be restricted to those issues specifically identified in this notice and any issues arising after publication of this notice that require emergency action under section 305(c) of the Magnuson-Stevens Fishery Conservation and Management Act, provided the public has been notified of the intent to take final action to address the emergency.

Special Accommodations

This meeting is accessible to people with disabilities. Requests for auxiliary aids should be directed to the SAFMC office (see **ADDRESSES**) at least 10 business days prior to the meeting.

Note: The times and sequence specified in this agenda are subject to change.

Authority: 16 U.S.C. 1801 *et seq.*

Dated: March 24, 2017.

Tracey L. Thompson,

Acting Deputy Director, Office of Sustainable Fisheries, National Marine Fisheries Service.

[FR Doc. 2017–06178 Filed 3–28–17; 8:45 am]

BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

National Integrated Drought Information System (NIDIS) Executive Council Meeting

AGENCY: Climate Program Office (CPO), Office of Oceanic and Atmospheric Research (OAR), National Oceanic and Atmospheric Administration (NOAA), Department of Commerce (DOC).

ACTION: Notice of open meeting.

SUMMARY: The National Integrated Drought Information System (NIDIS) Program will hold an organizational meeting of the NIDIS Executive Council on April 20, 2017.

DATES: The meeting will be held Thursday, April 20, 2017 from 9:00 a.m. EST to 4:30 p.m. EST. These times and the agenda topics described below are subject to change.

ADDRESSES: The meeting will be held at the Hall of States, Room 383/385, 444 North Capitol St. NW., Washington, DC 20001.

FOR FURTHER INFORMATION CONTACT: Veva Deheza, NIDIS Executive Director, David Skaggs Research Center, Room GD102, 325 Broadway, Boulder CO 80305. Email: *Veva.Deheza@noaa.gov*; or visit the NIDIS Web site at *www.drought.gov.*

SUPPLEMENTARY INFORMATION: The National Integrated Drought Information System (NIDIS) was established by Public Law 109–430 on December 20, 2006, and reauthorized by Public Law 113–86 on March 6, 2014, with a mandate to provide an effective drought early warning system for the United States; coordinate, and integrate as practicable, Federal research in support of a drought early warning system; and build upon existing forecasting and assessment programs and partnerships. *See* 15 U.S.C. 313d. The Public Law also calls for consultation with ''relevant Federal, regional, State, tribal, and local government agencies, research institutions, and the private sector'' in the development of NIDIS. 15 U.S.C. 313d(c). The NIDIS Executive Council provides the NIDIS Program Office with an opportunity to engage in individual consultation with senior resource officials from NIDIS's Federal partners, as well as leaders from state and local government, academia, nongovernmental organizations, and the private sector.

Status: This meeting will be open to public participation. Individuals interested in attending should register at *https://cpaess.ucar.edu/meetings/2017/nidis-executive-council-meeting-april-2017.* Please refer to this Web page for the most up-to-date meeting times and agenda. Seating at the meeting will be available on a first-come, first-served basis.

Special Accommodations: This meeting is physically accessible to people with disabilities. Requests for special accommodations may be directed no later than 12:00 p.m. on April 18, 2016, to Elizabeth Ossowski, Program Coordinator, David Skaggs Research Center, Room GD102, 325 Broadway, Boulder CO 80305; Email: *Elizabeth.Ossowski@noaa.gov.*

Matters To Be Considered: The meeting will include the following topics: (1) NIDIS implementation updates and 2017 priorities, (2) Council member updates and 2017 priorities, (3) cross-agency Federal priorities as well as state government priorities in 2017, (4) drought resilience efforts at the Federal level, (5) quantifying the socio-economic impact of drought and the cost of inaction as well as the benefits of action, (6) partnership between the National Water Center and NIDIS, and (7) open discussion on advancing the goals of the NIDIS Public Law.

Dated: March 23, 2017.

Paul Johnson,

Acting Deputy Chief Financial Officer/CAO, Office of Oceanic and Atmospheric Research, National Oceanic and Atmospheric Administration.

[FR Doc. 2017–06226 Filed 3–28–17; 8:45 am]

BILLING CODE 3510–KB–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF250

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

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

ACTION: Proposed incidental harassment authorization; request for comment.

SUMMARY: NMFS has received an application from Washington State Department of Transportation (WSDOT) for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to Seattle Multimodal Construction Project in Washington State. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is requesting comments on its proposal to issue an IHA to the WSDOT to incidentally take marine mammals during the specified activities.

DATES: Comments and information must be received no later than April 28, 2017.

ADDRESSES: Comments on the application should be addressed to Jolie Harrison, Chief, Permits and Conservation Division, Office of Protected Resources, National Marine Fisheries Service. Physical comments should be sent to 1315 East-West Highway, Silver Spring, MD 20910 and electronic comments should be sent to *ITP.Guan@noaa.gov.*

Instructions: NMFS is not responsible for comments sent by any other method, to any other address or individual, or received after the end of the comment period. Comments received electronically, including all attachments, must not exceed a 25-megabyte file size. Attachments to electronic comments will be accepted in Microsoft Word or Excel or Adobe PDF file formats only. All comments received are a part of the public record and will generally be posted online at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm* without change. All personal identifying information (*e.g.,* name, address) voluntarily submitted by the commenter may be publicly accessible. Do not submit confidential business information or otherwise sensitive or protected information.

FOR FURTHER INFORMATION CONTACT: Shane Guan, 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*. 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 to allow, upon request by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified area, the incidental, but not intentional, taking of small numbers of marine mammals, provided that certain findings are made and the necessary prescriptions are established.

The incidental taking of small numbers of marine mammals shall be allowed if NMFS (through authority delegated by the Secretary) finds that the total taking by the specified activity during the specified time period will (i) have a negligible impact on the species or stock(s) and (ii) not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant). Further, the permissible methods of taking, as well as the other means of effecting the least practicable adverse impact on the species or stock and its habitat (*i.e.,* mitigation) must be prescribed. Last, requirements pertaining to the monitoring and reporting of such taking must be set forth.

Where there is the potential for serious injury or death, the allowance of incidental taking requires promulgation of regulations under MMPA section 101(a)(5)(A). Subsequently, a Letter (or Letters) of Authorization may be issued as governed by the prescriptions established in such regulations, provided that the level of taking will be consistent with the findings made for the total taking allowable under the specific regulations. Under MMPA section 101(a)(5)(D), NMFS may authorize incidental taking by harassment only (*i.e.,* no serious injury or mortality), for periods of not more than one year, pursuant to requirements and conditions contained within an Incidental Harassment Authorization (IHA). The promulgation of regulations or issuance of IHAs (with their associated prescribed mitigation, monitoring, and reporting) requires notice and opportunity for public comment.

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.

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).

National Environmental Policy Act (NEPA)

Issuance of an MMPA 101(a)(5) authorization requires compliance with the National Environmental Policy Act.

NMFS preliminary determined the issuance of the proposed 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 the 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.

We will review all comments submitted in response to this notice prior to making a final decision on the IHA request.

Summary of Request

On July 28, 2016, WSDOT submitted a request to NMFS requesting an IHA for the harassment of small numbers of 11 marine mammal species incidental to construction associated with the Seattle Multimodal Project at Colman Dock, Seattle, Washington, between August 1, 2017 and July 31, 2018. NMFS initially determined the IHA application was complete on September 1, 2016. However, WSDOT notified NMFS in November 2016 that the scope of its activities had changed. WSDOT stated that instead of using vibratory hammers for the majority of in-water pile driving and using impact hammer for proofing, it would be required to use impact hammers to drive a large number of piles completely due to sediment conditions at Colman Dock. On March 2, 2017, WSDOT submitted a revised IHA application with updated project description. NMFS determined that the revised IHA application was complete on March 3, 2017.

NMFS is proposing to authorize the Level A and Level B harassment of the following eight marine mammal species/stocks: Harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), Steller sea lion (*Eumetopias jubatus*), killer whale (*Orcinus orca*), gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), harbor porpoise (*Phocoena phocoena*), and Dall's porpoise (*P. dalli*).

Description of Specified Activities

Overview

WSDOT is proposing to preserve the Seattle Ferry Terminal at Colman Dock. The project will reconfigure the dock while maintaining approximately the same vehicle holding capacity as current conditions. The reconfiguration would increase total permanent overwater coverage (OWC) by about 5,400 square feet (f^2) (about 1.7 percent more than existing overwater coverage at the site), due to the new walkway from the King County Passenger Only Ferry (POF) facility to Alaskan Way and new stairways and elevators from the POF to the upper level of the terminal. The additional 5,400 f^2 will be mitigated by removing a portion of Pier 48, a condemned timber structure.

