institutions; state, local or tribal governments; individuals or households; federal government.

Frequency: Annually and on occasion.

Respondent's Obligation: Mandatory.

This information collection request may be viewed at *reginfo.gov.* Follow the instructions to view Department of Commerce collections currently under review by OMB.

Written comments and recommendations for the proposed information collection should be sent within 30 days of publication of this notice to *OIRA_Submission@omb.eop.gov* or fax to (202) 395–5806.

Dated: July 20, 2018.

Sarah Brabson,

NOAA PRA Clearance Officer.

[FR Doc. 2018–15873 Filed 7–24–18; 8:45 am]

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XG219

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Seattle Multimodal Project in Seattle, Washington

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 we have issued an incidental harassment authorization (IHA) to Washington State Department of Transportation (WSDOT) to take small numbers of marine mammals, by harassment, incidental to Seattle Multimodal Project at Colman Dock in Seattle, Washington.

DATES: This authorization is effective from August 1, 2018, through July 31, 2019.

FOR FURTHER INFORMATION CONTACT: Shane Guan, Office of Protected Resources, NMFS, (301) 427–8401. Electronic copies of the application and supporting documents, as well as the issued IHA, 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 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, 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 November 21, 2017, WSDOT submitted a request to NMFS requesting an IHA for the possible harassment of small numbers of marine mammal species incidental to Seattle Multimodal Project at Colman Dock in Seattle, Washington, from August 1, 2018 to July 31, 2019. After receiving the revised project description and the revised IHA application, NMFS determined that the IHA application was adequate and complete on April 4, 2018. NMFS is authorizing the take by Level A and Level B harassment of the following marine mammal species: Harbor seal (*Phoca vitulina*); northern elephant seal (*Mirounga angustirostris*); California sea lion (*Zalophus californianus*); Steller sea lion (*Eumetopias jubatus*); killer whale (*Orcinus orca*); long-beaked common dolphin (*Delphinus delphis*), bottlenose dolphin (*Tursiops truncatus*), gray whale (*Eschrichtius robustus*); humpback whale (*Megaptera novaeangliae*), minke whale (*Balaenoptera acutorostrata*); harbor porpoise (*Phocoena phocoena*); and Dall's porpoise (*Phocoenoides dalli*). Neither WSDOT nor NMFS expect mortality to result from this activity and, therefore, an IHA is appropriate.

NMFS previously issued an IHA to WSDOT for the first year of this project (FR 21579; July 7, 2017). WSDOT complied with all the requirements (*e.g.,* mitigation, monitoring, and reporting) of the previous IHA and information regarding their monitoring results may be found in the Estimated Take section.

Description of Specified Activity

Overview

The purpose of the Seattle Multimodal Project at Colman Dock is to preserve the transportation function of an aging, deteriorating and seismically deficient facility to continue providing safe and reliable service. The project will also address existing safety concerns related to conflicts between vehicles and pedestrian traffic and operational inefficiencies.

Dates and Duration

Due to NMFS and the U.S. Fish and Wildlife Service (USFWS) in-water work timing restrictions to protect Endangered Species Act (ESA)-listed salmonids, planned WSDOT in-water construction is limited each year to July 16 through February 15.

Specific Geographic Region

The Seattle Ferry Terminal at Colman Dock is located on the downtown Seattle waterfront, in King County, Washington. The terminal services vessels from the Bainbridge Island and Bremerton routes, and is the most heavily used terminal in the Washington State Ferry system. The Seattle terminal is located in Section 6, Township 24 North, Range 4 East, and is adjacent to Elliott Bay, tributary to Puget Sound (Figure 1–2 of the IHA application). Land use in the area is highly urban, and includes business, industrial, the Port of Seattle container

loading facility, residential, the Pioneer Square Historic District and local parks.

Detailed Description of the Seattle Multimodal Project at Colman Dock: Year 2

The project will reconfigure the Colman Dock while maintaining approximately the same vehicle holding capacity as current conditions. The construction began in August 2017. In the 2017–2018 season, the construction activities were focused on the South Trestle, Terminal Building Foundation, and the temporary and permanent Passenger Offloading Facility.

In the 2018–2019 season, WSDOT plans to continue the project by constructing the North Trestle, and Slip 3 bridge seat, overhead loading, wingwall, and inner dolphin. Both impact pile driving and vibratory pile driving and pile removal will be conducted. A total of 37 days are estimated for pile driving and 77 days for pile removal.

In-water construction methods include:

- Installing 119 36-inch (in) permanent steel piles with a vibratory hammer, and then proofed with an impact hammer for the last 5–10 feet;
- Installing six 36-in and (8) 30-in steel piles with a vibratory hammer;
- Installing one 108-in steel pile with a vibratory hammer;
- Removing all existing 12-in steel, 14-in timber, 14-in H, 24-in steel and 30-in steel piles with a vibratory hammer;
- Installing and then removing eight 24-in Slip 3 Overhead loading temporary piles with a vibratory hammer; and
- Installing and then removing 147 24-in temporary template piles with a vibratory hammer.

A list of pile driving and removal activities is provided in Table 1.

TABLE 1—SUMMARY OF IN-WATER PILE DRIVING AND REMOVAL ACTIVITIES

Method	Pile type	Pile size (inch)	Pile number	Piles/day	Minutes/pile	Duration (days)
Vibratory drive	Steel (temporary)	24	147	8	20	18
Vibratory drive	Steel (Slip 3)	24	8	8	20	1
Vibratory drive	Steel	30	8	8	20	1
Vibratory drive	Steel	36	6	6	20	1
Vibratory drive *	Steel	36	119	8	20	15
Impact drive (proof) *	Steel	36	119	8	** 300	15
Vibratory drive	Steel	108	1	1	120	1
Subtotal						37
Vibratory remove	Timber	14	925	20	15	47
Vibratory remove	Steel	12	22	11	20	2
Vibratory remove	Steel H	14	19	10	20	2
Vibratory remove	Steel	24	35	8	20	5
Vibratory remove	Steel (Slip 3)	24	8	8	20	1
Vibratory remove	Steel (temporary)	24	147	8	20	19
Vibratory remove	Steel	30	1	1	20	1
Subtotal						77

* These two activities occur on the same day.
** Strikes.

Prescribed mitigation, monitoring, and reporting measures are described in detail later in this document (please see ''Mitigation'' and ''Monitoring and Reporting'').

Comments and Responses

A notice of NMFS' proposal to issue an IHA was published in the **Federal Register** on May 25, 2018 (83 FR 24279). During the 30-day public comment period, NMFS received comment letters from the Marine Mammal Commission (Commission) and the Center for Biological Diversity (CBD). Specific comments and responses are provided below.

Comment 1: The Commission recommends that NMFS reduce the shut-down zone from 60 meters (m) to 15 m for harbor seals during vibratory installation/removal and/or impact installation of 24-, 30, 36, and 108-in piles and increase the number of Level A harassment takes for harbor seals, if necessary.

Response: NMFS reviewed WSDOT's Seattle Year 1 draft monitoring report and worked with WSDOT on the number of harbor seals that could be potentially taken by Level A harassment and the practicability of implementing shutdown measures. Based on the assessment, NMFS learned that during the construction window between August 1, 2017, and February 15, 2018, for the Seattle Year 1 project, a total of 23 harbor seals were taken by Level A harassment while implementing a 50-m shutdown distance. For the Seattle Year 1 project, a total of 77 days had Level A harassment zones beyond the 50-m shutdown distance, with the authorized Level A harassment take of harbor seal of 364 animals. This shows that the actual Level A takes during WSDOT's Seattle Year 1 activity were much less than authorized.

For the current IHA, WSDOT estimated that a total of 17 days would have Level A harassment zones beyond the newly required 60-m shutdown distance. Level A harassment distance for the 24-in vibratory pile driving and removal is less than the 60-m shutdown distance due to fewer piles being driven per day. Finally, there is no indication that the environment in the project area has changed that there are more harbor seals in the region that warrant to increase take numbers.

