		LF	HF	VHF	PW	OW	Level B Harassment
Pile Removal							
Existing steel piles (16” round steel)	Non-impulsive, continuous removal	40	40	40	40	40	7,360
Existing timber piles (12” timber)	Non-impulsive, continuous removal	30	10	30	40	20	6,310
Temporary Piles							
Template piles (24” steel pipe or equivalent)	Non-impulsive, continuous installation & removal	20	10	20	20	10	7,360
New Pile Installation							
Trestle piles (12.75” steel pipe)	Non-impulsive, continuous installation	10	10	10	20	10	4,650
	Impulsive installation	140	20	210	130	50	140
Float piles (24” steel pipe)	Non-impulsive, continuous installation	20	10	20	30	10	7,360
	Impulsive installation	1,160	150	200	200	400	1,000
	DTH Drilling	1,160	150	200	200	400	13,600[1]

[1] – This isopleth is considerably larger than other isopleths but is clipped by landforms.

Protected Species Observers

The placement of PSOs during all construction 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 lead PSO is confident marine mammals within the shutdown zone could be detected.

CBY must employ PSOs and establish monitoring locations as described in the marine mammal monitoring plan and the IHA. PSOs would monitor the full shutdown zones and the Level B harassment zones to the extent practicable. Monitoring zones provide utility for observing by establishing monitoring protocols for areas adjacent to the shutdown zones. Monitoring zones enable 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.

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.

The monitoring and reporting requirements described in the following were proposed by CBY in its adequate and complete application and/or are the result of subsequent coordination between NMFS and CBY. CBY has agreed to the requirements. NMFS describes these below as requirements and has included them in the issued IHA.

Visual Monitoring

Marine mammal monitoring must be conducted in accordance with the conditions in this section and the IHA. Marine mammal monitoring during pile driving and DTH activities must be conducted by PSOs meeting the following requirements:

- PSOs must be independent of the activity contractor (for example, employed by a subcontractor) 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 relevant experience (including Alaska Native traditional knowledge), education (degree in biological science or related field), or training for prior experience performing the duties of a PSO during construction activity pursuant to a NMFS-issued incidental take authorization or Letter of Concurrence (LOC);
- Where a team of three or more PSOs is required, a lead observer or monitoring coordinator would be designated. The lead observer would be required to have prior experience performing the duties of a PSO during construction activities pursuant to a NMFS-issued incidental take authorization; and
- PSOs must be approved by NMFS prior to beginning any activities subject to this IHA.

PSOs must 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 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, times and reason for implementation of mitigation (or why mitigation was not 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.

CBY must assign a minimum of two PSOs to monitor during pile driving and DTH. They must be stationed where they have an unobstructed view of the work being conducted and unobstructed view of all the water within the Shutdown Zones and as much of the Level B harassment zone as possible. Optimal observation locations will be selected based on visibility and the type of work occurring. All PSOs would have access to high-quality binoculars, range finders to monitor distances, and a compass to record bearing to animals as well as radios or cells phones for maintaining contact with work crews.

Monitoring would be conducted 30 minutes before, during, and 30 minutes after all in water construction activities. In addition, PSOs would record all incidents of marine mammal occurrence, regardless of distance from activity, and would document any behavioral reactions in concert with distance from piles being driven or removed. Pile driving 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.

CBY shall conduct briefings between construction supervisors and crews, PSOs, and CBY staff prior to the start of all pile driving activities and when new personnel join

the work. These briefings must explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.

Reporting

A draft marine mammal monitoring report would be submitted to NMFS within 90 days after the completion of pile driving and removal activities, or 60 days prior to a requested date of issuance from any future IHAs for projects at the same location, whichever comes first. The report would include an overall description of work completed, a narrative regarding marine mammal sightings, and associated electronic 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.,* impact) and the total equipment duration for vibratory removal for each pile or total number of strikes for each pile (impact driving);
- 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: (1) Name of PSO who sighted the animal(s) and PSO location and activity at the time of sighting; (2) Time of sighting; (3) Identification of the animal(s) (*e.g.,* genus/species, lowest possible taxonomic level, or unidentifiable), PSO confidence in identification, and the composition of the group if there is a mix of species; (4) Distance and bearing of each marine mammal observed relative to the pile being driven for each sightings (if pile driving was occurring at time of