The project will remove the northern timber trestle and replace a portion of it with a new concrete trestle. The area from Marion Street to the north edge of the property will not be rebuilt and will become, after demolition, a new area of open water. A section of fill contained behind a bulkhead underneath the northeast section of the dock will also be removed.

WSDOT will construct a new steel and concrete trestle from Columbia Street northward to Marion Street. Construction of the reconfigured dock will narrow (reduce) the OWC along the shoreline (at the landward edge) by 180 linear feet at the north end of the site, while 30 linear feet of new trestle would be constructed along the shoreline at the south end of the site. The net reduction of OWC in the nearshore zone is 150 linear feet.

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. Key project elements include:

- Replacing and re-configuring the timber trestle portion of the dock;
- Replacing the main terminal building;
- Reconfiguring the dock layout to provide safer and more efficient operations;
- Replacing the vehicle transfer span and the overhead loading structures of Slip 3;
- Replacing vessel landing aids;
- Maintaining a connection to the Marion Street pedestrian overpass;
- Moving the current POF slip temporarily to the north to make way for south trestle construction, and then constructing a new POF slip in the south trestle area;
- Mitigating for the additional 5,400 f^2 of overwater coverage;
- Capping existing contaminated sediments.

The proposed Seattle Multimodal Project would involve in-water impact and vibratory pile driving and vibratory pile removal. Details of the proposed construction project that have the potential to affect marine mammals are provided below.

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 at this location is limited each year to July 16 through February 15. For this project, in-water construction is planned to take place between August 1, 2017 and February 15, 2018.

The total worst-case time for pile installation and removal is expected to be 83 working days (Table 1).

- Vibratory driving of each of the 101 24-inch steel pile will take approximately 20 minutes, with a maximum of 16 piles installed per day over 7 days.
- Vibratory removal of 103 temporary 24-inch diameter steel piles will take approximately 20 minutes per pile, with maximum 16 piles removed per day over 8 days.
- Impact driving (3000 strikes per pile) of 14 30-inch and 201 36-inch diameter steel piles will take approximately 45 minutes per pile, with maximum 8 piles per day for a total of 28 days.
- Vibratory driving of 17 30- and 205 36-inch diameter steel piles will take 20 minutes per pile, with maximum 8 piles per day over a total of 29 days.
- Vibratory removal of 215 14-inch timber piles will take approximately 15 minutes per pile, with approximately 20 piles removed per day for 11 days.

TABLE 1— SUMMARY OF IN-WATER PILE DRIVING DURATIONS

Method	Pile type	Pile size (inch)	Pile number	Time to vibratory drive per pile/strikes to impact drive per pile	Duration (days)
Vibratory removal	Timber	14	215	900 seconds	11
Vibratory removal	Steel	24	103	1200 seconds	8
Vibratory driving	Steel	24	101	1200 seconds	7
Vibratory driving	Steel	30	17	1200 seconds	3
Vibratory driving	Steel	36	205	1200 seconds	26
Impact driving	Steel	30	14	3000 strikes	2
Impact driving	Steel	36	201	3000 strikes	26
Total			856		83

Specified Geographic Region

The proposed activities will occur at the Seattle Ferry Terminal at Colman Dock, located in the City of Seattle, Washington (see Figure 1–2 of the IHA application).

Detailed Description of In-Water Pile Driving Associated With Seattle Multimodal Project

The proposed project has two elements involving noise production that may affect marine mammals: Vibratory hammer driving and removal, and impact hammer driving.

Details of pile driving activities are provided below:

- The 14-inch timber piles will be removed with a vibratory hammer (Table 1).
- The 24-inch temporary piles will be installed and removed with a vibratory hammer (no proofing) (Table 1).
- Some of the permanent 30- and 36-inch steel piles would be installed with a vibratory hammer, and some would be installed with impact hammer (Table 1).

(1). Vibratory Hammer Driving and Removal

Vibratory hammers are commonly used in steel pile driving where sediments allow and involve the same vibratory hammer used in pile removal. The pile is placed into position using a choker and crane, and then vibrated between 1,200 and 2,400 vibrations per minute. The anticipated time required (based on WSDOT prior experience) to install a 14″ timber pile is up to 900 seconds; for a 24″ steel pile 1200 seconds; and for a 30″ or 36″ steel pile 2700 seconds. The vibrations liquefy the sediment surrounding the pile allowing it to penetrate to the required seating depth, or to be removed. The type of vibratory hammer that will be used for the project will likely be an APE 400 King Kong (or equivalent) with a drive force of 361 tons.

(2). Impact Hammer Installation

Impact hammers are used to install plastic/steel core, wood, concrete, or steel piles. An impact hammer is a steel device that works like a piston. Impact hammers are usually large, though small impact hammers are used to install small diameter plastic/steel core piles.

Impact hammers have guides (called a lead) that hold the hammer in alignment with the pile while a heavy piston moves up and down, striking the top of the pile, and drives it into the substrate from the downward force of the hammer on the top of the pile.

To drive the pile, the pile is first moved into position and set in the proper location using a choker cable. Once the pile is set in place, pile installation with an impact hammer is expected to require approximately 45 minutes. It is expected that for each 30 inch and 36 inch steel pile, a maximum of 3,000 strikes would be needed to install a pile.

It is possible that more than 1 vibratory pile driving, up to 3 hammers, could be conducted concurrently for the 24-, 30-, and 36-inch piles.

Proposed mitigation, monitoring, and reporting measures are described in in detail later in the document (Mitigation

section and Monitoring and Reporting section).

Description of Marine Mammals in the Area of Specified Activities

The marine mammal species under NMFS jurisdiction that have the potential to occur in the proposed construction area include Pacific harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), northern elephant seal (*Mirounga angustirostris*), Steller sea lion (*Eumetopias jubatus*), killer whale (*Orcinus orca*), long-beaked common dolphin (*Delphis capensis*), gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), minke whale (*Balaenoptera acutorostrata*), harbor porpoise (*Phocoena phocoena*), and Dall's porpoise (*P. dalli*). A list of marine mammals that have the potential to occur in the vicinity of the action and their legal status under the MMPA and ESA are provided in Table 2. Among these species, northern elephant seal, minke whale, and long-beaked common dolphin are extralimital in the proposed project area. NMFS does not consider take is likely to occur for these species. Therefore, these species are not discussed further in this document.

TABLE 2—MARINE MAMMAL SPECIES POTENTIALLY PRESENT IN REGION OF ACTIVITY

Species	ESA status	MMPA status	Occurrence	Abundance
Harbor Seal	Not listed	Non-depleted	Frequent	Unk
California Sea Lion	Not listed	Non-depleted	Frequent	296,750
Northern Elephant Seal	Not listed	Non-depleted	Extralimital	179,000
Steller Sea Lion (eastern DPS)	Not listed	Non-depleted	Rare	71,256
Harbor Porpoise	Not listed	Non-depleted	Frequent	11,233
Dall's Porpoise	Not listed	Non-depleted	Occasional	25,750
Killer Whale (Southern Resident)	Endangered	Depleted	Occasional	78
Killer Whale (West Coast transient)	Not listed	Non-depleted	Occasional	243
Long-beaked Common Dolphin	Not listed	Non-depleted	Extralimital	101,305
Gray Whale	Not listed	Non-depleted	Occasional	20,990
Humpback Whale	Endangered	Depleted	Rare	1,918
Minke Whale	Not listed	Non-depleted	Extralimital	636

General information on the marine mammal species found in Washington coastal waters can be found in Caretta *et al.* (2016), which is available online at: *http://www.nmfs.noaa.gov/pr/sars/pdf/pacific2015_final.pdf.* Refer to that document for information on these species. Specific information concerning these species in the vicinity of the proposed action area is provided in detail in the WSDOT's IHA application.

Harbor Seal

There are three stocks in Washington's inland waters, the Hood Canal, Northern Inland Waters, and Southern Puget Sound stocks. Seals belonging to the Northern Inland Waters Stock are present at the project site. Pupping seasons vary by geographic region. For the northern Puget Sound region, pups are born from late June through August (WDFW 2012). After October 1, all pups in the inland waters of Washington are weaned. Of the pinniped species that commonly occur within the region of activity, harbor seals are the most common and the only pinniped that breeds and remains in the inland marine waters of Washington year-round (Calambokidis and Baird 1994).

