Alternative 4: Enhanced Implementation (Preferred Alternative): Alternative 4, the enhanced implementation alternative, is the Preferred Alternative. This alternative would encompass all the activities under Alternative 3, with the additional option to temporarily translocate weaned pups from the NWHI to the MHI to improve survival. At age three years, surviving translocated seals would be returned to the NWHI.

Alternative 4 encompasses the range of actions considered most promising to prevent the extinction of the species. Before any translocation between the NWHI and MHI would be attempted, extensive outreach and engagement with local stakeholders would be conducted, and programs to reduce seal-human interactions, including interactions between seals and fishing gear, would be developed and implemented.

Public Involvement

Comments will be accepted at public hearings (see below) and during the public comment period, and must be submitted to NMFS by October 17, 2011 (see FOR FURTHER INFORMATION CONTACT). We request that you include in your comments: (1) Your name, address, and affiliation (if any); and (2) background documents to support your comments as appropriate.

Public hearings will take place on the following dates, times, and locations:
1. Monday, September 12, 2011, 5:30 p.m.–8:30 p.m., Central Union Church, 1660 South Beretania Street, Honolulu, O’ahu.
2. Tuesday, September 13, 2011, 6 p.m.–8:30 p.m., Hale Maunule Home Pumehana, 290 Kolapa Place, Kaunakakai, Moloka’i.
3. Wednesday, September 14, 2011, 6 p.m.–9 p.m., Mokupāpapa Discovery Center, 308 Kamehameha Avenue, Suite 109, Hilo, Hawai’i.
4. Thursday, September 15, 2011, 5:30 p.m.–8:30 p.m., Kihei Community Center, 303 East Lipoa Street, Kihei, Maui.
5. Saturday, September 17, 2011, 9 a.m.–12 p.m. and 4 p.m.–7 p.m., Wilcox Elementary School, 4319 Hardy Street, Līhu’e, Kaua’i.

Special Accommodations

These meetings are accessible to people with disabilities. Requests for sign language interpretation or other auxiliary aids should be directed to Rachel Sprague, (808) 944–2200 (phone) or (808) 973–2941 (fax), at least 5 days before the scheduled meeting date.


Dated: August 11, 2011.

Samuel D. Rauch III,
Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

[FR Doc. 2011–21274 Filed 8–18–11; 8:45 am]
BILLING CODE 3510–22–P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

RIN 0648–XA289

Small Takes of Marine Mammals Incidental to Specified Activities; Pile Driving in the Columbia River, WA

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

ACTION: Notice; proposed incidental harassment authorization; request for comments.

SUMMARY: NMFS has received a complete and adequate application from the Port of Vancouver, USA (Port) for an Incidental Harassment Authorization (IHA) to take marine mammals, by harassment, incidental to pile driving during construction of the Terminal 5 Bulk Potash Handling Facility. Pursuant to the Marine Mammal Protection Act (MMPA), NMFS is proposing to issue an IHA to incidentally harass, by Level B harassment only, three species of marine mammals during the specified activity within a specific geographic area and is requesting comments on its proposal.

DATES: Comments and information must be received no later than September 19, 2011.

ADDRESSES: Comments on the application and this proposal should be addressed to Michael Payne, Chief, Permits, Conservation and Education Division, Office of Protected Resources, National Marine Fisheries Service, 1315 East-West Highway, Silver Spring, MD 20910–3225. The mailbox address for providing email comments is ITP.Magliocca@noaa.gov. NMFS is not responsible for e-mail comments sent to addresses other than the one provided here. Comments sent via e-mail, including all attachments, must not exceed a 10-megabyte file size.

Instructions: All comments received are a part of the public record and will generally be posted to http://www.nmfs.noaa.gov/pr/permits/incidental.htm without change. All Personal Identifying Information (for example, name, address, etc.) voluntarily submitted by the commenter may be publicly accessible. Do not submit Confidential Business Information or otherwise sensitive or protected information.

A copy of the application containing a list of the references used in this document may be obtained by writing to the address specified above, telephoning the contact listed below (see FOR FURTHER INFORMATION CONTACT), or visiting the internet at: http://www.nmfs.noaa.gov/pr/permits/incidental.htm. Documents cited in this notice may also be viewed, by appointment, during regular business hours, at the aforementioned address.