In conclusion, based on the planned construction activity level for the Seattle Year 2 project, harbor seal abundance in the project area, harbor seal Level A harassment takes from Seattle Year 1 monitoring report, and the feasibility of WSDOT to implement a 60-m shutdown measure for harbor seals, we think that requiring WSDOT to implement a 60-m shutdown zone for harbor seal with an authorized Level A harassment take of 187 animals is feasible for WSDOT and

beneficial to the resources. Therefore, NMFS does not agree with the Commission's recommendation to reduce shutdown distance to 15-m while increasing harbor seal Level A harassment takes.

Comment 2: The Commission recommends that NMFS more thoroughly assess the proposed shutdown zones that are to be implemented and the associated numbers of Level A harassment takes requested for each proposed incidental take authorization prior to publication in the **Federal Register**.

Response: NMFS agrees with the Commission's recommendation, and agrees that the proposed shutdown zones that are to be implemented and the associated numbers of Level A harassment hakes for this IHA as well as other incidental take authorizations should be thoroughly assessed at early review team meetings prior to drafting the proposed IHAs.

Comment 3: The Commission commented that the method NMFS used to estimate the numbers of takes during the proposed activities, which summed fractions of takes for each species across project days, does not account for and negates the intent of NMFS' 24-hour reset policy. The Commission also recommends that NMFS develop and share guidance on this issue.

Response: NMFS has provided the guidance to the Commission as recommended.

Comment 4: The Commission requested clarification of certain issues associated with NMFS's notice that one-year renewals could be issued in certain limited circumstances and expressed concern that the process would bypass the public notice and comment requirements. The Commission also suggested that NMFS should discuss the possibility of renewals through a more general route, such as a rulemaking, instead of notice in a specific authorization. The Commission further recommended that if NMFS did not pursue a more general route, that the agency provide the Commission and the public with a legal analysis supporting our conclusion that this process is consistent with the requirements of section 101(a)(5)(D) of the MMPA.

Response: The process of issuing a renewal IHA does not bypass the public notice and comment requirements of the MMPA. The notice of the proposed IHA expressly notifies the public that under certain, limited conditions an applicant could seek a renewal IHA for an additional year. The notice describes the conditions under which such a renewal request could be considered and expressly seeks public comment in the event such a renewal is sought. Additional reference to this solicitation of public comment has recently been added at the beginning of FR notices that consider renewals. NMFS appreciates the streamlining achieved by the use of abbreviated FR notices and intends to continue using them for proposed IHAs that include minor changes from previously issued IHAs, but which do not satisfy the renewal requirements. However, we believe our proposed method for issuing renewals meets statutory requirements and maximizes efficiency. Importantly, such renewals would be limited to where the activities are identical or nearly identical to those analyzed in the proposed IHA, monitoring does not indicate impacts that were not previously analyzed and authorized, and the mitigation and monitoring requirements remain the same, all of which allow the public to comment on the appropriateness and effects of a renewal at the same time the public provides comments on the initial IHA. NMFS has, however, modified the language for future proposed IHAs to clarify that all IHAs, including renewal IHAs, are valid for no more than one year and that the agency would consider only one renewal for a project at this time. In addition, notice of issuance or denial of a renewal IHA would be published in the **Federal Register**, as are all IHAs. Last, NMFS will publish on our website a description of the renewal process before any renewal is issued utilizing the new process.

Comment 5: The CBD recommends that the authorization include mitigation measures on operation of the ferries that will result from construction activities. Specifically, the CBD recommends that NMFS find ways to support and accelerate transition of the Washington State ferry system to quieter designs and technologies.

Response: While NMFS shares the concerns with CBD regarding the elevated underwater noise from ferry operations and general shipping activities in the Puget Sound area, the specific recommendation raised by the CBD is irrelevant in evaluating the potential impacts from ferry terminal construction on marine mammals. For the issuance of the IHA to take marine mammals incidental to WSDOT's Seattle Multimodal Project at Colman Dock, we analyzed the impacts from construction related activities that may affect marine mammals, which are mostly from underwater noise generated during in-water pile driving and pile removal. Please see Potential Effects of Specified Activities on Marine Mammals and their Habitat section below for detailed analysis.

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's Stock Assessment Reports (SAR; *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region#reports*).

Table 2 lists all species with expected potential for occurrence in the lower Puget Sound area and summarizes information related to the population or stock, including regulatory status under the MMPA and ESA and potential biological removal (PBR), where known. For taxonomy, we follow Committee on Taxonomy (2017). PBR is defined by the MMPA as the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population (as described in NMFS's SARs). While no mortality is anticipated or authorized here, PBR and annual serious injury and mortality from anthropogenic sources are included here as gross indicators of the status of the species and other threats.

Marine mammal abundance estimates presented in this document represent the total number of individuals that make up a given stock or the total number estimated within a particular study or survey area. NMFS's stock abundance estimates for most species represent the total estimate of individuals within the geographic area, if known, that comprises that stock. For some species, this geographic area may extend beyond U.S. waters. All managed stocks in this region are assessed in NMFS's 2017 U.S. Pacific Marine Mammal SARs (Carretta *et al.,* 2018). The 2017 SAR is available online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region#reports.*

TABLE 2—MARINE MAMMALS WITH POTENTIAL PRESENCE WITHIN THE PROPOSED PROJECT AREA

Common name	Scientific name	Stock	ESA/ MMPA status; strategic (Y/N) [1]	Stock abundance [2]	PBR	Annual M/SI [3]
Order Cetartiodactyla—Cetacea—Superfamily Mysticeti (baleen whales) Family Eschrichtiidae						
Gray whale	*Eschrichtius robustus*	Eastern North Pacific	-; N	20,990	624	132
Family Balaenopteridae						
Humpback whale	*Megaptera novaeangliae*	California/Oregon/Washington	E/D; Y	1,918	11.0	>6.5
Minke whale	*Balaenoptera acutorostrata*	California/Oregon/Washington	-; N	636	3.5	>1.3
Family Delphinidae						
Killer whale	*Orcinus orca*	Eastern N. Pacific Southern resident	E/D; Y	83	0.14	0
		West coast transient	-; N	243	2.4	0
Long-beaked common dolphin	*Delphinus capensis*	California	-; N	101,305	657	>35.4
Bottlenose dolphin	*Tursiops truncatus*	California/Oregon/Washington offshore.	-; N	1,924	11	>1.6
Family Phocoenidae (porpoises)						
Harbor porpoise	*Phocoena phocoena*	Washington inland waters	-; N	11,233	66	7.2
Dall's porpoise	*P. dali*	California/Oregon/Washington	-; N	25,750	172	0.3
Order Carnivora—Superfamily Pinnipedia Family Otariidae (eared seals and sea lions)						
California sea lion	*Zalophus californianus*	U.S	-; N	296,750	9,200	389
Steller sea lion	*Eumetopias jubatus*	Eastern U.S	-; N	41,638	2,498	108
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina*	Washington northern inland waters	-; N	[4] 11,036	1,641	43
Northern elephant seal	*Mirounga angustirostris*	California breeding	-; N	179,000	4,882	8.8

[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: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region#reports*.

[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 M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range.

[4] Harbor seal estimate is based on data that are greater than 8 years old, but this is the best available information for use here (Jeffries *et al.,* 2003; Carretta *et al.,* 2017).

All species that could potentially occur in the proposed construction areas are included in Table 2. However, the temporal and/or spatial occurrence of humpback whale and Southern Resident killer whale (SRKW) and the implementation of monitoring and mitigation measures are such that take is not expected to occur, and they are not discussed further beyond the explanation provided here. The occurrence of humpback whale in the WSDOT's Seattle Multimodal Project area is rare, and WSDOT's 2017 monitoring report showed no sighting of this species. Although the SRKW could occur in the vicinity of the project area, WSDOT is required to implement strict monitoring and mitigation measures with assistance from local marine mammal researchers and observers. Thus, the take of this marine mammal stock can be avoided (see details in Mitigation section).