In 1999, Jeffries *et al.* (2003) recorded a mean count of 9,550 harbor seals in Washington's inland marine waters, and estimated the total population to be approximately 14,612 animals (including the Strait of Juan de Fuca). According to the 1999 Stock Assessment Report (SAR), the most recent estimate for the Washington Northern Inland Waters Stock is 11,036 (NMFS 1999). No minimum population estimate is available. However, there are an estimated 32,000 harbor seals in Washington today, and their population appears to have stabilized (Jeffries 2013), so the estimate of 11,036 may be low.

The nearest documented harbor seal haulout to the Seattle Ferry Terminal is 10.6 kilometers (km)/6.6 miles (mi) west on Blakely Rocks, though harbor seals also make use of docks, buoys and beaches in the area. The level of use of this haulout during the fall and winter is unknown, but is expected to be much less as air temperatures become colder than water temperatures resulting in seals in general hauling out less. None of the harbor seals have been spotted using Colman Dock as a haulout. Harbor seals are known to haulout opportunistically on docks and beaches throughout the project area.

During the 2012 Seattle Slip 2 Batter Pile project, 6 harbor seals were observed during this one day project in the area that corresponds to the upcoming project zones of influence (ZOIs) where received sound levels are above 160 decibel (dB) re 1 micropascal (μPa) and Level B harassment is anticipated to occur (WSF 2012). During the 2016 Seattle Test Pile project, 56 harbor seals were observed over 10 days in the area that corresponds to the upcoming project ZOIs. The maximum number sighted during 1day was 13 (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2015) estimates the density of harbor seals in the Seattle area as a range of 0.550001 and 1.219000 animals per square kilometer.

California Sea Lion

Washington California sea lions are part of the U.S. stock, which begins at the U.S./Mexico border and extends northward into Canada. The minimum population size of the U.S. stock was estimated at 296,750 in 2011. More recent pup counts made in 2011 totaled 61,943, the highest recorded to date. Estimates of total population size based on these counts are currently being developed (NMFS 2015d). Some 3,000 to 5,000 animals are estimated to move into northwest waters (both Washington and British Columbia) during the fall (September) and remain until the late spring (May) when most return to breeding rookeries in California and Mexico (Jeffries *et al.,* 2000). Peak counts of over 1,000 animals have been made in Puget Sound (Jeffries *et al.,* 2000).

The nearest documented California sea lion haulout sites are 3 km/2 mi southwest of the Seattle Ferry Terminal, although sea lions also make use of docks and other buoys in the area.

During the 2012 Seattle Slip 2 Batter Pile project, 15 California sea lions were observed during this 1 day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the

2016 Seattle Test Pile project, 12 California sea lions were observed over 10 days in the area that corresponds to the upcoming project ZOIs. The maximum number sighted during one day was 4 (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2015) estimates the density of California sea lions in the Seattle area as a range of 0.067601 and 0.12660 animals per square kilometer.

Steller Sea Lion

The Eastern U.S. stock of Steller sea lion may be present near the project site. The eastern U.S. stock of Steller sea lions is estimated to be 71,562 based on pup and non-pup counts. In Washington waters, Steller sea lion abundances vary seasonally with a minimum estimate of 1,000 to 2,000 individuals present or passing through the Strait of Juan de Fuca in fall and winter months.

Steller sea lion numbers in Washington State decline during the summer months, which correspond to the breeding season at Oregon and British Columbia rookeries (approximately late May to early June) and peak during the fall and winter months (WDFW 2000). According to NMFS Marine Mammal Stock Assessment Report, a new rookery has become established on the outer Washington coast with over 100 pups born there in 2015 (NMFS 2016). A few Steller sea lions can be observed year-round in Puget Sound although most of the breeding age animals return to rookeries in the spring and summer.

The nearest documented Steller sea lion haulout sites are 15 km/9 mi southwest of the Seattle Ferry Terminal (WSDOT 2016a).

During the 2012 Seattle Slip 2 Batter Pile project, 0 Steller sea lions were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 Steller sea lions were observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2015) estimates the density of Steller sea lions in the Seattle area as a range of 0.025101 and 0.036800 animals per square kilometer.

Killer Whale

The Eastern North Pacific Southern Resident (SRKW) and West Coast Transient (Transient) stocks of killer whale may be found near the project site. The Southern Resident killer whales live in three family groups known as the J, K and L pods. As of December 31, 2015, the stock collectively numbers 78 individuals (CWR 2016). Transient killer whales generally occur in smaller (less than 10 individuals), less structured pods (NMFS 2013c). According to the Center for Whale Research (CWR 2015), they tend to travel in small groups of one to five individuals, staying close to shorelines, often near seal rookeries when pups are being weaned. The West Coast Transient stock, which includes individuals from California to southeastern Alaska, is has a minimum population estimate of 243, which does not include an estimate of the number of whales in California (NMFS 2013b).

The SRKW and West Coast Transient stocks are both found within Washington inland waters. Individuals of both stocks have long-ranging movements and regularly leave the inland waters (Calambokidis and Baird 1994).

During the 2012 Seattle Slip 2 Batter Pile project, 0 SRKW were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 SRKW were observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2014) estimates the density of Southern Resident killer whales in the Seattle area as a range of 0.001461 and 0.020240 animals per square kilometer.

According to the NMFS National Stranding Database, there were no killer whale strandings in the Seattle and Island County areas between 2010 and 2014 (NMFS 2016).

The West Coast Transient killer whale sightings have become more common since mid-2000. Unlike the SRKW pods, transients may be present in an area for hours or days as they hunt pinnipeds.

During the 2012 Seattle Slip 2 Batter Pile project, 0 transients were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 transients were observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016). However, on February 5, 2016, a pod of up to 7 transients were reported in the area that corresponds to the upcoming project ZOIs (Orca Network Archive Report 2016).

The Navy Marine Species Density Database (U.S. Navy 2015) estimates the density of west coast transient killer whales in the Seattle area as a range of 0.000575 and 0.002373 animals per square kilometer.

Gray Whale

The Eastern North Pacific gray whale may be found near the project site. The most recent population estimate for the Eastern North Pacific stock is 20,990 individuals (NMFS 2015e). Within Washington waters, gray whale sightings reported to Cascadia Research and the Whale Museum between 1990 and 1993 totaled over 1,100 (Calambokidis *et al.,* 1994). Abundance estimates calculated for the small regional area between Oregon and southern Vancouver Island, including the San Juan Area and Puget Sound, suggest there were 137 to 153 individual gray whales from 2001 through 2003 (Calambokidis *et al.* 2004a). Forty-eight individual gray whales were observed in Puget Sound and Hood Canal in 2004 and 2005.

During the 2012 Seattle Slip 2 Batter Pile project, 0 gray whales were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 gray whales were observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2014) estimates the density of gray whales in the Seattle area as a range of 0.000002 to 0.000510 animals per square kilometer.

Humpback Whale

The California-Oregon-Washington (CA-OR-WA) stock of humpback whale may be found near the project site. In 2016, NMFS has identified three Distinct Population Segments (DPSs) of humpback whales off the coast of Washington, Oregon, and California. These are: The Hawaii DPS (found predominately off Washington and southern British Columbia), which is not listed under the ESA; the Mexico DPS (found all along the coast), which is listed as threatened under the ESA; and the Central America DPS (found all along the coast), which is listed as endangered under the ESA.

From August to November 2015, WSDOT conducted marine mammal monitoring during tank farm pier removal at the Seattle Multimodal Project. During 51 days of monitoring, one humpback whale was observed within the ZOI on November 4, 2015.

During the 2012 Seattle Slip 2 Batter Pile project, 0 humpback whales were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 humpback whales were

observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2015) estimates the density of humpback whales in the Seattle area as a range between 0.000010 and 0.00070 animals per square kilometer.

Harbor Porpoise

The Washington Inland Waters Stock of harbor porpoise may be found near the project site. The Washington Inland Waters Stock occurs in waters east of Cape Flattery (Strait of Juan de Fuca, San Juan Island Region, and Puget Sound).

Aerial surveys of the Washington and southern British Columbia were conducted from 2013 to 2015 (Smultea *et al.* 2015). These aerial surveys included the Strait of Juan de Fuca, San Juan Islands, Gulf Island, Strait of Georgia, Puget Sound, and Hood Canal. The surveys showed that for U.S. waters, the current estimate for Washington inland water stock harbor porpoise is 11,233 (NMFS 2016).

