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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XF535

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to the Gary Paxton Industrial Park Dock Modification Project.

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

ACTION: Notice; issuance of incidental harassment authorization.

SUMMARY: NMFS has issued an incidental harassment authorization (IHA) to the City and Borough of Sitka (CBS) for the taking marine mammals incidental to modifying the Gary Paxton Industrial Park (GPIP) dock in Sawmill Cove, Alaska.

DATES: The IHA is valid from October 1, 2017 through December 31, 2017.

ADDRESSES: Electronic copies of the applications and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.*

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

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq.*) direct the Secretary of Commerce 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 issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

An authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth.

NMFS has defined "negligible impact" in 50 CFR 216.103 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.

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.

The MMPA states that the term "take" means to harass, hunt, capture, kill or attempt to harass, hunt, capture, or kill any marine mammal.

Except with respect to certain activities not pertinent here, 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).

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 with respect to environmental consequences on the human environment.

Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review. This action is consistent with categories of activities identified in CE B4 of the Companion Manual for NOAA Administrative Order 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.

Summary of Request

On June 21, 2017, NMFS received a complete application from CBS requesting take of marine mammals incidental to the GPIP dock modification project in Sawmill Cove, Alaska. CBS is authorized to take six species of marine mammals, by Level B harassment, and three of those six species by Level A harassment. Pile driving and removal would occur for 16 days from October 1 through December 31, 2017 with the majority of work completed in October. No subsequent IHAs would be necessary to complete the project. No mortality or serious injury is expected or authorized.

Description of Specified Activity

Overview

CBS is modifying an existing marine and commercial industrial site by removing existing aging docks and installing a new floating dock, small craft float, and transfer bridge. To do so, CBS must remove existing abandoned, creosote-treated piles and install new piles. Pile driving and pile removal associated with this work may result in auditory injury (Level A harassment) and behavioral harassment (Level B harassment) of select marine mammal species. All pile driving and removal would take place at the existing dock facility and occur for 16 days. The purpose of the project is to provide deep water port access, meet modern safety standards, and promote marine commerce in the region.

Dates and Duration

The IHA is valid from October 1, 2017, through December 31, 2017; however, the majority of work will occur in October. Removing old timber piles with a vibratory hammer will occur for up to 5 hours per day for 6 days. Removing the temporary template piles will occur for up to 1 hour on 2 additional days. Vibratory pile driving will occur for up to 2 hours per day for 6 days to install the permanent piles while impact pile driving will occur for up to 10 minutes a day for proofing following vibratory pile driving. In total, pile activities will occur for a maximum of 16 days .

Specified Geographic Region

Sawmill Cove is a small body of water located near Sitka, Alaska, at the mouth of Silver Bay,which opens to Sitka Sound and the Gulf of Alaska (see figures 1 and 2 in application). Bathymetry in Sawmill Cove shows a fairly even seafloor that gradually falls to a depth of approximately 50 feet (ft) (15 meters (m)). To the southeast, Silver Bay is approximately 0.5 miles (mi) (0.8 kilometers (km)) wide, 5.5 mi (8.9 km) long, and 150-250 ft (46-76 m) deep. The

bay is uniform with few rock outcroppings or islands. To the southwest, the Eastern Channel opens to Sitka Sound, dropping off to depths of 400 ft (120 m) approximately 1.6 km (1 mi) southwest of the project site.

Sawmill Cove is an active marine commercial and industrial area. The dock footprint is previously disturbed with abandoned dock structures associated with the former Alaska Pulp Mill. Silver Bay Seafoods processing plant is located adjacent to the project site. This plant processes herring and salmon (primarily pink salmon).

Detailed Description of Specific Activities

The purpose of the project is to construct a multipurpose docking area that will serve a wide variety of vessels, provide deep water port access to the GPIP, meet modern standards for safety, and promote marine commerce in the region. The *Federal Register* notice soliciting comments on the proposed IHA contains a complete description of the specified activities and we provide a summary here.

The work includes removing 280 abandoned creosote-treated piles located in shallow water, installing a large floating deep-water dock (a repurposed barge measuring 250 ft (76.2 m) x 74 ft (22.6 m) x 19 ft (5.8 m)), small craft float (12 ft (3.7 m) x 100 ft (30.5 m)), and v-shaped float (see Figure 4 and 5 in CBS's application). To complete the new dock, CBS will construct two dolphin structures to support the floating dock. Each dolphin requires 6 temporary 30-in steel piles to act as a template for installing the permanent piles, 2 permanent 30-in steel batter piles (piles driven at an angle with the vertical to resist a lateral force) to act as the "legs" of the dolphin, and a single 48-in vertical steel piles which would constitute the center of the dolphin structure. CBS will use a vibratory and diesel impact hammer to install piles. The existing old timber piles associated with the old dock will be removed by the vibratory hammer if they cannot

be pulled out mechanically. The 12 temporary piles used for the template will also be removed following dock completion.

Comments and Responses

A notice of NMFS' proposal to issue an IHA was published in the *Federal Register* on July 26, 2017 (82 FR 34632). During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission) and the National Park Service (NPS). All comments specific to the CBS's application that address the statutory and regulatory requirements or findings NMFS must make to issue an IHA are addressed here.