In addition, the sea otter may be found in Puget Sound area. However, this species is managed by the USFWS and is not considered further in this document.

Marine Mammal Hearing

Hearing is the most important sensory modality for marine mammals underwater, and exposure to anthropogenic sound can have deleterious effects. To appropriately assess the potential effects of exposure to sound, it is necessary to understand the frequency ranges marine mammals are able to hear. Current data indicate that not all marine mammal species have equal hearing capabilities (*e.g.,* Richardson *et al.,* 1995; Wartzok and Ketten, 1999; Au and Hastings, 2008). To reflect this, Southall *et al.* (2007) recommended that marine mammals be divided into functional hearing groups based on directly measured or estimated hearing ranges on the basis of available behavioral response data, audiograms derived using auditory evoked potential techniques, anatomical modeling, and other data. Note that no direct measurements of hearing ability have been successfully completed for mysticetes (*i.e.,* low-frequency cetaceans). Subsequently, NMFS (2016) described generalized hearing ranges for these marine mammal hearing groups. Generalized hearing ranges were chosen based on the approximately 65 decibel (dB) threshold from the normalized composite audiograms, with the exception for lower limits for low-frequency cetaceans where the lower bound was deemed to be biologically implausible and the lower bound from Southall *et al.* (2007) retained. The functional groups and the associated frequencies are indicated below (note that these frequency ranges correspond to the range for the composite group, with the entire range not necessarily reflecting the capabilities of every species within that group):

- Low-frequency cetaceans (mysticetes): Generalized hearing is estimated to occur between approximately 7 hertz (Hz) and 35 kilohertz (kHz);

• Mid-frequency cetaceans (larger toothed whales, beaked whales, and most delphinids): Generalized hearing is estimated to occur between approximately 150 Hz and 160 kHz;

• High-frequency cetaceans (porpoises, river dolphins, and members of the genera Kogia and Cephalorhynchus; including two members of the genus Lagenorhynchus, on the basis of recent echolocation data and genetic data): Generalized hearing is estimated to occur between approximately 275 Hz and 160 kHz.

• Pinnipeds in water; Phocidae (true seals): Generalized hearing is estimated to occur between approximately 50 Hz to 86 kHz;

• Pinnipeds in water; Otariidae (eared seals): Generalized hearing is estimated to occur between 60 Hz and 39 kHz.

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

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

For more detail concerning these groups and associated frequency ranges, please see NMFS (2016) for a review of available information. Eleven marine mammal species (7 cetacean and 4 pinniped (2 otariid and 2 phocid) species) have the reasonable potential to co-occur with the proposed construction activities. Please refer to Table 2. Of the cetacean species that may be present, one species is classified as low-frequency cetaceans (*i.e.,* gray whale), two are classified as high-frequency cetaceans (*i.e.,* harbor porpoise and Dall's porpoise), and the rest of them mid-frequency cetaceans.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section includes a summary and discussion of the ways that components of the specified activity may impact marine mammals and their habitat. The ''Estimated Take'' section later in this document will include a quantitative analysis of the number of individuals that are expected to be taken by this activity. The ''Negligible Impact Analysis and Determination'' section will consider the content of this section, the ''Estimated Take'' section, and the Mitigation section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and how those impacts on individuals are likely to impact marine mammal species or stocks.

Potential impacts to marine mammals from the Seattle Multimodal Colman Dock project are from noise generated during in-water pile driving and pile removal activities.

Acoustic Effects

Here, we first provide background information on marine mammal hearing before discussing the potential effects of the use of active acoustic sources on marine mammals.

The WSDOT's Seattle Multimodal Project using in-water pile driving and pile removal could adversely affect marine mammal species and stocks by exposing them to elevated noise levels in the vicinity of the activity area.

Exposure to high intensity sound for a sufficient duration may result in auditory effects such as a noise-induced threshold shift (TS)—an increase in the auditory threshold after exposure to noise (Finneran *et al.,* 2005). Factors that influence the amount of TS include the amplitude, duration, frequency content, temporal pattern, and energy distribution of noise exposure. The magnitude of hearing TS normally decreases over time following cessation of the noise exposure. The amount of TS just after exposure is the initial TS. If the TS eventually returns to zero (*i.e.,* the threshold returns to the pre-exposure value), it is a temporary threshold shift (TTS) (Southall *et al.,* 2007).

Threshold Shift (noise-induced loss of hearing)—When animals exhibit reduced hearing sensitivity (*i.e.,* sounds must be louder for an animal to detect them) following exposure to an intense sound or sound for long duration, it is referred to as a noise-induced TS. An animal can experience TTS or permanent threshold shift (PTS). TTS can last from minutes or hours to days (*i.e.,* there is complete recovery), can occur in specific frequency ranges (*i.e.,* an animal might only have a temporary loss of hearing sensitivity between the frequencies of 1 and 10 kHz), and can be of varying amounts (for example, an animal's hearing sensitivity might be reduced initially by only 6 dB or reduced by 30 dB). PTS is permanent, but some recovery is possible. PTS can also occur in a specific frequency range and amount as mentioned above for TTS.

For marine mammals, published data are limited to the captive bottlenose dolphin, beluga, harbor porpoise, and Yangtze finless porpoise (Finneran, 2015). For pinnipeds in water, data are limited to measurements of TTS in harbor seals, an elephant seal, and California sea lions (Kastak *et al.,* 1999, 2005; Kastelein *et al.,* 2012b).

Lucke *et al.* (2009) found a TS of a harbor porpoise after exposing it to airgun noise with a received sound pressure level (SPL) at 200.2 dB (peak-to-peak) re: 1 micropascal (μPa), which corresponds to a sound exposure level of 164.5 dB re: 1 μPa^2 s after integrating exposure. Because the airgun noise is a broadband impulse, one cannot directly determine the equivalent of root mean square (rms) SPL from the reported peak-to-peak SPLs. However, applying a conservative conversion factor of 16 dB for broadband signals from seismic surveys (McCauley, *et al.,* 2000) to correct for the difference between peak-to-peak levels reported in Lucke *et al.* (2009) and rms SPLs, the rms SPL for TTS would be approximately 184 dB re: 1 μPa, and the received levels associated with PTS (Level A harassment) would be higher. Therefore, based on these studies, NMFS recognizes that TTS of harbor porpoises is lower than other cetacean species empirically tested (Finneran & Schlundt, 2010; Finneran *et al.,* 2002; Kastelein and Jennings, 2012).

Marine mammal hearing plays a critical role in communication with conspecifics, and interpretation of environmental cues for purposes such as predator avoidance and prey capture. Depending on the degree (elevation of threshold in dB), duration (*i.e.,* recovery time), and frequency range of TTS, and the context in which it is experienced, TTS can have effects on marine mammals ranging from discountable to serious (similar to those discussed in auditory masking, below). For example, a marine mammal may be able to readily compensate for a brief, relatively small amount of TTS in a non-critical frequency range that occurs during a time where ambient noise is lower and there are not as many competing sounds present. Alternatively, a larger amount and longer duration of TTS sustained during time when communication is critical for successful mother/calf interactions could have more serious impacts. Also, depending on the degree and frequency range, the effects of PTS on an animal could range in severity, although it is considered generally more serious because it is a permanent condition. Of note, reduced hearing sensitivity as a simple function of aging has been observed in marine mammals, as well as humans and other taxa

(Southall *et al.,* 2007), so one can infer that strategies exist for coping with this condition to some degree, though likely not without cost.

In addition, chronic exposure to excessive, though not high-intensity, noise could cause masking at particular frequencies for marine mammals, which utilize sound for vital biological functions (Clark *et al.,* 2009). Acoustic masking is when other noises such as from human sources interfere with animal detection of acoustic signals such as communication calls, echolocation sounds, and environmental sounds important to marine mammals. Therefore, under certain circumstances, marine mammals whose acoustical sensors or environment are being severely masked could also be impaired from maximizing their performance fitness in survival and reproduction.

