



**BILLING CODE 3510-22-P**

**DEPARTMENT OF COMMERCE**

**National Oceanic and Atmospheric Administration**

**RIN 0648-XF460**

**Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to a Pile Driving Activities for Waterfront Repairs at the U.S. Coast Guard Station Monterey, Monterey, California**

**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 U.S. Coast Guard (USCG) to incidentally harass, by Level B harassment only, marine mammals during pile driving activities associated with waterfront repairs at the USCG Monterey Station in Monterey, California.

**DATES:** This Authorization is applicable from December 20, 2017 through October 15, 2018.

**FOR FURTHER INFORMATION CONTACT:** Stephanie Egger, Office of Protected Resources, NMFS, (301) 427-8401. 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](http://www.nmfs.noaa.gov/pr/permits/incidental/construction.htm). 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 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.

The MMPA states that the term “take” means to harass, hunt, capture, or 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**

In compliance with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. §§ 4321 *et seq.*) and NOAA Administrative Order (NAO) 216-6A, NMFS reviewed our action (*i.e.*, the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment. Accordingly, NMFS reviewed and adopted the USCG's Supplemental Environmental Assessment entitled *Supplemental Environmental Assessment for Waterfront Repairs at U.S. Coast Guard Station Monterey, Monterey, California*, and signed a Finding of No Significant Impact on November 9, 2017.

### **Summary of Request**

On February 10, 2017, NMFS received a request from the USCG for an IHA to take marine mammals incidental to pile driving activities for waterfront restoration, at the USCG Station Monterey in Monterey, California. USCG's request is for take of eight species of marine mammals, by Level B harassment. Neither USCG nor NMFS expect mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued an IHA to the USCG for similar work (79 FR 57052; September 24, 2014). However, no work was conducted under that IHA.

### **Description of Specific Activity**

USCG Station Monterey occupies an upland site and adjacent waterside structures including a 1,700-foot breakwater, a wharf constructed over the breakwater, and floating docks to the east of the wharf in Monterey Harbor, Monterey, California. The USCG intends to conduct

maintenance on the existing wharf, which is used to berth vessels that are critical to support USCG Station Monterey's mission.

The planned project requires replacement of 17 timber (16 to 18-in in diameter) piles including removal of the existing timber deck, replacing stringers, steel pipe caps, steel support beams, and hardware in order to access the timber piles. The timber piles will be removed using vibratory pile driving. Each timber pile will be replaced with a 14-in steel pipe pile installed using a vibratory hammer (the preferred method) and each pipe pile will be positioned and installed in the footprint of the extracted timber pile. Pile proofing will be conducted via impact hammer. If, due to substrate or breakwater armor, a pipe pile is unable to be driven to 30 feet below the mud line using a vibratory hammer, then an impact hammer will be used; and if the pile cannot be driven with an impact hammer, the pipe pile would be posted onto the armor stone. The steel pipe piles would not be filled with concrete. Pile installation would be adjacent to a rock jetty that would provide substantial underwater shielding of sound transmission to areas north (or through the jetty).

Pile-driving activities are expected to occur for an estimated minimum of three to a maximum of eight days of the total construction time. It is assumed that driving time would be approximately 20 minutes (min) per pile for vibratory or impact pile driving. It is assumed that vibratory extraction of the existing piles would take approximately 10 min per pile. Pile driving and extraction would therefore result in an estimated of 240 min per day (4 hours (hrs)); 510 min for the total project or approximately 8.5 hrs. In-water noise from pile driving activities will result in the take, by Level B harassment only, of eight species of marine mammals.

A detailed description of the planned pile driving project is provided in the *Federal Register* notice for the proposed IHA (82 FR 42986; September 13, 2017). Since that time, no

changes have been made to the planned USCG activities. Therefore, a detailed description is not provided here. Please refer to that *Federal Register* notice for the description of the specific activity.

### **Comments and Responses**

A notice of NMFS's proposal to issue an IHA to the USCG was published in the *Federal Register* on September 24, 2014 (79 FR 57052). That notice described, in detail, USCG activity, the marine mammal species that may be affected by the activity, and the anticipated effects on marine mammals. During the 30-day public comment period, NMFS received comments from the Marine Mammal Commission (Commission).

*Comment 1:* NMFS received a comment from the Commission and while the Commission agrees with NMFS's determinations, it recommends that NMFS follow NMFS's policy of a 24-hour reset for enumerating the number of marine mammals that could be taken during the planned activities by applying standard rounding rules before summing the numbers of estimated takes across survey sites and survey days.

*Response 1:* Calculating predicted take is not an exact science and there are arguments for using different mathematical approaches in different situations, and for making qualitative adjustments in other situations. NMFS is currently engaged in developing a protocol to help guide its take calculations given particular situations and circumstances. We believe, however, that the methodology for this action is appropriate and is not at odds with the 24-hour reset policy the Commission references.

*Comment 2:* The Commission recommends NMFS include previous mitigation and monitoring measures from the 2014 IHA (*e.g.*, vessel based monitoring, additional baseline

monitoring) as well as clarifying the number of Protected Species Observers (PSOs) that will be used for the project and where the PSOs would be positioned for the most effective monitoring.

*Response:* As discussed with the Commission, NMFS has incorporated or expanded on these measures in the IHA.