Comment 1: The Commission recommended distances to NMFS harassment isopleths from impact pile driving be recalculated using proxy single strike sound exposure levels (SELs) to estimate pile driving source levels and resulting distances to NMFS Level A harassment isopleths.

NMFS Response: NMFS uses dual exposure criteria to estimate the impact distance from noise sources: instantaneous peak sound pressure level (SPL) and 24-hour cumulative sound exposure level (SEL) that is specific to each of the five marine mammal hearing groups. Computation of cumulative SEL for impact pile driving can be easily obtained if a single strike SEL, the number of strikes required to install one pile, and the total number of piles to be installed in a given day are known. In their application, CBS used sound pressure levels (SPLs) measured during pile driving projects elsewhere in southeast Alaska as a proxy for estimated source levels during the GPIP project. These SPL source levels were considered using a 100 millisecond (ms) pulse duration which is the nominal time integration period that contains 90% of the pulse acoustic energy when measured at approximately 10 m from the pile. The use of root mean square (rms) SPL with 100 msec default pulse duration can either lead to under- or

over-estimates of the impact zone (Guan et al, 2017). Although both processes are acceptable to NMFS to estimate threshold distances, NFMS recognizes a more straightforward way to determine cumulative SEL values is to use single-strike SELs, when known. Therefore, NMFS calculated estimated distances to impact pile driving harassment thresholds using median SEL values from two reports measuring pile driving noise in southeast Alaska. For 30-in piles, the source level NMFS used is 180.7 decibel (dB) SEL assuming that the measurements from Ketchikan most closely resembles those in Sawmill Cove (see Table 72 in Denes et al., 2016). For 48-in piles, Austin et al. (2016) reports a median value of 186.7 dB SEL for a diesel hammer without a sound attenuation device with measurements taken 11 meters from the pile. Using the SEL metric method resulted in decreased Level A harassment zones for impact pile driving from the proposed IHA notice. NMFS adjusted the Level A harassment zones (Table 3) and mitigation zones (Table 5) accordingly.

Comment 2: The Commission questioned select mitigation measures proposed by CBS in their application and NMFS' proposed IHA notice. Specifically, they inquired why NMFS included a soft-start be implemented for vibratory pile driving and why the shut-down zone for otariids was smaller than for mid-frequency cetaceans when the Level A harassment isopleth for mid-frequency cetaceans is slightly (4.4 m) larger. The Commission also requested more information on the pile softening material CBS proposed to use between the pile and impact hammer. The Commission stated it is incumbent on NMFS to evaluate the appropriateness and necessity of various mitigation measures.

NMFS Response: The applicant voluntarily proposed a soft-start to vibratory pile driving and the shut-down zones. The shut-down zones fully encompass the very small (less than 50 m) Level A harassment zones for both otariids and mid-frequency cetaceans and would be effective

at eliminating the potential for Level A harassment. NMFS notes the Commission did not specify a mitigation recommendation (*e.g.*, reduce both shut-down zones, increase both shut-down zones, etc.) and did not address the change to harassment isopleth distances based on using SEL source levels. In the final IHA, NMFS has reduced the shut-down zone for otariids and mid-frequency cetaceans to fully encompass the revised Level A harassment zone for both hearing groups. In addition, NMFS has increased the shut-down zone for low-frequency cetaceans to 380 m and 1,100 m for 30-in and 48-in piles, respectively, during impact pile driving to fully encompass the revised Level A harassment zones for this hearing group, avoiding all Level A take of humpback whales. NMFS also confirmed the softening material is a type of pile cushion. Finally, with respect to duties, section 101(a)(5)(D) of the MMPA requires NMFS to prescribe means of effecting the least practicable adverse impact on marine mammals. Here, the applicant has determined that the vibratory ramp-up mitigation measure is practicable. However, NMFS has not included the vibratory ramp-up measure in the requirements of the IHA.

Comment 3: The Commission requested the following mitigation measure be included: using delay and shut-down procedures, if a species for which authorization has not been granted or if a species for which authorization has been granted but the authorized takes are met, approaches or is observed within the Level A and/or B harassment zone.

NMFS Response: NMFS has included this measure to provide clarity to the applicant that they are not authorized to take marine mammals beyond those identified in the IHA.

Comment 4: The NPS provided information regarding the abundance of humpback whales present in the action area and their habitat use during the time when pile operations would occur (October- December). NPS expressed concern that many humpback whales are foraging intensely either in preparation for migrating or for over-wintering in Sitka Sound and

that pile driving noise could adversely affect this behavior. The NPS recommended the work window be shifted outside of this time period.

NMFS Response: NMFS consulted with a local researcher who has been conducting marine mammal surveys in the action area since 2001 and provided the humpback whale abundance and behavior data informing CBS's application. NMFS understands that whales start entering Sitka Sound around September with November marking the beginning of high habitat use (pers. comm. J. Straley, August 25, 2017). Furthermore, whale abundance can vary year to year with high concentrations some years and low concentrations in other years. NMFS then consulted with CBS who identified that the majority of work will be conducted in the month of October, prior to peak humpback whale foraging periods. However, because equipment and weather delays cannot be scheduled, NMFS is not requiring the applicant be completed by the end of October. Despite the potentially high concentration of humpback whales in the action area, the duration of pile activity is relatively short and pile driving would not occur on consecutive days. Finally, NMFS has included a new measure requiring CBS shut-down impact pile driving work should a humpback whale enter within the Level A harassment zone, avoiding Level A take of this species.