FOR FURTHER INFORMATION CONTACT: Michelle Magliocca, Office of Protected Resources, NMFS, (301) 427–8401.

SUPPLEMENTARY INFORMATION:

Background

Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 et seq.) direct the Secretary of Commerce to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specific geographical region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s), will not have an unmitigable adverse impact on the availability of the species or stock(s) for subsistence uses (where relevant), and if the permissible methods of taking and requirements pertaining to the mitigation, monitoring and reporting of such takings are set forth. NMFS has defined “negligible impact” in 50 CFR 216.103 as “* * * an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.”

Section 101(a)(5)(D) of the MMPA established an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by harassment. Section 101(a)(5)(D) further established a 45-day time limit for NMFS’ review of an application, followed by a 30-day public notice and comment period on any proposed authorizations for the incidental harassment of marine mammals. Within 45 days of the close of the comment period, NMFS must either issue or deny the authorization.
Except with respect to certain activities not pertinent here, the MMPA defines “harassment” as:

any act of pursuit, torment, or annoyance which (i) has the potential to injure a marine mammal or marine mammal stock in the wild [Level A harassment]; or (ii) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Summary of Request

On February 22, 2011, NMFS received an application from the Port of Vancouver, USA (Port), requesting an IHA for the take, by Level B harassment, of small numbers of Pacific harbor seals (Phoca vitulina richardii), California sea lions (Zalophus californianus), and Steller sea lions (Eumetopius jubatus) incidental to pile driving activities conducted during the construction of the Terminal 5 Bulk Potash Handling Facility. Upon receipt of additional information and a revised application (submitted May 6, 2011), NMFS determined the application complete and adequate on June 7, 2011. The applicant proposes to lease part of Terminal 5, located at the Port of Vancouver, for the purposes of constructing and operating a bulk potash handling facility on the Columbia River. The facility would allow shipping of potash (salts containing potassium in water-soluble form) to global markets. The proposed project would require pile installation of up to 203 steel piles and removal of 177 wood piles. Because elevated sound levels from pile driving have the potential to result in marine mammal harassment, NMFS is proposing to issue an IHA for take incidental to the specified activity.

Description of the Specified Activity

The proposed project would involve construction of a potash handling facility along the Columbia River in Washington, Virginia. The facility would accept potash shipped by rail from potash mines in Saskatchewan, Canada. On-site infrastructure is proposed to enable the unloading of rail cars into on-site storage, and the conveyance of potash to vessels at a new berth to be constructed on the Columbia River adjacent to the facility. The on-site infrastructure would include dedicated rail facilities and the construction and installation of materials handling equipment, storage structures, utilities, and internal access roads on the site, a marine berth with ship loaders, and other related ancillary infrastructure.

To support the new facility, a maximum of 203 steel piles would be installed at the proposed project site (specifically, Terminal 5) using vibratory and impact pile driving. These piles would be necessary for construction of a ship loading system, marine berthing facilities, and a new stormwater outfall system. A breakdown of pile size and associated activity are shown in Table 1.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Number of piles (maximum)</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation of permanent piles for ship loader and berth</td>
<td>100, 36- to 40-in (914- to 1,016-mm) steel pipe piles.</td>
<td>River mile 103.3</td>
</tr>
<tr>
<td>Installation and removal of temporary piles during construction of ship loader and berth</td>
<td>95, 18- to 24-in (457- to 610-mm) steel pipe piles</td>
<td>River mile 103.3</td>
</tr>
<tr>
<td>Installation of permanent piles for stormwater outfall</td>
<td>8, 16-in steel H-piles.</td>
<td>River mile 105</td>
</tr>
<tr>
<td>Removal of old piles</td>
<td>177, 16-in wood piles</td>
<td>River mile 105</td>
</tr>
</tbody>
</table>

Of the 100, 36- to 40-in (914- to 1,016-mm) steel pipe piles, 36 would be used for quadrant beams and pivot supports, 42 would be used for the mooring and berthing dolphins and platform, 10 would be used for access trestles, and the remaining 12 would be intended as a contingency should additional piles be required. Approximately two piles would be installed per day over a four-month period. Although the exact duration of pile driving would vary depending on the installation procedures and geotechnical conditions, the applicant estimates that each permanent pile would require between two and three hours of vibratory installation and between one and two hours of impact driving to install. To the extent possible, all piles would be installed with an APE Model 200 (or similar) vibratory hammer; however, it may be necessary to seat a pile using an impact hammer. The temporary piles (16- to 24-in diameter) would be driven solely with a vibratory hammer. Should an impact hammer be necessary for finishing the installation of permanent piles, the Port would use a DELMAG D46–32 with 60–80 maximum blows per foot, a DELMAG D80 with 20–30 maximum blows per foot, or a similar model. Sound attenuation devices, such as a bubble curtain, would be used during any impact hammering.

