BILLING CODE 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648-XF830

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Construction at the City Dock and Ferry Terminal, in Tenakee Springs, Alaska

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

ACTION: Notice; Issuance of an Incidental Harassment Authorization.

SUMMARY: In accordance with the regulations implementing the Marine Mammal Protection Act (MMPA) as amended, notification is hereby given that NMFS has issued an incidental harassment authorization (IHA) to the Alaska Department of Transportation and Public Facilities (ADOT&PF) to incidentally harass, by Level B harassment only, marine mammals during construction activities associated with a city dock and ferry terminal improvement project in Tenakee Springs, Alaska.

DATES: This Authorization is applicable from June 1, 2019 through May 31, 2020.

FOR FURTHER INFORMATION CONTACT: Jonathan Molineaux, Office of Protected Resources, NMFS, (301) 427-8401. Electronic copies of the application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-*

authorizations-construction-activities. In case of problems accessing these documents, please call the contact listed above.

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 (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are 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 shall have a negligible impact on the species or stock(s), shall 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.

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).

Summary of Request

On October 23, 2017, NMFS received a request from ADOT&PF for an IHA to take marine mammals incidental to conducting improvements at the Tenakee Springs city dock and ferry terminal, in Tenakee Springs, Alaska. The application was considered adequate and complete on January 30, 2018. ADOT&PF's request is for take of seven species of marine mammals by Level B harassment only. Neither ADOT&PF nor NMFS expect mortality to result from this activity and, therefore, an IHA is appropriate. The planned activity is not expected to exceed one year, hence, we do not expect subsequent MMPA IHAs to be issued for this particular activity.

Description of Activity

The ADOT&PF plans to make improvements to the Tenakee Springs Ferry Terminal located in Tenakee Springs, Alaska, on Chichigof Island in southeast Alaska (Figure 1-1 of the application). The facility is a multi-function dock and active ferry terminal located in the center of town (see Figure 1-2 and Figure 1-3 in application). The project's activities that have the potential to take marine mammals include vibratory and impact pile driving, drilling operations for pile installation (down-hole hammer), and vibratory pile removal.

The purpose of the project is to replace the existing, aging mooring and transfer structures nearing the end of their operational life due to corrosion and wear with modern facilities that provide improved operations for Alaska Marine Highway System (AMHS) ferry vessels, as well as freight and fueling operators, servicing the community of Tenakee Springs.

Planned improvements include the installation of new shore side facilities and marine structures and the renovation of existing structures. This shall accommodate cargo and baggage handling, vessel mooring, passenger and vehicle access gangways, and re-establish existing electrical and fuel systems. Improvements shall enhance public safety and security.

In-water project construction activities shall begin no sooner than June 1, 2019. Pile installation and removal is expected to be completed in 93 working days within a 4-month window beginning sometime after June 1, 2019. Pile installation shall be intermittent and staggered depending on weather, construction and mechanical delays, marine mammal shutdowns, and other potential delays and logistical constraints. Given the possibility of schedule delays and other unforeseen circumstances, an IHA is being requested for a full year, from June 1, 2019 through May 31, 2020.

A detailed description of the planned activities is provided in the proposed IHA for this action found in the following *Federal Register* notice (83 FR 12152, March 20, 2018). Since that time, the only alteration that has been made to the planned activities is the addition of two pile removals with a vibratory hammer. This additional activity has no impact on the take numbers or duration of the project originally in the *Federal Register* notice (83 FR 12152, March 20, 2018). Therefore, a detailed description of the action is not provided here. Please refer to that *Federal Register* notice for the description of the specific activity.

Comments and Responses

A notice of NMFS's proposal to issue an IHA was published in the *Federal Register* on March 20, 2018 (83 FR 12152). During the 30-day public comment period, the Marine Mammal Commission (Commission) submitted a letter on April 2, 2018. The Commission recommended

that NMFS issue the IHA, subject to inclusion of the mitigation, monitoring, and reporting measures.

Comment 1: The Commission recommends NMFS (1) clarify that action proponents should use linear averaging rather than simple arithmetic means to estimate source levels both as reported in hydroacoustic monitoring reports and for use in applications, (2) continue to require that minimum, mean, median, and maximum values be reported in all hydroacoustic monitoring reports, (3) base proxy source levels on median rather than mean values and (4) continue to require action proponents to use practical spreading unless site-specific transmission loss data are available from the project site.

Response: At this moment, there are no studies or data that support the use of either the linear mean, arithmetic mean, or median when determining appropriate proxy source levels. However, NMFS is considering the Commission's recommendation at this time and may choose to use the linear mean or median proxy source levels for future actions. In addition, NMFS shall continue to require the reporting of minimum, mean, median, and maximum values in hydroacoustic monitoring reports and the use of practical spreading when site-specific transmission loss data are not available.

Comment 2: The Commission recommends NMFS promptly revise its draft rounding criteria in order to share them with the Commission in a timely manner:

Response: NMFS appreciates the Commission's interest in this matter and looks forward to further discussion.

