



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

Ms. Cindy D. Moore
City of Astoria
1095 Duane Street
Astoria, Oregon 97103

Dear Ms. Moore

Enclosed is an Incidental Harassment Authorization (IHA) issued pursuant to Section 101(a)(5)(D) of the Marine Mammal Protection Act, to take small numbers of marine mammals, by Level B harassment, incidental to bridge replacement activities in Astoria, Oregon.

You are required to comply with the conditions contained in the IHA, including all mitigation, monitoring and reporting requirements. Along with mitigation measures to be incorporated, the IHA requires monitoring for the presence and behavior of marine mammals prior to, during, and after all construction activities.

If you have any questions concerning the IHA or its requirements, please contact Amy Fowler, Office of Protected Resources, at (301) 427-8401.

Sincerely,

Donna S. Wieting
Director, Office of Protected Resources

Enclosure



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INCIDENTAL HARASSMENT AUTHORIZATION

The City of Astoria (City) is hereby authorized under section 101(a)(5)(D) of the Marine Mammal Protection Act (MMPA; 16 U.S.C. 1371(a)(5)(D)) to harass marine mammals incidental to the Waterfront Bridges Replacement Project in Astoria, Oregon, when adhering to the following terms and conditions.

1. This Incidental Harassment Authorization (IHA) is valid from October 1, 2018 to September 30, 2019.
2. This IHA is valid only for construction activities associated with the Waterfront Bridges Replacement Project in Astoria, OR.
3. General Conditions
 - (a) A copy of this IHA must be in the possession of the City, its designees, and work crew personnel operating under the authority of this IHA.
 - (b) The species authorized for taking are the California sea lion (*Zalophus californianus*), Eastern DPS Steller sea lion (*Eumetopias jubatus*), and Pacific harbor seal (*Phoca vitulina richardii*).
 - (c) The taking, by Level B harassment only, is limited to the species listed in condition 3(b). The authorized take numbers are shown below and in Table 1:
 - (i) 33,736 California sea lions
 - (ii) 5,360 Steller sea lions
 - (iii) 4,560 Pacific harbor seals
 - (d) The taking by injury (Level A harassment), serious injury, or death of any of the species listed in condition 3(b) of the Authorization or any taking of any other species of marine mammal is prohibited and may result in the modification, suspension, or revocation of this IHA.
 - (e) The City shall conduct briefings between construction supervisors and crews, marine mammal monitoring team, acoustical monitoring team, and City staff prior to the start of all construction work, and when new personnel join the work, in order to explain responsibilities, communication procedures, marine mammal monitoring protocol, and operational procedures.
4. Mitigation Measures



The holder of this Authorization is required to implement the following mitigation measures:

(a) General Construction Measures

- (i) All construction activities shall be performed in accordance with the current ODOT Standard Specifications for Construction, the Contract Plans, and the Project Special Provisions. In addition, the following general construction measures shall be adhered to:
 - i. All work shall be performed according to the requirements and conditions of the regulatory permits issued by federal, state, and local governments. Seasonal restrictions, *i.e.*, work windows, shall be applied to the Project to avoid or minimize potential impacts to listed or proposed species based on agreement with, and the regulatory permits issued by the Department of State Lands, and USACE in consultation with NMFS. The City shall comply with all stipulations from the Federal Aid Highway program Biological Opinion for salmonids (*i.e.*, using air bubble curtains).
 - ii. The City shall have an inspector onsite during construction. The role of the inspector is to ensure compliance with the construction contract and other permits and regulations. The onsite inspector shall also perform marine mammal monitoring duties when protected species observers (PSOs) are not onsite (see Monitoring section).
 - iii. To ensure no contaminants enter the water, mobile heavy equipment shall be stored in a staging area at least 150 feet from the river or in an isolated hard zone. Equipment shall be inspected daily for fluid leaks before leaving the staging area. Stationary equipment operated within 150 feet of the river shall be maintained and protected to prevent leaks and spills. Erosion and sediment control BMPs shall be installed prior to initiating construction activities.
 - iv. All work below the Highest Measured Tide (HMT) shall be completed during the ODFW prescribed in-water work period (IWWP) of November 1 through February 28.
 - v. The City shall be responsible for the preparation of a Pollution Control Plan (PCP). The PCP will designate a professional on-call spill response team, and identify all City activities, hazardous substances used, and wastes generated. The PCP will describe how hazardous substances and wastes will be stored, used, contained, monitored, disposed of, and documented.