- USCG shall conduct in-situ monitoring during the installation of five piles and removal of five piles. USCG shall adjust Level B harassment zones of influence (ZOIs) as necessary where received underwater sound pressure levels (SPLs) are higher than 160 decibels (dB) root mean square (rms) and 120 dB (rms) re 1 micro Pascal ( $\mu\text{Pa}$ ) for impulse noise sources (impact pile driving) and non-impulses noise sources (vibratory pile driving), respectively. USCG shall adjust Level A harassment zones based on measured SELs as necessary.
- USCG shall employ at least three NMFS-approved PSOs to conduct marine mammal monitoring for its construction project.
- PSOs shall conduct baseline monitoring for two days during the week prior to pile removal and driving.
- During pile removal or installation, at least three PSOs shall be used, and positioned such that each monitor has the best vantage point available, including the USCG pier, jetty, adjacent docks within the harbor, to maintain an excellent view of the exclusion zone and adjacent areas during the survey period. Monitors would be equipped with radios or cell phones for maintaining contact with work crews.

- Vessel-based visual marine mammal monitoring within the 120 dB and 160 dB ZOIs shall be conducted during 10 percent of the vibratory pile driving and removal and impact pile driving activities, respectively.

*Comment 3:* The Commission and NMFS discussed effectiveness of the sound attenuation devices, which resulted in a change from a 10 dB reduction to 5 dB during impact pile driving. The adjusted source levels decreased the zones for both Level A and Level B harassment, but did not change the number of authorized takes.

*Response 3:* As agreed upon with the Commission, NMFS outlined the justification for the adjusted sources levels in the final IHA.

*Comment 4:* The Commission also recommended the NMFS re-evaluate the USCG hydroacoustic monitoring plan to ensure the acoustic thresholds, various metrics, and methods are current.

*Response 4:* As agreed upon with the Commission, NMFS requested the USCG update their hydroacoustic monitoring plan to ensure it is current. Those revisions included ensuring the appropriate thresholds and weighting parameters, hearing ranges, and functional hearing group delineations are used and distances reported accordingly (including for cumulative sound exposure levels), increasing the measurement capabilities from 10 to 20 kHz, ensuring ambient conditions are recorded appropriately (*e.g.*, in continuous 10-minute intervals), ensuring the impulse duration is reported and represents the duration that contains 90 percent of pulse energy (including using the appropriate recording devices to obtain those measurements), and reporting the depth of the 10-m hydrophone.

## Description of Marine Mammals in the Area of Specified Activities

The marine mammal species under NMFS’s jurisdiction that have the potential to occur in the construction area include California sea lion (*Zalophus californianus*), Pacific harbor seal (*Phoca vitulina*), harbor porpoise (*Phocoena phocoena*), Risso’s dolphin (*Grampus griseus*), bottlenose dolphin (*Tursiops truncatus*), killer whale (*Orcinus orca*), gray whale (*Megaptera novaengliae*), humpback whale (*Eschrichtius robustus*), and southern sea otters (*Enhydra lutris nereis*). The southern sea otter is managed by the U.S. Fish and Wildlife Service and not discussed further in this authorization. Humpback whales are protected under the Endangered Species Act (ESA). Pertinent information for each of these species is presented in this document to provide the necessary background to understand their demographics and distribution in the area.

**Table 1. Marine Mammal Species Potentially Present in Region of Activity.**

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) <sup>1</sup>	Stock abundance (CV, N <sub>min</sub> , most recent abundance survey) <sup>2</sup>	PBR	Annual M/SI <sup>3</sup>
Order Cetartiodactyla – Cetacea – Superfamily Mysticeti (baleen whales)						
Family Eschrichtiidae						
Gray whale	<i>Eschrichtius robustus</i>	Eastern North Pacific	-; N	20,990 (0.05; 20,125; 2011)	624	132
Family Balaenidae						
Humpback whale	<i>Megaptera novaeangliae novaeangliae</i>	California/Oregon/Washington	E; D	1,918 (0.03; 1,855; 2011)	11.0	≥ 5.5
Superfamily Odontoceti (toothed whales, dolphins, and porpoises)						
Family Delphinidae						
Killer whale	<i>Orcinus orca</i>	Eastern North Pacific Offshore	-; N	240 (0.49, 162, 2008)	1.6	0
Killer whale	<i>Orcinus orca</i>	West Coast Transient	-; N	243 (na, 243, 2009)	2.4	0

Risso's dolphin	<i>Grampus griseus</i>	California/Oregon/Washington	-; N	6,336 (0.32; 4,817, 2014)	46	≥3.7
Bottlenose dolphin	<i>Tursiops truncatus</i>	California Coastal	-; N	453 (0.06, 346, 2011)	2.7	≥2.0
Family Phocoenidae (porpoises)						
Harbor Porpoise	<i>Phocoena phocoena</i>	Monterey Bay	-; N	3,715 (0.51; 2,480; 2011)	25	0
Order Carnivora – Superfamily Pinnipedia						
Family Otariidae (eared seals and sea lions)						
California sea lion	<i>Zalophus californianus</i>	U.S.	-; N	296,750 (na, 153,337, 2011)	9,200	389
Family Phocidae (earless seals)						
Harbor seal	<i>Phoca vitulina</i>	California	-; N	30,968 (na; 27,348 2012)	1,641	43

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

2- NMFS marine mammal stock assessment reports online at: [www.nmfs.noaa.gov/pr/sars/](http://www.nmfs.noaa.gov/pr/sars/). CV is coefficient of variation; Nmin is the minimum estimate of stock abundance. In some cases, CV is not applicable.