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. Additional information regarding population trends and threats may be found in NMFS Stock Assessment Reports (SAR; *www.nmfs.noaa.gov/pr/sars/*), and more general information about these species (*e.g*., physical and behavioral descriptions) may be found on NMFS website (*www.nmfs.noaa.gov/pr/species/mammals/*). We provided a description of the specified activity in our *Federal Register* notice announcing the authorization (83 FR 12152; March 20, 2018). Since that time, it was noted that the section detailing Steller sea lions did not include updated non-pup counts conducted between October and March from 2004 to 2017 by the Alaska Department of Fish and Game at the Tenakee Cannery Point haulout (the closest Steller sea lion haulout to the project area). These counts averaged 140 individuals at the haulout (Jemison 2017, unpubl. data) which were reflected in the Estimated Take Section of our *Federal Register* (83 FR 12152; March 20, 2018). All other information within these sections remain the same. Please refer to that document (83 FR 12152; March 20, 2018); we provide only a summary table here (Table 1).

Table 1. Marine mammals that occur in the project area during the specified activity.

Common name	Scientific name	MMPA Stock	ESA/MMPA status; Strategic (Y/N)[1]	Stock abundance Nbest, (CV, N_{min}, most recent abundance survey)[2]	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)	83	21
Minke whale	*Balaenoptera acutorostrata*	Alaska	-, N	N.A.	N.A.	N.A.
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]	23.4	1
		West Coast Transient	-, N	243 (N/A, 243, 2009)[4]	2.4	1
		Northern Resident	-, N	290 (N/A, 290, 2014)[6]	1.96	0
Family Phocoenidae						
Harbor porpoise	*Phocoena phocoena*	Southeast Alaska	-, Y	975 (0.10, 896, 2012)[5]	8.9[5]	34[5]
Dall's porpoise	*Phocoenoides dalli*	Alaska	-, N	83,400	N.A.	38

Order Carnivora – Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions)						
Steller sea lion	*Eumatopia jubatus*	Western U.S.[7]	E, D; Y	50,983 (N.A., 50,983, 2016)	320	241
		Eastern U.S.	-,-, N	41,638 (N/A, 41,638, 2015)	2,498	108
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina richardii*	Glacier Bay/Icy Strait	-, N	7,210 (N.A.; 5,647; 2011)	169	104

[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]Abundance estimates obtained from Towers *et al* 2015.

[7]Abundance, PBR, and Annual M/SI derived from draft 2017 SARs (Muto2017b).

Potential Effects of Specified Activities on Marine Mammals and their Habitat

The effect of stressors associated with the specified activities (*e.g.*, pile driving and drilling) has the potential to result in behavioral harassment of marine mammals in the vicinity of the action areas. The *Federal Register* notice for the proposed IHA (83 FR 12152; March 20, 2018) included a discussion of the effects of such disturbance on marine mammals, therefore that information is not repeated here.

NMFS described potential impacts to marine mammal habitat in detail in our *Federal Register* notice of proposed authorization (83 FR 12152; March 20, 2018). In summary, the project activities are not expected to modify existing marine mammal habitat. Because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences for individual marine mammals or their populations.

Estimated Take

This section provides an estimate of the number of incidental takes for authorization through this IHA, which shall 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 expected to be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to pile driving and drilling. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.*, shutdowns – discussed in detail below in Mitigation section), Level A harassment is neither anticipated nor authorized. As described previously, no mortality is anticipated or authorized for this activity. 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 shall be behaviorally harassed or incur some degree of permanent hearing impairment; 2) the area or volume of water that shall 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

NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals shall 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.*, 2012). 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 decibels (dB) re 1 micro pascal (μPa) root mean square (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 and impact pile driving) sources.

ADOT&PF's activity includes the use of continuous (vibratory pile driving and drilling) and impulsive (impact pile driving) sources, and therefore the 120 and 160 dB re 1 μPa (rms) thresholds 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) because of exposure to noise from two different types of sources (impulsive or non-impulsive).

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 below. 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[1] (Received Level)	
Hearing Group	Impulsive	Non-impulsive
Low-frequency cetaceans	Lpk,flat: 219 dB LE,LF,24h: 183 dB	LE,LF,24h: 199 dB
Mid-frequency cetaceans	Lpk,flat: 230 dB LE,MF,24h: 185 dB	LE,MF,24h: 198 dB
High-frequency cetaceans	Lpk,flat: 202 dB LE,HF,24h: 155 dB	LE,HF,24h: 173 dB
Phocid Pinnipeds (underwater)	Lpk,flat: 218 dB LE,PW,24h: 185 dB	LE,PW,24h: 201 dB
Otariid Pinnipeds (underwater)	Lpk,flat: 232 dB LE,OW,24h: 203 dB	LE,OW,24h: 219 dB

[1]NMFS 2016

Although ADOT&PF's construction activity includes the use of impulsive (impact pile driving) and non-impulsive (vibratory pile driving and drilling) sources, the shutdown zones set by the applicant are large enough to ensure Level A harassment will be prevented. The Level A harassment zones for the project are illustrated in Table 4. The highest Level A harassment zones shown (176 meters for high-frequency cetaceans and 148 meters for low-frequency cetaceans) are less than the total distance of the largest shutdown zone (200 meters for high- and low-

frequency cetaceans). To assure the largest shutdown zone can be fully monitored, protected species observers (PSOs) shall be positioned in the possible best vantage points during all piling/drilling activities to guarantee a shutdown if a high- and/or low-frequency cetacean approaches or enters the 200-meter shutdown zone. These measures are described in full detail below in the Mitigation and Monitoring Sections.

Ensonified Area

Here, we describe operational and environmental parameters of the activity that feeds into identifying the area ensonified above the acoustic thresholds.

