REQUEST FOR AN
INCIDENTAL HARASSMENT AUTHORIZATION

UNDER THE
MARINE MAMMAL PROTECTION ACT

July 2011

Submitted to:
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Office of Protected Resources
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Table of Contents

Summary of the Request

Pursuant to section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972 (MMPA), as amended (16 U.S.C. 1371(a)(5)), the Washington State Department of Natural Resources (DNR) requests that the National Oceanic and Atmospheric Administration's National Marine Fisheries Service issue an Incidental Harassment Authorization (IHA) for incidental take of harbor seals during the Woodard Bay Natural Resources Conservation Area (NRCA) derelict creosote piling and structure removal project . This project is designed to restore nearshore habitat to Puget Sound.

Woodard Bay NRCA is located in Henderson Inlet near Olympia, Washington. The site was designated by the Washington State Legislature in 1987 to protect a large, intact complex of nearshore habitats and related biological communities and to provide opportunities for low-impact public use and environmental education for Washington's citizens. The site includes the former Weyerhaeuser South Bay Log Dump, which operated from the 1920s until the 1980s.

Large creosote-treated structures, which were leftover from the log dump, continue to significantly impact the nearshore and freshwater ecosystems protected by the NRCA. Among these structures are several pilings and the 65,000sqft Chapman Bay Pier. For many years these structures have also functioned as habitat for important species like bats and harbor seals. The bats utilize a portion of the Chapman Bay Pier for a seasonal roost and the seals utilize remnant log booms connected by pilings as haul-out habitat. This proposal is part of a larger effort to restore nearshore ecosystems and to protect priority wildlife habitat.

The proposed restoration activities requested under the IHA are funding dependent. They include all or part of the following:

- Removal of 20,000sqft of pier superstructure and 400 pilings from Chapman Bay Pier and vicinity.
- Maintenance on 10,000sqft of Chapman Bay Pier to enhance bat roost habitat.

The IHA sought would allow the incidental, but not intentional, take of harbor seals during restoration activities. Harbor seals are a non-Endangered Species Act (ESA) listed species. Potential takings of harbor seals are not likely to be lethal or to have long-term negative consequences for the populations. Any impact would be no greater than negligible. There would be no adverse impact on the availability of harbor seals for subsistence harvest by Northwest Treaty Tribes. This request is being filed to ensure that the activities described herein are conducted in compliance with the MMPA if small numbers are taken incidentally and unintentionally during the course of the Woodard Bay NRCA nearshore restoration project. This request addresses the 14 specific items for take pursuant to section 101(a)(5)(D) of the Marine Mammal Protection Act of 1972 (MMPA).

1.1 Description of Activity

This project is part of a comprehensive effort to restore 500 acres of nearshore habitat to Woodard Bay Natural Resources Conservation Area (NRCA), located in Henderson Inlet in southern Puget Sound Washington (Figure 1). The conservation area was designated by the Legislature in 1987 and purchased from Weyerhaeuser Timber Company in 1988 to protect a large complex of nearshore ecosystems, habitats and species. The site also provides opportunities for low-impact public use and environmental education.

Woodard Bay NRCA includes the former Weyerhaeuser South Bay Log Dump that was in operation from the 1920's until the 1980's (Figure 2). For more than 30 years harbor seals have been utilizing boom structures and pilings from the log dump as haul –out habitat (Figure 3). Currently, there are two haul-outs at the site, the north haul-out located to the north of the Chapman Bay Pier, and the south haul-out located adjacent and to the east of Chapman Bay Pier (Figure 4). The south haul-out has been maintained by DNR and is considered to be an important part of the NRCA.

Proposed restoration activities requested under the IHA are funding dependent. They include all or part of the following:

- Removal of 20,000sqft of pier superstructure and 400 pilings from Chapman Bay Pier and vicinity.
- Maintenance on 10,000sqft of Chapman Bay Pier to enhance bat roost habitat.