sighting); (5) Estimated number of animals (min/max/best estimate); (6) Estimated number of animals by cohort (adults, juveniles, neonates, group composition, sex class, *etc.*); (7) Animal's closest point of approach and estimated time spent within the harassment zone; (8) 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 and shutdown zones; by species; and,
- Detailed information about any implementation of any mitigation triggered (*e.g.,* shutdowns and delays), a description of specific actions that ensured, 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 event that personnel involved in the construction activities discover an injured or dead marine mammal, CBY must immediately cease the specified activities and report the incident to the Office of Protected Resources (*PR.ITP.MonitoringReports@noaa.gov*), NMFS and to the Alaska Regional Stranding Coordinator as soon as feasible. If the death or injury was clearly caused by the specified activity, CBY must immediately cease the specified activities until NMFS 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 the IHA. CBY 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 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 DTH activities associated with the CBY project have the potential to disturb or displace marine mammals. Specifically, the project activities may result in take, in the form of Level A and Level B harassment, from underwater and in-air sounds generated from pile driving and removal. 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 is expected or authorized, even in the absence of required mitigation measures, given the nature of the activities. The potential for harassment would be further minimized through the construction method and the implementation of the planned mitigation measures.

Take by Level A harassment is authorized for harbor porpoises and harbor seals to account for the possibility that an animal could enter a Level A harassment zone and remain within that zone for a duration long enough to incur auditory injury before being observed by PSOs. Given the relatively short duration expected to drive each pile, and breaks between pile installations (to reset equipment and move piles into place), an animal would have to remain within the area estimated to be ensonified above the Level A harassment threshold for an extended period. This is highly unlikely given the mobile nature of marine mammals in the area. Any take by Level A harassment is expected to

arise from, at most, a small degree of auditory injury, *i.e.*, minor degradation (likely only a few dB) of hearing capabilities within regions of hearing that align most completely with the energy produced by vibratory and impact pile driving (*i.e.*, the low-frequency region below 2 kHz). Severe hearing impairment or impairment within the ranges of greatest hearing sensitivity are unlikely. Animals would need to be exposed to higher levels and/or longer duration than are anticipated. Due to the small degree anticipated, any auditory injury incurred would not be expected to affect the reproductive success or survival of any individual, much less result in adverse impacts on the species or stock.

Additionally, some subset of the individuals 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.

Behavioral responses of marine mammals to pile driving and DTH in the ensonified area are expected to be mild, short term, and temporary. Marine mammals within the Level B harassment zones may not show any visual cues they are disturbed by the planned activities, or they could become alert, avoid the area, leave the area, or display other mild responses that are not observable, such as changes in vocalization patterns. Given that pile driving and DTH would occur intermittently and for only a portion of the project's duration, any harassment would be temporary.

Any impacts on marine mammal prey that would occur during CBY’s planned activity would have, at most, short-term effects on foraging of individual marine mammals and, likely, no effect on the populations of marine mammals as a whole.

Indirect effects on marine mammal prey during the construction are expected to be minor, and these effects are unlikely to cause substantial effects on marine mammals at the individual level, with no expected effect on annual rates of recruitment or survival.

For all species and stocks, take would occur within a limited, confined space (*i.e.*, in-water ensonified area adjacent to the project site) of the stock's range. While pinniped species are most likely to occur within the immediate project area, the nearest officially documented haulouts are outside of the ensonified area and located some distance from the project area. There are no Steller sea lion haulouts in the project area. The closest haulouts are between 8 km (harbor seal) and 48 km (Steller sea lion) km from the project area.

There is a migratory BIA for the gray whale that includes the months of January, March, April, May, November and December. In-water construction operations would occur during the March through May period when whales are migrating; however, the project area is inside Yakutat Bay, a relatively sheltered area with only one entrance and exit point, and gray whales are not expected to spend significant time nearby. There is also a Yakutat Bay Beluga whale Small and Resident Population BIA that is active year-round. The core area for this population, however, is Disenchantment Bay located approximately 50 km from the project site. Movement of whales near Yakutat would likely occur infrequently and the amount of time spent in the project area is expected to be low.