The sound field in the project area is the existing background noise plus additional construction noise from the project. Marine mammals are expected to be affected via sound generated by the primary components of the project, *i.e.*, impact pile driving, vibratory pile driving, and vibratory pile removal. Vibratory hammers produce constant sound when operating, and produce vibrations that liquefy the sediment surrounding the pile, allowing it to penetrate to the required seating depth. An impact hammer shall then generally be used to place the pile at its intended depth. The actual durations of each installation method vary depending on the type and size of the pile. An impact hammer is a steel device that works like a piston, producing a series of independent strikes to drive the pile. Impact hammering typically generates the loudest noise associated with pile installation. Factors that potentially minimize the potential impacts of pile installation associated with the project include:

- The relatively shallow waters in the project area (Taylor *et al.*, 2008);
- Land forms around Tenakee Springs that shall block the noise from spreading; and
- Vessel traffic and other commercial and industrial activities in the project area that contribute to elevated background noise levels.

In order to calculate distances to the Level A and Level B sound thresholds for piles of various sizes being used in this project, NMFS used acoustic monitoring data from other locations (see Table 3). Note that piles of differing sizes have different sound source levels.

Empirical data from recent ADOT&PF sound source verification (SSV) studies at Ketchikan, Kodiak, and Auke Bay, Alaska were used to estimate sound source levels (SSLs) for vibratory, impact, and drilling installations of 30-inch steel pipe piles (MacGillivray *et al.*, 2016, Warner and Austin 2016b, Denes *et al.*, 2016a, respectively). These Alaskan construction sites were generally assumed to best represent the environmental conditions found in Tenakee and represent the nearest available source level data for 30-inch steel piles. Similarities among the sites include thin layers of soft sediments overlying a bedrock layer and comparable bedrock depths. However, the use of data from Alaska sites was not appropriate in all instances. Details are described below.

For vibratory driving of 24-inch steel piles, data from two Navy project locations in the state of Washington were reviewed. These include data from proxy sound source values at Navy installations in Puget Sound (Navy, 2015) and along the waterfront at Naval Base Kitsap (NBK), Bangor (Navy 2012). After assessing these two sources, ADOT&PF selected an average source level of 161 dB rms, which NMFS concurs with as an appropriate sound source. In addition, for a fourth project at NBK, Bangor, construction crews drove 16-inch hollow steel piles with measured levels similar to those for the 24-inch piles. Therefore, NMFS elects to use 161 dB rms as a source level for vibratory driving of 18-inch and 16-inch steel piles.

For vibratory driving of 14-inch steel and timber piles and 12.75-inch steel piles, ADOT&PF suggested a source level of 155 dB rms, which NMFS also concurs with. This

source level was derived from summary data pertaining to vibratory driving of 18-inch steel piles in Kake, Alaska (MacGillivray 2015).

In their application, ADOT&PF derived source levels for impact driving of 30-inch steel piles by averaging the individual mean values associated with impact driving of the same size and type from Ketchikan (Warner and Austin 2016a). Mean values from Ketchikan were the most conservative dataset for 30-inch impact pile driving in Southeast Alaska. The average mean value from this dataset was 194.7 dB rms and 180.8 dB sound exposure level (SEL).

For 24-inch impact pile driving, NMFS used data from a Navy (2015) study of proxy sound source values for use at Puget Sound military installations. The Navy study recommended a value of 193 dB rms and 181 dB SEL, which was derived from data generated by impact driving of 24-inch steel piles at the Bainbridge Island Ferry Terminal Preservation project and the Friday Harbor Restoration Ferry Terminal project. NMFS found this estimated source level to be appropriate.

For impact driving of 20-, 18-, and 14-inch steel piles, ADOT&PF used source levels of 186.6 dB, 158 dB, and 158 dB respectively. These source levels were derived from Caltrans SSV studies at the Stockton Wastewater Treatment Plant (20-inch) and Caltrans SSV studies at Prichard Lake Pumping Plant in Sacramento, CA (18- and 14-inch) (Caltrans 2015). In regards to the drilling activities, a source level of 165 dB for all pile types originated from ADOT&PF SSV studies for piling operations in Kodiak, Alaska (Warner and Austin 2016b).

Table 3. Estimates of mean underwater sound levels generated during vibratory and impact pile installation, drilling, and vibratory pile removal.

Method and Pile Type	Installation, Removal, or Proofing	Sound Level at 10 meters	Literature Source
Vibratory Hammer		**dB rms**	
30-inch steel piles	Install	165.0	Derived from Warner and Austin 2016a & Denes *et al*. 2016

24-inch steel piles	Install	161.0			Navy 2012, 2015
20-inch steel piles	Install	161.0			Navy 2012, 2015
18-inch steel piles	Remove, Install	161.0			Navy 2012, 2015
16-inch steel piles	Remove	161.0			Navy 2012, 2015
14-inch steel piles	Remove	155.0			MacGillivray *et al.* 2015
14-inch timber piles	Remove, Install	155.0			MacGillivray *et al.* 2015
12.75-inch steel piles	Remove	155.0			MacGillivray *et al.* 2015
Drilling		**dB rms**			
30-inch steel piles	Install	165.0			Derived from Warner and Austin 2016b
24-inch steel piles	Install	165.0			Derived from Warner and Austin 2016b
20-inch steel piles	Install	165.0			Derived from Warner and Austin 2016b
18-inch steel piles	Install	165.0			Derived from Warner and Austin 2016b
Impact Hammer		**dB rms**	**dB SEL**	**dB peak**	
30-inch steel piles	Proofing	194.7	180.8	208.6	Warner and Austin 2016a
24-inch steel piles	Proofing	193.0	181.0	210.0	Navy 2015 (from 82 FR 31400)
20-inch steel piles	Proofing	186.5	175.5	207.0	Caltrans 2015
18-inch steel piles	Proofing	158.0	-	174.0	Caltrans 2015
14-inch timber piles	Install	158.0	-	174.0	Caltrans 2015