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). Annual mortality/serious injury (M/SI) often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

A detailed description of the of the species likely to be affected by the USCG's waterfront project, including brief introductions to the species and relevant stocks as well as available information regarding population trends and threats, and information regarding local occurrence, were provided in the *Federal Register* notice for the proposed IHA (82 FR 42986; September 13, 2017). Since that time, we are not aware of any changes in the status of these species and stocks; therefore, detailed descriptions are not provided here. However, information on a recent rare occurrence of offshore killer whales was not previously included in the proposed IHA and therefore is described below.

Although more of a rare occurrence, approximately 25 offshore killer whales were observed in December 2016 in Monterey Bay. Offshore pods are usually found in groups of 30-60 or more individuals and they are seldom seen in protected coastal waters. However, when observed in Monterey Bay, offshore killer whales have been observed during the winter.

Please refer to that *Federal Register* notice for all other species descriptions. Please also refer to NMFS' website ([www.nmfs.noaa.gov/pr/species/mammals/](http://www.nmfs.noaa.gov/pr/species/mammals/)) for generalized species accounts.

### **Potential Effects of Specified Activities on Marine Mammals and their Habitat**

The effects of underwater noise from pile driving activities for the USCG's waterfront restoration project have the potential to result in behavioral harassment of marine mammals in the vicinity of the action area. The project would not result in permanent impacts to habitats used directly by marine mammals, such as the adjacent jetty that is used as a haulout site by pinnipeds, but may have potential short-term impacts to food sources such as forage fish and minor impacts on turbidity during installation and removal of piles, *etc.* In addition, a concurrence letter was issued by NMFS (2013) (and still applies) concluding that the USCG's action would adversely affect EFH for various Federally managed fish species, including a temporary increase in suspended sediments in the water column from pile driving and removal, conversion of soft bottom habitat to artificial substrate, and an increase in underwater sound levels in the water column associated with pile driving. However, the project includes measures to avoid, minimize, or otherwise offset adverse effects, such that NMFS has no further EFH conservation recommendations to provide (NOAA 2013).

The *Federal Register* notice for the proposed IHA (82 FR 42986; September 13, 2017) included additional discussion of the effects of anthropogenic noise on marine mammals,

therefore that information is not repeated here; please refer to the *Federal Register* notice (82 FR 42986; September 13, 2017) for that information.

### **Estimated Take**

This section provides an estimate of the number of incidental takes for authorization through this IHA, which will inform both NMFS's 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 would be by Level B harassment only, in the form of disruption of behavioral patterns for individual marine mammals resulting from exposure to noise from pile driving and removal activities. Based on the nature of the activity and the anticipated effectiveness of the mitigation measures (*i.e.*, shutdown measures – 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 will be behaviorally harassed or incur some degree of 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  $\mu$ Pa (rms) for continuous (*e.g.*, vibratory pile-driving, drilling) sources and above 160 dB re 1  $\mu$ Pa (rms) for non-explosive impulsive (*e.g.*, seismic airguns) or intermittent (*e.g.*, scientific sonar) sources. USCG's planned activity includes the use of continuous (vibratory pile driving and removal) and impulsive (impact pile driving) sources, and, therefore, the 120 and 160 dB re 1  $\mu$ Pa (rms) are applicable.

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

Hearing Group	PTS Onset Thresholds	
	Impulsive	Non-impulsive
<b>Low-Frequency (LF) Cetaceans</b>	$L_{pk,flat}$ : 219 dB $L_{E,LF,24h}$ : 183 dB	$L_{E,LF,24h}$ : 199 dB
<b>Mid-Frequency (MF) Cetaceans</b>	$L_{pk,flat}$ : 230 dB $L_{E,MF,24h}$ : 185 dB	$L_{E,MF,24h}$ : 198 dB
<b>High-Frequency (HF) Cetaceans</b>	$L_{pk,flat}$ : 202 dB $L_{E,HF,24h}$ : 155 dB	$L_{E,HF,24h}$ : 173 dB
<b>Phocid Pinnipeds (PW) (Underwater)</b>	$L_{pk,flat}$ : 218 dB $L_{E,PW,24h}$ : 185 dB	$L_{E,PW,24h}$ : 201 dB
<b>Otariid Pinnipeds (OW) (Underwater)</b>	$L_{pk,flat}$ : 232 dB $L_{E,OW,24h}$ : 203 dB	$L_{E,OW,24h}$ : 219 dB
<p>* 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.</p> <p>Note: Peak sound pressure (<math>L_{pk}</math>) has a reference value of 1 <math>\mu</math>Pa, and cumulative sound exposure level (LE) has a reference value of 1<math>\mu</math>Pa<sup>2</sup>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</p>		

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.

### *Ensonified Area*

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

Background noise is the sound level that would exist without the planned activity (pile driving and removal, in this case), while ambient sound levels are those without human activity (NOAA 2009). Natural actions that contribute to ambient noise include waves, wind, rainfall, current fluctuations, chemical composition, and biological sound sources (*e.g.*, marine mammals, fish, and shrimp, Carr *et al.*, 2006). Background noise levels will be compared to the NOAA/NMFS threshold levels designed to protect marine mammals to determine the Level B Harassment Zones for noise sources. The background noise at Monterey Harbor is relatively high due to boat traffic, foot traffic, and noise from the USCG Monterey Station.