In addition to pile installation, a total of 272 piles would also be removed using vibratory extraction or a crane. These consist of the 95 temporary piles and 177 old wood piles upstream of Terminal 5 (Table 1). The 177 wood piles are located at Terminal 2, about two miles upstream from Terminal 5, and do not have much structural capacity. A pneumatic underwater chainsaw may be used if a pile breaks in the process, but associated noise is expected to be negligible. Above-water work would also be necessary to complete construction of each project component. There could be barges in the water to support construction activities; however, these would be concentrated in the direct vicinity of Terminal 5. Because pile repair, pile removal, and use of barges do not release loud sounds into the environment, marine mammal harassment from these activities is not anticipated.

Region of Activity

The proposed activity would occur within the Lower Columbia River sub-basin. The Columbia River and its tributaries are the dominant aquatic system in the Pacific Northwest, originating in Canada’s Rocky Mountains and flowing approximately 1,200 mi (1,931 km) to the Pacific Ocean. Saltwater intrusion from the Pacific Ocean extends approximately 23 mi (37 km) upstream from the river mouth at Astoria, Oregon and coastal tides influence the flow rate and river level up to the Bonneville Dam at river mile 146. The proposed construction would take place at 5701 NW Lower River Road in Vancouver, Washington, about 3 mi (4.8 km) northwest of downtown Vancouver, Washington. The area is composed of submerged, tidal, nearshore, and upland lands along a 2,300-ft (701-m) long section on the north bank of the Columbia River. The proposed project site is centered around river mile 103.3, a reach of the Columbia River that is about 3,000 ft (914 m) wide on average, but would also include additional pile removal at river mile 105. A heavy industrial site, this
area has been used since the 1940s for aluminum smelting as well as for the fabrication and outdoor storage of aluminum ingots, but is currently used for storage of windmill components.

**Dates of Activity**

The Washington Department of Fish and Wildlife's recommended in-water work window for this area is November 1 through February 28. Timing restrictions such as this are used to avoid in-water work when listed species are most likely to be present. Proposed pile installation and removal activities are scheduled to occur between November 1, 2012 and February 28, 2013, in agreement with the state's recommendation.

**Sound Propagation**

For background, sound is a mechanical disturbance consisting of minute vibrations that travel through a medium, such as air or water, and is generally characterized by several variables. Frequency describes the sound's pitch and is measured in hertz (Hz) or kilohertz (kHz), while sound level describes the sound's loudness and is measured in decibels (dB). Sound level increases or decreases exponentially with each dB of change. For example, 10 dB yields a sound level 10 times more intense than 1 dB, while a 20 dB level equates to 100 times more intense, and a 30 dB level is 1,000 times more intense. Sound levels are compared to a reference sound pressure (micro-Pascal) to identify the medium. For air and water, these reference pressures are “re: 20 μPa” and “re: 1 μPa,” respectively. Root mean square (RMS) is the quadratic mean sound pressure over the duration of an impulse. RMS is calculated by squaring all of the sound amplitudes, averaging the squares, and then taking the square root of the average (Urick, 1975). RMS accounts for both positive and negative values; squaring the pressures makes all values positive so that they may be accounted for in the summation of pressure levels (Hastings and Popper, 2005). This measurement is often used in the context of discussing behavioral effects, in part because behavioral effects, which often result from auditory cues, may be better expressed through averaged units rather than by peak pressures.