The formula below is used to calculate underwater sound propagation. Transmission loss (TL) is the decrease in acoustic intensity as an acoustic pressure wave propagates out from a source. TL parameters vary with frequency, temperature, sea conditions, current, source and receiver depth, water depth, water chemistry, and bottom composition and topography. The general formula for underwater TL is:

$$TL = B * \log 10 (R^1/R^2)$$

Where:

TL = transmission loss in dB

B = transmission loss coefficient; for practical spreading equals 15

[1] the distance of the modeled SPL from the driven pile
[2] the distance from the driven pile of the initial measurement.

NMFS typically recommends a default practical spreading loss of 15 dB per tenfold increase in distance. ADOT&PF analyzed the available underwater acoustic data utilizing this metric.

When NMFS' Technical Guidance (2016) was published, in recognition of the fact that ensonified area/volume could be more technically challenging to predict because of the duration component in the new thresholds, NMFS developed a User Spreadsheet that includes tools to help predict a simple isopleth that can be used in conjunction with marine mammal density or occurrence to help predict takes. We note that because of some of the assumptions included in the methods used for these tools, we anticipate that isopleths produced are typically going to be overestimates of some degree, which shall result in some degree of overestimate of Level A take. However, these tools offer the best way to predict appropriate isopleths when more sophisticated 3D modeling methods are not available, and NMFS continues to develop ways to quantitatively refine these tools, and shall qualitatively address the output where appropriate. For stationary sources such as pile driving and drilling, NMFS' User Spreadsheet predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the activity, it shall not incur PTS. Inputs used in the User Spreadsheet and the resulting isopleths are reported in Tables 3 and 4.

Table 4. Calculated distances to Level A and Level B harassment isopleths during pile installation and removal.

Type of Pile	Activity	Piles Installed or Removed per day	Level A Harassment Zone (meters)[1]					Level B Harassment Zone (meters), Cetaceans and Pinnipeds[2]
			Cetaceans			Pinnipeds		
			LF	MF	HF	PW	OW	
Vibratory (120 dB)								
30-inch steel	Install[4]	3	11	1	16	7	1	10,000

24-inch steel, 20-inch steel, 18-inch steel	Install[4]	3	6	1	9	4	1	5,412
18-inch steel, 16-inch steel	Remove[4]	10	13	2	19	8	1	5,412
14-inch steel, 14-inch timber, 12.75-inch steel	Remove[5]	10	5	1	8	3	1	2,154
Drilling (120 dB)								
30-inch steel, 20-inch steel	Install[6]	3	55	5	81	34	3	10,000
24-inch steel, 18-inch steel	Install[7]	3	42	4	62	26	2	10,000
Impact (160 dB)[3]								
30-inch steel	Proofing	1	70	3	82	37	3	2,057
		2	110	4	131	59	5	
		3	144	6	171	77	6	
24-inch steel	Proofing	1	71	3	85	38	3	1,585
		2	113	4	135	61	5	
		3	148	6	176	79	6	
20-inch steel	Proofing	3	64	3	76	34	3	584
18-inch steel	Proofing	3	<1	<1	<1	<1	<1	7
14-inch timber	Install	10	1	<1	2	<1	<1	7

[1]Level A Isopleths Calculated Using NMFS' 2016 Acoustic User Spreadsheet. Source level set at a distance of 10 Meters, a weighting factor adjustment of 2kHz for impulse sources and 2.5kHz for continuous sources, and a propagation loss value of 15 LogR.
[2]Level B Isopleths Calculated using Practical Spreading Loss Model. Source level set at a distance of 10 meters and and a propagation loss value of 15 LogR.
[3]30 Strikes per pile.
[4]45 minute activity duration
[5]2.5 hour activity duration
[6]9 hour activity duration
[7]6 hour activity duration

Pulse duration from the SSV studies described above are unknown. However, all necessary parameters were available for the SEL_{cum} (cumulative Single Strike Equivalent) method for calculating isopleths for 30-inch, 24-inch, and 20-inch impact piles. Therefore, this method was selected for those piles. To account for potential variations in daily productivity during impact installation, isopleths were calculated for different numbers of piles that shall be

installed each day (see Table 4). Should the contractor expect to install fewer piles in a day than the maximum anticipated, a smaller Level A shutdown zone shall be employed to monitor take.

To derive Level A harassment isopleths associated with impact driving 30-inch steel piles, ADOT&PF utilized a single strike SEL of 180.8 dB and assumed 30 strikes per pile for 1 to 3 piles per day. For 24-inch and 20-inch steel piles, ADOT&PF used a single strike SEL of 181 dB SEL and 175.5 SEL respectively, also assuming 30 strikes at a rate of 1 to 3 piles per day. To calculate Level A harassment isopleths associated with impact piling 18-inch and 14-inch steel/timber piles, a source level (rms sound pressure level (SPL)) of 158dB was used with a pulse duration of .05 seconds.