Comment 5: The NPS identified that California sea lions, sea otters and silver-haired bats are known to be present in the action area and NMFS should consider these species.

NMFS Response: Although not common in the action area, NMFS has included take authorization for California sea lions in the final IHA. Sea otters and silver-haired bats are not under NMFS' jurisdiction and the authorization to take marine mammals under NMFS' jurisdiction does not affect these species.

Comment 6: NPS recommended a mitigation measure be included that requires pile driving to only proceed when the Protected Species Observers (PSOs) give a "notice to proceed."

NMFS Response: The IHA is conditioned such that pile driving delay and shut-down procedures be implemented for a variety of reasons, including, but not limited to, a marine mammal is within a designated shut-down zone or an animal would be taken in a manner not authorized if pile driving proceeded. The delay and shut-down measures would be triggered by a notice from both the land-based and boat-based PSO. NMFS has also included a measure that pile driving shall not begin until the PSO gives the recommended "notice to proceed".

Comment 7: NPS recommended that indirect and cumulative impacts under the National Environmental Policy Act (NEPA) be considered, as the installation of the new dock would increase medium- and large-vessel traffic in and out of Silver Bay.

NMFS Response: NMFS determined that the issuance of this IHA qualified for a Categorical Exclusion (CE); a CE is one way to meet the requirements and objectives of NEPA and efficiently complete the environmental review process for proposed actions that normally do not require a resource-intensive analysis. The CE category associated with the issuance of ITAs is CE B4, which is "Issuance of incidental harassment authorizations under section 101(a)(5)(A) and (D) of the MMPA for the incidental, but not intentional, take by harassment of marine mammals during specified activities and for which no serious injury or mortality is anticipated." The scope of a CE determination is limited to the decision NMFS is responsible for, which is to consider authorizing "take" of marine mammals incidental to a specified activity. NMFS is not authorizing, funding or directing any other aspect of the applicant's activity and issuing a given IHA does not give NMFS the authority to authorize the applicant's activity under other laws or regulations.

With respect to increased vessel traffic, the project would not significantly increase vessel traffic. Historically Sawmill Cove was used by the Alaska Pulp Corporation and outbound pulp shipments were frequent during the corporation's operations from 1959 to 1993. There are no identified manufacturing or processing activities that would achieve historic levels of use at the GPIP dock. Further, an assessment determined that Sitka's inbound and outbound cargo needs are being met at this time through a combination of private and public docks, and, given a flat population projection through 2035, no major changes in cargo shipments are expected (Northern Economics 2009). CBS does not have leases in place for use of the new GPIP dock. However, in the near future, the dock will likely be used to berth vessels associated with the existing commercial fishing industry but a net increase in vessels is not expected. In addition, moorings are part of the project; therefore, vessels may remain within Sawmill Cover instead of transiting to Sitka to dock overnight.

Description of Marine Mammals in the Area of Specified Activities

There are seven marine mammal species known to occur in the vicinity of the project area which may be subjected to take. These are the humpback whale, killer whale, Steller sea lion, harbor porpoise, harbor seal, California sea lion, and sea otter (*Enhydra lutris nereis*). The sea otter is under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS); therefore, this species is also not considered further in this document. NMFS notes the California sea lion was not included in the proposed IHA *Federal Register* notice (82 FR 34632; July 27, 2017) but has since been incorporated based on public comment.

We have reviewed CBS's species descriptions, including life history information, for accuracy and completeness and refer the reader to Section 3 and 4 of CBS's application as well as the proposed incidental harassment authorization published in the *Federal Register* (82 FR

34632; July 27, 2017) instead of reprinting the information here. Please also refer to NMFS' website (*www.nmfs.noaa.gov/pr/species/mammals*) for generalized species accounts which provide information regarding the biology and behavior of the marine resources that occur in the vicinity of the project area. We provided additional information for the potentially affected stocks, including details of stock-wide status, trends, and threats, in our *Federal Register* notice of proposed authorization (82 FR 34632).

Table 1 lists marine mammal stocks that could occur in the vicinity of the dock project and summarizes key information regarding stock status and abundance. Please see NMFS' Stock Assessment Reports (SAR), available at *www.nmfs.noaa.gov/pr/sars*, for more detailed accounts of these stocks' status and abundance.

Table 1. Marine mammals expected to occur within Sitka Sound.