(b) Pile Removal and Installation

- (i) The following mitigation measures will be implemented to minimize disturbance during pile removal and installation activities:
- i. An air bubble system shall be employed during impact pile installation unless the piles are driven on dry areas.
 - ii. The City shall implement a soft-start procedure for impact pile driving activities. The objective of a soft-start is to provide a warning and/or give animals in close proximity to pile driving a chance to leave the area prior to an impact driver operation at full capacity, thereby exposing fewer animals to loud underwater and airborne sounds. A soft-start procedure shall be used at the beginning of each day that pile installation activities are conducted.
 1. For impact driving, an initial set of three strikes shall be made by the hammer at 40 percent energy, followed by a one minute wait period, the two subsequent three-strike sets at 40 percent energy, with one minute waiting periods, before initiating continuous driving
 - iii. Monitoring of marine mammals shall take place starting 30 minutes before construction begins until 30 minutes after construction ends.
 - iv. Prior to initiating in-water pile driving and removal, and above-water construction activities, the City shall establish Shutdown Zones as follows (Table 2):
 1. Before commencement of non-pulse (vibratory) pile removal activities, the City shall establish a 15 meter Shutdown Zone.
 2. Before commencement of impact pile driving activities, the City shall establish a 55 meter Shutdown Zone.
 3. Before commencement of above-water construction activities, the City shall establish a 10 meter Shutdown Zone to prevent injury from physical interaction with construction equipment.
 - v. Prior to initiating in-water pile driving, pile removal, and concrete removal activities, the City shall establish Monitoring Zones equivalent to the Level B Harassment Zones (Table 2):
 1. The Monitoring Zone for all pile removal activities shall be established out to a distance of 1,600 meters from the pile.
 2. The Monitoring Zone for all pile driving activities shall be established out to a distance of 398 meters from the pile.
 3. If a marine mammal enters the Level B Harassment Zone, but does not enter the Shutdown Zone, a "take" shall be recorded and

the work shall be allowed to proceed without cessation. Marine mammal behavior shall be monitored and documented.

- vi. If a marine mammal is sighted within or approaching the Shutdown Zone, in-water construction activities shall be suspended until the marine mammal is sighted moving away from the exclusion zone, or if it is not sighted for 15 minutes after the shutdown.
- vii. If a species for which authorization has not been granted or for which authorization has been granted but the take limit has been met approaches or enters the Level B harassment zone, construction activities must cease and the City shall contact the Office of Protected Resources, NMFS.
- viii. If the exclusion and disturbance zones are obscured by poor lighting conditions, pile driving shall not be initiated until the entire zones are visible.
 - 1. The Shutdown Zone for in-water work shall include all areas where the underwater SPLs are anticipated to equal or exceed the Level A (injury) criteria, and shall always be a minimum of 15 meters.
 - 2. The Level B Harassment Zone shall include all areas where the underwater SPLs are anticipated to equal or exceed the Level B (harassment) criteria. This shall include 1,600 meters during vibratory pile removal and pre-drilling activities, and 398 meters during impact pile driving activities.
 - 3. If a marine mammal approaches or enters the Shutdown Zone during pile driving, work shall be halted and delayed until either the animal has voluntarily left, or 15 minutes have passed without re-detection of the animal.
- ix. In-water work shall only commence once observers have declared the Shutdown Zone clear of marine mammals.
- x. A monitoring plan shall be implemented as described below. This plan includes Exclusion Zones and specific procedures in the event a marine mammal is encountered.

5. Monitoring

The holder of this Authorization is required to conduct marine mammal monitoring during construction activities. Monitoring and reporting shall be conducted in accordance with the Monitoring Plan.