Work will be accomplished by barge and skiffs. The pilings will be removed by vibratory hammer or by direct pull with cables. Both methods are suspended from a barge mounted crane. The vibratory hammer is a large steel device lowered on top of the pile. The hammer grips and vibrates the pile until it is loosened from the sediment. The pile is then pulled up by the hammer and placed on a barge. For direct pull a cable is set around the piling. The cable grips and lifts the pile from the sediment. Pilings that cannot be removed by hammer or cable will be recorded via global positioning system for divers to relocate at the final phase of project activities. The divers will cut the pilings at or below the mudline using underwater chainsaws. The superstructure materials will be removed by excavator and/or cables suspended from a barge mounted crane. Maintenance and enhancement of bat roost habitat will include replacement of old stringers and installation of flashing and lumber to create optimal spacing and heat requirements for the maternity roost. Equipment employed will include power tools and a generator.

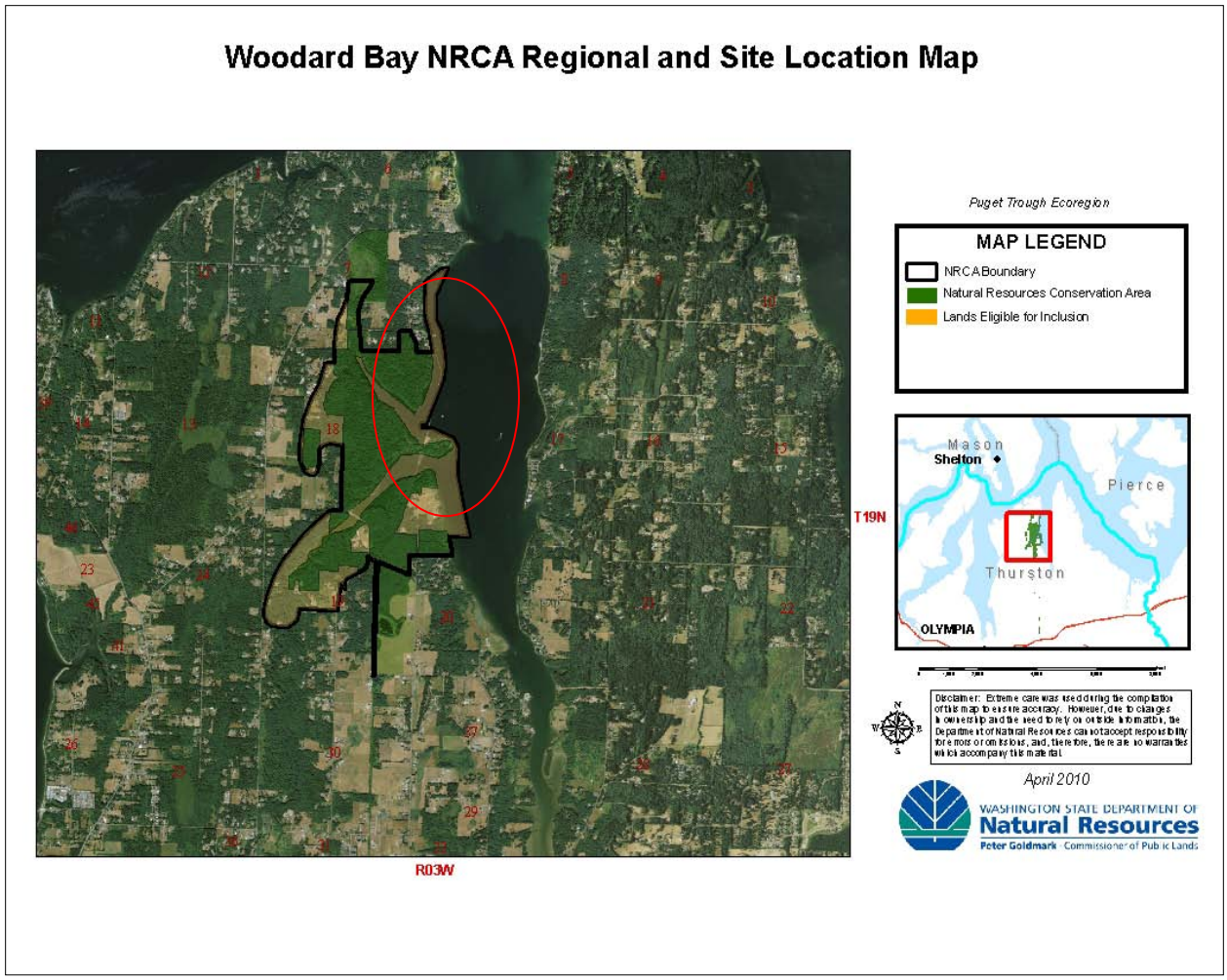

Figure 1. Woodard Bay NRCA Project Area.

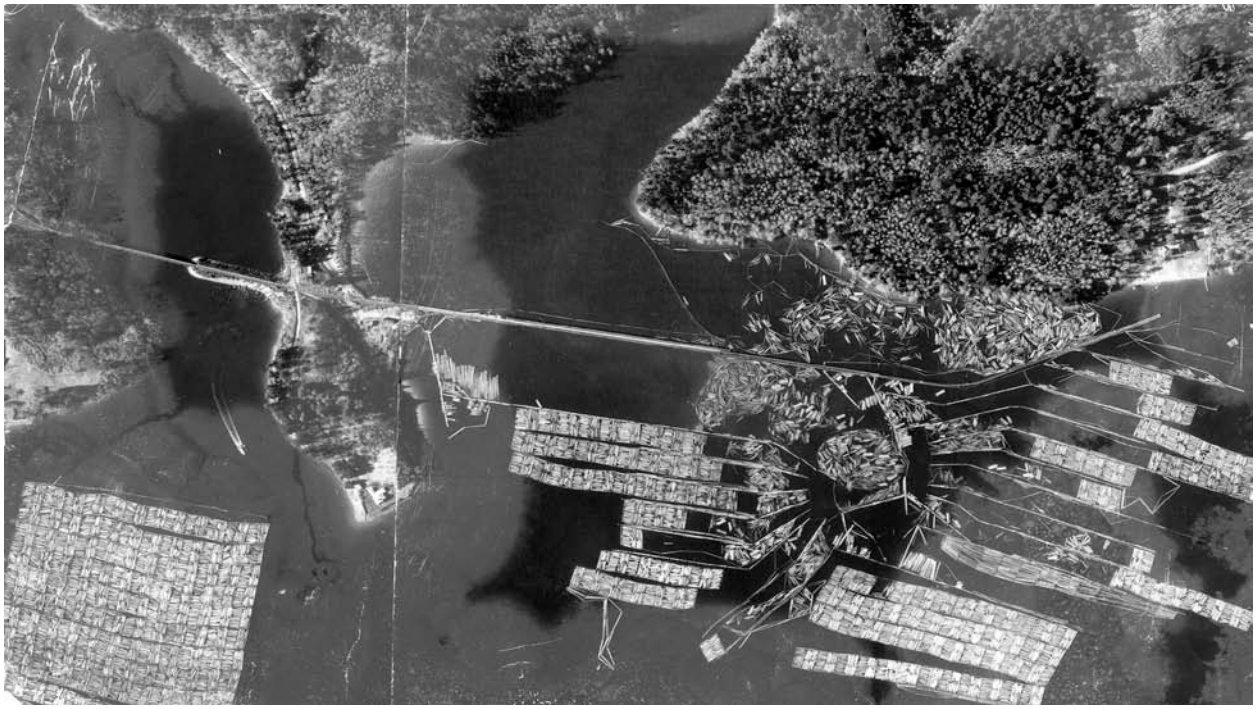

Figure 2. Weyerhaeuser South Bay Log Dump circa 1960.