Common name	Scientific name	MMPA Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance Nbest, (CV, N_{min}, most recent abundance survey)[2]	Occurrence	PBR	Annual M/SI[3]
Order Cetartiodactyla – Cetacea – Superfamily Mysticeti (baleen whales)							
Family Balaenidae							
Humpback whale	*Megaptera novaeangliae*	Central North Pacific	E, D,Y	10,103 (0.3, 7,890, 2006)	Frequent	83	21
Order Cetartiodactyla – Cetacea – Superfamily Odontoceti (toothed whales, dolphins, and porpoises)							
Family Delphinidae							
Killer whale	Orcinus Orca	Alaska Resident	-, N	2,347 (N/A, 2,347, 2012)[4]	Infrequent	23.4	1
		Northern Resident	-, N	261 (N/A, 261, 2011)[4]		1.96	0
		Gulf of Alaska, Aleutian Islands,	-, N	587 (N/A, 587, 2012)[4]		5.9	0.6

		Bering Sea Transient					
		West Coast Transient	-, N	243 (N/A, 243, 2009)[4]		2.4	1
Family Phocoenidae							
Harbor porpoise	*Phocoena phocoena*	Southeast Alaska	-, Y	975 (0.10, 896, 2012)[5]	Infrequent	8.9[5]	34[5]
Order Carnivora – Superfamily Pinnipedia							
Family Otariidae (eared seals and sea lions)							
Steller sea lion	Eumetopias jubatus	Western U.S.	E, D; Y	49,497 (N/A, 49,497, 2014)	Common	297	233
		Eastern U.S.	-, D, Y	60,131-74,448 (N/A, 36,551, 2013)		1,645	92.3
California sea lion[6]	*Zalophus californianus*	U.S. stock	-, N	296,750 (N/A 153,337, 2008)	Infrequent	9,200	62
Family Phocidae (earless seals)							
Harbor seal	*Phoca vitulina richardii*	Sitka/ Chatham Straight	-, N	14,855 (-,13,212, 2011)	Common	555	77

[1]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.

[2]NMFS marine mammal stock assessment reports online at: *www.nmfs.noaa.gov/pr/sars/*. CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance. In some cases, CV is not applicable (N/A).

[3]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).

[4]N is based on counts of individual animals identified from photo-identification catalogs.

[5] In the SAR for harbor porpoise (NMFS 2017), NMFS identified population estimates and PBR for porpoises within inland Southeast Alaska waters (these abundance estimates have not been corrected for g(0); therefore, they are likely conservative). The calculated PBR is considered unreliable for the entire stock because it is based on estimates from surveys of only a portion (the inside waters of Southeast Alaska) of the range of this stock as currently designated. The Annual M/SI is for the entire stock, including coastal waters.

[6]The California sea lion was added to the final IHA based on anecdotal evidence provided in public comment.

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The *Federal Register* notice of proposed authorization (82 FR 834632; July 26, 2017) provides a general background on sound relevant to the specified activity as well as a detailed description of marine mammal hearing and of the potential effects of these construction activities on marine mammals, and is not repeated here.

The *Federal Register* notice of proposed authorization (82 FR 834632; July 26, 2017) also provides a description of the potential effects of the construction activities on marine mammal habitat, and is not repeated here. In summary, pile driving and removal will occur at an existing dock facility and will not have a measurable adverse impact on marine mammal habitat.

Estimated Take

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

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 are primarily Level B harassment, as pile driving and removal has the potential to result in disruption of behavioral patterns and TTS for individual marine mammals. There is also some potential for auditory injury (Level A harassment) to result for high frequency species and harbor seals (phocids) due to larger predicted auditory injury zones. Auditory injury is unlikely to occur for all other hearing groups due to small zones or implementing shut-down mitigation. The mitigation and monitoring measures are expected to minimize the severity of such taking to the extent practicable. No mortality or serious injury is anticipated from the activity or authorized in the IHA. Below we describe how the take is estimated.

Described in the most basic way, 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) and the number of days of activities. Below, we describe these components in more detail and present the take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed 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 PTS of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources – 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 (e.g., frequency, predictability, duty cycle), the environment (e.g., bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.*, 2007, Ellison et al., 2011). Based on what the available science indicates and the practical need to use a threshold based on a factor that is both predictable and measurable for most activities, NMFS uses a generalized acoustic threshold based on received level to estimate the onset of behavioral harassment. NMFS predicts that marine mammals are likely to be behaviorally harassed in a manner we consider Level B harassment when exposed to underwater anthropogenic noise above received levels of 120 dB re 1 μPa (rms) for continuous (e.g. vibratory pile-driving, drilling) and above 160 dB re 1 μPa (rms) for non-explosive impulsive (e.g., seismic airguns) or intermittent

(e.g., scientific sonar) sources. CBS's activity includes the use of continuous (vibratory pile driving and removal) and impulsive (impact pile driving) sources, and therefore the 120 dB and 160 dB re 1 μPa (rms) are applicable.

Level A harassment for non-explosive sources - NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Technical Guidance, 2016) 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). CBS's activity includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving and removal) sources.

These thresholds were developed by compiling and synthesizing the best available science and soliciting input multiple times from both the public and peer reviewers to inform the final product, and are provided in Table 2. The references, analysis, and methodology used in the development of the thresholds are described in NMFS 2016 Technical Guidance, which may be accessed at *http://www.nmfs.noaa.gov/pr/acoustics/guidelines.htm*.

Table 2. Thresholds Identifying the Onset of Permanent Threshold Shift.