- (a) Protected Species Observers

- (i) The City shall employ qualified Protected Species Observers (PSOs) to monitor the extent of the Region of Activity for marine mammals. Qualifications for marine mammal observers include:
- i. Visual acuity in both eyes (correction is permissible) sufficient for discerning moving targets at the water's surface with ability to estimate target size and distance. Use of binoculars is necessary to correctly identify the target.
 - ii. Advanced education (at least some college level coursework) in biological science, wildlife management, mammalogy, or related fields (bachelor's degree or higher is preferred but not required).
 - iii. Experience or training in the field of identification of marine mammals (cetaceans and pinnipeds).
 - iv. Sufficient training, orientation, or experience with the construction operation to provide for personal safety during observations.
 - v. Ability to communicate orally, by radio or in person, with project personnel to provide real time information on marine mammals observed in the area as necessary.
 - vi. Experience and ability to conduct field observations and collect data according to assigned protocols (this may include academic experience).
 - vii. Writing skills sufficient to prepare a report of observations that would include such information as the number and type of marine mammals observed; the behavior of marine mammals in the project area; dates and times when observations were conducted; dates and times when in-water construction activities were conducted; and dates and times when marine mammals were present at or within the defined Region of Activity.
- (ii) Monitoring Schedule: PSOs shall be present onsite during in-water construction activities as follows:
- i. During vibratory pile removal activities:
 - a. Two NMFS qualified observers shall be onsite the first day of removal at each bridge, one NMFS qualified observer shall be onsite every third day thereafter.
 - b. One PSO observer shall be stationed at the best practicable land-based vantage point to observe the downstream portion of the disturbance zone, and the other positioned at the best practicable land-based vantage point to monitor the upstream portion of the disturbance zone.

- c. The OBEC onsite inspector shall be trained in species identification and monitoring protocol, and will be onsite during all pile removal activities to ensure that no species enter the 15 meter Shutdown Zone.
 - ii. During pile driving activities:
 - a. Two NMFS qualified observers shall be onsite the first two days of pile driving at each bridge, and every third day thereafter.
 - b. One PSO shall be stationed at the best practicable land-based vantage point to observe the downstream portion of the disturbance and exclusion zones, and the other positioned at the best practicable land-based vantage point to monitor the upstream portion of the disturbance and exclusion zones.
 - c. The OBEC onsite inspector shall be trained in species identification and monitoring protocol, and will be onsite during all pile driving activities to ensure that no species enter the 55 meter Shutdown Zone.
 - iii. During substructure demolition activities (not including pile removal) and superstructure demolition and construction activities:
 - a. One PSO shall be onsite once a week to monitor the Shutdown Zone within 10 meters of the construction site.
 - b. The OBEC inspector shall be trained in species identification and monitoring protocol, and shall be onsite during all construction activities to ensure that no species enter the 10 meter Shutdown Zone during superstructure demolition and construction activities.
- (iii) Monitoring Protocols: PSOs shall monitor marine mammal presence within the Shutdown Zone and Monitoring Zone per the following protocols:
 - i. A range finder or hand-held global positioning system device shall be used by PSOs to ensure that the defined Shutdown Zones are fully monitored and the Monitoring Zones monitored to the best extent practicable.
 - ii. Pre-activity monitoring shall take place from 30 minutes prior to initiation of pile driving and post-activity monitoring shall continue through 30 minutes post-completion of pile driving activity. Pile driving may commence at the end of the 30-minute pre-activity monitoring period, provided observers have determined that the shutdown zone is clear of marine mammals, which includes delaying

start of pile driving activities if a marine mammal is sighted in the zone, as described below.

- a. If a marine mammal approaches or enters the shutdown zone during activities or pre-activity monitoring, all pile driving activities shall be halted or delayed, respectively. If pile driving is halted or delayed due to the presence of marine mammal, the activity may not resume or commence until either the animal has voluntarily left and been visually confirmed beyond the shutdown zone or 15 minutes have passed without re-detection of the animal.
- iii. If marine mammals are observed, the following information shall be documented:
 - a. Species, numbers, and, if possible, sex and age classes of marine mammals observed;
 - b. Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
 - c. Location and distance from pile driving activity to marine mammals and distance from the marine mammals to the observation point; and
 - d. Estimated amount of time that the animals remained in the Level B Harassment Zone.
- iv. PSOs shall keep a running tally of takes of each marine mammal species authorized by extrapolating the observed takes to the days when monitoring did not occur. The City shall notify the Office of Protected Resources, NMFS if takes of any species come within five percent of the take limits established in this IHA (Table 1).