Pile installation would be adjacent to a rock jetty that would provide substantial underwater shielding of sound transmission to areas north (or through the jetty) (see Figure 1-2 of the Application).

For vibratory pile driving in the proposed IHA, to estimate the extent of underwater noise, the software modeling package *SoundPlan* was used by the USCG to simulate sound transmission for the project. However, as part of the final IHA, NMFS considered revised source levels to determine the Level B Harassment zone based on more representative sound sources to project specifics. With a revised source level of 162 dB SPLrms (based on Washington State Department of Transportation (WSDOT) Friday Harbor data (2010) for 24-inch (in) steel piles

with a source level of 162 dB rms at 10 meters (m) for vibratory pile driving and removal), the calculated Level B Harassment Zone would be 6,309 m (6.3 kilometers (km)) rather than 15,848 m (15.8 km) that would be calculated with a 168 dB SPLrms in the proposed IHA. NMFS will continue to assume the USCG's conservative method for estimating the range through the breakwater (north), while all other distances are based on the sound hitting the shoreline (Table 3).

Table 3 shows the results of the modeled underwater noise analysis for vibratory pile driving where 120 dB rms (Level B threshold) levels would end, and Figure 5-1 from the application shows the pattern of sound expected from vibratory pile extraction and pile installation, taking into account shielding from the Monterey Breakwater. From these data, a Level B zone of influence (ZOI) was calculated at approximately 7.3 square kilometers (km<sup>2</sup>). The modeled distances shown in the table below are likely an overestimate of the extent of underwater noise, because practical spreading loss (15 log10) sound propagation were assumed, and the Monterey Breakwater would likely reduce noise considerably faster than assumed. Per the sound assessment completed for the project (included in Appendix A of the application) the following assumptions and parameters were used for the analysis: For vibratory pile installation, it is estimated that it would take approximately 20 minutes (1200 seconds) to vibrate in each pile.

**Table 3. Modeled Extent of Level B Zones from Vibratory Pile Extraction and Driving.**

<b>Modeling Scenario</b>	<b>Level B Zone (Distance to 120 dB rms)</b>
Modeled north	2,000 m
Modeled northeast shoreline	2,400 m
Modeled east to shoreline	1,800 m
Modeled south to shoreline	550 m
<b>Area of Influence</b>	<b>7.3 km<sup>2</sup></b>

Notes: dB = decibel, RMS = root mean square

For impact pile driving in the proposed IHA, to estimate the extent of underwater noise, the software modeling package *SoundPlan* was used by the USCG to simulate sound transmission for the project. However, as part of the final IHA, NMFS considered revised source levels to determine the Level B Harassment zones based on more representative sound sources to project specifics. With a revised source level of 187 SPL rms (based on the California Department of Transportation Compendium of Pile Driving Sound Data Report (Caltrans 2007) for 14-in steel piles with a source level of 187 dB SPL rms (177 dB SEL) at 10 m for impact pile driving) minus 5 dB for using sound attenuated devices, the source level would then be 182 SPL rms and the calculated Level B Harassment Zone would be 293 m rather than 465 m that was calculated in the proposed IHA with a 195 dB SPL rms. A 5 dB reduction was used in the final IHA rather than a 10 dB reduction that was used in the proposed IHA based on the variability of the efficacy of sound attenuation devices. NMFS will continue to assume the USCG's conservative method for estimating the range through the breakwater (north), while all other distances are based on the recalculated distance of 293 m as described above and in Table 4.

**Table 4. Extent of Level B Zones from Impact Pile Driving.**

Modeling Scenario	Distance to Marine Mammal Criteria
	rms (dB re: 1µPa)
	160 dB (Level B Threshold)
Modeled attenuated noise transmission north and northeast (through breakwater)	76 m
Recalculated attenuated noise transmission in all other directions	293 m
<b>Area of Influence</b>	<b>0.27 km<sup>2</sup></b>

Notes:

Assumes 5 dB of underwater noise attenuation by using a bubble curtain during pile driving. Distances and method of calculation are presented in Appendix A of the application.

dB = decibel, rms = root mean square (dB re: 1µPa)

The incidental take requested is Level B harassment of any marine mammal occurring within the 160 dB rms disturbance threshold during impact pile driving of 14-in steel pipe piles; the 120 dB rms disturbance threshold for vibratory pile driving of 14-in steel pipe piles; and the 120 dB rms disturbance threshold for vibratory removal of 16-in to 18-in timber piles. Level B harassment zones have been established as described in Tables 3 and 4 that will be in place during active pile removal or installation.

When NMFS Technical Guidance (NMFS 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, we 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 will 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 will qualitatively address the output where appropriate. For stationary sources such as vibratory and impact pile driving, NMFS's User Spreadsheet predicts the closest distance at which, if a marine mammal remained at that distance the whole duration of the activity, it would not incur PTS. Inputs used in the User Spreadsheet, and the resulting isopleths are reported below (Tables 5 and 6).

The PTS isopleths were identified for each hearing group for impact and vibratory installation and removal methods that will be used in the Monterey Station Project. The PTS isopleth distances were calculated using the NMFS acoustic threshold calculator (NMFS 2016),

with inputs based on measured and surrogate noise measurements. Tables 5 and 6 have been revised since the proposed IHA and uses data that is more representative to project specifics. Data from WSDOT Friday Harbor data (2010) for 24-in steel piles with a source level of 162 dB SPLrms (at 10 m) was used to characterize the sound that would be produced from vibratory pile driving and removal. For impact pile driving, data from the Caltrans (2007) with a source level (in SEL) of 172 dB at a distance of 10 m with an average 30 strikes per pile was used.