Figure 3. Woodard Bay NRCA South Haul-out Habitat

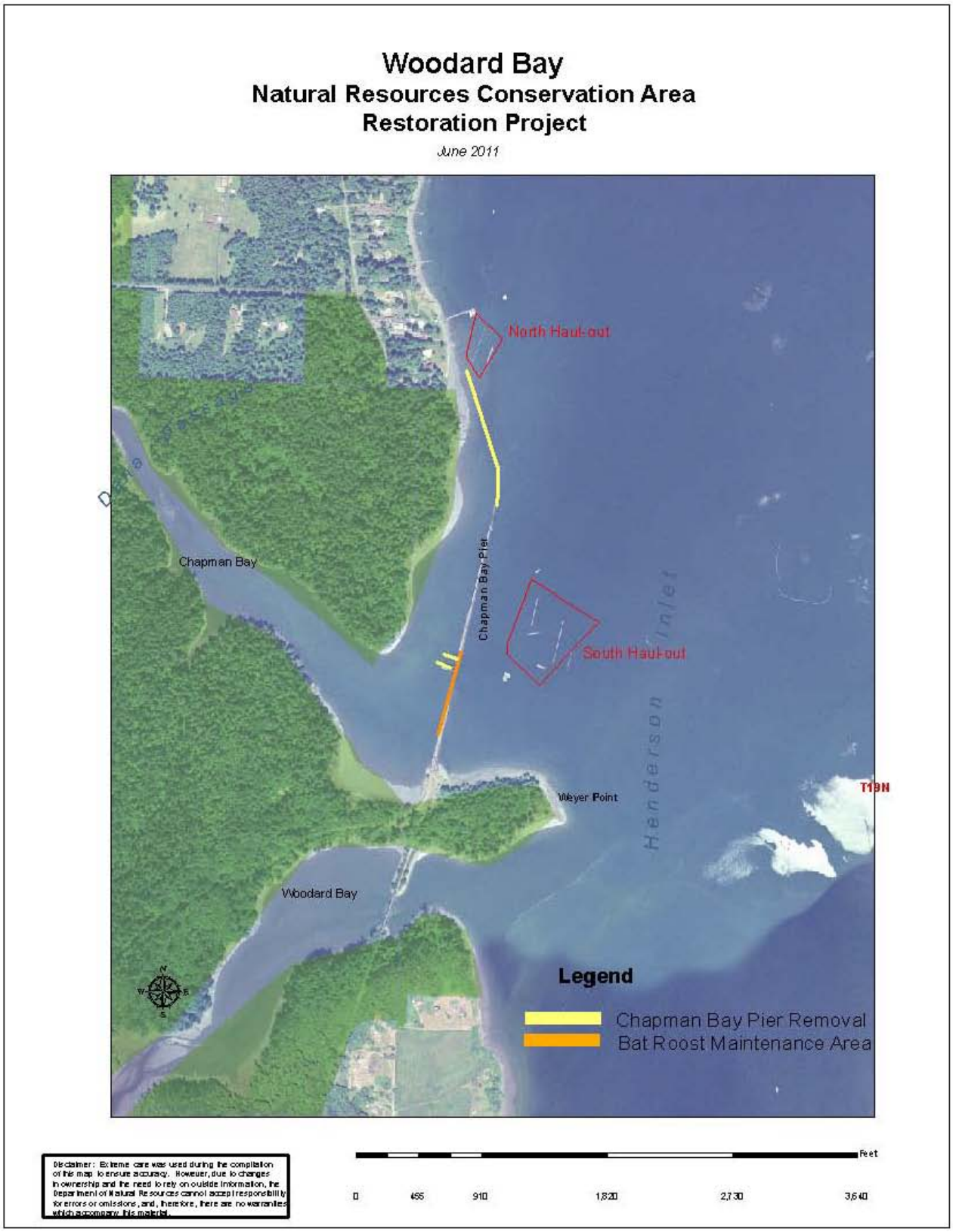

Figure 4. Woodard Bay Restoration Site Detail Map

1.2 Dates, Duration, and Geographic Region

This project will occur between November 1st 2011 and February 28th 2012, which is the in-water work period approved by the Washington State Department of Fish and Wildlife and federal services. This timing restriction is intended to minimize impacts to marine mammals, fish and forage fish spawning areas.