Masking occurs at the frequency band that the animals utilize. Therefore, since noise generated from vibratory pile driving is mostly concentrated at low frequency ranges, it may have less effect on high frequency echolocation sounds by odontocetes (toothed whales). However, lower frequency man-made noises are more likely to affect detection of communication calls and other potentially important natural sounds such as surf and prey noise. It may also affect communication signals when they occur near the noise band and thus reduce the communication space of animals (*e.g.,* Clark *et al.,* 2009) and cause increased stress levels (*e.g.,* Foote *et al.,* 2004; Holt *et al.,* 2009).

Unlike TS, masking, which can occur over large temporal and spatial scales, can potentially affect the species at population, community, or even ecosystem levels, as well as individual levels. Masking affects both senders and receivers of the signals and could have long-term chronic effects on marine mammal species and populations. Recent science suggests that low frequency ambient sound levels have increased by as much as 20 dB (more than three times in terms of SPL) in the world's ocean from pre-industrial periods, and most of these increases are from distant shipping (Hildebrand, 2009). For WSDOT's Seattle Multimodal at Colman Dock Project, noises from vibratory pile driving and pile removal contribute to the elevated ambient noise levels in the project area, thus increasing potential for or severity of masking. Baseline ambient noise levels in the vicinity of project area are high due to ongoing shipping, construction and other activities in the Puget Sound.

Finally, marine mammals' exposure to certain sounds could lead to behavioral disturbance (Richardson *et al.,* 1995), such as changing durations of surfacing and dives, number of blows per surfacing, or moving direction and/or speed; reduced/increased vocal activities; changing/cessation of certain behavioral activities (such as socializing or feeding); visible startle response or aggressive behavior (such as tail/fluke slapping or jaw clapping); avoidance of areas where noise sources are located; and/or flight responses (*e.g.,* pinnipeds flushing into water from haulouts or rookeries).

The onset of behavioral disturbance from anthropogenic noise depends on both external factors (characteristics of noise sources and their paths) and the receiving animals (hearing, motivation, experience, demography) and is also difficult to predict (Southall *et al.,* 2007). Currently NMFS uses a received level of 160 dB re 1 μPa (rms) to predict the onset of behavioral harassment from impulse noises (such as impact pile driving), and 120 dB re 1 μPa (rms) for continuous noises (such as vibratory pile driving). For the WSDOT's Seattle Multimodal Project at Colman Ferry Terminal, both 120-dB and 160-dB levels are considered for effects analysis because WSDOT plans to use both impact pile driving and vibratory pile driving and pile removal.

The biological significance of many of these behavioral disturbances is difficult to predict, especially if the detected disturbances appear minor. However, the consequences of behavioral modification could be biologically significant if the change affects growth, survival, and/or reproduction, which depends on the severity, duration, and context of the effects.

Potential Effects on Marine Mammal Habitat

The primary potential impacts to marine mammal habitat are associated with elevated sound levels produced by vibratory pile removal and pile driving in the area. However, other potential impacts to the surrounding habitat from physical disturbance are also possible.

With regard to fish as a prey source for cetaceans and pinnipeds, fish are known to hear and react to sounds and to use sound to communicate (Tavolga *et al.,* 1981) and possibly avoid predators (Wilson and Dill, 2002). Experiments have shown that fish can sense both the strength and direction of sound (Hawkins, 1981). Primary factors determining whether a fish can sense a sound signal, and potentially react to it, are the frequency of the signal and the strength of the signal in relation to the natural background noise level.

The level of sound at which a fish will react or alter its behavior is usually well above the detection level. Fish have been found to react to sounds when the sound level increased to about 20 dB above the detection level of 120 dB (Ona, 1988); however, the response threshold can depend on the time of year and the fish's physiological condition (Engas *et al.,* 1993). In general, fish react more strongly to pulses of sound (such as noise from impact pile driving) rather than continuous signals (such as noise from vibratory pile driving) (Blaxter *et al.,* 1981), and a quicker alarm response is elicited when the sound signal intensity rises rapidly compared to sound rising more slowly to the same level.

During the coastal construction, only a small fraction of the available habitat would be ensonified at any given time. Disturbance to fish species would be short-term and fish would return to their pre-disturbance behavior once the pile driving activity ceases. Thus, the proposed construction would have little, if any, impact on marine mammals' prey availability in the area where construction work is planned.

Finally, the time of the proposed construction activity would avoid the spawning season of the ESA-listed salmonid species.

Estimated Take

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

Harassment is the only type of take expected to result from these activities. Except with respect to certain activities not pertinent here, section 3(18) of the MMPA defines ''harassment'' as any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment).

Authorized takes would be by Level A and Level B harassment.

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 permanent hearing impairment; (2) the area or volume of water that will be ensonified above these levels in a day; (3) the density or occurrence of marine mammals within these ensonified areas; and, (4) and the number of days of activities. Below, we describe these components in more detail and present the take estimate.

Acoustic Thresholds

Using the best available science, NMFS has developed acoustic thresholds that identify the received level of underwater sound above which exposed marine mammals would be reasonably expected to be behaviorally harassed (equated to Level B harassment) or to incur PTS of some degree (equated to Level A harassment).

Level B Harassment for non-explosive sources—Though significantly driven by received level, the onset of behavioral disturbance from anthropogenic noise exposure is also informed to varying degrees by other factors related to the source (*e.g.,* frequency, predictability, duty cycle), the environment (*e.g.,* bathymetry), and the receiving animals (hearing, motivation, experience, demography, behavioral context) and can be difficult to predict (Southall *et al.,* 2007, Ellison *et al.,* 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 dB re 1 μPa (rms) for continuous (*e.g.* vibratory pile-driving, drilling) and above 160 dB re 1 μPa (rms) for non-explosive impulsive (*e.g.,* seismic airguns) sources.

Applicant's proposed activity includes the generation of impulse (impact pile driving) and non-impulse (vibratory pile driving and removal) sources; and, therefore, both 160- and 120-dB re 1 μPa (rms) are used.

Level A harassment for non-explosive sources—NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Technical Guidance, 2016) identifies dual criteria to assess auditory injury (Level A harassment) to five different marine mammal groups (based on hearing sensitivity) as a result of exposure to noise from two different types of sources (impulsive or non-impulsive). Applicant's proposed activity would generate and non-impulsive (vibratory pile driving and pile removal) noises. 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 the table 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: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-acoustic-technical-guidance.*

TABLE 3—CURRENT ACOUSTIC EXPOSURE CRITERIA FOR NON-EXPLOSIVE SOUND UNDERWATER

Hearing group	PTS onset thresholds		Behavioral thresholds	
	Impulsive	Non-impulsive	Impulsive	Non-impulsive
Low-Frequency (LF) Cetaceans	$L_{pk,flat}$: 219 dB ..... $L_{E,LF,24h}$: 183 dB	$L_{E,LF,24h}$: 199 dB.		
Mid-Frequency (MF) Cetaceans	$L_{pk,flat}$: 230 dB ..... $L_{E,MF,24h}$: 185 dB	$L_{E,MF,24h}$: 198 dB.		
High-Frequency (HF) Cetaceans	$L_{pk,flat}$: 202 dB ..... $L_{E,HF,24h}$: 155 dB	$L_{E,HF,24h}$: 173 dB	$L_{rms,flat}$: 160 dB ...	$L_{rms,flat}$: 120 dB
Phocid Pinnipeds (PW) (Underwater).	$L_{pk,flat}$: 218 dB ..... $L_{E,PW,24h}$: 185 dB	$L_{E,PW,24h}$: 201 dB.		
Otariid Pinnipeds (OW) ..... (Underwater)	$L_{pk,flat}$: 232 dB ..... $L_{E,OW,24h}$: 203 dB	$L_{E,OW,24h}$: 219 dB.		