**Table 5. NMFS Technical Acoustic Guidance User Spreadsheet Input to Predict PTS Isopleths.**

<b>USER SPREADSHEET INPUT</b>		
	<b>Sound Source 1</b>	<b>Sound Source 2</b>
Spreadsheet Tab Used	A) Vibratory pile driving (removal and installation)	E.1) Impact pile driving (installation)
Source Level (rms SPL)	162 dB	
Source Level (Single Strike/shot SEL)		172 dB
Weighting Factor Adjustment (kHz)	2.5	2
a) Number of strikes in 1 h		30
a) Activity Duration (h) within 24-h period	4	5
Propagation (xLogR)	15	15
Distance of source level measurement (meters) <sup>+</sup>	10	10

**Table 6. NMFS Technical Acoustic Guidance User Spreadsheet Output for Predicted PTS Isopleths and Level A Daily Ensonified Areas.**

<b>USER SPREADSHEET OUTPUT</b>					
	<b>PTS Isopleth (meters)</b>				
<b>Sound Source Type</b>	<b>Low-Frequency Cetaceans</b>	<b>Mid-Frequency Cetaceans</b>	<b>High-Frequency Cetaceans</b>	<b>Phocid Pinnipeds</b>	<b>Otariid Pinnipeds</b>
<b>Vibratory (removal and installation)</b>	20.1	1.8	29.7	12.2	0.9
<b>Impact (installation)</b>	52.1	1.9	62.1	27.9	2.0
	<b>Daily ensonified area (km<sup>2</sup>)</b>				
<b>Vibratory (pile)</b>	0.00127	0.00001	0.00277	0.00046	0.00000

<b>removal and installation)</b>					
<b>Impact (installation)</b>	0.00853	0.00001	0.01212	0.00245	0.00001

Table 7 below shows the Level A Harassment exclusion zones that were rounded up slightly from the output generated in the NMFS Technical Acoustic Guidance User Spreadsheet (Table 6).

**Table 7. Level A Harassment Exclusion Zones**

Exclusion Zone (meters)					
Sound Source Type	Low-Frequency Cetaceans	Mid-Frequency Cetaceans	High-Frequency Cetaceans	Phocid Pinnipeds	Otariid Pinnipeds
<b>Vibratory (removal and installation)</b>	21	10	30	13	10
<b>Impact (installation)</b>	53	10	63	28	10

*Marine Mammal Occurrence and Take Calculation and Estimation*

In this section we provide the information about the presence, density, or group dynamics of marine mammals that will inform the take calculation and we describe how the marine mammal occurrence information is brought together to produce a quantitative take estimate.

Take estimates are based on the number of animals per unit area in the project area multiplied by the area size of ensonified zones within which received noise levels exceed certain thresholds (*i.e.*, Level B harassment) from specific activities, then multiplied by the total number of days such activities would occur. Local abundance data are used for take calculations for the authorized take where density is not available or applicable to the project area.

Unless otherwise described, incidental take is estimated by the following equation:

Incidental take estimate = species density\* zone of influence (7.3 km<sup>2</sup>) \* days of pile-related activity (8 days).

## Harbor seals

Pacific harbor seals are much less abundant in the project area than California sea lions, and only two annual surveys conducted since 1998 identified any individuals. The 2004 annual pinniped survey conducted by NMFS counted 28 Pacific harbor seals in Monterey Harbor in 2004, and 1 in 2005 (Lowry 2012). Pacific harbor seals hauled-out along Cannery Row, north of the Monterey Breakwater, ranged from 1 to 24 in 2002, 2004, and 2009. During repairs on the Pier in 2009, Pacific harbor seals were occasionally observed in the nearby waters, but were never observed to haul-out on the breakwater (Harvey and Hoover 2009). The density for harbor seals was determined by drawing a 5 km radius in ArcGIS with the jetty haul-out site at the center. The area within this circle was calculated, excluding the land, resulting in a 29 km<sup>2</sup> foraging area. The calculation for take of harbor seals estimate assumes 28 individuals (the most observed during any single survey) to be in the water at any given time within 5 km of the breakwater (area 29 km<sup>2</sup>); therefore, the calculated density is 0.97 seals/km<sup>2</sup>. The estimated Level B take is 0.97 seals multiplied by 7.3 km<sup>2</sup> and 8 days of activity for a total of 57 harbor seals (see Table 7). Since the calculated Level A zones of phocids are small and mitigation is in place to avoid Level A take (Table 6), we do not consider it likely that any harbor seals would be taken by Level A harassment.

## California sea lions

The calculation for Level B take of California sea lions in the water assumes an average density of 8.62 individuals/km<sup>2</sup>. This density was determined by drawing a 5 km radius in ArcGIS with the jetty haul-out site at the center. The area within this circle was calculated, excluding the land, resulting in a 29 km<sup>2</sup> foraging area. An average of 250 sea lions were assumed in the water at any given time. Therefore, 250 sea lions divided by 29 km<sup>2</sup> equals 8.62

sea lions/km<sup>2</sup>. Estimated take is then calculated using 8.62 sea lions multiplied by 7.3 km<sup>2</sup> and 8 days of activity for a total of 504 California sea lions (see Table 7). For the additional California sea lions that are present on the breakwater (which we would also expect to enter the water during the project): the overall average number of sea lions for all of the surveys of the Monterey Breakwater combined was 250 individuals. Therefore, 250 animals was multiplied by 8 days of activity for a total of 2,000 California sea lions (see Table 7). Since the calculated Level A zones of otariids are all very small and mitigation is in place to avoid Level A take (Table 6), we do not consider it likely that any sea lions would be taken by Level A harassment.