During the 2012 Seattle Slip 2 Batter Pile project, 0 harbor porpoise were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 harbor porpoise were observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2014) estimates the density of harbor porpoise during the timeframe scheduled for this project in the Seattle area as a range between 0.061701 and 0.156000 animals/km^2 (U.S. Navy 2014).

Dall's Porpoise

The California, Oregon, and Washington Stock of Dall's porpoise may be found near the project site. The most recent estimate of Dall's porpoise stock abundance is 25,750, based on 2005 and 2008 summer/autumn vessel-based line transect surveys of California, Oregon, and Washington waters (NMFS 2011d). Within the inland waters of Washington and British Columbia, this species is most abundant in the Strait of Juan de Fuca east to the San Juan Islands. The most recent Washington's inland waters estimate is 900 animals (Calambokidis *et al.* 1997), though sightings have become rarer since then. Prior to the 1940s, Dall's porpoises were not reported in Puget Sound.

During the 2012 Seattle Slip 2 Batter Pile project, 0 Dall's porpoise were observed during this one day project in the area that corresponds to the upcoming project ZOIs (WSF 2012). During the 2016 Seattle Test Pile project, 0 Dall's porpoise were observed over 10 days in the area that corresponds to the upcoming project ZOIs (WSF 2016).

The Navy Marine Species Density Database (U.S. Navy 2014) estimates the density of Dall's porpoises in the Seattle area as a range between 0.018858 and 0.047976 animals per square kilometer.

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 Analyses and Determination'' section will consider the content of this section, the ''Estimated Take by Incidental Harassment'' 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.

When considering the influence of various kinds of sound on the marine environment, it is necessary to understand that different kinds of marine life are sensitive to different frequencies of sound. Based on available behavioral data, audiograms derived using auditory evoked potentials, anatomical modeling, and other data, NMFS (2016) to designate ''marine mammal hearing groups'' for marine mammals and estimate the lower and upper frequencies of hearing of the groups. The marine mammal groups and the associated frequencies are indicated below (though animals are less sensitive to sounds at the outer edge of their functional range and most sensitive to sounds of frequencies within a smaller range somewhere in the middle of their hearing range):

- Low frequency cetaceans (13 species of mysticetes): Functional hearing is estimated to occur between approximately 7 hertz (Hz) and 35 kilohertz (kHz);
- Mid-frequency cetaceans (32 species of dolphins, seven species of larger toothed whales, and 19 species of beaked and bottlenose whales): Functional hearing is estimated to occur between approximately 150 Hz and 160 kHz;
- High frequency cetaceans (eight species of true porpoises, seven species of river dolphins, Kogia, the franciscana, and four species of cephalorhynchids): Functional hearing is estimated to occur between approximately 275 Hz and 160 kHz;
- Phocid pinnipeds in Water: Functional hearing is estimated to occur between approximately 50 Hz and 86 kHz; and
- Otariid pinnipeds in Water: Functional hearing is estimated to occur between approximately 60 Hz and 39 kHz.

As mentioned previously in this document, eight marine mammal species (five cetacean and four pinniped species) are likely to occur in the vicinity of the Seattle pile driving/removal area. Of the five cetacean species, three belong to the low-frequency cetacean group (gray and humpback whales), one is a mid-frequency cetacean (killer whale), and two high-frequency cetacean (harbor and Dall's porpoises). One species of pinniped is phocid (harbor seal), and two species of pinniped are otariid (California and Steller sea lions). A species' functional hearing group is a consideration when we analyze the effects of exposure to sound on marine mammals.

The WSDOT's Seattle Colman ferry terminal construction work 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—an increase in the auditory threshold after exposure to noise (Finneran *et al.,* 2005). Factors that influence the amount of threshold shift include the amplitude, duration, frequency content, temporal pattern, and energy distribution of noise exposure. The magnitude of hearing threshold shift normally decreases over time following cessation of the noise exposure. The amount of threshold shift just after exposure is the initial threshold shift. If the threshold shift eventually returns to zero (*i.e.,* the threshold returns to the pre-exposure value), it is a temporary threshold shift (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 threshold shift (TS). An animal can experience

temporary threshold shift (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 *et al.,* 2000, 2002, 2003, 2005, 2007, 2010a, 2010b; Finneran and Schlundt, 2010; Lucke *et al.,* 2009; Mooney *et al.,* 2009a, 2009b; Popov *et al.,* 2011a, 2011b; Kastelein *et al.,* 2012a; Schlundt *et al.,* 2000; Nachtigall *et al.,* 2003, 2004). 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 μPa, which corresponds to a sound exposure level of 164.5 dB re: 1 μPa^2 s after integrating exposure. NMFS currently uses the root-mean-square (rms) of received SPL at 180 dB and 190 dB re: 1 μPa as the threshold above which PTS could occur for cetaceans and pinnipeds, respectively. Because the airgun noise is a broadband impulse, one cannot directly determine the equivalent of 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. However, 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 that 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 activity 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 Colman Ferry Terminal construction activities, 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 Colman Ferry Terminal construction activities, both of these noise levels are considered for effects analysis because WSDOT plans to use both impact and vibratory pile driving, as well as vibratory 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 pile driving and removal associated with marine mammal prey species. However, other potential impacts to the surrounding habitat from physical disturbance are also possible. These potential effects are discussed below.

SPLs from impact pile driving has the potential to injure or kill fish in the immediate area. These few isolated fish mortality events are not anticipated to have a substantial effect on prey species population or their availability as a food resource for marine mammals.

Studies also suggest that larger fish are generally less susceptible to death or injury than small fish. Moreover, elongated forms that are round in cross section are less at risk than deep-bodied forms. Orientation of fish relative to the shock wave may also affect the extent of injury. Open water pelagic fish (*e.g.,* mackerel) seem to be less affected than reef fishes. The results of most studies are dependent upon specific biological, environmental, explosive, and data recording factors.

The huge variation in fish populations, including numbers, species, sizes, and orientation and range from the detonation point, makes it very difficult to accurately predict mortalities at any specific site of detonation. Most fish species experience a large number of natural mortalities, especially during early life-stages, and any small level of mortality caused by the WSDOT's impact pile driving will likely be insignificant to the population as a whole.

For non-impulsive sound such as that of vibratory pile driving, 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).

During construction activity at Colman Dock, 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 the abilities of marine mammals to feed 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 between March and July.

Short-term turbidity is a water quality effect of most in-water work, including pile driving.

Cetaceans are not expected to be close enough to the Colman terminal to experience turbidity, and any pinnipeds will be transiting the terminal area and could avoid localized areas of turbidity. Therefore, the impact from increased turbidity levels is expected to be discountable to marine mammals.

For these reasons, WSDOT's proposed Seattle Multimodal construction at Colman Dock is not expected to have adverse effects to marine mammal habitat in the area.

Estimated Take

This section includes an estimate of the number of incidental ''takes'' likely to occur pursuant to 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 means of take expected to result from these activities. 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).

As described previously in the section Potential Effects of Specified Activities on Marine Mammals and their Habitat, no incidental take is anticipated to result from effects on prey species or as a result of turbidity. Level B Harassment is expected to occur as discussed below and is proposed to be authorized in the numbers identified below.

As described below, a small number of takes by Level A Harassment are being proposed to be authorized.

The death of a marine mammal is also a type of incidental take. However, as described previously, no mortality is anticipated or proposed to be authorized to result from this activity.

Basis for Takes

Take estimates are based on average marine mammal density in the project area multiplied by the area size of ensonified zones within which received noise levels exceed certain thresholds (*i.e.,* Level A and/or Level B harassment) from specific activities, then multiplied by the total number of days such activities would occur. Certain adjustments were made for marine mammals whose local abundance are known through long-term monitoring efforts. Therefore, their local abundance data are used for take calculation instead of general animal density (see below).

Basis for Threshold Calculation

As discussed above, in-water pile removal and pile driving (vibratory and impact) generate loud noises that could potentially harass marine mammals in the vicinity of WSDOT's proposed Seattle Multimodal Project at Colman Dock.