6. Reporting

The City shall submit a draft report to NMFS not later than 90 days following the end of construction activities. The City shall provide a final report within 30 days following resolution of NMFS' comments on the draft report. If no comments are received from NMFS, the draft report will be considered to be the final report. Reports shall contain, at minimum, the following:

- (a) Date and time that monitored activity begins and ends for each day conducted (monitoring period);
- (b) Construction activities occurring during each daily observation period, including how many and what type of piles driven;

- (c) Deviation from initial proposal in pile numbers, pile types, average driving times, etc.
- (d) Weather parameters in each monitoring period (*e.g.*, sea state, tide state);
- (e) For each marine mammal sighting:
 - (i) Species, numbers, and, if possible, sex and age classes of marine mammals observed;
 - (ii) Description of any observable marine mammal behavior patterns, including bearing and direction of travel and distance from pile driving activity;
 - (iii) Location and distance from pile driving activities to marine mammals and distance from the marine mammals to the observation point; and
 - (iv) Estimate amount of time that the animals remained in the Level B Harassment Zone.
- (f) Description of implementation of mitigation measures within each monitoring period (*e.g.*, shutdown or delay);
- (g) Other human activity in the area within each monitoring period; and
- (h) A summary of the total number of each species detected within the Level B harassment zone and total number of estimated takes extrapolated from observed takes.
- (i) Reporting injured or dead marine mammals:
 - (i) In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by this IHA, such as an injury (Level A harassment), serious injury, or mortality, the City shall immediately cease the specified activities and report the incident to the Office of Protected Resources (301-427-8401), NMFS, and the West Coast Regional Stranding Coordinator (206-526-4747), NMFS. The report must include the following information:
 - i. Time and date of the incident;
 - ii. Description of the incident;
 - iii. Environmental conditions (*e.g.*, wind speed and direction, Beaufort sea state, cloud cover, and visibility);
 - iv. Description of all marine mammal observations and active sound source use in the 24 hours preceding the incident;

- v. Species identification or description of the animal(s) involved;
- vi. Fate of the animal(s); and
- vii. Photographs or video footage of the animal(s).

Activities shall not resume until NMFS is able to review the circumstances of the prohibited take. NMFS will work with the City to determine what measures are necessary to minimize the likelihood of further prohibited take and ensure MMPA compliance. The City may not resume their activities until notified by NMFS.

- (ii) In the event that the City discovers an injured or dead marine mammal, and the lead observer determines that the cause of the injury or death is unknown and the death is relatively recent (e.g., in less than a moderate state of decomposition), the City shall immediately report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinator, NMFS.

The report must include the same information identified in 6(b)(i) of this IHA. Activities may continue while NMFS reviews the circumstances of the incident. NMFS will work with the City to determine whether additional mitigation measures or modifications to the activities are appropriate.

- (iii) In the event that the City discovers an injured or dead marine mammal, and the lead observer 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), the City shall report the incident to the Office of Protected Resources, NMFS, and the West Coast Regional Stranding Coordinator, NMFS, within 24 hours of the discovery. The City shall provide photographs or video footage or other documentation of the stranded animal sighting to NMFS.

- 7. 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.
- 8. Renewals - On a case-by-case basis, NMFS may issue a second one-year IHA without additional notice when 1) another year of identical or nearly identical activities as described in the Specified Activities section is planned or 2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section, provided all of the following conditions are met:

9. Renewals - On a case-by-case basis, NMFS may issue a second one-year IHA without additional notice when 1) another year of identical or nearly identical activities as described in the Specified Activities section is planned or 2) the activities would not be completed by the time the IHA expires and a second IHA would allow for completion of the activities beyond that described in the Dates and Duration section, provided all of the following conditions are met:
- (a) A request for renewal is received no later than 60 days prior to expiration of the current IHA.
 - (b) The request for renewal must include the following:
 - (i) An explanation that the activities to be conducted beyond the initial dates are either identical to the previously analyzed activities or include changes so minor (*e.g.*, reduction in pile size) that the changes do not affect the previous analyses, take estimates, or mitigation and monitoring requirements.
 - (ii) A preliminary monitoring report showing the results of the required monitoring to date and an explanation showing that the monitoring results do not indicate impacts of a scale or nature not previously analyzed or authorized.
 - (c) Upon review of the request for renewal, the status of the affected species or stocks, and any other pertinent information, NMFS determines that there are no more than minor changes in the activities, the mitigation and monitoring measures remain the same and appropriate, and the original findings remain valid.


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

APR 11 2018

Date

Table 1. Authorized take numbers, by species

Species	Authorized Take
Harbor seal (<i>Phoca vitulina</i>)	4,560
California sea lion (<i>Zalophus californianus</i>)	33,736
Steller sea lion (<i>Eumetopias jubatus</i>)	5,360

Table 2. Minimum radial distance to shutdown zones

Activity	Monitoring Zone	Shutdown Zone
Vibratory pile removal	1,600 m	15 m
Impact pile driving	398 m	55 m
Roadway and railway demolition and construction	28 m (harbor seals) 9 m (sea lions)	10 m