#### Killer whale

Due to the low frequency and unpredictability of killer whales entering the project area, the application of a density equation is not reasonable for predicting take. When transient killer whales enter Monterey Bay, they typically are in groups of 3 to 8 at a time (Guzman 2016). To be conservative, the take estimate for Level B harassment is based on a larger group of eight transient killer whales that may enter the area (Table 7). Offshore killer whales are more of a rare occurrence in Monterey Bay; with the most recent documentation of approximately 25 whales in December 2016. Therefore, the take estimate for Level B harassment is based on the possibility that a single occurrence of a smaller pod of 25 whales may enter the area (Table 7). Since the Level A zones of mid-frequency cetaceans are small and mitigation is in place to avoid Level A take (Table 6), we do not consider it likely that any killer whales would be taken by Level A harassment.

#### Bottlenose dolphin

Abundance and densities of cetaceans in the California Current ecosystem were conducted from 1991 to 2005 (Barlow, Forney 2007). The results of the surveys indicate that bottlenose dolphin population density throughout the entire west coast shoreline is 1.78 individuals/100 km<sup>2</sup>. During the same survey, the mean group size for bottlenose dolphins observed in Central California was four individuals. Other, more recent data suggest that densities may be up to 0.04/km<sup>2</sup> (Weller 2016). Even when using the higher density, estimated take results in very low numbers (<1 over the entire period of construction). Rather than using density calculations to estimate take, to be conservative, the Level B take is a small pod of 10 bottlenose dolphins (Table 7). Since the Level A zones of mid-frequency cetaceans are small and mitigation is in place to avoid Level A take (Table 6), we do not consider it likely that any bottlenose dolphins would be taken by Level A harassment.

#### Risso's dolphin

Because there is not reliable local data for Monterey Bay, the Level B take estimate for Risso's dolphins is a single occurrence of a small pod of 10 animals (see Table 7) as groups of Risso's dolphins average between 10-30 animals. Since the Level A zones of mid-frequency cetaceans are small and mitigation is in place to avoid Level A take (Table 6), we do not consider it likely that any Risso's dolphin would be taken by Level A harassment.

#### Harbor porpoise

An estimate of the density of harbor porpoise in the southern portion of Monterey Bay nearshore is approximately 2.321 per km<sup>2</sup> (Forney *et al.*, 2014). Therefore, the estimated take for Level B harassment is 2.231 porpoise multiplied by 7.3 km<sup>2</sup> and 8 days of activity for a total of 136 harbor porpoise (see Table 7). Since the calculated Level A zones of high frequency

cetaceans are small and mitigation is in place to avoid Level A take (Table 6), we do not consider it likely that any harbor porpoise would be taken by Level A harassment.

Humpback whale

Humpback whales are typically found further offshore than gray whales and occurrence is rare; however, since 2014 greater numbers of humpback whales have been observed in and near Monterey Bay by whale-watching vessels. Because USCG will shutdown for all observed humpbacks (in Level A and B zones), no takes of humpback whales are authorized.

Gray whale

The occurrence of gray whales is extremely rare near shore in the project area. If gray whales would approach the project area they would be more likely to occur during the spring migration north, when they tend to stay closer to shore than during the winter southern migration. The NOAA National Center for Coastal Ocean Science (NCCOS) reported densities of gray whales at 0.1 to 0.5 per km<sup>2</sup> (NCCOS 2007). Therefore, the estimated take for Level B harassment was calculated using the larger density of 0.5 whales per km<sup>2</sup> multiplied by 7.3 km<sup>2</sup> and 8 days of activity for a total of 4 gray whales (see Table 7). Since the Level A zones of low-frequency cetaceans are small and mitigation is in place to avoid Level A take (see Table 6) we do not consider it likely that any gray whales would be taken by Level A harassment during removal or impact installation.

**Table 7. Summary of Requested Incidental Take by Level A and Level B Harassment.**

Species	Stock Size	Authorized Level B Take	Authorized Total Take	% of Population
Pacific harbor seal ( <i>Phoca vitulina</i> )	30,968	57	57	Less than 1
California sea lion ( <i>Zalophus californianus</i> )	296,750	504 (Animals already in the water)	2,504	Less than 1

<b>Species</b>	<b>Stock Size</b>	<b>Authorized Level B Take</b>	<b>Authorized Total Take</b>	<b>% of Population</b>
California sea lion ( <i>Zalophus californianus</i> )	296,750	2,000 (Animals that enter the water from the breakwater)		
Transient killer whale ( <i>Orcinus orca</i> )	243	8	8	3.3
Offshore killer whale ( <i>Orcinus orca</i> )	240	25 (single occurrence of a small pod)	25	10.42
Bottlenose dolphin ( <i>Tursiops truncatus</i> )	453	10 (single occurrence of a small pod)	10	4.19
Risso's dolphin ( <i>Grampus griseus</i> )	6,336	10 (single occurrence of a small pod)	10	Less than 1
Harbor porpoise ( <i>Phocoena phocoena</i> )	3,715	136	136	3.66
Gray whale ( <i>Eschrichtius robustus</i> )	20,990	4	4	Less than 1

### **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 will be effective if implemented (probability of accomplishing the mitigating result if implemented as planned) the likelihood of effective implementation (probability implemented as planned), and;

2) the practicability of the measures for applicant implementation, which may consider such things as cost, 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.