Under the NMFS' Technical Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammal Hearing (Guidance), dual criteria are used to assess marine mammal auditory injury (Level A harassment) as a result of noise exposure (NMFS 2016). The dual criteria under the Guidance provide onset thresholds in instantaneous peak SPLs (L_{pk}) as well as 24-hr cumulative sound exposure levels (SEL_{cum} or L_E) that could cause PTS to marine mammals of different hearing groups. The peak SPL is the highest positive value of the noise field, log transformed to dB in reference to 1 µPa.

$$(1)\quad L_{pk} = \max\left\{10\log_{10}\left(\frac{p(t)}{p_{ref}}\right)^2\right\}$$

where $p(t)$ is acoustic pressure in pascal or micropascal, and p_{ref} is reference acoustic pressure equal to 1 µPa.

The cumulative SEL is the total sound exposure over the entire duration of a given day's pile driving activity, specifically, pile driving occurring within a 24-hr period.

$$(2)\quad L_E = 10\log_{10}\left(\int_{t_1}^{t_2}\left(\frac{p(t)}{p_{ref}}\right)^2 dt\right)$$

where $p(t)$ is acoustic pressure in pascal or micropascal, p_{ref} is reference acoustic pressure equals to 1 µPa, t_1 marks the beginning of the time, and t_2 the end of time.

For onset of Level B harassment, NMFS continues to use the root-mean-square (rms) sound pressure level (SPL_{rms}) at 120 dB re 1 µPa and 160 dB re 1 µPa as the received levels from non-impulse (vibratory pile driving and removal) and impulse sources (impact pile driving) underwater, respectively. The SPL_{rms} for pulses (such as those from impact pile driving) should contain 90 percent of the pulse energy, and is calculated by

$$(3)\ SPL_{rms} = 10\log_{10}\left(\frac{1}{T}\int_{t_1}^{t_2}\left(\frac{p(t)}{p_{ref}}\right)^2 dt\right)$$

where $p(t)$ is acoustic pressure in pascal or micropascal, p_{ref} is reference acoustic pressure equals to 1 µPa, t_1 marks the beginning of the time, and t_2 the end of time. In the case of an impulse noise, t_1 marks the time of 5 percent of the total energy window, and t_2 the time of 95 percent of the total energy window.

Table 3 summarizes the current NMFS marine mammal take criteria.

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 (L_E) 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.

Sound Levels and Acoustic Modeling for the Proposed Construction Activity

Source Levels

The project includes vibratory removal of 14-inch (in) timber piles, vibratory driving and removal of 24-in steel piles, vibratory driving of 30- and 36-in steel piles, and impact pile driving of 30- and 36-in steel piles. In February of 2016, WSDOT conducted a test pile project at Colman Dock in order to gather data to select the appropriate piles for the project. The test pile project measured impact pile driving of 24- and 36-in steel piles. The measured results from the project are used here to provide source levels for the prediction of isopleths ensonified over thresholds for the Seattle project. The results show that the SPL_{rms} for impact pile driving of 36-in steel pile is 189 dB re 1 µPa at 14 m from the pile (WSDOT 2016b). This value is also used for impact driving of the 30-in steel piles, which is a precautionary approach.

Source level of vibratory pile driving of 36-in steel piles is based on test pile driving 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 SPL_{rms} for vibratory pile driving of 36-in steel pile was 177 dB re 1 µPa (WSDOT 2016a).

Up to three pile installation crews may be active during the day within the project footprint. Each crew will use one vibratory and one impact hammer, and it is possible that more than one vibratory or impact hammer may be active at the same time for pile driving and/or removal for the 24-, 30-, and 36-inch piles. Overlapping noise fields created by multiple hammer use are handled differently for impact and vibratory hammers. When more than one impact hammer is being used close enough to another impact hammer, the cumulative acoustic energy is accounted for by including all hammer strikes. When more than one vibratory hammer is being used close enough to another vibratory hammer to create overlapping noise fields, additional sound levels are added to account for the overlap, creating a larger ZOI. A simplified nomogram method (Kinsler *et al.,* 2000) is proposed to account for the addition of noise source levels for multiple vibratory hammers, as shown in Table 4. Using this method, the source levels of 24-, 30-, and 36-in piles during vibratory pile driving are adjusted to 182 dB re 1 µPa (at 10 m).

TABLE 4—MULTIPLE SOUND LEVEL ADDITION

When two sound levels differ by	Add the following to the higher level (dB)
0–1 dB	3
2–3 dB	2
4–9 dB	1
>10 dB	0

For vibratory pile removal, vibratory pile driving data were used as proxies because we conservatively consider noises from pile removal would be the same as those from pile driving.

The source level of vibratory removal of 14-in timber piles were based on measurements conducted at the Port Townsend Ferry Terminal during vibratory removal of a 12-inch timber pile by WSDOT (Laughlin 2011). The recorded source level is 152 dB re 1 µPa at 16 m from the pile. In the absence of

spectral data for timber pile vibratory driving, the weighting factor adjustment (WFA) recommended by NMFS acoustic guidance (NMFS 2016) was used to determine these zones.

These source levels are used to compute the Level A ensonified zones and to estimate the Level B harassment zones. For Level A harassment zones, zones calculated using cumulative SEL are all larger than those calculated using SPL_{peak}, therefore, only zones based on cumulative SEL for Level A harassment are used.

Estimating Injury Zones

Calculation and modeling of applicable ensonified zones are based on source measurements of comparable types and sizes of piles driven by different methods (impact vs. vibratory hammers) either during the Colman test pile driving or at a different location within the Puget Sound. As mentioned earlier, isopleths for injury zones are based on cumulative SEL (L_E) criteria.

For peak SPL (L_{pk}), distances to marine mammal injury thresholds were calculated using a simple geometric spreading model using a transmission loss coefficient of 15:

(4) $SL_{Measure} = EL + 15\log_{10}(R - D_{Measure})$

where $SL_{Measure}$ is the measured source level in dB re 1 µPa, EL is the specific received level of threshold, $D_{Measure}$ is the distance (m) from the source where measurements were taken, and R is the distance (radius) of the isopleth to the source in meters.

For cumulative SEL (L_E), distances to marine mammal exposure thresholds were computed using spectral modeling that incorporates frequency specific absorption. First, representative pile driving sounds recorded during test pile driving with impact and vibratory hammers were used to generate power spectral densities (PSDs), which describe the distribution of power into frequency components composing that sound, in 1-Hz bins. Parserval's theorem, which states that the sum of the square of a function is equal to the sum of the square of its transform, was applied to ensure that all energies within a strike (for impact pile driving) or a given period of time (for vibratory pile driving) were captured through the fast Fourier transform, an algorithm that converts the signal from its original domain (in this case, time series) to a representation in frequency domain. For impact pile driving, broadband PSDs were generated from SPL_{rms} time series of a total of 270 strikes with a time window that contains 90 percent of pulse energy. For vibratory pile driving, broadband PSDs were generated from a series of continuous 1-second SEL. Broadband PSDs were then adjusted based on weighting functions of marine mammal hearing groups (Finneran 2016) by using the weighting function as a band-pass filter. For impact pile driving, cumulative exposures (E_{sum}) were computed by multiplying the single rms pressure squared by rms pulse duration for the specific strike, then by the number of strikes (provided in Table 1) required to drive one pile, then by the number of piles to be driven in a given day, as shown in the equation below:

$$(5)\quad E_{sum} = \sum_{i=1}^{N} p_{rms,i}^2 \tau_i N_s$$

where $p_{rms,i}$ is the rms pressure, τ is the rms pulse duration for the specific strike, N_s is the anticipated number of strikes (provided in Table 1) needed to install one pile, and N is the number of total piles to be installed.

For vibratory pile driving, cumulative exposures were computed by summing 1-second noise exposure by the duration needed to drive on pile (provided in Table 1), then by the number of piles to be driven in a given day, as shown in the equation below:

$$(6)\quad E_{sum} = \sum_{i=1}^{N} E_{1s,i} \Delta t_i$$

where E_{1s} is the 1-second noise exposure, and Δt is the duration (provided in Table 1) need to install 1 pile by vibratory piling.

Frequency-specific transmission losses, $TL(f)$, were then computed using practical spreading along with frequency-specific absorption coefficients that were computed with nominal seawater properties (*i.e.,* salinity = 35 psu, pH = 8.0) at 15 °C at the surface by

$$TL(f) = 15\log_{10}(R) + \alpha(f)R/1000 \qquad (7)$$

where $a(f)$ is dB/km, and R is the distance (radius) of the specific isopleth to the source in meters. For broadband sources such as those from pile driving, the transmission loss is the summation of the frequency-specific results.