Data from a Washington Department of Transportation monitoring project at Port Townsend was used for the vibratory pile driving noise analysis (WSDOT, 2010b). There is a lack of information related to the size of the impact hammer and the resulting sound levels for 36- to 40-in (914- to 1,016-mm) pile installations; therefore, noise levels recorded for projects in Alameda, California and Port Townsend, Washington, using similar equipment were used to estimate sound levels (CalTrans, 2009; WSDOT, 2010b). Maximum sound levels for impact and vibratory pile driving are shown in Table 2. No reference underwater sound levels are available for this area, so 120 dB RMS (the lowest potential impact threshold for marine mammals) was used as a surrogate (WSDOT, 2010a). The Port applied a practical spreading loss model to calculate sound propagation, which assumes that noise attenuates at a rate of 4.5 dB per doubling distance, and this attenuation rate increases to 10 dB per doubling distance beyond 0.6 mile (1 km) (WSDOT, 2010a). Using this model, the largest noise impact zone is expected to result from vibratory pile driving of 36- to 40-in (914- to 1,016-mm) steel pipe piles. It may take up to 7 miles (11 km) for underwater sound to attenuate to below 120 dB. Because of the project area's location on a river bend and across from Hayden Island, sound transmission will be stopped by land masses much earlier in certain directions. In-air sound from pile driving also has the potential to affect marine mammals. However, in-air sound is not a concern here because there are no pinniped haul-out sites near the project area.

Table 2. Maximum sound levels for impact and vibratory installation of unattenuated steel piles.

<table>
<thead>
<tr>
<th>Pile diameter</th>
<th>Sound level (single strike)</th>
<th>Sound level (vibratory)</th>
</tr>
</thead>
<tbody>
<tr>
<td>36- to 40-inch (914- to 1,016-mm)</td>
<td>208 dB&lt;sub&gt;PEAK&lt;/sub&gt;</td>
<td>195 dB&lt;sub&gt;RMS&lt;/sub&gt;</td>
</tr>
</tbody>
</table>

1 CalTrans, 2009.
2 WSDOT, 2010b.

**Description of Marine Mammals in the Area of the Specified Activity**

Three marine mammal species have known distribution ranges that include the proposed project area: Pacific harbor seal, California sea lion, and Steller sea lion. These species may use the proposed project area as a seasonal transit corridor to and from the Bonneville Dam.

**Pacific Harbor Seals**

Pacific harbor seals reside in coastal and estuarine waters off Baja, California, north to British Columbia, west through the Gulf of Alaska, and in the Bering Sea. Harbor seals in the Columbia River are part of the Oregon/Washington coastal stock. The most recent NMFS stock assessment report estimated this stock to be at least 22,380 individuals and the population is likely at carrying capacity and no longer increasing (NMFS, 2007). The Oregon/Washington stock is not listed under the Endangered Species Act (ESA) nor considered depleted under the MMPA.

Harbor seals are infrequently observed as far upstream in the Columbia River as Vancouver. The nearest known haul-out is approximately 60 miles (97 km) downstream of the proposed project area. Since 2002, the Army Corps of Engineers has documented less than four harbor seals at Bonneville Dam (approximately 40 miles [64 km] from the proposed project area) and harbor seals potentially within the proposed project area will likely be transiting to or from Bonneville Dam.

**California Sea Lions**

California sea lions reside throughout the Eastern North Pacific Ocean in shallow coastal and estuarine waters, ranging from Central Mexico to British Columbia, Canada. Their primary breeding range extends from Central Mexico to the Channel Islands in Southern California. The U.S. stock abundance is estimated at 238,000 sea lions (NMFS, 2007). This stock is approaching carrying capacity and is reaching “optimum sustainable population” limits, as defined by the MMPA. California sea lions are not listed under the ESA nor considered depleted under the MMPA.

Historically, California sea lions are the most frequently observed pinnipeds at Bonneville Dam, with the largest number (104) of individuals recorded in 2003. There are no California sea lion haul-outs within the action area, so individuals present during construction would likely be passing through the area.

**Permittee**

The Port of Vancouver Authority, a Port having jurisdiction over the proposed project area, is the applicant of this notice of intent to conduct specified activities resulting in exposure of marine mammals to sound levels at the action area. The Port is conducting a supplemental environmental impact statement (SEIS) for the proposed project, intended to address potential environmental impacts of the project. This supplemental SEIS is anticipated to be available in the near future. The SEIS will include an assessment of marine mammal habitat and a detailed description of the project as well as an assessment of measures intended to avoid, reduce, and mitigate the effects of the specified activities on marine mammals, which are summarized below.