Several measures for mitigating effects on marine mammals from the pile installation and removal activities at for the USCG Monterey Station and are described below.

#### *Timing Restrictions*

All work will be conducted during daylight hours.

#### *Noise Attenuation*

A bubble curtain and cushion pads will be used during pile driving activities with an impact hammer to reduce sound levels. In addition, the USCG will perform “pre-drilling.” Pre-drilling will be performed and discontinued when the pile tip is approximately five feet (ft) above the required pile tip elevation. Pre-drilling is a method that starts the “hole” for the new

pile; the pile is inserted after the hole has been pre-drilled which creates less friction and overall noise and turbidity during installation.

#### *Exclusion Zones*

Exclusion Zones calculated from the PTS isopleths (Table 7) will be implemented to protect marine mammals from Level A harassment (refer to Table 6). If a marine mammal is observed at or within the Exclusion Zone (Table 7), work will shut down (stop work) until the individual has been observed outside of the zone, or has not been observed for at least 15 minutes for pinnipeds and small cetaceans and 30 minutes for large whales.

#### *Additional Shutdown Measures*

If a humpback whale is observed within the Level A or Level B zones, the USCG will implement shutdown measures. Work would not commence until 30-minutes after the last sighting of a humpback within these zones.

USCG will implement shutdown measures if the number of authorized takes for any particular species reaches the limit under the IHA and if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during in-water construction activities.

If a marine mammal species under NMFS' jurisdiction is observed within the Level A or B zones that has not been authorized for take, the USCG will implement shutdown measures.

#### *Level B Harassment Zones*

USCG will monitor the Level B harassment ZOIs as described in Tables 3 and 4.

#### *Soft-Start for Impact Pile Driving*

For impact pile installation, contractors will 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 three-strike sets. Each day, USCG will use the soft-start technique at the beginning of impact pile driving, or if impact pile driving has ceased for more than 30 minutes.

Based on our evaluation of the applicant's planned measures, as well as other measures considered by NMFS, NMFS has determined that the mitigation measures provide the means of effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

### **Monitoring and Reporting**

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

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

- Occurrence of marine mammal species or stocks in the area in which take is anticipated (*e.g.*, presence, abundance, distribution, density);
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) action or environment (*e.g.*, source characterization, propagation, ambient noise); (2) affected species (*e.g.*, life history, dive patterns); (3) co-occurrence of

marine mammal species with the 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.

Marine mammal monitoring will be conducted in strategic locations around the area of potential effects at all times during in-water pile driving and removal as described below:

- During pile removal or installation the observer will monitor from the most practicable vantage point possible (*i.e.*, the pier itself, the breakwater, adjacent boat docks in the harbor, or a boat) to determine whether marine mammals enter the Exclusion Zone and to record take when marine mammals enter the relevant Level B Harassment Zones based on type of construction activity; and
- If a marine mammal approaches an Exclusion Zone, the observation will be reported to the Construction Manager and the individual will be watched closely. If the marine mammal crosses into an Exclusion Zone, a stop-work order will be issued. In the event that a stop-work order is triggered, the observed marine mammal(s) will be closely monitored while it remains in or near the Exclusion Zone, and only when it moves well outside of the Exclusion Zone or has not been

observed for at least 15 minutes for pinnipeds and 30 minutes for whales will the lead monitor allow work to recommence.

*Protected species observers*

USCG shall employ a minimum of three NMFS-approved protected species observers (PSOs) to conduct marine mammal monitoring for its Monterey Station Project. The PSOs will observe and collect data on marine mammals in and around the project area for 30 minutes before, during, and for 30 minutes after all pile removal and pile installation work. NMFS-approved PSOs shall meet the following requirements:

1. 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;
2. Advanced education in biological science, wildlife management, mammalogy or related fields (Bachelors degree or higher is preferred), but not required;
3. Experience or training in the field identification of marine mammals (cetaceans and pinnipeds);
4. Sufficient training, orientation or experience with the construction operation to provide for personal safety during observations;
5. 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;

6. Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience);
7. Writing skills sufficient to prepare a report of observations that would include such information as the number and type of marine mammals observed; the behavior of marine mammals in the project area during construction, dates and times when observations were conducted; dates and times when in-water construction activities were conducted; and dates and times when marine mammals were present at or within the defined ZOI;
8. If a team of three or more observers are required, one observer should be designated as lead observer or monitoring coordinator. The lead observer must have prior experience working as an observer;
9. NMFS will require submission and approval of observer CVs; and
10. PSOs will monitor marine mammals around the construction site using high-quality binoculars (*e.g.*, Zeiss, 10 x 42 power) and/or spotting scopes.
11. If marine mammals are observed, the following information will be documented:
  - (A) Date and time that monitored activity begins or ends;
  - (B) Construction activities occurring during each observation period;
  - (C) Weather parameters (*e.g.*, percent cover, visibility);
  - (D) Water conditions (*e.g.*, sea state, tide state);
  - (E) Species, numbers, and, if possible, sex and age class of marine mammals;

- (F) Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
- (G) Distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point;
- (H) Locations of all marine mammal observations; and
- (I) Other human activity in the area.