Work will be located in Henderson Inlet and Chapman and Woodard Bays located in southern Puget Sound in Thurston County, Washington. Restoration is estimated to take approximately 40 working days.

1.3 Species and Numbers of Marine Mammals

The remnant log booms at Woodard Bay NRCA support a year-round population of harbor seals (*Phoca vitulina).* Seals utilize the boom structures for haul-out habitat to rest, molt, pup and nurse. The population is considered among the healthiest in southern Puget Sound. Seal numbers have been monitored at the site since 1977, when there were less than 50 seals. In 1996, there were 600 seals, the highest count on record. The average maximum annual count between 1977 and 2008 was 315 seals (Buettner et al. 2008).

Annual seal counts end by October and numbers of individuals are expected to decline throughout the winter. From 2006 to 2009, October counts averaged 171 and ranged between 79 and 275 (Lambourn 2010). To fulfill the requirements under the Incidental Harassment Authorization issued in 2010 for similar restoration work at Woodard Bay, the seals were monitored from November 1 to December 21 2010. During that time total peak counts averaged 52 and ranged from 0 to 127 (Oliver and Calambokidis 2011).

Two Steller sea lions (*Eumetopias jubatus*) were observed swimming in Henderson Inlet during site restoration activities in 2010. According to John Calambokidis of Cascadia Research Collective (pers com 2011), there have been very few sightings of Steller sea lions in Henderson Inlet. They do not breed in Puget Sound and are not likely to be affected by restoration activities.

1.4 Status and Distribution

Harbor seals are not considered “depleted” under the MMPA or listed as “threatened” or “endangered” under the Endangered Species Act. Harbor seals are considered the most abundant resident pinniped species in Puget Sound (Lance and Jeffries 2009). In addition to the Woodard Bay haul-out, they use four primary haul-outs in south Puget Sound and number approximately 1,200 animals total (Jeffries et al. 2003).

Steller sea lions in Washington are listed as “threatened” under the Endangered Species Act and classified as “strategic stocks” considered “depleted” under the MMPA. They occur in low numbers throughout Puget Sound and are likely to be using Henderson Inlet for feeding. They have been found hauled out on buoys around Ketron Island and Fox Island, which is 10 nautical miles from Woodard Bay NRCA (Steiger and Calambokidis 1986). Steller sea lions are not known to breed in Washington State. Because of their frequency and type of use in Henderson Inlet, they are not likely to be affected by the restoration project (Calambokidis pers com 2011).

1.5 Type of Take Authorization Request

The method of take is considered a Level B take of a non-ESA listed marine mammal. DNR requests a renewal of the IHA for one year commencing November 1, 2011 for potential takings from behavioral harassment during the restoration activities at Woodard Bay NRCA. It is anticipated that DNR will continue to request an annual renewal of the IHA until the restoration project is completed. DNR is not requesting a multi-year Letter of Authorization (LOA) because the activities described herein are not expected to rise to the level of injury or death, which would require an LOA.

Proposed activities with the potential to impact seal behavior include the presence of barges and skiffs, pile and superstructure removal by vibratory extraction, direct pull, and diver cutting techniques; maintenance and enhancement of bat habitat using the crane, cables, power tools and a generator. Behavioral harassment could also occur by airborne noise from the equipment and human work activity in proximity to movement corridors and foraging sites.