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

Note: Peak sound pressure (Lpk) has a reference value of 1 μPa, and cumulative sound exposure level (LE) has a reference value of 1μPa2s. In this Table, thresholds are abbreviated to reflect American National Standards Institute standards (ANSI 2013). However, peak sound pressure is defined by ANSI as incorporating frequency weighting, which is not the intent for this Technical Guidance. Hence, the subscript "flat" is being included to indicate peak sound pressure should be flat weighted or unweighted within the generalized hearing range. The subscript associated with cumulative sound exposure level thresholds indicates the designated marine mammal auditory weighting function (LF, MF, and HF cetaceans, and PW and OW pinnipeds) and that the recommended accumulation period is 24 hours. The cumulative sound exposure level thresholds could be exceeded in a multitude of ways (*i.e.,* varying exposure levels and durations, duty cycle). When possible, it is valuable for action proponents to indicate the conditions under which these acoustic thresholds will be exceeded.

Ensonified Area

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

Source Levels

The source level for vibratory pile driving and removal of the 24- and 30-in steel pile is based on vibratory pile driving of the 30-in steel pile at Port Townsend (WSDOT, 2010). The unweighted SPL_{rms} source level at 10 m from the pile is 174 dB re 1 re 1 μPa.

The source level for vibratory pile driving of the 36-in steel piles is based on vibratory test pile driving of 36-in steel piles at Port Townsend in 2010 (Laughlin 2011). Recordings of vibratory pile driving were made at a distance of 10 m from the pile. The results show that the unweighted SPL_{rms} for vibratory pile driving of 36-in steel pile was 177 dB re 1 μPa.

The source level for vibratory pile driving of the 108-in steel pile is based on measurements of 72-in steel piles vibratory driving conducted by CALTRANS. The unweighted SPL_{rms} source level ranged between 170 and 180 dB re 1 μPa at 10 m from the pile (CALTRANS 2015). The value of 180 dB is chosen to be more conservative.

The source level for impact pile driving of the 36-in steel pile is based on impact test pile driving for the 36-in steel pile at Mukilteo in November 2006

(WSDOT 2007). Recordings of the impact pile driving that were made at a distance of 10 m from the pile were analyzed using Matlab. The results show that the unweighted source levels are 178 dB re 1 μPa^2-s for SEL_{ss} and 193 dB re 1 µPa for SPL_{rms}. The peak source level for impact pile driving of the 36-in steel pile is based on measurement conducted by CALTRANS for the same type and dimension of the pile, which is 210 dB_{pk} re 1 µPa.

The source level for vibratory pile removal of 14-in timber pile is based measurements conducted at the Port Townsend Ferry Terminal during vibratory removal of a 12-in timber pile by WSDOT (Laughlin 2011). The recorded source level is 152 dB_{rms} re 1 µPa at 16 m from the pile, with an adjusted source level of 155 dB_{rms} re 1 µPa at 10 m.

The source levels for vibratory pile removal of 12-in steel and 14-in steel H piles are based on vibratory pile driving of 12-in steel pipe pile measured by CALTRANS. The unweighted source level is 155 dB_{rms} re 1 µPa at 10 m.

A summary of source levels is presented in Table 4.

TABLE 4—SUMMARY OF IN-WATER PILE DRIVING SOURCE LEVELS

[at 10 m from source]

Method	Pile type/size (inch)	SEL, dB re 1 μPa^2-s	SPL_{rms}, dB re 1 µPa	SPL_{pk}, dB re 1 µPa
Vibratory driving/removal	Steel, 24-in	174	174	.....
Vibratory driving/removal	Steel, 30-in	174	174	.....
Vibratory driving	Steel, 36-in	177	177	.....
Impact pile driving (proof)	Steel, 36-in	178	193	210
Vibratory driving	Steel, 108-in	180	180	.....
Vibratory removal	Timber, 14-in	155	155	.....
Vibratory removal	Steel, 12-in	155	155	.....
Vibratory removal	Steel H, 14-in	155	155	.....

These source levels are used to compute the Level A harassment zones and to estimate the Level B harassment zones. For Level A harassment zones, since the peak source levels for both pile driving are below the injury thresholds, cumulative SEL were used to do the calculations using the NMFS acoustic guidance (NMFS 2016).

Estimating Harassment Zones

The Level B harassment ensonified areas for vibratory removal of the 14-in timber, 12-in steel, 14-in steel H, and 18-in concrete piles are based on the above source level of 155 dB_{rms} re 1 µPa at 10 m, applying practical spreading loss of 15*log(R) for transmission loss calculation. The derived distance to the 120-dB Level B zone is 2,54 m.

For Level B harassment ensonified areas for vibratory pile driving and removal of the 24-in, 30-in, 36-in, and 108-in steel piles, the distance is based on measurements conducted during the year 1 Seattle multimodal project at Colman. The result showed that pile driving noise of two 36-in steel piles being concurrently driven was no longer detectable at a range of 5.4 miles (8.69 km) (WSDOT 2017). Therefore, the distance of 8,690 m is selected as the Level B harassment distance for vibratory pile driving and removal of the 24-in, 30-in, 36-in and 108-in steel piles.

The Level B harassment ensonified area for impact pile driving of the 36-in steel piles is based on the above source level of 193 dB_{rms} re 1 µPa at 10 m, applying practical spreading loss of 15*log(R) for transmission loss calculation. The derived distance to the 160-dB Level B zone is 1,585 m.

For Level A harassment, calculation is based on pile driving duration of each pile and the number of piles installed or removed per day, using NMFS optional spreadsheet.

TABLE 5—MODELED DISTANCES AND AREAS TO HARASSMENT ZONES

Pile driving activity	SL (10m)	Level A distance (m) Level A area (km^2)					Level B distance (m) Level B area (km^2)
	SEL	LF Cetacean	MF Cetacean	HF Cetacean	Phocid	Otariid	All marine mammals
Vibratory drive/removal, 24″ & 30″ steel piles, 8 piles/day, 20 min/pile	174	96.7 0.03	8.6 0.00	143.0 0.00	58.8 0.00	4.1 0.00	8,690 74.29
Vibratory removal 30″ steel pile, 1 pile/day, 20 min/pile	174	24.2 0.00	2.1 0.00	35.7 0.00	14.7 0.00	1.0 0.00	8,960 74.29
Vibratory drive 36″ steel pile, 6 piles/day, 20 min/pile	177	126.4 0.05	11.2 0.00	186.9 0.11	76.8 0.02	5.4 0.00	8,960 74.29
Vibratory drive 36″ steel pile, 8 piles/day, 20 min/pile	177	153.3 0.07	13.6 0.00	226.6 0.16	93.2 0.03	6.5 0.00	8,960 74.29
Impact drive (proof) 36″ steel pile, 8 piles/day, 300 strikes/pile	178	830.9 2.17	29.6 0.00	989.7 3.08	444.7 0.62	32.4 0.00	1,585 7.89
Vibratory drive 108″ steel pile, 1 pile/day, 120 min/pile	180	200.3 0.13	17.8 0.00	296.2 0.28	121.8 0.05	8.5 0.00	8,690 74.29

TABLE 5—MODELED DISTANCES AND AREAS TO HARASSMENT ZONES—Continued

Pile driving activity	SL (10m)	Level A distance (m) Level A area (km²)					Level B distance (m) Level B area (km²)
	SEL	LF Cetacean	MF Cetacean	HF Cetacean	Phocid	Otariid	All marine mammals
Vibratory remove 14″ timber pile, 20 piles/day, 15 min/pile	155	8.0 0.00	0.7 0.00	11.8 0.00	4.8 0.00	0.3 0.00	2,154 14.57
Vibratory remove 12″ steel pile, 11 piles/day, 20 min/pile	155	6.5 0.00	0.6 0.00	9.6 0.00	3.9 0.00	0.3 0.00	2,154 14.57
Vibratory remove 14″ steel H pile, 10 piles/day, 20 min/pile	155	6.1 0.00	0.5 0.00	9.0 0.00	3.7 0.00	0.3 0.00	2,154 14.57

Distances of ensonified area for different pile driving/removal activities for different marine mammal hearing groups is presented in Table 5.