### *Reporting Measures*

#### Marine Mammal Monitoring Report

USCG will be required to submit a draft marine mammal monitoring report within 90 days after completion of the in-water construction work or the expiration of the IHA (if issued), whichever comes earlier. The report will include data from marine mammal sightings as described: date, time, location, species, group size, and behavior, any observed reactions to construction, distance to operating pile hammer, and construction activities occurring at time of sighting and environmental data for the period (*i.e.*, wind speed and direction, sea state, tidal state, cloud cover, and visibility). The marine mammal monitoring report will also include total takes, takes by day, and stop-work orders for each species. NMFS will have an opportunity to provide comments on the report, and if NMFS has comments, USCG will address the comments and submit a final report to NMFS within 30 days.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the IHA (if issued), such as an injury (Level A harassment), serious injury, or mortality, USCG will immediately cease the specified activities and immediately report the incident to the Permits and Conservation Division, Office of Protected

Resources, NMFS and the NMFS' West Coast Stranding Coordinator. The report must include the following information:

- Time, date, and location (latitude/longitude) of the incident;
- Description of the incident;
- Status of all sound source use in the 24 hrs preceding the incident;
- Water depth;
- Environmental conditions (*e.g.*, wind speed and direction, sea state, cloud cover, and visibility);
- Description of all marine mammal observations in the 24 hrs 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 will resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with USCG to determine what is necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. USCG may not resume their activities until notified by NMFS via letter, email, or telephone.

#### Reporting of Injured or Dead Marine Mammals

In the event that the USCG 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 (*i.e.*, in less than a moderate state of decomposition as described in the next paragraph), USCG will immediately report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS and the NMFS' West Coast Stranding Coordinator. The report

must include the same information identified in the paragraph above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with USCG to determine whether modifications in the activities are appropriate.

In the event that USCG 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), USCG will report the incident to the Permits and Conservation Division, Office of Protected Resources, NMFS and the NMFS Stranding Hotline and/or by email to the NMFS' West Coast Stranding Coordinator within 24 hrs of the discovery. USCG will provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS. Activities may continue while NMFS reviews the circumstances of the incident.

### **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).

No injury, serious injury or mortality is anticipated or authorized for the Monterey Station Project. Takes that are anticipated and authorized are expected to be limited to short-term Level B harassment (behavioral) only. Marine mammals present in the vicinity of the action area and taken by Level B harassment would most likely show overt brief disturbance (startle reaction) and avoidance of the area from elevated noise levels during pile driving and pile removal.

There is one endangered species that may occur in the project area, humpback whales. However, if any humpbacks are detected within the Level B harassment zone of the project area, the USCG will shut down.

The Monterey Breakwater is a haulout location for approximately 250 California sea lions. There are no other known critical habitat areas, haulouts or important feeding areas in close proximity to the project area.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat, as analyzed in detail in the "Potential Effects of Specified Activities on Marine Mammals and their Habitat" section. Project activities would not permanently modify existing marine mammal habitat. The activities may kill some fish and cause other fish to leave the area temporarily, thus impacting marine mammals' foraging opportunities in a limited

portion of the foraging range; but, because of the short duration of the activities and the relatively small area of the habitat that may be affected, the impacts to marine mammal habitat are not expected to cause significant or long-term negative consequences. Therefore, given the consideration of potential impacts to marine mammal prey species and their physical environment, USCG's Monterey Station project would not adversely affect marine mammal habitat.

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 injury, serious injury or mortality is anticipated or authorized;
- Takes that are anticipated and authorized are expected to be limited to short-term Level B harassment (behavioral);
- The project also is not expected to have significant adverse effects on affected marine mammals' habitat;
- There are no known important feeding or pupping areas. There is one haulout (the breakwater) within the project area. There are no other known important areas for marine mammals with the footprint of the project area; and
- For four out of the seven species, take is less than one percent of the stock abundance. Instances of take for the other three species (killer whale, bottlenose dolphin, and harbor porpoise) range from 3-10 percent of the stock abundance.

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 will 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 factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

For four out of the seven species, take is less than one percent of the stock abundance. Instances of take for the other three species (killer whale, bottlenose dolphin, and harbor porpoise) range from 3-10 percent of the stock abundance. Based on the analysis contained herein of the planned activity (including the mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily finds that small numbers of marine mammals will be taken relative to the population sizes 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 would 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 ESA of 1973 (16 U.S.C. § 1531 *et seq.*) requires that each Federal agency insure that any action it authorizes, funds, or carries out is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of designated critical habitat. To ensure ESA compliance for the issuance of IHAs, NMFS consults internally, in this case with the West Coast Regional Office, whenever we propose to authorize take for endangered or threatened species.

NMFS is not authorizing take of humpback whales, which are listed under the ESA, as the applicant will implement shutdown measures whenever humpbacks are observed (Level A or B). Therefore, consultation under section 7 of the ESA is not required.

## **Authorization**

NMFS has issued an IHA to USCG for the potential harassment of small numbers of seven marine mammal species incidental to pile driving and removal activities at the USCG Monterey Station, Monterey, California from December 2017 to October 2018, provided the previously mentioned mitigation, monitoring, and reporting requirements.

Dated: December 22, 2017.

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Donna S. Wieting,  
Director, Office of Protected Resources,  
National Marine Fisheries Service.

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