1.6 Number of Marine Mammals Potentially Affected

The following information on monitoring results is taken from the Final Report: Monitoring Incidental Harassment of Harbor Seals (*Phoca vitulina*) at Woodard Bay Natural Resources Conservation Area during Derelict Creosote Piling and Structure Removal, 1 Nov. to 21 Dec. 2010 (Oliver and Calambokidis 2011). The north and south haul-outs were monitored 14 days out of 35 total days of restoration activities. Monitoring was scheduled for days when restoration activities were most likely to impact the seals. The mean daily count was 52 and the mean daily take was 25. A total of 356 Incidental Harassment Takes were observed and the corrected project total was 875 (25 takes per day for 35 days).

Incidental harassment taking under this request is expected to be similar to the 2010 results because the proposed activities are similar in scope and duration. We are requesting authorization for 2,080 takes. This is a conservative estimate calculated by multiplying the mean daily count from 2010 (52) by the total number of expected work days (40).

The airborne sound disturbance criteria for Level A harassment is 90 dB RMS for harbor seals.. Based on information on source air levels measured for vibratory hammer steel and concrete pile driving, removal of wood piles is unlikely to exceed 90 dB RMS (Miner pers. comm. 2010). In fact, this number is expected to be sufficiently less for wood piles, which is the type of pile material at Woodard Bay. The contract specifications for this project include restrictions on the power pack so that it is muffled and not to exceed 80 dB RMS.

In addition, the majority of the pilings to be removed are more than 30 yards from the haul out area, reducing the sound source impact by the time it reaches the haul-out. It typically takes less than one minute for the hammer to vibrate the piling loose from the sediment. The maximum number of piles removed per day is approximately 60. Therefore it is estimated that there will be an approximate maximum of 60 minutes over an 8 hour period when the noise from the hammer has the potential to disrupt the seals.

Past disturbance observations at Woodard Bay NRCA have shown that harassment was more likely to occur from non-motorized boats like kayaks and canoes at greater distances from the haul-out than from motorized boats, which can be more readily detected by the seals at longer distances from the haul-out (Calambokidis 1991, Buettner et al. 2008). In addition, during restoration operations in 2010, seals were observed hauling out during peak contractor activities. This reaction was also observed by a contractor in 2008 during emergency maintenance of the haul out (Osborne pers comm. 2008).

During restoration activities in 2010, divers cutting underwater pilings discovered a deceased young harbor seal entangled in a buoy line (Oliver and Calambokidis 2011). The line was placed during the start of the project to mark the location of a broken piling. This incident was considered to be an unusual occurrence and is unlikely to happen again. Nonetheless, contractors will be required to record broken piling locations for divers using global positioning system instead of marking pilings with buoys or flags.

1.7 Anticipated Impact of Activity on Stock

No significant impacts on the population of harbor seals at Woodard Bay NRCA are anticipated from restoration efforts. The seals are likely to occasionally flush from the haul-out when restoration activities are occurring. Based on previous restoration monitoring, the seals appear to acclimate quickly to the presence of the contractor.

1.8 Anticipated Impact on Availability for Subsistence Uses

There are no anticipated adverse impacts on the availability of harbor seals for subsistence harvest by Northwest Treaty Tribes.

1.9 Impact on Habitat and Likelihood of Restoration

The Woodard Bay NRCA nearshore restoration project is to restore 500 acres of nearshore habitat to the Woodard Bay area. The project is planned in phases. DNR is requesting an IHA for the second phase, which is to remove structures that are not associated with critical habitat for seals while restoring bat habitat at the site. Future phases may include important improvements to the seal haul-out habitat so that it may be sustained over time and continue to support current numbers of harbor seals.

1.10 Impact of Habitat Modification on Harbor Seals

Seal habitat improvements are planned as part of long-term restoration efforts at the site. Monitoring data suggests that the number of seals at Woodard Bay NRCA fluctuates in relationship to changes in haul-out size (Lambourn et al. 2009). Because the haul-out size will likely be maintained at the same size, seal population numbers will likely remain the same.