**Enclosure**

The Port of Vancouver Authority's SEIS chapter on marine mammals is attached to this notice.
Marine mammals produce sounds in various contexts and use sound for various biological functions including, but not limited to, (1) social interactions; (2) foraging; (3) orientation; and (4) predator detection. Interference with producing or receiving these sounds may result in adverse impacts. Audible distance or received levels will depend on the sound source, ambient noise, and the sensitivity of the receptor (Richardson et al., 1995). Marine mammal reactions to sound may depend on sound frequency, ambient sound, what the animal is doing, and the animal’s distance from the sound source (Southall et al., 2007).

### Potential Effects on Marine Mammals

The proposed action consists of both upland and marine components, but the only project component with the potential to take marine mammals is impact and vibratory pile driving. Elevated in-water sound levels from pile driving in the proposed project area may temporarily impact marine mammal behavior. Elevated in-air sound levels are not a concern because the nearest pinniped haul-out is approximately 60 miles (97 km) away. Marine mammals are continually exposed to many sources of sound. For example, lightning, rain, sub-sea earthquakes, and animals are natural sound sources throughout the marine environment. Marine mammals produce sounds in various contexts and use sound for various biological functions including, but not limited to, (1) social interactions; (2) foraging; (3) orientation; and (4) predator detection. Interference with producing or receiving these sounds may result in adverse impacts. Audible distance or received levels will depend on the sound source, ambient noise, and the sensitivity of the receptor (Richardson et al., 1995). Marine mammal reactions to sound may depend on sound frequency, ambient sound, what the animal is doing, and the animal’s distance from the sound source (Southall et al., 2007).

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**Hearing Impairment**

Marine mammals may experience temporary or permanent hearing impairment when exposed to loud sounds. Hearing impairment is classified by temporary threshold shift (TTS) and permanent threshold shift (PTS). There are no empirical data for when PTS first occurs in marine mammals; therefore, it must be estimated from when TTS first occurs and from the rate of TTS growth with increasing exposure levels. PTS is likely if the animal’s hearing threshold is reduced by ≥ 40 dB of TTS. PTS is considered auditory injury (Southall et al., 2007) and occurs in a specific frequency range and amount. Irreparable damage to the inner or outer cochlear hair cells may cause PTS; however, other mechanisms are also involved, such as exceeding the elastic limits of certain tissues and membranes in the middle and inner ears and resultant changes in the chemical composition of the inner ear fluids (Southall et al., 2007). Due to proposed mitigation measures and source levels in the proposed project area, NMFS does not expect marine mammals to be exposed to PTS levels.

**Temporary Threshold Shift (TTS)**

TTS is the mildest form of hearing impairment that can occur during exposure to a loud sound (Kryter, 1985). While experiencing TTS, the hearing threshold rises and a sound must be louder in order to be heard. TTS can last from minutes or hours to days, occurs 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 occur to varying degrees (e.g., an animal’s hearing sensitivity might be reduced by 6 dB or by 30 dB). For sound exposures at or somewhat above the TTS-onset threshold, hearing sensitivity recovers coincident with the sound ends. Few data on sound levels and durations necessary to elicit mild hearing impairment are available. This is due to the fact that marine mammals are rare and difficult to study in their natural environment. There are limited data available on the effects of non-pulse noise (for example, vibratory pile driving) on pinnipeds while underwater; however, field and captive studies to date collectively suggest that pinnipeds do not react strongly to exposures between 90 and 140 dB re: 1 μPa; no data exist from exposures at higher levels. Jacobs and Terhune (2002) observed wild harbor seal reactions to high-frequency acoustic harassment devices around nine sites. Seals came within 44 m of the active acoustic harassment devices and failed to demonstrate any behavioral response when received SPLs were estimated at 120–130 dB. In a captive study (Kastelein, 2006), scientists subjected a group of seals to non-pulse noise at SPL 152 dB re: 1 μPa for 25 minutes. In contrast, a tested sea lion exhibited TTS-onset at 174 dB re: 1 μPa under the same conditions as the harbor seal. Data from a single study on underwater pulses found no signs of TTS-onset in sea lions at exposures up to 183 dB re: 1 μPa (peak-to-peak) (Finneran et al., 2003).