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

* Dual metric acoustic 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 should also be considered.

Note: Peak sound pressure (L_{pk}) has a reference value of 1 µPa, and cumulative sound exposure level (L_E) has a reference value of 1µPa^{2}s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. 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 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 acoustic thresholds will be exceeded.

Distances to Level A and Level B thresholds were calculated based on various source levels for a given activity and pile type (*e.g.*, impact hammering 48 in pile, vibratory removal of timber piles) and, for Level A harassment, accounted for the maximum duration of that activity per day using the spreadsheet tool developed by NMFS. Because we used a single strike SEL to calculate Level A harassment distances from impact pile driving instead of SPL as contained in

the proposed IHA, we provide the calculation inputs here. For impact pile driving 30-in piles, the following inputs were used in the guidance spreadsheet: 182.1 dB SEL source level, 400 strikes per pile, 1 pile per day, a practical spreading loss constant (15 log R), and 10 m for distance of single-strike SEL measurement. For impact pile driving 48-in piles, we used a single-strike SEL value of 187.9 dB, 400 strikes per pile, 1 pile per day, a practical spreading loss constant (15 log R), and 11 m for distance of single-strike SEL measurement. The inputs and resulting isopleths for vibratory pile driving did not change from the proposed IHA stage. The Level B harassment distances also did not change. Table 3 contains all calculated distances to Level A and B harassment thresholds.

Table 3. Distances to NMFS Level A and B acoustic thresholds.

Activity	Source Level	Distance (m) to Level A and Level B Thresholds					
		Level A[3]					Level B
		Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid	Otariid	
Vibratory Hammer							
12 and 16-inch wood removal (5 hours per day	155 SPL	8.0	0.7	11.8	4.8	0.3	2,154
30-inch steel temporary installation (3 hours per day)	166 SPL	30.6	2.7	45.3	18.6	1.3	11,659[4]
30-inch steel temporary removal (1 hour per day)	166 SPL	14.7	1.3	21.8	8.9	0.6	11,659[4]
30-inch steel permanent installation (2 hours per day)	166 SPL	23.4	2.1	34.5	14.2	1.0	11,659[4]
48-inch steel permanent installation (2 hours per day)	168.2 SPL	32.7	2.9	48.4	19.9	1.4	16,343[4]
Impact Hammer							
30-inch steel	180.7	380.9	13.5	453.7	203.8	14.8	2,512

permanent installation (10 minutes per day)	SEL[1]/ 196 SPL[2]						
48-inch steel permanent installation (10 minutes per day)	186.7 SEL[1]/ 198.6 SPL_2	1,052.4	37.4	1,253.5	563.2	41.0	3,744

[1] Single strike sound exposure levels (SELs) are median measured source levels from the Port of Anchorage test pile project for 48-in piles (Austin et al. 2016) and Alaska Department of Transportation hydroacoustic studies for 30-in piles (Denes et al. 2016, Table 72).
[2]SPL rms values were used to calculate distances to Level B harassment isopleths.
[3] The values provided here represent the distances at which an animal may incur PTS if that animal remained at that distance for the entire duration of the activity. For example, a humpback whale (low frequency cetacean) would have to remain 8 meters from timber piles being removed for 5 hours for PTS to occur.
[4]These represent calculated distances based on practical spreading model; however, land at the end of Silver Bay obstructs underwater sound transmission at approximately 9,500 m from the source.

Marine Mammal Occurrence

In this section, we provide the information about the presence, density, or group structure of marine mammals that will inform the take calculations.

Data on marine mammals in the project area is limited. Land-based surveys conducted at Sitka's Whale Park occurred from September through May, annually, from 1994 to 2000 (Straley and Pendell, 2017). From 2000 to 2016, Straley also collected marine mammal data from small vessels throughout the year. There are no density data available; therefore, probability of occurrence based on group sightings and typical group sizes were used in take calculations (Table 4).

Table 4. Marine mammal data from land-based surveys at Sitka's Whale Park from September through May, annually, from 1994-2000.

Species	**Months Sighted**	**Avg. count per month (Oct, Nov, Dec)**	**Typical Group Size**	**Max group size**
Humpback whale	September – April	50, 116, 101	2-4	unknown
Killer whale	October - March	12, 12, 4	4-8	8
Harbor porpoise	September, March, April	7, 0, 0	5	8
Steller sea lion	September - April	10, 12, 107	1-2	100
Harbor seal	September - April	1, 1, 0	1-2	2
California sea lion[2]	n/a	n/a	1-2	2

[1] Only months when the project would occur are included here. For full counts, please see section 4 in CBS's application.
[2] There are no documented sightings of California sea lions in research reports; however, anecdotal evidence suggests this species, while not common, is possible within the project area.

Because density data are not available for Sitka Sound, we used group sighting data as an indicator of how often marine mammals may be present during the 16 days of pile driving/removing activity in consideration of the Level B harassment zones. We also considered typical group size to determine how many animals may be present on any given day. For all species, we used the following equation to estimate the number of animals, by species, potentially taken from exposure to pile driving and removing noise: *Estimated Take = Number of animals x number of days animals are expected during pile activity by type* (Table 5).