Approach To Estimate Behavioral Zones

As mentioned earlier, isopleths to Level B behavioral zones are based on root-mean-square SPL (SPL_{rms}) that are specific for impulse (impact pile driving) and non-impulse (vibratory pile driving) sources. Distances to marine mammal behavior thresholds were calculated using a simple geometric spreading equation as shown in Equation (4).

For Level B harassment zones from vibratory pile driving of 30 inch and 36 inch piles, the ensonified zones are calculated based on practical spreading of back-calculated source level of 36 inch pile driving adjusted for 3 hammers operating concurrently by adding 5 dB. The results show that the 120 dB re 1 µPa isopleth is at 13.6 km. For Level B harassment zone from vibratory pile driving of 24″ piles, WSDOT conducted site measurements during Seattle test pile driving project using 24″ steel piles. The results show that underwater noise cannot be detected at a distance of 5 km (3 mi). Since this measurement was based on pile driving using 1 hammer, the Level B harassment zone for 24 inch steel pile

is adjusted by factoring in a 5 dB difference (see above) using the following equation, based on the inverse law of acoustic propagation (*i.e.,* dB difference in transmission loss is the inverse of distance difference in logarithm):

$$(5)\quad \left| dB_{difference} \right| = 15 \times \log 10 \left(\frac{R_{3\text{-hammer}}}{R_{1\text{-hammer}}} \right)$$

where $dB_{difference}$ is the 5 dB difference, $R_{3\text{-hammer}}$ is the distance from the pile where piling noise is no longer audible, and $R_{1\text{-hammer}}$ is the measured distance from the pile where piling noise is no longer audible, which is 5 km.

The result show that when using 3 vibratory hammers concurrently, the distance from the pile to where pile noise is no longer audible is 11 km.

A summary of the measured and modeled harassment zones is provided in Table 5.

TABLE 5—DISTANCES TO HARASSMENT ZONES

Pile type, size & pile driving method	Injury zone (m)					Behavior zone (m)
	LF cetacean	MF cetacean	HF cetacean	Phocid	Otariid	
Vibratory 14″ timber	8	0.7	11.9	4.9	0.3	1000
Vibratory 24″ steel	255	65	1365	115	10	11000
Vibratory 30″ & 36″ steel	285	65	1455	125	10	13600
Impact 30″ & 36″ steel	1845	75	2835	465	35	1200

Estimated Takes From Proposed Construction Activity

Incidental take is estimated for each species by estimating the likelihood of a marine mammal being present within a Level A or Level B harassment zone during active pile driving or removal. The Level A calculation includes a duration component, along with an assumption (which can lead to overestimates in some cases) that animals within the zone stay in that area for the whole duration of the pile driving activity within a day. For all marine mammal species except harbor seals and California sea lions, estimated takes are calculated based on ensonified area for a specific pile driving activity multiplied by the marine mammal density in the action area, multiplied by the number of pile driving (or removal) days. Marine mammal density data are from the U.S. Navy Marine Species Density Database (Navy 2015). Harbor seal and California sea lion takes are based on observations near Seattle, since these data provide the best information on distribution and presence of these species that are often associated with nearby haulouts (see below). 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—SUMMARY OF MARINE MAMMAL DENSITY, DAYS AND LEVEL A AND LEVEL B ENSONIFIED AREAS FROM DIFFERENT PILE DRIVING AND REMOVAL ACTIVITIES

		Vibratory 14″ timber	Vibratory 24″ steel	Vibratory 30″ steel	Vibratory 36″ steel	Impact 30″ steel	Impact 36″ steel
Days		11	15	3	26	2	26
Species/density (km^{-2})		Level A areas (m^2)					
Pacific harbor seal	1.219000	50	41,548	49,087	49,087	394,075	394,075
California sea lion	0.12660	0.126	314	314	314	3,849	3,849
Steller sea lion	0.036800	0.126	314	314	314	3,849	3,849
Killer whale, transient	0.020240	50	13,273	13,273	13,273	17,672	17,672
Killer whale, Southern Resident	0.002373	50	13,273	13,273	13,273	17,672	17,672
Gray whale	0.000510	154	153,311	189,384	189,384	4,129,836	4,129,836
Humpback whale	0.00070	154	153,311	189,384	189,384	4,129,836	4,129,836
Harbor porpoise	0.156000	13,273	2,547,906	2,678,940	2,678,940	8,190,639	8,190,639
Dall's porpoise	0.047976	13,273	2,547,906	2,678,940	2,678,940	8,190,639	8,190,639
Species/density (km^{-2})		Level B areas (km^2)					
Pacific harbor seal	1.219000	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
California sea lion	0.12660	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Steller sea lion	0.036800	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Killer whale, transient	0.020240	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Killer whale, Southern Resident	0.002373	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Gray whale	0.000510	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Humpback whale	0.00070	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Harbor porpoise	0.156000	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124
Dall's porpoise	0.047976	5,419,792	58,338,838	74,290,934	74,290,934	1,926,124	1,926,124

The Level A take total was further adjusted by subtracting animals expected to occur within the exclusion zone, where pile driving activities are suspended when an animal is observed in or approaching the zone (see Mitigation section). Further, the number of Level B takes was adjusted to exclude those already counted for Level A takes.

The harbor seal take estimate is based on local seal abundance information off the Seattle area from WSDOT's Seattle Slip 2 Batter Pile Project in 2012. Marine mammal visual monitoring during the Batter Pile Project indicates that a maximum of 6 harbor seals were observed in the general area of the Colman Dock project (WSDOT 2012). Based on a total of 83 pile driving days for the WSDOT Seattle Colman Dock project, it is estimated that up to 498 harbor seals could be exposed to noise levels associated with ''take''. Since 28 days would involve impact pile driving of 30 inch and 36 inch steel piles with Level A zones beyond shutdown zones (465 m vs 160 m shutdown zone), we consider that 168 harbor seals exposed during these 28 days would experience Level A harassment.

The California sea lion take estimate is based on local sea lion abundance information from the City of Seattle's Elliott Bay Sea Wall Project (City of Seattle, 2014). Marine mammal visual monitoring during the Sea Wall Project indicates that up to 15 sea lions were observed in the general area of the Colman Dock project at any given time (City of Seattle 2014). Based on a total of 83 pile driving days for the WSDOT Seattle Colman Dock project, it is estimated that up to 1245 California sea lions could be exposed to noise levels associated with ''take''. Since the Level A zones of otarrids are all very small (<35m, Table 5), we do not consider it likely that any sea lions would be taken by Level A harassment. Therefore, all California sea lion takes estimated here are expected to be taken by Level B harassment.

A summary of estimated marine mammal takes is listed in Table 7.

TABLE 7—ESTIMATED NUMBERS OF MARINE MAMMALS THAT MAY BE EXPOSED TO RECEIVED NOISE LEVELS THAT CAUSE LEVEL A OR LEVEL B HARASSMENT

Species	Estimated Level A take	Estimated Level B take	Estimated total take	Abundance	Percentage
Pacific harbor seal	168	330	498	11,036	4.51%
California sea lion	0	1245	1245	296,750	0.42
Steller sea lion	0	114	114	71,562	0.16
Killer whale, transient	0	7	7	243	3
Killer whale, Southern Resident	0	0	0	78	0
Gray whale	1	15	16	20,990	0.08
Humpback whale	1	2	3	1,918	0.15
Harbor porpoise	195	1657	1852	11,233	16.49
Dall's porpoise	16	137	153	25,750	0.59

Mitigation

Under section 101(a)(5)(D) of the MMPA, NMFS shall prescribe the ''permissible methods of taking by harassment 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 subsistence uses.''

To ensure that the ''least practicable adverse impact'' will be achieved, NMFS evaluates mitigation measures in consideration of the following factors in relation to one another: 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, their habitat, and their availability for subsistence uses (latter where relevant); the proven or likely efficacy of the measures; and the practicability of the measures for applicant implementation.

For WSDOT's proposed Seattle Multimodal Project at Colman Dock, WSDOT worked with NMFS and proposed the following mitigation measures to minimize the potential impacts to marine mammals in the project vicinity. The primary purposes of these mitigation measures are to minimize sound levels from the activities, to monitor marine mammals within designated zones of influence (ZOI) and exclusion zones corresponding to NMFS' current Level B and Level A harassment thresholds and, to implement shut-down measures for certain marine mammal species when they are detected approaching the exclusion zones or actual take numbers are approaching the authorized take numbers (if the IHA is issued).