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anticipated hydroacoustic levels between 174 and 195 dB root mean square. Southall et al. (2007) reviewed relevant data from studies involving pinnipeds exposed to pulse noise and concluded that exposures to 150 to 180 dB generally have limited potential to induce avoidance behavior.

Vibratory pile driving emits low-frequency broadband noise, which may be detectable by marine mammals within the proposed project area. The average value of 174 dB RMS from a Washington State Department of Transportation monitoring project of vibratory installation of a 36-inch (917-mm) steel pipe pile at Port Townsend was used in the noise analysis for vibratory pile installation (WSDOT, 2010b). There is a lack of information related to the size of the impact hammer and the resulting sound levels for 36- to 40-inch (914 to 1,016-mm) pile installations. Therefore, noise levels recorded for a project in Alameda, California that installed 40-inch (1,016-mm) steel pipe piles using a DELMAG D80 impact hammer were used in the noise attenuation analysis (Caltrans, 2009).

No impacts to pinniped reproduction are anticipated because there are no known haul-outs or rookeries within the proposed project area. NMFS expects any impacts to marine mammal behavior to be temporary, Level B harassment, for two reasons: first, animals may avoid the area around the hammer, thereby reducing their exposure to elevated sound levels; and second, pile driving does not occur continuously throughout the day; the vibratory hammer would operate for about 2–3 hours per pile and the impact hammer would operate for about 1–2 hours per pile. The applicant anticipates an average of two pileings to be driven per day, resulting in a total of 6–10 hours of pile driving within a 24-hour period. Disturbance to marine mammal behavior may be in the form of temporary avoidance or alteration of transiting near the pile driving location. In addition, because a vibratory hammer would be used as much as possible, and the 190 dB isopleth for the impact hammer is 70 ft (21 m), marine mammal injury or mortality is not likely. Impact pile driving would cease if a marine mammal is observed near or within the 190 dB isopleth. For these reasons, NMFS expects any changes to marine mammal behavior to be temporary and result in a negligible impact to affected species and stocks.

**Anticipated Effects on Habitat**

A small area of shallow water habitat with silt/sand substrate would be shaded by the proposed structure, but this was minimized by placing the structure at a height which would allow for some light penetration and by lessening the width of the structure. A deep water area and shallow water area with riprap substrate would also be shaded, but these habitats provide few functions and are plentiful in the surrounding ecosystem. Pile installation and removal would result in some disturbance of the river substrate; however, this disturbance is expected to be local and temporary. Pile driving activities (i.e., temporary ensionification) may impact prey species and marine mammals by resulting in avoidance or abandonment of the area; however these impacts are also expected to be local and temporary. Overall, the proposed activity is not expected to cause significant or long-term impacts on marine mammal habitat.

Essential Fish Habitat consultation is ongoing between the Port and NMFS for the proposed IHA, but will be concluded before NMFS makes a final determination on the issuance of an IHA.

**Proposed Mitigation**

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

The applicant has proposed the following mitigation measures to minimize adverse impacts to marine mammals:

**Temporal Restrictions**

The Washington Department of Fish and Wildlife recommends an in-water work window of November 1 through February 28, annually. This work window was designed to protect fish species, salmonid eggs and fry. However, by limiting pile driving activities to this period of time, the peak sea lion run to and from the Bonneville Dam is also avoided.

**Limited Use of an Impact Hammer**

To the extent possible, a vibratory hammer would be used to drive all piles. In the event that an impact hammer is necessary, a bubble curtain or similar noise attenuation method would be used as an attenuation device to reduce hydroacoustic sound levels to avoid the potential for injury.

**Establishment of an Exclusion Zone**

During all in-water impact pile driving, the Port would establish a preliminary marine mammal exclusion zone of 70 ft (21 m) around each pile to avoid exposure to sounds at or above 190 dB. The exclusion zone would be monitored during all impact pile driving to ensure that no marine mammals enter the 70 ft (21 m) radius. The purpose of this area is to prevent Level A harassment (injury) of any marine mammal species. A safety zone for vibratory pile driving is unnecessary to prevent Level A harassment as source levels would not exceed the Level A harassment threshold.