The Sitka Whale Park surveys found humpback whale groups may include up to four individuals (Straley and Pendell 2017). Based on sighting frequency, this species is present more often during winter months when the project would occur and we conservatively estimate that a group of 4 humpback whales may occur within the Level B harassment zone on any of the 16 days of pile activities. Therefore, we have authorized 64 Level B takes of humpback whales. Due to the decreased Level A harassment isopleth from the proposed IHA stage, CBS will shut-down impact pile driving if a humpback whale comes within the established shut-down zone; therefore, no Level A take for this species is anticipated or authorized (see *Mitigation* section).

For killer whales, it is assumed eight killer whales could be present within the Level B harassment zone on any two days of pile activity; therefore, we have authorized 16 takes. No Level A take is anticipated or authorized due to shut down mitigation measures (see *Mitigation* section).

Harbor porpoise typically travel in groups of five and we anticipate a group could enter the Level A zone on two of the six days of impact pile driving and a group could be present

within the Level B harassment zone on two days of the project. Therefore, we have authorized ten Level A takes (five animals x two days) and ten Level B takes (five animals x two days) of harbor porpoise.

Steller sea lions are common in the area during the work with one to ten animals present on any given day of work. We assume that on any day of the 16 days of pile driving, 14 Steller sea lions could be within the Level B harassment zone on each day of pile driving. Therefore, over the course of 16 days of pile driving, we have authorized 224 sea lions may be taken (14 animals x 16 days); however, this is likely representative of the number of exposures, not individuals taken. No Level A takes of Steller sea lions are anticipated or authorized from impact pile driving due to the small harassment zone and mitigation shut down measures (see *Mitigation* section).

Harbor seals are found in the action area throughout the year but in low numbers. Group size is typically one to two animals. It is anticipated that two harbor seals could be present within the Level A zone every other day of the six days of impact pile driving. It is also assumed that a group of 2 harbor seals could be encountered in the Level B harassment zone during the 16 days of pile driving. Therefore, we have authorized 6 Level A takes (2 animals x 3 days) and 32 Level B takes (2 animals x 16 days) of harbor seals.

For harbor seals and Steller sea lions, the number of animals potentially present likely reflects the same individuals occurring over multiple days; therefore the number of takes likely represents exposures versus individuals. For all cetacean species, it is likely the calculated takes do reflect the number of individuals exposed because they would be expected to be transiting through the action area, not lingering like pinnipeds.

NMFS has also included 16 Level B takes of California sea lions in the IHA. No Level A takes are authorized because the shut-down zone established for Steller sea lions would apply and California sea lions are in the same hearing group as Steller sea lions meaning the distance to Level A harassment is the same. As described above, no research reports include sightings of California sea lions and they were not included in the notice of the proposed IHA. However, during the public comment period, the NPS identified that California sea lions, while not common, could potentially be in the project area while pile activities will occur. Therefore, NMFS has authorized 16 Level B takes which is one half the amount of harbor seal takes, another species which may occur in the project area but is less likely to occur than Steller sea lions. Similar to humpback and other pinnipeds, this amount of take represents exposures and not necessarily the number of individuals exposed given California sea lions may linger in the action area.

Table 5. Authorized take of marine mammals, by stock, incidental to pile removal and pile driving.

Species	Stock (Nbest)	Level A	Level B	Percent of Stock
Humpback whale	Hawaii DPS (11,398)	0	60	0.5
	Mexico DPS (3,264)	0	4	0.12
Killer whale	Alaska Resident (2,347)	0	16	0.67[1]
	Northern Resident (261)			6.1[1]
	Gulf of Alaska, Aleutian Islands, Bering Sea (587)			2.7[1]
	West Coast Transient (243)			6.6[1]
Harbor porpoise	Southeast Alaska (975)	10	10	1.0
Steller sea lion	Western U.S. (36,551)	0	5	0.01
	Eastern U.S. (49,497)	0	219	0.5
Harbor seal	Sitka/Chatham Straight (14,855)	6	32	0.3
California sea lion	U.S. Stock (296,750)	0	16	0.01

[1]Under the MMPA, humpback whales are considered a single stock; however, we have divided them here to account for DPSs listed under the ESA.
[2]These percentages assume all 16 takes comes from any given stock.
[3] Of the 224 exposed Steller sea lions, we expect approximately 2 percent to be from the endangered WDPS (~3 takes) and the remainder to be from the EDPS based on recent observations of branded animals in the Sitka Alaska area (Jemison, 2017).

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 such activity, "and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such 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 such 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 can ensure the least practicable adverse impact on species or stocks and their habitat, as well as subsistence uses where applicable, we carefully consider 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 – which considers the nature of the potential adverse impact being mitigated (likelihood, scope, range), as well as the likelihood that the measure will be effective if implemented; and the likelihood of effective implementation, and; (2) the practicability of the measures for applicant implementation, which may consider such things as cost, impact on operations, and, in the case of a military readiness activity, personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

The following mitigation measures, designed to minimize noise exposure, are included in the IHA:

- CBS shall not begin pile driving or removal until a PSO has given a notice to

proceed.