Time Restriction

Work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted. In addition, all in-water construction will be limited to the period between August 1, 2017, and February 15, 2018.

Use of Noise Attenuation Devices

To reduce impact on marine mammals, WSDOT shall use a marine pile driving energy attenuator (*i.e.,* air bubble curtain system), or other equally effective sound attenuation method (*e.g.,* dewatered cofferdam) for all impact pile driving.

Establishing and Monitoring Level A, Level B Harassment Zones, and Exclusion Zones

Before the commencement of in-water construction activities, which include impact pile driving and vibratory pile driving and pile removal, WSDOT shall establish Level A harassment zones where received underwater SPLs or SEL_{cum} could cause PTS (see above).

WSDOT shall also establish Level B harassment zones where received underwater SPLs are higher than 160 dB_{rms} and 120 dB_{rms} re 1 µPa for impulse noise sources (impact pile driving) and non-impulses noise sources (vibratory pile driving and pile removal), respectively.

WSDOT shall establish a maximum 160-m Level A exclusion zone for all marine mammals. For Level A harassment zones that are smaller than 160 m from the source, WSDOT shall establish exclusion zones that correspond to the estimated Level A harassment distances, but shall not be less than 10 m.

A summary of exclusion zones is provided in Table 8.

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

Pile type, size & pile driving method	Exclusion zone (m)				
	LF cetacean	MF cetacean	HF cetacean	Phocid	Otariid
14″ timber pile, vibratory	10	10	12	10	10
24″ steel pile, vibratory	255	65	160	115	10
30″ & 36″ steel pile, vibratory	285	65	160	125	10
30″ & 36″ steel pile, impact	500	75	160	160	35

NMFS-approved protected species observers (PSO) shall conduct an initial survey of the exclusion zones to ensure that no marine mammals are seen within the zones before impact pile driving 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 30 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, 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.

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 removal, or if pile driving has ceased for more than 30 minutes.

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 7.

WSDOT shall also implement shutdown measures if southern resident killer whales are sighted within the vicinity of the project area and are approaching the Level B harassment zone (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 Southern Resident killer whale or a transient killer whale, it shall be assumed to be a Southern Resident killer whale and WSDOT shall implement the shutdown measure.

If a Southern Resident killer whale or an unidentified killer 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 (if issued) 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.

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 U.S. 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 applicant's proposed measures, as well as other measures considered by NMFS, all of which are described above, NMFS has preliminarily determined that the proposed mitigation measures provide the means effecting the least practicable adverse impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

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 action area (*e.g.,* presence, abundance, distribution, density).
- Nature, scope, or context of likely marine mammal exposure to potential stressors/impacts (individual or cumulative, acute or chronic), through better understanding of: (1) Action or environment (*e.g.,* source characterization, propagation, ambient noise); (2) affected species (*e.g.,* life history, dive patterns); (3) co-occurrence of marine mammal species with the action; or (4) biological or behavioral context of exposure (*e.g.,* age, calving or feeding areas).
- Individual marine mammal responses (behavioral or physiological) to acoustic stressors (acute, chronic, or cumulative), other stressors, or cumulative impacts from multiple stressors.
- How anticipated responses to stressors impact either: (1) Long-term fitness and survival of individual marine mammals; or (2) populations, species, or stocks.
- Effects on marine mammal habitat (*e.g.,* marine mammal prey species, acoustic habitat, or other important physical components of marine mammal habitat).
- Mitigation and monitoring effectiveness.

Proposed Monitoring Measures

WSDOT shall employ NMFS-approved PSOs to conduct marine mammal monitoring for its Seattle Multimodal 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. 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 inbiological 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 × 42 power). Due to the different sizes of ZOIs from different pile sizes, several different ZOIs and different monitoring protocols corresponding to a specific pile size will be established.

- During 14 inch timber pile removal, two land-based PSOs will monitor the exclusion zones and Level B harassment zone.
- During vibratory pile driving of 24 inch, 30 inch, and 36 inch steel piles, 5 land-based PSOs and two vessel-based PSOs on ferries will monitor the Level A and Level B harassment zones.
- During impact pile driving of 30 inch and 36 inch steel piles, 4 land-based PSOs will monitor the Level A and Level B harassment zones.

Locations of the land-based PSOs and routes of monitoring vessels are shown in WSDOT's Marine Mammal Monitoring Plan, which is available online at *www.nmfs.noaa.gov/pr/permits/incidental/construction.htm.*

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.

Proposed Reporting Measures

WSDOT would be required to submit a draft monitoring report within 90 days after completion of the construction work or the expiration of the IHA (if issued), whichever comes earlier. 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 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, etc.), as well as effects on habitat, the status of the affected stocks, and the likely effectiveness of the mitigation. 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 these analyses 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 Project at Colman Dock activities 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 mammal species (168 harbor seals, 1 gray whale, 1 humpback whale, 195 harbor porpoises, and 16 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 involve into PTS. Furthermore, Level A take estimates were 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).

For the rest of the three marine mammal species, takes that are anticipated and proposed to be 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. In addition, take calculation of harbor porpoise is based on density provided U.S. Navy Marine Species Density Database (Navy 2015), which is more relevant to open water area of the Puget Sound. Finally, harbor porpoise abundance in the Seattle area based on aerial survey showed that their abundance is lower (Jefferson *et al.,* 2016).

There is no ESA designated critical habitat in the vicinity of WSDOT's proposed Seattle Multimodal Project at Colman Dock area.

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**'' section. 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; 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, WSDOT's proposed construction activity at Colman Dock would not adversely affect marine mammal habitat.

Based on the analysis contained herein of the likely effects of the specified activity on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS preliminarily 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, NMFS compares the number of individuals anticipated to be taken to the most appropriate estimation of the relevant species or stock size in our determination of whether an authorization would be limited to small numbers of marine mammals.

The takes represent less than 17 percent of all populations or stocks with known abundance potentially impacted (see Table 6 in this document). These take estimates represent the percentage of each species or stock that could be taken by both Level A and Level B harassments. In general, the numbers of marine mammals estimated to be taken are small proportions of the total populations of the affected species or stocks.

The most recent abundance estimate of Washington northern inland water stock of harbor seal was assessed at 11,036 (Carretta *et al.,* 2015). The actual number of harbor seal is expected to be much higher since animals could be under the water or in areas not covered by the survey (Carretta *et al.,* 2015). Nevertheless, consider that the take calculation is based on daily cumulative counts of animals that are exposed multiplied by the activity days, a single animal could be exposed in different days and thus be considered as multiple takes. Therefore, we believe that the numbers of harbor seals being potentially taken are low in terms of their stock sizes.

Based on the analysis contained herein of the proposed activity (including the proposed mitigation and monitoring measures) and the anticipated take of marine mammals, NMFS preliminarily 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 Subsistence 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)

Issuance of an MMPA authorization requires compliance with the ESA for any species that are listed or proposed as threatened or endangered.

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 the humpback whale stock, the Mexico DPS and the Central America DPS, are listed as threatened and endangered under the ESA, respectively. NMFS' Permits and Conservation Division has initiated consultation with NMFS' Protected Resources Division under section 7 of the ESA on the issuance of an IHA to WSDOT under section 101(a)(5)(D) of the MMPA for this activity.

NMFS will conclude the ESA consultation prior to reaching a determination regarding the proposed issuance of the authorization.

National Environmental Policy Act (NEPA)

Issuance of an MMPA 101(a)(5)(D) authorization requires compliance with the National Environmental Policy Act.

NMFS preliminary determined the issuance of the proposed 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 the 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.

We will review all comments submitted in response to this notice prior to making a final decision on the IHA request.

Proposed Authorization

As a result of these preliminary determinations, NMFS proposes to issue an IHA to the Washington State Department of Transportation for conducting ferry terminal construction at Colman Dock in Seattle Washington, provided the previously mentioned mitigation, monitoring, and reporting requirements are incorporated. This section contains a draft of the IHA itself. The wording contained in this section is proposed for inclusion in the IHA (if issued).

The proposed IHA language is provided next.

1. This Authorization is valid from August 1, 2017, through July 31, 2018.

2. This Authorization is valid only for activities associated with in-water construction work at the Seattle Multimodal Project at Colman Dock in the State of Washington.