**Pile Driving Shut Down and Delay Procedures**

If a protected species observer sees a marine mammal within or approaching the exclusion zone prior to start of impact pile driving, the observer would notify the on-site construction manager (or other authorized individual), who would then be required to delay pile driving until the marine mammal has moved outside of the exclusion zone or if the animal has not been resighted within 15 minutes. If a marine mammal is sighted within or on a path toward the exclusion zone during pile driving, pile driving would cease until that animal has cleared and is on a path away from the exclusion zone or 15 minutes has lapsed since the last sighting.

**Soft-Start Procedures**

A “soft-start” technique would be used at the beginning of each pile installation to allow any marine mammal that may be in the immediate area to leave before the pile hammer reaches full energy. For vibratory pile driving, the soft-start procedure requires contractors to initiate noise from the vibratory hammer for 15 seconds at 40–60 percent reduced energy followed by a 1-minute waiting period. The procedure would be repeated two additional times before full energy may be achieved. For impact hammering, contractors would be required 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. The soft-start procedure would be conducted prior to driving each pile if vibratory hammering ceases for more than 30 minutes.

NMFS has carefully evaluated the applicant’s proposed mitigation measures and considered a range of other measures in the context of ensuring that NMFS prescribes the
means of effecting the least practicable adverse impact on the affected marine mammal species and stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another: (1) The manner in which, and the degree to which, the successful implementation of the measure is expected to minimize adverse impacts to marine mammals; (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and (3) the practicability of the measure for applicant implementation, including consideration of personnel safety, and practicality of implementation.

Based on our evaluation of the applicant’s proposed measures, NMFS has preliminarily determined that the proposed mitigation measures provide the means of effecting the least practicable adverse impacts on marine mammals species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance.

Proposed 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 IHAs 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.

The Port must designate at least one biologically-trained, on-site individual, approved in advance by NMFS, to monitor the area for marine mammals 20 minutes before, during, and 20 minutes after all impact pile driving activities and call for shut down if any marine mammal is observed within or approaching the designated exclusion zone (preliminarily set at 70 ft [21 m]). In addition, at least two NMFS-approved protected species observers would conduct behavioral monitoring at least two days per week to estimate take and evaluate the behavioral impacts pile driving has on marine mammals out to the Level B harassment isopleths. Note that for impact hammering, this distance is about 1.3 mi (2 km). For vibratory hammering, this estimated distance is about 7 mi (11 km); however, sound will dissipate before then (in about 6 mi [9.7 km]) due to the shape and configuration of the river. Protected species observers would be provided with the equipment necessary to effectively monitor for marine mammals (for example, high-quality binoculars, spotting scopes, compass, and range-finder) in order to determine if animals have entered into the exclusion zone or Level B harassment isopleth and to record species, behaviors, and responses to pile driving.

Protected species observers would be required to submit a report to NMFS within 120 days of expiration of the IHA or completion of pile driving, whichever comes first. The report would include data from marine mammal sightings (such as species, group size, and behavior), any observed reactions to construction, distance to operating pile hammer, and construction activities occurring at time of sighting.

Estimated Take by Incidental Harassment

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 breathing, nursing, breeding, feeding, or sheltering [Level B harassment].

Based on the application and subsequent analysis, the impact of the described pile driving operations may result in, at most, short-term modification of behavior by small numbers of marine mammals within the action area. Marine mammals may avoid the area or temporarily alter their behavior at time of exposure.

Current NMFS practice regarding exposure of marine mammals to anthropogenic noise is that in order to avoid the potential for injury (PTS), cetaceans and pinnipeds should not be exposed to impulsive sounds of 180 and 190 dB or above, respectively. This level is considered precautionary as it is likely that more intense sounds would be required before injury would actually occur (Southall et al., 2007). Potential for behavioral harassment (Level B) is considered to have occurred when marine mammals are exposed to sounds at or above 160 dB for impulse sounds (such as impact pile driving) and 120 dB for non-pulse noise (such as vibratory pile driving), but below the aforementioned thresholds. These levels are also considered precautionary.