Marine Mammal Occurrence

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

All marine mammal density data except harbor seal, California sea lion, harbor porpoise, bottlenose dolphin, and long-beaked common dolphin are from the U.S. Navy Marine Species Density Report. For harbor seal and California sea lion, because WSDOT has local distribution data based on recent survey in the area, local animal abundance are used to calculate the take numbers. Specifically, the occurrence of these two species are based on local seal abundance information off the Seattle area from Year One (2017/18) of WSDOT's Seattle Colman Project.

For bottlenose dolphin and long-beaked common dolphin, no density estimate is available. Therefore, take numbers for these two species are based on prior anecdotal observations and strandings in the action area (Shuster *et al.,* 2015; Huggins *et al.,* 2016).

Harbor porpoise density is based on a recent study by Smultea *et al.* (2017) for the Seattle area near the Colman Dock.

A summary of marine mammal density, days and Level A and Level B harassment areas from different pile driving and removal activities is provided in Table 6.

TABLE 6—MARINE MAMMAL DENSITY AND LOCAL OCCURRENCE IN THE WSDOT PROJECT AREA

Species	Density (#/km²) or Animals/day
Gray whale	0.00051/km².
Minke whale	0.00003/km².
Killer whale (West coast transient)	0.002/km².
Bottlenose dolphin	NA.
Long-beaked common dolphin	NA.
Harbor porpoise	0.54/km².
Dall's porpoise	0.048/km².
California sea lion	14 animals/day.
Steller sea lion	0.04/km².
Harbor seal	11 animals/day.
Northern elephant seal	0.00001/km².

Take Calculation and Estimation

Here we describe how the information provided above is brought together to produce a quantitative take estimate.

In general, marine mammal takes were calculated as: Take = ensonified area × average animal abundance in the area × pile driving days. All Level A harassment takes were further adjusted by subtracting animals that would occur within the Level A harassment zone (except for harbor seal where a 60-m shutdown zone would be implemented), where pile driving activities that could cause Level A harassment for all marine mammals, except harbor seal, harbor porpoise, and Dall's porpoise, would be suspended when an animal is observed to approach such a zone. Further, the number of Level B harassment takes were adjusted to exclude those already counted for Level A harassment takes.

The harbor seal take estimate is based on local seal abundance information off the Seattle area from Year One (2017/18) of WSDOT's Seattle Colman Project. During 99 days of marine mammal visual monitoring, 813 harbor seals were observed, an average of 8.212 animals/day, with a one-day high of 43 observations on 10/24/17 (WSDOT 2018b). By adjusting the averaged observation of harbor seals to 11 animals/day as a conservative estimate to account for possible missed observation, and based on a total of 114 pile driving days for the WSDOT Seattle Colman Dock project, it is estimated that up to 1,254 harbor seals could be exposed to noise levels associated with ''take.'' Since 17 days would involve vibratory/impact pile driving of 36-in steel piles (16 days) and vibratory driving of and 108-in steel pile (1 day) with Level A harassment zones beyond shutdown zones (445 m and 122 m, respectively, vs. the 60-m shutdown zone), we consider that 187 harbor seals exposed during these 17 days would experience Level A harassment. The difference between the 1,254 total takes and the 187 Level A harassment takes makes up the harbor seal Level B harassment takes, which is 1,067 animals.

The California sea lion take estimate is also based on local sea lion abundance information from the Seattle Colman Project). During 99 days of marine mammal visual monitoring 1,047 California sea lions were observed, an average of 11 animals/day, with a one-day high of 48 observations on 1/8/2018. (WSDOT 2018b). By adjusting the averaged observation of California sea lions to 14 animals/day as a conservative estimate to account for possible missed observation, and based on a total of 114 pile driving days for the WSDOT Seattle Colman Dock project, it is estimated that up to 1,596 California sea lions could be exposed to noise levels associated with ''take''. Although the Level A harassment zones of otariids are all very small (<33 m, Table 5) and WSDOT will implement strict shutdown measures if a sea lion is observed to be moving towards the Level A zone, it is still possible that in rare occasions an animal could enter the Level A zone undetected. We therefore, estimate that one California sea lion could be taken by Level A harassment on each of the 16 days that involve vibratory/impact pile driving of 36-in steel piles when the Level A zone is 32 m. Thus a total of 16 Level A harassment of California sea lion is estimated. The difference between the 1,596 total takes and the 16 Level A takes makes up the California sea lions Level B takes, which is 1,580 animals. The same reasoning is used for estimating Steller sea lion Level A takes, which results in an estimated 16 Level A takes and 215 Level B takes.

The common bottlenose dolphin estimate is based on sightings data from Cascadia Research Collective. Between September 2017 and March 2018, a group of up to five to six individuals was sighted in South Puget Sound (CRC 2017/18). It is assumed that this group is still present in the area.

Given how rare common bottlenose dolphins are in the area, it is unlikely they would be present on a daily basis. Instead it is assumed that they may be present in the Level B harassment zone once a month during the in-water work window (7 months), and adjusted for potential group size of 5–10 individuals with an average of 7 animals per group.

The long-beaked common dolphin estimate is based on sightings data from Cascadia Research Collective. Four to six Long-beaked Common dolphins have remained in Puget Sound since June 2016, and four animals with distinct markings have been seen multiple times and in every season of the year as of October 2017 (CRC 2017).

Given how rare long-beaked common dolphins are in the area, it is unlikely they would be present on a daily basis. Instead it is assumed that they may be present in the Level B harassment zone once a month during the in-water work window (7 months), and adjusted for potential group size of 5–10 individuals with an average of 7 animals per group.

For harbor porpoise, density based Level A harassment take calculation yields a total of 28 animals. However, due to the large Level A harassment distance during the 36-in pile driving (990 m) during 16 days and the 108-in pile driving (296 m) during one day, its Level A harassment take is readjusted to account for a typical animal group size of 3 multiplied by these 17 days with large Level A harassment zones. Therefore, we estimate that a total of 51 harbor porpoise could be taken by Level A harassment.

For Dall's porpoise, due to its relatively uncommon occurrence in comparison to harbor porpoise, the estimated Level A harassment take is scaled down by ⅓ that of harbor porpoise, yielding 17 Level A harassment takes.

For calculated take number less than 15, such as northern elephant seals, transient killer whales, gray whales, and minke whales, takes numbers were adjusted to account for group encounter and the likelihood of encountering. Specifically, for northern elephant seal, take of 15 animals is estimated based on the likelihood of encountering this species during the project period. For transient killer whale, takes of 30 animals is estimated based on the group size and the likelihood of encountering in the area. For gray whale and minke whale, takes of 30 and 8 animals each are estimated, respectively, based on the likelihood of encountering.

For SRKWs, WSDOT will implement strict monitoring and mitigation measures and to suspend pile driving activities when such animal is detected in the vicinity of the action area (see Mitigation section below).

A summary of estimated takes based on the above analysis is listed in Table 7.

TABLE 7—ESTIMATED TAKE NUMBERS

Species	Estimated level A take	Estimated level B take	Estimated total take	Abundance	Percentage
Pacific harbor seal	187	1,067	1,254	11,036	11
Northern elephant seal	0	15	15	81,368	0
California sea lion	16	1,580	1,596	296,750	1
Steller sea lion	16	215	231	41,638	1
Killer whale, transient	0	30	30	243	12
Killer whale, Southern Resident	0	0	0	83	0
Gray whale	0	30	30	20,990	0
Humpback whale	0	0	0	1,918	0
Minke whale	0	8	8	202	2
Harbor porpoise	51	3,069	3,120	11,233	*28
Dall's porpoise	17	260	277	25,750	1
Long-beaked common dolphin	0	49	49	101,305	0
Bottlenose dolphin	0	49	49	1,921	3

* The percentage of individual harbor porpoises take is estimated to be notably smaller than this, as described in the ''Small Numbers'' section.