In addition, it is unlikely that minor noise effects in a small, localized area of habitat would have any effect on the reproduction or survival of any individuals, much less the stocks' annual rates of recruitment or survival. 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 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;
- Take by Level A harassment (AUD INJ) is authorized for two species due to associated large Level A harassment zones but the amount of take would be limited and of a low degree;
- For all species and stocks, Yakutat Bay is a small and peripheral part of their range;
- The intensity of anticipated take by Level B harassment is 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 impact driving and DTH is occurring, with some low-level TTS that may limit the detection of acoustic cues for relatively brief periods;
- 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 small relative to the overall habitat ranges of all species and stocks; and,

- The lack of anticipated significant or long-term negative effects to marine mammal habitat.

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 planned monitoring and mitigation measures, NMFS finds that the total marine mammal take from the 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 section 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 (86 FR 5322, January 19, 2021). Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Another circumstance in which NMFS considers it appropriate to make a small numbers finding is in the case of a species or stock that may potentially be taken but is either rarely encountered or only expected to be taken on rare occasions. In that circumstance, one or two assumed encounters with a group of animals (meaning a group that is traveling together or aggregated, and thus exposed to a stressor at the same approximate time) should reasonably be considered small numbers, regardless of consideration of the proportion of the stock (if known), as rare encounters resulting in

take of one or two groups should be considered small relative to the range and distribution of any stock.

While the percentage of stock taken for the Cook Inlet beluga whale stock is below one third, the Yakutat portion of the Cook Inlet beluga whale stock is considered to be resident in the waters around Yakutat, particularly in Disenchantment Bay, and consists of fewer than 20 individuals. It is possible that all or a subset of these whales will visit the project site during the construction period during their regular movements in the area. NMFS considers it reasonably likely that Yakutat belugas may occur up to two times during the project. Based on the rarity of encounters with this group expected, this represents small numbers for this stock.

For all other stocks, except for the ENP Gulf of Alaska, Aleutian Islands, and Bering Sea transient and West Coast transient stocks of killer whale, the authorized number of takes is less than one-third of the best available population abundance estimate (table 9). The numbers of animals authorized to be taken from these stocks would be considered small relative to the relevant stocks' abundances, even if each estimated taking occurred to a new individual—an extremely unlikely scenario. The estimated take of the two killer whale stocks assumes that all takes would be accrued by a single stock. This is highly unlikely for animals with extended habitat ranges throughout coastal Alaska down to California.

Based on the analysis contained herein of the 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.

Harbor seals and sea lions have traditionally been taken as part of subsistence harvests in Yakutat. Because of the high hunting pressure harbor seals may avoid areas like Monti Bay and Yakutat Roads where they are easily visible and readily accessible to hunters, although they are still expected to be common within the range of construction impacts. The small boat harbor is the primary access point for subsistence users to the traditional seal hunting grounds in Disenchantment Bay and some temporary disruptions to mooring availability during construction would occur, but replacement of the harbor to provide safe marine access into the future would be beneficial to subsistence users in the long term.

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 impact subsistence harvest of marine mammals in the region. Some minor, short-term harassment of Steller sea lions and harbor seals could occur, potentially including displacement from Yakutat Bay and into the surrounding habitat. Displacement is expected to be short-term and temporary, and limited to the immediate project area. Therefore, any effects on subsistence harvest activities in the project areas are expected to be minimal and would not have an adverse impact on overall harvest.

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

Endangered Species Act

Section 7(a)(2) of the ESA of 1973 (16 U.S.C. 1531 *et seq*.) requires that each Federal agency ensures 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 incidental take authorizations, NMFS consults internally whenever we propose to authorize take for ESA-listed species, in this case with the Alaska Regional Office.

The NMFS Alaska Regional Office Protected Resources Division issued a Biological Opinion on December 19, 2025 under section 7 of the ESA, on the issuance of an IHA to CBY under section 101(a)(5)(D) of the MMPA by the NMFS Permits and Conservation Division. The Biological Opinion concluded that this action is not likely to jeopardize the continued existence of western DPS Steller sea lions (*Eumetopias jubatus)*, Mexico DPS humpback whale (*Megaptera novaeangliae)*, or Western North Pacific DPS humpback whale and is not likely to destroy or adversely modify western DPS Steller sea lion, Mexico DPS humpback whale or Western North Pacific DPS humpback whale critical habitats.

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 determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Authorization

NMFS has issued an IHA to CBY for the potential harassment of small numbers of 9 marine mammal species incidental to the Yakutat Small Boat Harbor Replacement Project in Yakutat, Alaska, that includes the previously explained mitigation, monitoring, and reporting requirements.

Dated: January 7, 2026.

Kimberly Damon-Randall,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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