Based on empirical measurements taken by WSDOT and Caltrans (which are presented in the Description of Specified Activities section above), estimated distances to NMFS’ current threshold sound levels from pile driving during the proposed construction activities are presented in Table 3. Effects from the removal of the 177 wood piles upstream from the main construction site are included in the 6-mi (9.7 km) Level B isopleth (based at Terminal 5) due to the river bend. The 70-ft distance to the Level A harassment threshold provides protected species observers plenty of time and adequate visibility to prevent marine mammals from entering the area during impact pile driving. This would prevent marine mammals from being exposed to sound levels that reach the Level A harassment threshold.

<table>
<thead>
<tr>
<th>Specified Activities</th>
<th>Level A (190/180 dB)</th>
<th>Level B harassment (160 dB)</th>
<th>Level B harassment (120 dB)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impact hammering</td>
<td>21 m (70 ft) without sound attenuation device.</td>
<td>1.3 mi (2 km)</td>
<td>n/a.</td>
</tr>
<tr>
<td>Vibratory hammering</td>
<td>n/a</td>
<td>n/a</td>
<td>6 mi (9.7 km).</td>
</tr>
</tbody>
</table>

The estimated number of marine mammals that could be harassed was based on the Army Corps of Engineers’ evaluation of pinniped predation on fish near the Bonneville Dam in 2010. Based on the 2010 Steller sea lion counts at Bonneville Dam, the Port requested a total take of 50 Steller sea lions. This number was reached based on the estimated 75 individuals that passed through the action area in 2010 during their migration to and from Bonneville Dam, for a total of 150 individual trips through the action area. Since all pile installation would occur between November 1 and February 28, the peak of the run in April and May would be avoided. Steller sea lion presence at the...
As described above, marine mammals would not be exposed to activities or sound levels which would result in injury (PTS), serious injury, or mortality. Pile driving would occur in shallow coastal waters of the Columbia River. The action area (waters around Terminal 5) is not considered significant habitat for pinnipeds. The closest haul-out is 50 mi (80 km) away, which is outside the project area’s largest harassment zone. Marine mammals approaching the action area would likely be traveling or opportunistically foraging. The amount of take the Port requested for each species, and NMFS proposes to authorize, is considered small (less than five percent) relative to the estimated populations of 22,380 Pacific harbor seals, 238,000 California sea lions, and 30,403 Steller sea lions. Marine mammals may be temporarily impacted by pile driving noise. However, marine mammals are expected to avoid the area, thereby reducing exposure and impacts. Pile driving activities are expected to occur for approximately 101 days. Furthermore, this section of the Columbia River is highly industrialized area, so animals are likely tolerant or habituated to anthropogenic disturbance, including low level vibratory pile driving operations, and noise from other anthropogenic sources (such as vessels) may mask construction related sounds. There is no anticipated effect on annual rates of recruitment or survival of affected marine mammals.

Based on the analysis contained herein of the likely effects of the specified marine mammals and their habitat, and taking into consideration the implementation of the mitigation and monitoring measures, NMFS preliminarily determines that the proposed pile driving would result in the incidental take of small numbers of marine mammals, by Level B harassment only, and that the total taking would have a negligible impact on the affected species or stocks.

**Impact on Availability of Affected Species for Taking for Subsistence Uses**

There are no relevant subsistence uses of marine mammals implicated by this action.

**Endangered Species Act (ESA)**

The Steller sea lion is listed as endangered under the ESA with confirmed occurrence within the action area. NMFS is in the process of consulting with the Port and will consult internally on the issuance of an IHA under section 101(a)(5)(A) of the MMPA for the take of Steller sea lions incidental to the proposed activity. ESA consultation will be concluded prior to a determination on the issuance of a final IHA.

**National Environmental Policy Act (NEPA)**

In compliance with the National Environmental Policy Act of 1969 (42 U.S.C. 4321 et seq.), as implemented by the regulations published by the Council on Environmental Quality (40 CFR parts 1500–1508), and NOAA Administrative Order 216–6, NMFS is preparing an Environmental Assessment (EA) to consider the direct, indirect, and cumulative effects to marine mammals and other applicable environmental resources resulting from issuance of a one-year IHA and the potential issuance of additional authorizations for incidental harassment for the ongoing project. Upon completion, this EA will be available on the NMFS website listed in the beginning of this document.

Dated: August 10, 2011.

James H. Lecky,
Director, Office of Protected Resources,
National Marine Fisheries Service.