To calculate Level A harassment for vibratory driving of 30-inch piles, ADOT&PF utilized a source level (rms SPL) of 165 dB and assumed 45 minutes of driving per day. For installing 24, 20, and 18-inch piles, ADOT&PF used a source level of 161 dB and assumed up to 45 minutes of driving per day. For removal of 18 and 16-inch piles, ADOT&PF assumed use of 18-inch piles and used the same source level of 161 dB for up to 45 minutes. Level A harassment for the installation/removal of piles 14-inches and under in diameter used a source level of 155 dB rms and assumed 2.5 hours of driving/removal a day. In regards to Level A for drilling, a source level of 165 dB rms was used for all pile types with varying levels of activity for each pile type (see Tables 1 & 2 of the FR Notice (83 FR 12152; March 20, 2018) for information on drilling duration and max number of piles drilled each day). Results for all Level A isopleths are shown in Table 4. Isopleths for Level B harassment associated with impact (160 dB) and vibratory harassment (120 dB) were also calculated and are included in Table 4.

It is important to note that the actual area ensonified by pile driving activities is constrained by local topography relative to the total threshold radius (particularly for the Level B

ensonified zones). The actual ensonified area was determined using a straight line-of-sight projection from the anticipated pile driving locations. Overall, Level A harassment zones for impact installation are relatively small because of the few strikes required to proof the piles. The maximum aquatic areas ensonified within the Level A harassment isopleths do not exceed 0.1 square kilometer (km^2) (see Figures 6-1 and Figure 6-2 in application). The corresponding areas of the Level B ensonified zones for impact driving and vibratory installation/removal are shown in Table 5 below.

Table 5. Calculated areas ensonified within Level B harassment isopleths during pile installation and removal.

Type of Pile	Activity	Level B Harassment Zone (km^2), Cetaceans and Pinnipeds
Vibratory (120 dB)		
30-inch steel	Install	78.9
24-, 20-., 18-, and 16-inch steel	Install	45.3
14-, 12.75-inch steel, and 14-inch timber	Remove	7.3
Drilling (120 dB)		
30-, 24-, 20-, and 18-inch steel	Install	78.9
Impact (160 dB)		
30-inch steel	Proofing	6.7
24-inch steel	Proofing	4.0
20-inch steel	Proofing	0.6
18-inch steel	Proofing	<0.1
14-inch timber	Install	<0.1

Marine Mammal Occurrence and Final Take Estimates

In this section we provide the information about the presence, density, or group dynamics of marine mammals that shall inform the take calculations. Potential exposures to impact and vibratory pile driving noise for each threshold were estimated using local marine mammal density datasets where available and local observational data. As previously stated, only Level B

take shall be considered for this action as Level A take shall be avoided via mitigation (i.e. shutdown). Each shutdown zone fully covers the extent of each corresponding Level A zone for all piling and drilling activities(See Tables 4 and 6). Level B take is calculated differently for some species based on differences in density, year-round habitat use, and other contextual factors. See below for specific methodologies by species.

Steller Sea Lions

Steller sea lion abundance in the project area is highly seasonal in nature with sea lions being most active between October and March (Figure 4-2). Level B exposure estimates are conservatively based on the average winter (October to March) abundance of 140 sea lions at the Tenakee Cannery haulout, which is 8.9 km away from the project site (Jemison, 2017, unpublished data). However, it is unlikely that the entire Steller sea lion population from the Tenakee Cannery haulout shall forage to the west near the Tenakee Springs ferry terminal. Additionally, Steller sea lions do not generally forage every day, but tend to forage every 1–2 days and return to haulouts to rest between foraging trips (Merrick and Loughlin 1997; Rehburg *et al.,* 2009). Overall, this information indicates that only half of the Steller sea lions at the Tenakee Cannery haulout (*i.e*., average of 140 during winter) is likely to approach the project site on any given day and be exposed to sound levels that constitute behavioral harassment. As a result, an estimated 70 individuals is a conservative estimate of the number of Steller sea lions likely to forage in the underwater behavioral harassment zone on a given day. Therefore: 70 Steller sea lions per day * 93 days of potential exposure = 6,510 potential exposures. Each of these exposures will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures.

To assign take to the eastern distinct population segment (eDPS) and western DPS (wDPS) stocks of Steller sea lions, data from researchers at NMFS' Alaska Fisheries Science Center were used. Researchers at NMFS' Alaska Fisheries Science Center state that roughly 17.8 percent of Steller sea lions at the Tenakee Cannery Point haulout are members of the wDPS whereas 82.2 percent are from the eDPS (L. Fritz, pers. comm; L. Fritz, unpublished data). Therefore, it is estimated that only 1,159 takes (17.8 percent of 6,510) have the potential to occur for wDPS Steller sea lions and 5,351(82.2 percent of 6,510) takes have the potential to occur for eDPS Steller sea lions. In addition, since there is only an average of 140 Steller sea lions located at the Tenakee Cannery haulout, it is predicted that only 115 (82.2 percent of 140) individuals from the eDPS and 25 (17.8 percent of 140) individuals from the wDPS have the potential to be harassed.

Harbor Seals

Harbor seals are non-migratory; therefore, the exposure estimates are not dependent on season. We anticipate Level B harbor seal take to be relatively high, given the presence of three established haulouts within the largest (10 km) Level B harassment zone of the project site. The best available abundance estimate for Tenakee Inlet is 259 individual harbor seals (London, J., pers. comm.).