Mitigation

In order to issue an IHA under section 101(a)(5)(D) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to such activity, and other means of effecting the least practicable impact on such species or stock and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stock for taking for certain subsistence uses (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.

Mitigation for Marine Mammals and Their Habitat

1. Time Restriction.

Work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted.

2. Establishing and Monitoring Level A, Level B Harassment Zones, and Shutdown Zones.

WSDOT shall establish shutdown zones that encompass the distances within which marine mammals could be taken by Level A harassment (see Table 7 above) except for harbor seal. For Level A harassment zones that is less than 10 m from the source, a minimum of 10 m distance should be established as a shutdown zone. For harbor seal, a maximum of 60 m shutdown zone would be implemented if the actual Level A harassment zone exceeds 60 m. This is because there are a few habituated harbor seals that repeated occur within the larger Level A zone, which makes implementing a shutdown zone larger than 60 m infeasible.

A summary of exclusion zones is provided in Table 8.

TABLE 8—SHUTDOWN ZONES FOR VARIOUS PILE DRIVING ACTIVITIES AND MARINE MAMMAL HEARING GROUPS

Pile type, size & pile driving method	Shutdown zone (m)				
	LF cetacean	MF cetacean	HF cetacean	Phocid	Otariid
Vibratory drive/removal, 24″ & 30″ steel piles, 8 piles/day, 20 min/pile	97	10	143	59	10
Vibratory removal 30″ steel pile, 1 pile/day, 20 min/pile	24	10	36	15	10
Vibratory drive 36″ steel pile, 8 piles/day, 20 min/pile	126	11	187	60	10
Vibratory drive 36″ steel pile, 8 piles/day, 20 min/pile	153	14	227	60	10
Impact drive (proof) 36″ steel pile, 8 piles/day, 300 strikes/pile	831	30	990	60	32
Vibratory drive 108″ steel pile, 1 pile/day, 120 min/pile	200	18	296	60	10
Vibratory remove 14″ timber pile, 20 piles/day, 15 min/pile	10	10	12	10	10
Vibratory remove 12″ steel pile, 11 piles/day, 20 min/pile	10	10	10	10	10
Vibratory remove 14″ steel H pile, 10 piles/day, 20 min/pile.					

WSDOT shall also establish a Zone of Influence (ZOI) based on the Level B harassment zones for take monitoring where received underwater SPLs are higher than 160 dB_{rms} re 1 µPa for impulsive noise sources (impact pile driving) and 120 dB_{rms} re 1 µPa for non-impulsive noise sources (vibratory pile driving and pile removal).

NMFS-approved protected species observers (PSO) shall conduct an initial 30-minute survey of the exclusion zones to ensure that no marine mammals are seen within the zones before pile driving and pile removal of a pile segment begins. If marine mammals are found within the exclusion zone, pile driving of the segment would be delayed until they move out of the area. If a marine mammal is seen above water and then dives below, the contractor would wait 15 minutes. If no marine mammals are seen by the observer in that time it can be assumed that the animal has moved beyond the exclusion zone.

If pile driving of a segment ceases for 30 minutes or more and a marine mammal is sighted within the designated exclusion zone prior to commencement of pile driving, or if a shutdown occurs due to marine mammal sighting, the observer(s) must notify the pile driving operator (or other authorized individual) immediately and continue to monitor the exclusion zone. Operations may not resume until the marine mammal has exited the exclusion zone or 30 minutes have elapsed since the last sighting.

3. Soft-start.

A ''soft-start'' technique is intended to allow marine mammals to vacate the area before the impact pile driver reaches full power. Whenever there has been downtime of 30 minutes or more without impact pile driving, the contractor will initiate the driving with ramp-up procedures described below.

Soft start for impact hammers requires contractors to provide an initial set of three strikes from the impact hammer at 40 percent energy, followed by a 1-minute waiting period, then two subsequent three-strike sets. Each day, WSDOT will use the soft-start technique at the beginning of impact pile driving, or if pile driving has ceased for more than 30 minutes.

4. Shutdown Measures.

WSDOT shall implement shutdown measures if a marine mammal is detected within an exclusion zone or is about to enter an exclusion zone listed in Table 8.

WSDOT shall also implement shutdown measures if SRKWs or humpback whales are sighted within the vicinity of the project area and are approaching the ZOI during in-water construction activities.

If a killer whale approaches the ZOI during pile driving or removal, and it is unknown whether it is a SRKW or a transient killer whale, it shall be assumed to be a SRKW and WSDOT shall implement the shutdown measure.

If a SRKW, an unidentified killer whale, or a humpback whale enters the ZOI undetected, in-water pile driving or

pile removal shall be suspended until the whale exits the ZOI to avoid further Level B harassment.

Further, WSDOT shall implement shutdown measures if the number of authorized takes for any particular species reaches the limit under the IHA or if a marine mammal observed is not authorized for take under this IHA, 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.

5. Coordination with Local Marine Mammal Research Network.

Prior to the start of pile driving for the day, the Orca Network and/or Center for Whale Research will be contacted by WSDOT to find out the location of the nearest marine mammal sightings. The Orca Sightings Network consists of a list of over 600 (and growing) residents, scientists, and government agency personnel in the United States and Canada. Sightings are called or emailed into the Orca Network and immediately distributed to other sighting networks including: the NMFS Northwest Fisheries Science Center, the Center for Whale Research, Cascadia Research, the Whale Museum Hotline and the British Columbia Sightings Network.

Sightings information collected by the Orca Network includes detection by hydrophone. The SeaSound Remote Sensing Network is a system of interconnected hydrophones installed in the marine environment of Haro Strait (west side of San Juan Island) to study orca communication, in-water noise, bottom fish ecology and local climatic conditions. A hydrophone at the Port Townsend Marine Science Center measures average in-water sound levels and automatically detects unusual sounds. These passive acoustic devices allow researchers to hear when different marine mammals come into the region. This acoustic network, combined with the volunteer (incidental) visual sighting network allows researchers to document presence and location of various marine mammal species.

With this level of coordination in the region of activity, WSDOT will be able to get real-time information on the presence or absence of whales before starting any pile driving.

Based on our evaluation of the required measures, NMFS has determined that the prescribed mitigation measures provide the means effecting the least practicable impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Monitoring and Reporting

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

Monitoring Measures

WSDOT shall employ NMFS-approved PSOs to conduct marine mammal monitoring for the Seattle Multimodal Year 2 Project at Colman Dock. The purposes of marine mammal monitoring are to implement mitigation measures and learn more about impacts to marine mammals from WSDOT's construction activities. 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. Independent observers (*i.e.,* not construction personnel) are required;

2. At least one observer must have prior experience working as an observer;

3. Other observers may substitute education (undergraduate degree in biological science or related field) or training for experience;

4. Where 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; and

5. NMFS will require submission and approval of observer CVs.

Monitoring of marine mammals around the construction site shall be conducted using high-quality binoculars (*e.g.,* Zeiss, 10 x 42 power). Due to the different sizes of ZOI from different pile types, three different ZOIs and different monitoring protocols corresponding to a specific pile type will be established.

- For Level B harassment zones with radii less than 1,600 m, 3 PSOs will be monitoring from land.
- For Level B harassment zones with radii larger than 1,600 m but smaller than 2,500 m, 4 PSOs will be monitoring from land.
- For Level B harassment zones with radii larger than 2,500 m, 4 PSOs will be monitoring from land with an additional 1 PSO monitoring from a ferry.