3. (a) The species authorized taking by, Level A and Level B harassment and in the numbers shown in Table 7 are: Pacific harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), Steller sea lion (*Eumetopias jubatus*), killer whale (*Orcinus orca*), gray whale (*Eschrichtius robustus*), humpback whale (*Megaptera novaeangliae*), harbor porpoise (*Phocoena phocoena*), and Dall's porpoise (*P. dalli*).

(b) The authorization for taking by harassment is limited to the following acoustic sources and from the following activities:

- Impact pile driving;
- Vibratory pile driving; and
- Vibratory pile removal.

4. Prohibitions.

(a) The taking, by incidental harassment only, is limited to the species listed under condition 3(a) above and by the numbers listed in Table 6 of this notice. The taking by death of these species or the taking by harassment, injury or death of any other species of marine mammal is prohibited unless separately authorized or exempted under the MMPA and may result in the modification, suspension, or revocation of this Authorization.

(b) The taking of any marine mammal is prohibited whenever the required protected species observers (PSOs), required by condition 7(a), are not present in conformance with condition 7(a) of this Authorization.

5. Mitigation.

(a) Time Restriction.

In-water construction work shall occur only during daylight hours.

(b) Establishment of Level A and Level B Harassment Zones.

(A) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish Level A harassment zones. The modeled Level A zones are summarized in Table 5.

(B) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish Level B harassment zones. The modeled Level B zones are summarized in Table 5.

(C) Before the commencement of in-water pile driving/removal activities, WSDOT shall establish exclusion zones. The proposed exclusion zones are summarized in Table 8.

(c) Monitoring of marine mammals shall take place starting 30 minutes before pile driving begins until 30 minutes after pile driving ends.

(d) Soft Start.

(i) When there has been downtime of 30 minutes or more without pile driving, the contractor will initiate the driving with ramp-up procedures described below.

(ii) 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 removal, or if pile driving has ceased for more than 30 minutes.

(e) Shutdown Measures.

(i) WSDOT shall implement shutdown measures if a marine mammal is detected within or to be approaching the exclusion zones provided in Table 7 of this notice.

(ii) WSDOT shall implement shutdown measures if southern resident killer whales (SRKWs) are sighted within the vicinity of the project area and are approaching the Level B harassment zone (zone of influence, or ZOI) during in-water construction activities.

(iii) 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 identified in 6(e)(ii).

(iv) If a SRKW enters the ZOI undetected, in-water pile driving or pile removal shall be suspended until the SRKW exits the ZOI to avoid further level B harassment.

(v) WSDOT shall implement shutdown measures if the number of any allotted marine mammal takes reaches the limit under the IHA, if such marine mammals are sighted within the vicinity of the project area and are approaching the Level B harassment zone during pile removal activities.

(f) Coordination with Local Marine Mammal Research Network.

Prior to the start of pile driving, WSDOT will contact the Orca Network and/or Center for Whale Research to get real-time information on the presence or absence of whales before starting any pile driving.

6. Monitoring.

(a) Protected Species Observers.

WSDOT shall employ NMFS-approved PSOs to conduct marine mammal monitoring for its construction project. NMFS-approved PSOs will meet the following qualifications.

(i) Independent observers (*i.e.,* not construction personnel) are required.

(ii) At least one observer must have prior experience working as an observer.

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

(iv) 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.

(v) NMFS will require submission and approval of observer CVs.

(b) Monitoring Protocols: PSOs shall be present on site at all times during pile removal and driving.

(i) A 30-minute pre-construction marine mammal monitoring will be required before the first pile driving or pile removal of the day. A 30-minute post-construction marine mammal monitoring will be required after the last pile driving or pile removal of the day. If the constructors take a break between subsequent pile driving or pile removal for more than 30 minutes, then additional 30-minute pre-construction marine mammal monitoring will be required before the next start-up of pile driving or pile removal.

(iii) Marine mammal visual monitoring will be conducted for different ZOIs based on different sizes of piles being driven or removed, as shown

in maps in WSDOT's Marine Mammal Monitoring Plan.

(A) During 14 inch timber pile removal, two land-based PSO will monitor the exclusion zones and Level B harassment zone.

(B) During vibratory pile driving of 24 inch, 30 inch, and 36 inch steel piles, 5 land-based PSOs and two vessel-based PSOs on ferries will monitor the Level A and Level B harassment zones.

(C) During impact pile driving of 30 inch and 36 inch steel piles, 5 land-based PSOs and one vessel-based PSO on a ferry will monitor the Level A and Level B harassment zones.

(iv) If marine mammals are observed, the following information will be documented:

(A) Species of observed marine mammals;

(B) Number of observed marine mammal individuals;

(C) Behavior of observed marine mammals;

(D) Location within the ZOI; and

7. Reporting:

(a) WSDOT shall provide NMFS with a draft monitoring report within 90 days of the conclusion of the construction work or within 90 days of the expiration of the IHA, whichever comes first. This report shall detail the monitoring protocol, summarize the data recorded during monitoring, and estimate the number of marine mammals that may have been harassed.

(b) If comments are received from NMFS Office of Protected Resources on the draft report, a final report shall be submitted to NMFS within 30 days thereafter. If no comments are received from NMFS, the draft report will be considered to be the final report.

(c) In the unanticipated event that the construction activities clearly cause the take of a marine mammal in a manner prohibited by this Authorization (if issued), such as an injury, serious injury, or mortality, WSDOT shall immediately cease all operations and immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators. The report must include the following information:

(i) Time, date, and location (latitude/longitude) of the incident;

(ii) description of the incident;

(iii) status of all sound source use in the 24 hours preceding the incident;

(iv) environmental conditions (*e.g.,* wind speed and direction, sea state, cloud cover, visibility, and water depth);

(v) description of marine mammal observations in the 24 hours preceding the incident;

(vi) species identification or description of the animal(s) involved;

(vii) the fate of the animal(s); and

(viii) photographs or video footage of the animal (if equipment is available).

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

(E) In the event that WSDOT 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), WSDOT will immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators. The report must include the same information identified above. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with WSDOT to determine whether modifications in the activities are appropriate.

(F) In the event that WSDOT 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), WSDOT shall report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinators, within 24 hours of the discovery. WSDOT shall provide photographs or video footage (if available) or other documentation of the stranded animal sighting to NMFS and the Marine Mammal Stranding Network. WSDOT can continue its operations under such a case.

8. This Authorization may be modified, suspended or withdrawn if the holder fails to abide by the conditions prescribed herein or if NMFS determines the authorized taking is having more than a negligible impact on the species or stock of affected marine mammals.

9. A copy of this Authorization must be in the possession of each contractor who performs the construction work at the Seattle Colman Dock.

Request for Public Comments

We request comment on our analyses, the draft authorization, and any other aspect of this Notice of Proposed IHA for the WSDOT's Seattle Multimodal project at Colman Dock. Please include with your comments any supporting data or literature citations to help inform our final decision on the request for MMPA authorization.

Dated: March 23, 2017.

Donna S. Wieting,

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

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DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XF269

Meeting of the Columbia Basin Partnership Task Force of the Marine Fisheries Advisory Committee

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

ACTION: Notice of open public meeting.

SUMMARY: This notice sets forth the proposed schedule and agenda of a forthcoming meeting of the Marine Fisheries Advisory Committee's (MAFAC's) Columbia Basin Partnership Task Force (CBP Task Force). The CBP Task Force will discuss the issues outlined in the **SUPPLEMENTARY INFORMATION** below.

DATES: The meeting will be held April 18, 2017, from 8:00 a.m. to 5:00 p.m. and on April 19, 2017, from 8:00 a.m. to 12:30 p.m.

ADDRESSES: The meeting will be held at the Hotel Monaco, 506 SW Washington Street, Portland, OR 97204.

FOR FURTHER INFORMATION CONTACT: Katherine Cheney; NFMS West Coast Region (503) 231–6730; email: *Katherine.Cheney@noaa.gov.*

SUPPLEMENTARY INFORMATION: Notice is hereby given of a meeting of MAFAC's CBP Task Force. The MAFAC was established by the Secretary of Commerce (Secretary) and since 1971, advises the Secretary on all living marine resource matters that are the responsibility of the Department of Commerce. The complete MAFAC charter and summaries of prior MAFAC meetings are located online at *http://www.nmfs.noaa.gov/ocs/mafac/.* The CBP Task Force reports to MAFAC and is being convened to discuss and develop recommendations for long-term goals to meet Columbia Basin salmon recovery, conservation needs, and harvest opportunities. These goals will be developed in the context of habitat capacity and other factors that affect