1.11 Availability of Methods with Least Adverse Impact

Methods adopted to minimize adverse impacts to seals during restoration activities include timing, location and type of equipment used. The project is scheduled to occur between November and February, after the seal pupping and molting season. This is the least sensitive time period for the seals at Woodard Bay NRCA. Pilings that support the seal haul-out will remain undisturbed to provide protection to the seals.

The type of equipment will follow the Best Management Practices (BMP) and permit requirements for removal of creosoted materials in the waters of Puget Sound. Preference will be given to use of the vibratory hammer to remove piles from the water. The vibratory hammer is a large steel device suspended by a cable from a crane that is stationed on a barge adjacent to the piling. The hammer, lowered on top of the pile, grips and vibrates the pile until it is loosened from the sediment. The vibration is typically less than one minute in duration. A choker is also used to lift the pile out of the water where it is placed on the barge for transport to an approved disposal site. If the piles are broken under the water line, then a choker is set on the broken pile and a diver cuts the pile at or below the mudline with a saw so that it may be brought up to the barge by crane. See Attachment A for BMPs.

To minimize the risk of direct injury to seals from pilings or equipment, the contractor will be required to survey the operational area before initiating activities. If seals are present, the contractor must wait until they are a sufficient distance from the activity area (>50 feet) to begin work. The contractor will also be required to initiate a "soft start" method at the beginning of each work day. The method includes a reduced energy vibration from the hammer for the first 15 seconds and then a one minute waiting period to allow time for the seals to leave the immediate vicinity where restoration activities are occurring. This method will be repeated twice before commencing with regular operations.

1.12 Arctic Subsistence Use Areas

This project is located in Washington State and does not fall within an arctic subsistence use area.

1.13 Monitoring and Reporting

Seal monitoring and research has been occurring at Woodard Bay since the 1970's and has included seal ecology, population dynamics and disturbance behavior (Newby 1970, Calambokidis et al. 1991, Buettner et al. 2008, Lambourn et al. 2009). The following protocols for monitoring and reporting disturbance to seals from restoration activities are taken from monitoring protocols implemented during restoration actions in 2010:

Schedule. Monitoring of both the north and south haul-outs will occur 15 out of the 40 work days. During the first 5 days of project activities, when the contractors are mobilizing and starting the vibratory hammer; during 5 days when activities are occurring within 100 yards of the haul out area; during 5 additional days, to be decided when the schedule of work is provided by the contractor.

Data Collected: Information collected will include observation dates, times and conditions, and estimated takings, which will be recorded as number of seals flushed from the haul-out. This information will be determined by recording the number of seals using the haul-out on each monitoring day prior to the start of restoration activities for that day and recording the number of seals that flush from the haul-out (as the difference in seals using the haul-out), when a disturbance has occurred. Comments on the cause of the disturbance and, if applicable, the proximity in meters of the disturbance source will also be noted. In addition, as part of their contract stipulations, the contractor will be required to report any incidents that they observe of behavioral changes to the seals. Data collected will also include any other marine mammal species observed.

Reporting: Within 30 days of the completion of the project, DNR will forward a monitoring report to NMFS that will include copies of field data sheets and relevant daily logs from the contractor.

1.14 Educational Opportunities Related to the Project

Woodard Bay NRCA was designated by the state legislature to provide opportunities for research and environmental education. Research and monitoring of the seal population has been occurring on the site for more than 30 years. Regional representatives from NOAA NMFS, Washington Department of Fish and Wildlife and Cascadia Research Collective participated in the development of the restoration alternatives for the site. Stakeholders are encouraged to implement monitoring and research efforts on marine mammals at Woodard Bay and will be contacted prior to the commencement of work at the site.

Conclusion

Based on the information provided, DNR has determined that restoration activities, including piling removal, may result in Level B harassment to harbor seals at Woodard Bay NRCA. The actions will be attenuated over a period of four months and will be occurring during a time when the seals are least susceptible to harm. No injury or mortality is anticipated and behavioral harassment takes will be minimized to the lowest practicable level by employing the mitigation measures described above.

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