The number of harbor seals that could potentially be exposed to elevated sound levels for the project was estimated by calculating density * area * number of days of activity. The total density of harbor seals in Tenakee inlet is approximately 1.11 animals per km^2 (259 harbor seals/233.35 km^2 of available habitat in Tenakee Inlet). However, the action area is equivalent to 78.9 km^2. Therefore: 1.11 harbor seals per km^2 * 78.9 km^2 * 93 days of potential exposure =

8,144 potential exposures. Each of these exposures will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures.

Harbor Porpoises

Harbor porpoises are non-migratory; therefore, our exposure estimates are not dependent on season. Harbor porpoise surveys conducted in southeast Alaska during the summers of 1991–1993, 2006, 2007, and 2010–2012 included Chatham Strait (near the action area). The average density estimate for all survey years in Chatham Strait was 0.013 harbor porpoise per square km (Dahlheim *et al.*, 2015). Surveys in 1997, 1998, and 1999 reported an average harbor porpoise density of .033 per square km in Southeast Alaska (Hobbs and Waite 2010). Based density estimates from Hobbs and Waite (2010), a more conservative density estimate, we estimate that approximately 2.6(.033*78.9) harbor porpoises could occur daily within the 78.9 square km Level B harassment zone. Therefore: 2.6 harbor porpoises per day * 93 days of potential exposure = 242 potential exposures. Each of these exposures will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures.

Dall's Porpoises

Dall's porpoise are non-migratory; therefore, our exposure estimates are not dependent on season. Based on anecdotal evidence citing rare occurrences of the species in the action area, we anticipate approximately one observation of a Dall's porpoise pod in the Level B harassment zone each week during construction(Lewis, S., pers. comm.). Based on an average pod size of 3.7 (Wade *et al.*, 2003), we estimate 49 Dall's porpoise could be exposed to Level B harassment noise during the 93 day construction period (*i.e.*, 3.7 individuals per week * 13.2 weeks of potential exposure = 48.84 (rounded up to 49) total potential exposures). Each of these exposures

will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures.

Killer Whales

Local marine mammal experts indicate that approximately one killer whale pod is observed in Tenakee Inlet each month, year-round (Lewis, S., pers. comm.). It is assumed that all three killer whale stocks are equally likely to occur in the area because no data exist on relative abundance of the three stocks in Tenakee Inlet. The exposure estimate is conservatively based on a resident pod size, which has been quantified and is known to be a larger than other stocks. Resident killer whales occur in a mean group size of 19.3 during the fall in southeast Alaska (Dahlheim *et al.*, 2009). Therefore, we assume that a total of approximately 60 killer whales could be exposed to Level B harassment over the course of the project (*i.e.*, (19.3 individuals per pod * 1 pods per month) * 3.1 months = 59.83 (rounded up to 60)). Since there are no data that exist for killer whale stocks in Tenakee Inlet, 60 Level B takes were applied to each stock. Each of these exposures will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures. Humpback whales

Humpback whales are present in Tenakee Inlet year-round. Local experts indicate that as many as 12 humpback whales are present on some days from spring through fall, with lower numbers during the winter (S. Lewis and M. Dahlheim, pers. comm.). We conservatively estimate that half of those, or six individuals on average, could be exposed to Level B harassment during each day of pile installation and removal, therefore:

6 humpback whales per day * 93 days of exposure = 558 potential exposures. Each of these exposures will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures.

Minke Whales

Minke whales may be present in Tenakee Inlet year-round. Their abundance throughout southeast Alaska is very low, and anecdotal reports have not included minke whales near the project area. However, minke whales are distributed throughout a wide variety of habitats and could occur near the project area. Therefore, we conservatively estimate that one minke whale could be exposed to Level B harassment each month during construction or a total of three minke whales during the 93-day construction period. Each of these exposures will result in Level B take only, as Level A take is neither requested nor authorized due to shutdown measures.

Mitigation Measures

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 (latter not applicable for this action). 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 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, 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. This considers the nature of the potential adverse impact being mitigated (likelihood, scope, range). It further considers the likelihood that the measure shall 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, impact on operations.

In addition to the measures described later in this section, ADOT&PF shall employ the following standard mitigation measures:

- Conduct briefings between construction supervisors and crews and the marine mammal monitoring team prior to the start of all pile driving activity, and when new personnel join the work, to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures;
- For in-water heavy machinery work other than pile driving (*e.g.*, standard barges, tug boats), if a marine mammal comes within 10 m, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions. This type of work could include the following activities: (1) movement of the barge to the pile location; or (2) positioning of the pile on the substrate via a crane (*i.e.*, stabbing the pile);
- Work may only occur during daylight hours, when visual monitoring of marine mammals can be conducted;
- For those marine mammals for which Level B take has not been requested, in-water pile installation/removal and drilling shall shut down immediately when the animals are sighted;

- If Level B take reaches the authorized limit for an authorized species, pile installation shall be stopped as these species approach the Level B zone to avoid additional take of them.

The following measures shall apply to ADOT&PFs mitigation requirements:

Establishment of Shutdown Zone for Level A—For all pile driving/removal and drilling activities, ADOT&PF shall establish a shutdown zone. The purpose of a shutdown zone is generally to define an area within which shutdown of activity shall occur upon sighting of a marine mammal (or in anticipation of an animal entering the defined area). For all in-water heavy machinery activities, a 10 meter shutdown zone will be required. In addition, during impact installation of 24-inch and 30-inch steel piles at a frequency of 2 or 3 piles per day, PSOs shall implement a 200-meter shutdown zone for Dall's porpoises, minke whales, and humpback whales (low- and high-frequency cetaceans). The placement of PSOs during all pile driving and drilling activities (described in detail in the Monitoring and Reporting Section) shall ensure that each shutdown zone is visible during pile driving and drilling activities. All shutdown zones, with their corresponding sound source type are presented in Table 6 below.