- CBS shall first attempt to direct pull old, abandoned piles that would minimize noise input into the marine environment; if those efforts prove to be ineffective, they may proceed with a vibratory hammer.

- CBS shall operate the vibratory hammer at a reduced energy setting (30 to 50 percent of its rated energy).

- CBS shall use a pile cushion during impact hammering.

- CBS shall use a ‘‘soft start’’ technique when impact pile driving. CBS shall provide an initial set of three strikes from the impact hammer at 40 percent energy, followed by a one minute waiting period, then two subsequent 3–strike sets. If any marine mammal is sighted within a shut-down zone during the 30 minute survey prior to pile driving, or during the soft start, CBS shall delay pile-driving until the animal is confirmed to have moved outside and on a path away from the area or if 15 minutes (for pinnipeds or small cetaceans) or 30 minutes (for large cetaceans) have elapsed since the last sighting of the marine mammal within the shut-downzone. This soft-start shall be applied prior to beginning pile driving activities each day or when pile driving hammers have been idle for more than 30 minutes.

- CBS shall drive all piles with a vibratory hammer to the maximum extent possible (*i.e.*, until a desired depth is achieved or to refusal) prior to using an impact hammer. CBS shall also use the minimum impact hammer energy needed to safely install the piles.

- CBS shall use delay and shut-down procedures, if a species for which authorization has not been granted or if a species for which authorization has been granted but the authorized takes are met, approaches or is observed within the Level A and/or B harassment zone.

- CBS shall implement the shut-down zones identified in Table 6 to minimize harassment.

Table 6. Pile driving shut down zones designed to minimize Level A take.

	Shut-down Zones in Meters				
Source	**Low-Frequency Cetaceans (humpback whales)**	**Mid-Frequency Cetaceans (killer whale)**	**High-Frequency Cetaceans (harbor porpoise)**	**Phocid Pinnipeds (harbor seal)**	**Otariid Pinnipeds (Steller and California sea lion)**
Vibratory Pile Driving/Removal					
All	10 m				
Impact Pile Driving					
30-inch steel (installation)	380 [1]	25[1]	200	150	25[1]
48-inch steel (installation)	1,100 [1]	50[1]	200	150	50[1]

[1] Indicates a shut-down zone that encompasses the entire Level A zone; therefore, no Level A take of species within these hearing groups are authorized.

Based on our evaluation of the included measures, NMFS has determined that the mitigation measures provide the means 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 in the action area.

Effective reporting is critical to both 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 action; 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).
- Mitigation and monitoring effectiveness.

Monitoring Protocols – Monitoring shall be conducted before, during, and after pile driving and removal activities. Monitoring will initiate 30 minutes prior to pile driving and removal through 30 minutes post-completion of pile activities. 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 one hour.

One land-based protected species observer (PSO) shall be present during all pile activity. A secondary boat-based PSO shall be on watch during all pile activity other than timber pile removal. The land-based PSO shall be located at the GPIP construction site and will be able to view the area across Silver Bay to the west and east of Sugarloaf Point and monitor the mouth of Silver Bay to determine whether marine mammals enter the action area from East Channel of Sitka Sound (the entrance monitoring zone). The PSO shall have no other primary duties than watching for and reporting on events related to marine mammals. The PSO shall scan the monitoring zone for the presence of listed species for 30 minutes before any pile driving or removal activities take place. Each day prior to commencing in-water work the PSO shall conduct a radio check with the construction foreman or superintendent. The PSO shall brief the foreman or supervisor as to the shut-down procedures if any marine mammals are observed likely to enter or within a shut-down zone, and shall have the foreman brief the crew, requesting that the crew notify the PSO when a marine mammal is spotted. To reduce fatigue, the PSO shall work in shifts lasting no longer than 4 hours with at least a 1-hour break between shifts, and shall not perform duties as an PSO for more than 12 hours in a 24-hr period. The PSO shall continue monitoring each day for 15 minutes after all in-water pile driving/removal is completed.

No less than 30 minutes prior to any pile driving or removal (other than timber pile removal), the boat-based PSO shall begin monitoring the Level A and B harassment zones. A boat-based PSO is not required during timber pile removal due to limited harassment zones. This PSO shall transit to the head of Silver Bay to ensure that there are no marine mammals for which take is not authorized or to document species for which take is authorized. The boat-based PSO

shall communicate with the construction foreman or superintendent once the area is determined to be clear and pile driving activities can begin. The boat-based PSO shall then transit back to the construction site and spend the rest of the pile driving time monitoring the area from the boat (see Figure 3 in CBS's application).

If any marine mammals are present within a shut-down zone, pile driving and removal activities shall not begin until the animal(s) has left the shut-down zone or no marine mammals have been observed in the shut-down zone for 15 minutes (for pinnipeds) or 30 minutes (for cetaceans). The boat-based PSO shall remain near the mouth of Sawmill Cove for the duration of pile driving to monitor for any animals approaching the area.