6. PSOs shall collect the following information during marine mammal monitoring:

- Date and time that monitored activity begins and ends for each day conducted (monitoring period);
- Construction activities occurring during each daily observation period, including how many and what type of piles driven;
- Deviation from initial proposal in pile numbers, pile types, average driving times, etc.;
- Weather parameters in each monitoring period (*e.g.,* wind speed, percent cloud cover, visibility);
- Water conditions in each monitoring period (*e.g.,* sea state, tide state);
- For each marine mammal sighting:
  - 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;

○ Location and distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point; and

○ Estimated amount of time that the animals remained in the Level B zone;

• Description of implementation of mitigation measures within each monitoring period (*e.g.,* shutdown or delay); and

• Other human activity in the area within each monitoring period.

To verify the required monitoring distance, the exclusion zones and ZOIs will be determined by using a range finder or hand-held global positioning system device.

WSDOT will conduct noise field measurement to determine the actual Level B distance from the source during vibratory driving of the first 36-in pile. If the actual Level B harassment distance is less than modelled, the number of PSOs will be adjusted based on the criteria listed above.

Reporting Measures

WSDOT is required to submit a draft monitoring report within 90 days after completion of the construction work or the expiration of the IHA, whichever comes earlier. In the case if WSDOT intends to renew the IHA in a subsequent year, a monitoring report should be submitted 60 days before the expiration of the current IHA (if issued). This report would detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed. NMFS would have an opportunity to provide comments on the report, and if NMFS has comments, WSDOT would address the comments and submit a final report to NMFS within 30 days.

In addition, NMFS would require WSDOT to notify NMFS' Office of Protected Resources and NMFS' West Coast Stranding Coordinator within 48 hours of sighting an injured or dead marine mammal in the construction site. WSDOT shall provide NMFS and the Stranding Network with the species or description of the animal(s), the condition of the animal(s) (including carcass condition, if the animal is dead), location, time of first discovery, observed behaviors (if alive), and photo or video (if available).

In the event that WSDOT finds an injured or dead marine mammal that is not in the construction area, WSDOT would report the same information as listed above to NMFS as soon as operationally feasible.

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).

To avoid repetition, this introductory discussion of our analyses applies to all the species listed in Table 7, given that the anticipated effects of WSDOT's Seattle Multimodal at Colman Dock project involving pile driving and pile removal on marine mammals are expected to be relatively similar in nature. There is no information about the nature or severity of the impacts, or the size, status, or structure of any species or stock that would lead to a different analysis by species for this activity, or else species-specific factors would be identified and analyzed.

Although a few marine mammals (132 harbor seals, 12 harbor porpoises, and 1 Dall's porpoise) are estimated to experience Level A harassment in the form of PTS if they stay within the Level A harassment zone during the entire pile driving for the day, the degree of injury is expected to be mild and is not likely to affect the reproduction or survival of the individual animals. It is expected that, if hearing impairments occurs, most likely the affected animal would lose a few dB in its hearing sensitivity, which in most cases is not likely to affect its survival and recruitment. Hearing impairment that occur for these individual animals would be limited to the dominant frequency of the noise sources, *i.e.,* in the low-frequency region below 2 kHz. Therefore, the degree of PTS is not likely to affect the echolocation performance of the two porpoise species, which use frequencies mostly above 100 kHz. Nevertheless, for all marine mammal species, it is known that in general animals avoid areas where sound levels could cause hearing impairment. Therefore, it is not likely that an animal would stay in an area with intense noise that could cause severe levels of hearing damage. In addition, even if an animal receives a TTS, the TTS would be a one-time event from the exposure, making it unlikely that the TTS would evolve into PTS. Furthermore, Level A take estimates are based on the assumption that the animals are randomly distributed in the project area and would not avoid intense noise levels that could cause TTS or PTS. In reality, animals tend to avoid areas where noise levels are high (Richardson *et al.,* 1995). Nonetheless, we evaluate the estimated take in this negligible impact analysis.

For these species except harbor seal, California sea lion, Steller sea lion, harbor porpoise and Dall's porpoise, takes that are anticipated and authorized are expected to be limited to short-term Level B harassment (behavioral and TTS). 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 and the implosion noise. A few marine mammals could experience TTS if they occur within the Level B TTS ZOI. However, as discussed earlier in this document, TTS is a temporary loss of hearing sensitivity when exposed to loud sound, and the hearing threshold is expected to recover completely within minutes to hours. Therefore, it is not considered an injury.

There are no other important areas for marine mammals, such as important feeding, pupping, or other areas.

The project also is not expected to have significant adverse effects on affected marine mammals' habitat, as analyzed in detail in the ''Anticipated Effects on Marine Mammal Habitat'' subsection. There is no ESA designated critical area in the vicinity of the Seattle Multimodal Project at Colman Dock

area. The 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. However, 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, WSDOT's proposed construction activity at Colman Dock 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 mortality is anticipated or authorized;
- Injury—only five species of marine mammals would experience Level A harassment in the form of mild PTS, which is expected to be of small degree; and
- Behavioral disturbance—eleven species/stocks of marine mammals would experience behavioral disturbance from the WSDOT's Seattle Colman Dock project. However, as discussed earlier, the area to be affected is small and the duration of the project is short. No other important habitat for marine mammals exist in the vicinity of the project area. Therefore, the overall impacts are expected to be insignificant.

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 take from the proposed 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 qualitative factors may be considered in the analysis, such as the temporal or spatial scale of the activities.

The estimated takes are below 13 percent of the population for all marine mammals except harbor porpoise (Table 7). For harbor porpoise, the estimate of 3,120 incidences of takes would be 28 percent of the population, if each single take were a unique individual. However, this is highly unlikely because the harbor porpoise in Washington waters shows site fidelity to small areas for periods of time that can extend between seasons (Hanson *et al.,* 1999; Hanson 2007a, 2007b). For example, Hanson *et al.* (1999) tracked a female harbor porpoise for 215 days, during which it remained exclusively within the southern Strait of Georgia region. Based on studies by Jefferson *et al.* (2016), harbor porpoise abundance in the southern Puget Sound region, which encompasses waters off Seattle, is 550. Therefore, if the estimated incidents of take accrued to all the animals expected to occur in the entire southern Puget Sound area (550 animals), it would be 4.90 percent of the Washington inland water stock of the harbor porpoise.

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

Unmitigable Adverse Impact 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.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq.*) and NOAA Administrative Order (NAO) 216–6A, NMFS must review our proposed action (*i.e.,* the issuance of an incidental harassment authorization) with respect to potential impacts on the human environment.

NMFS has determined the issuance of the IHA is consistent with categories of activities identified in CE B4 (issuance of incidental harassment authorizations under section 101(a)(5)(A) and (D) of the MMPA for which no serious injury or mortality is anticipated) of NOAA's Companion Manual for NAO 216–6A, and we have not identified any extraordinary circumstances listed in Chapter 4 of the Companion Manual for NAO 216–6A that would preclude this categorical exclusion under NEPA.

Endangered Species Act

Section 7(a)(2) of the ESA 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.

The California-Oregon-Washington stock of humpback whale and the Southern Resident stock of killer whale are the only marine mammal species listed under the ESA that could occur in the vicinity of WSDOT's proposed construction projects. Two DPSs of humpback whales, the Mexico DPS and the Central America DPS, are listed as threatened and endangered under the ESA, respectively. NMFS worked with WSDOT to implement shutdown measures in the IHA that would avoid takes of both SR killer whale and humpback whales. Therefore, NMFS determined that no ESA-listed marine mammal species would be affected as a result of WSDOT's Seattle Colman Dock construction project.

Authorization

As a result of these determinations, NMFS has issued an IHA to the Washington State Department of Transportation for the Seattle Multimodal Project at Colman Dock in Washington State, provided the previously described mitigation, monitoring, and reporting requirements are incorporated.

Dated: July 20, 2018.

Donna S. Wieting,

Director, Office of Protected Resources, National Marine Fisheries Service.

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