Table 6 Shutdown zones for various pile driving/drilling activities for marine mammal hearing groups.

	Shutdown Zone Radii (meters)				
Sound Source Type	**Low-Frequency Cetaceans**	**Mid-Frequency Cetaceans**	**High-Frequency Cetaceans**	**Phocid Pinnipeds**	**Otariid Pinnipeds**
1 – Vibratory pile driving/removal, drilling, and impact pile driving (all impact pilling activities not expressed in the column directly below)	100	100	100	50	50
Impact Installation of 24-inch and 30-	200	100	200	100	100

inch steel piles at a frequency of two or three piles per day					
3- In Water Heavy Machinery Activities(Non pile driving and drilling activities)	10	10	10	10	10

Establishment of Monitoring Zones for Level B—ADOT&PF shall establish Level B disturbance zones or zones of influence (ZOI) which are areas where SPLs are equal to or exceed the 160 dB rms threshold for impact driving and the 120 dB rms threshold during vibratory driving and drilling. 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 area outside the shutdown zone and thus prepare for a potential cease of activity should the animal enter the shutdown zone. The Level B zones are depicted in Table 4. As shown, the largest Level B zone is equal to 78.9 km^2, making it impossible for the PSOs to view the entire harassment area. Due to this, Level B exposures shall be recorded and extrapolated based upon the number of observed take and the percentage of the Level B zone that was not visible.

Soft Start - The use of a soft-start procedure are believed to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity. For impact pile driving, contractors shall be required to provide an initial set of strikes from the hammer at 40 percent energy, each strike followed by no less than a 30-second waiting period. This procedure shall be conducted a total of three times before impact pile driving begins. Soft Start is not required during vibratory pile driving and removal activities.

Pre-Activity Monitoring - Prior to the start of daily in-water construction activity, or whenever a break in pile driving of 30 minutes or longer occurs, the observer shall observe the shutdown and monitoring zones for a period of 30 minutes. The shutdown zone shall be cleared when a marine mammal has not been observed within the zone for that 30-minute period. If a marine mammal is observed within the shutdown zone, a soft-start cannot proceed until the animal has left the zone or has not been observed for 30 minutes (for cetaceans) and 15 minutes (for pinnipeds). If the Level B harassment zone has been observed for 30 minutes and non-permitted species are not present within the zone, soft start procedures can commence and work can continue even if visibility becomes impaired within the Level B zone. When a marine mammal permitted for Level B take is present in the Level B harassment zone, piling activities may begin and Level B take shall be recorded. As stated above, if the entire Level B zone is not visible at the start of construction, piling or drilling activities can begin. If work ceases for more than 30 minutes, the pre-activity monitoring of both the Level B and shutdown zone shall commence.

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 shall 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 both for 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); and
- Mitigation and monitoring effectiveness.

Visual Monitoring

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

PSOs shall be land-based observers. A primary PSO shall be placed at the terminal where pile driving shall occur. A second observer shall range the uplands on foot or by ATV via Tenakee Ave., and go from Grave Point east of the harbor up and west of the project site to get a full view of the Level A zone and as much of the Level B zone as possible. PSOs shall scan the waters using binoculars, and/or spotting scopes, and shall use a handheld GPS or range-finder device to verify the distance to each sighting from the project site. All PSOs shall be trained in marine mammal identification and behaviors and are required to have no other project-related tasks while conducting monitoring. In addition, monitoring shall be conducted by qualified observers, who shall be placed at the best vantage point(s) practicable to monitor for marine mammals and implement shutdown/delay procedures when applicable by calling for the shutdown to the hammer operator. Qualified observers are trained and/or experienced professionals, with the following minimum qualifications:

- 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.
- Independent observers (*i.e.*, not construction personnel).
- Observers must have their CVs/resumes submitted to and approved by NMFS
- Advanced education in biological science or related field (*i.e.*, undergraduate degree or higher).Observers may substitute education or training for experience.
- Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).

- At least one observer must have prior experience working as an observer.
- Experience or training in the field identification of marine mammals, including the identification of behaviors.
- Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
- Writing skills sufficient to prepare a report of observations including but not limited to the number and species of marine mammals observed; dates and times when in-water construction activities were conducted; dates and times when in-water construction activities were suspended to avoid potential incidental injury from construction sound of marine mammals observed within a defined shutdown zone; and marine mammal behavior.
- 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.

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

- Date and time that monitored activity begins or ends;
- Construction activities occurring during each observation period;
- Weather parameters (*e.g.*, percent cover, visibility);
- Water conditions (*e.g.*, sea state, tide state);
- Species, numbers, and, if possible, sex and age class of marine mammals;
- Description of any observable marine mammal behavior patterns, including bearing and

direction of travel and distance from pile driving activity;

- Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;
- Locations of all marine mammal observations; and
- Other human activity in the area.

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

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

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

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

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

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

Negligible Impact Analysis and Determination

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of

recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals that might be "taken" through harassment, NMFS considers other factors, such as the likely nature of any 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).