The following measures also apply to visual monitoring:

(1) Monitoring shall be conducted by independent (*i.e.*, not construction personnel) qualified observers, who shall be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shut-down/delay procedures when applicable by calling for the shut-down to the hammer operator. At least one observer must have prior experience working as an observer. Other observers may substitute education (undergraduate degree in biological science or related field) or training for experience. In addition, all PSOs must have:

(a) Visual acuity in both eyes (correction is permissible) sufficient for discernment of moving targets at the water's surface with ability to estimate target size and distance; use of binoculars may be necessary to correctly identify the target;

(b) Advanced education in biological science or related field (undergraduate degree or higher required);

(c) Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience);

(d) Experience or training in the field identification of marine mammals, including the identification of behaviors;

(e) Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations;

(f) 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 shut-down zone; and marine mammal behavior; and

(g) 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.

In addition, CBS must submit to NMFS OPR the curriculum vitae (CV) of all observers prior to monitoring.

Reporting

The IHA requires CBS to submit a draft report to NMFS within ninety calendar days of the completion of marine mammal monitoring. A final report shall be prepared and submitted within thirty days following resolution of any comments on the draft report from NMFS. The report will contain, among other things, information on monitoring results, mitigation measure implementation, and number of animals, by species, taken. The CBS will also immediately report injured or dead marine mammals to NMFS and, if the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA (*e.g.*, serious injury or mortality), CBS will immediately cease pile activities and report the incident to NMFS.

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 responses (*e.g.*, intensity, duration), the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat, and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS's implementing regulations (54 FR 40338; September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, ongoing sources of human-caused mortality, or ambient noise levels).

Pile driving and removal would result in the harassment of marine mammals within the designated harassment zones due to increased noise levels during 16 days. Six days of work are dedicated to removing 280 old piles, which would emit low levels of noise into the aquatic environment if removed via a vibratory hammer. Vibratory pile driving, which also has relatively low source levels, would occur for only 2 hours per day and there would be at least one day in between pile driving activity when installing the permanent piles. Impact pile driving would result in the loudest sound levels; however, CBS would install only 6 piles with an impact

hammer (4 30-in and 2 48-in piles) to proof the pile after driving it with a vibratory hammer. Proofing a pile is relatively short-term activity with 400 strikes occurring over 10 minutes per pile. Considering this and the fact only one pile would be installed per day, if PTS occurs, it is likely slight PTS (*e.g.*, PTS onset). Due to the brief duration of expected exposure, any Level B harassment would be temporary and any behavioral changes as a result are expected to be minor.

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 the species or stock through effects on annual rates of recruitment or survival:

- No mortality is anticipated or authorized.
- The number of piles in the design has been reduced to the lowest amount practicable (other designs required more piles); therefore, the amount of pile activity is minimal at 16 days over the course of 3 months.
- The majority of pile driving is scheduled to occur in October prior to peak humpback whale habitat use.
- Shut-down zone mitigation designed to avoid Level A harassment of low frequency cetaceans and otariids will occur during impact pile driving.
- Extremely limited impact pile driving would occur (ten minutes per day for six non-consecutive days).
- The project and ensonified areas include a cove and dead-end bay (Silver Bay) with no significant 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

monitoring and mitigation measures, NMFS finds that the total marine mammal take from the specified activity will have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of marine mammals may be authorized to be incidentally taken under Section 101(a)(5)(D) of the MMPA for specified activities other than military readiness activities. The MMPA does not define small numbers and so, in practice, 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.

NMFS has authorized a very small amount of Level A takes of marine mammals. Level B takes are more numerous and still only constitute between 0.01 and 6.6 percent of a given stock (Table 5). For pinnipeds, the number of takes likely represents repeated exposures of a smaller number of animals; therefore, the percent of stock taken is likely even smaller. Finally, the area where these takes may occur represents a negligible area with respect to each stock's range; therefore, it is unlikely a larger percentage of a stock's population would move through the action area.

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

Unmitigable Adverse Impact Analysis and Determination

Alaska Natives have traditionally harvested subsistence resources, including sea lions and harbor seals. In 2012 (the most recent year for which information is available), the community

of Sitka had an estimated subsistence take of 49 harbor seals and 1 Steller sea lion (Wolf *et al*. 2013). CBS contacted the Alaska Harbor Seal Commission, the Alaska Sea Otter and Steller Sea Lion Commission, and the Sitka Tribe of Alaska and these organizations expressed no concerns about the project. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Endangered Species Act (ESA)

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

There are two marine mammal species under NMFS' jurisdiction that are listed as endangered or threatened under the ESA with confirmed or possible occurrence in the action area: the wDPS of Steller sea lions and the humpback whale Mexico DPS. NMFS issued a Biological Opinion concluding that the issuance of the IHA is likely to adversely affect, but is not likely to jeopardize, the continued existence of the threatened and endangered species under NMFS' jurisdiction and is not likely to result in the destruction or adverse modification of critical habitat. The Biological Opinion for this action is available on NMFS' website (*http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm*).

Authorization

NMFS has issued an IHA to CBS authorizing the take of small numbers of six marine mammal species incidental to the GPIP dock modification project, Sawmill Cove, Alaska, containing the previously discussed mitigation, monitoring and reporting requirements.

Dated: October 6, 2017.

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Donna S. Wieting,

Director, Office of Protected Resources,

National Marine Fisheries Service.

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