As stated in the mitigation section, shutdown zones equal to or exceeding Level A isopleths shown in Table 4 shall be implemented, and in this case, Level A take is not anticipated nor authorized. Behavioral responses of marine mammals to pile driving and removal at the ferry terminal, if any, are expected to be mild and temporary. Marine mammals within the Level B harassment zone may not show any visual cues they are disturbed by activities (as noted during modification to the Kodiak Ferry Dock) or 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 the short duration of noise-generating activities per day and that pile driving, removal, and drilling shall occur for 93 days, any harassment shall be temporary. In addition, the project was designed with relatively small-diameter piles, which shall avoid the elevated noise impacts associated with larger piles. In addition, there are no known biologically important areas

near the project zone that shall be moderately or significantly impacted by the construction activities. The region of Tenakee Inlet where the project shall take place is located in a developed area with regular marine vessel traffic. Although there is a harbor seal haulout approximately one km south of the project site, it shall not be located within the project's Level B zone.

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.
- There are no known biologically important areas within the project area.
- ADOT&PF shall implement mitigation measures such as vibratory driving piles to the maximum extent practicable, soft-starts, and shut downs.
- Monitoring reports from similar work in Alaska have documented little to no effect on individuals of the same species impacted by the specified activities.

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 activity shall have a negligible impact on all affected marine mammal species or stocks.

Small Numbers

As noted above, only small numbers of incidental take may be authorized 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, 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. Additionally, other qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

Overall, ADOT&PF proposes 15,566 total Level B takes of these marine mammals. Table 7 below shows take as a percent of population for each of the species listed above.

Table 7. Summary of the estimated numbers of marine mammals potentially exposed to Level B harassment sound levels.

Species	DPS/Stock	Number of Exposures to Level B Harassment Total and By Stock	Number of Individuals Potentially Exposed to Level B Harassment	Stock Abundance	Percent of Population[1]
Steller sea lion	Eastern DPS Western DPS	5,351 1,159	115 individuals 25 individuals	41,638 53,303	<0.3 <0.1
Harbor seal	Glacier Bay/Icy Strait	8,144	259 individuals	7,210	3.6
Harbor porpoise	Southeast Alaska	242	242	975	24.8
Dall's porpoise	Alaska	49	49	83,400	<0.1
Killer whale	West Coast transient Alaska resident Northern Resident	60 60 60	60 60 60	243 2,347 290	24.7 2.6 20.7
Humpback whale	Mexico DPS/Central North Pacific	558	558	10,103	5.5
Minke whale	Alaska	3	3	N/A	N/A
Total		**15,686**	**1,434**	**N/A**	**N/A**

[1]The percent of population is based on the proportion of take that is expected to occur from each stock based on abundance (see Table 1). Killer whale stocks are assumed to be equally likely to occur.
N/A: Not Applicable or no stock population assessment is available.

Table 7 presents the number of animals that could be exposed to received noise levels causing Level B harassment for the work at the Tenakee Springs Ferry Terminal. Our analysis shows that less than 25 percent of each affected stock could be taken by harassment. Therefore, the numbers of animals authorized to be taken for all species shall be considered small relative to the relevant stocks or populations even if each estimated taking occurred to a new individual—an

extremely unlikely scenario. For harbor porpoise, the abundance estimates used in the percentage of population were taken from inland Southeast Alaska waters. These abundance estimates have not been corrected for g(0) and are likely conservative, therefore it is expected for the percentage of population that shall be taken to be overestimated. In addition, high percentage totals for northern resident (20.7 percent) and western transient (24.7 percent) killer whales were based on the possibility that all 60 takes for killer whales shall occur for each stock, which is a highly unlikely scenario.

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 shall be taken relative to the population size of the affected species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks shall not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes. The project is not known to occur in an important subsistence hunting area. It is a developed area with regular marine vessel traffic. However, ADOT&PF plans to provide advanced public notice of construction activities to reduce construction impacts on local residents, ferry travelers, adjacent businesses, and other users of the Tenakee Springs ferry terminal and nearby areas. This shall include notification to local Alaska Native tribes that may have members who hunt marine mammals for subsistence. Of the marine mammals considered in this IHA application, only harbor seals are known to be used for subsistence in the project area. If any tribes express concerns regarding project impacts to

subsistence hunting of marine mammals, further communication between shall take place, including provision of any project information, and clarification of any mitigation and minimization measures that may reduce potential impacts to marine mammals.

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

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 NMFS' Alaska Regional Office, whenever we propose to authorize take for endangered or threatened species.

NMFS Alaska Region issued a Biological Opinion to NMFS Office of Protected Resources which concluded the city dock and improvement project is not likely to jeopardize the continued existence of WDPS Steller sea lions or Mexico DPS humpback whales or adversely modify critical habitat because none exists within the action area.

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 action (*i.e.*, the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment. This action is consistent with categories of activities identified in

Categorical Exclusion B4 (incidental harassment authorizations with no anticipated serious injury or mortality) 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. Accordingly, NMFS has determined that the issuance of the IHA qualifies to be categorically excluded from further NEPA review.

Authorization

As a result of these determinations, we have issued an IHA to ADOT&PF for conducting the described construction activities related to city dock and ferry terminal improvements from June 1, 2019 through May 31, 2020 provided the previously described mitigation, monitoring, and reporting requirements are incorporated.

Dated: June 20, 2018.

Elaine T. Saiz,

Acting Deputy Director,

Office of Protected Resources,

National Marine Fisheries Service.

[FR Doc. 2018-13591 Filed: 6/25/2018 8:45 am; Publication Date: 6/26/2018]