MARINE MAMMAL COMMISSION

15 May 2012

Mr. P. Michael Payne, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application from the Department of Transportation's Federal Transit Authority and Federal Highway Administration, on behalf of the Columbia River Crossing project, seeking issuance of regulations under section 101(a)(5)(A) of the Marine Mammal Protection Act. The taking would be incidental to construction and demolition activities in the Columbia River and North Portland Harbor, Washington and Oregon. The proposed activities would occur from July 2013 to July 2018. The Commission also has reviewed the National Marine Fisheries Service's 19 April 2012 *Federal Register* notice (77 Fed. Reg. 23548) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

RECOMMENDATIONS

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the final rule but—

- require that the time frame for implementing ramp-up procedures be adjusted if pinnipeds are in the construction area, regardless of time of year;
- require the applicant to implement ramp-up procedures (1) after 15 minutes, if pile driving was delayed or shut down due to the presence of a pinniped within or approaching the shutdown zone or (2) after 30 minutes, if pile driving has ceased for other reasons (i.e., equipment problems, work schedules, logistics) and no pinniped has been observed within or approaching the shutdown zone; and
- require the applicant to use an additional small number of shore- or watercraft-based observers to determine how far up- or down-river bridge construction and demolition have an effect on pinniped behavior;
- specify that the proposed number of pinniped takes may occur by in-water and in-air harassment when the animals are near the sound source; and
- require the applicant to conduct in-situ sound measurements if and when vibratory hammers are used concurrently and adjust the extent of the Level B harassment zone as necessary.

RATIONALE

The Columbia River Crossing project is planned for a 5-mile section of the Interstate 5 corridor connecting Vancouver, Washington, and Portland, Oregon. The project would involve (1)

constructing new bridges, ramps, and transportation structures (i.e., light rail transit and bicycle and pedestrian facilities), (2) widening of the current North Portland Harbor bridge, and (3) demolishing the remaining old bridges.

The project would require installation and then removal of about 1,500 temporary steel piles 18 to 48 inches in diameter using vibratory and impact hammers. The piles would be used to support work bridges, support platforms, and barge moorings during the construction activities. , The project also would require installation and removal of temporary cofferdams comprised of 24-inch steel sheet piles using vibratory hammers and direct pull. In addition, it would involve installation of a maximum of 103 drilled shaft casings greater than or equal to 72 inches in diameter to support the new bridges and transportation structures. Those casings would be installed using a vibratory hammer, rotator, or oscillator and then filled with concrete. No more than two impact hammers and an unlimited number of vibratory hammers would be used at any given time. Project workers would use a wire saw, diamond wire cutting, or hydraulic breaking to demolish the old bridges. They would remove all materials and debris to ensure water quality standards are satisfied. They could conduct demolition activities as late as 2021, in which case they would require additional incidental take authorizations.

The Service preliminarily has determined that, at most, the proposed activities temporarily would modify the behavior of small numbers of harbor seals, California sea lions, and Steller sea lions. It also anticipates that any impact on the affected species and stocks would be negligible. The Service does not anticipate any take of marine mammals by death or serious injury and believes that the potential for disturbance will be at the least practicable level because of the proposed mitigation and monitoring measures. Those measures include—

(1) prohibiting impact pile driving from 16 April to 14 September and during nighttime hours;
(2) using drilled shafts rather than impact pile driving for placement of permanent piles to reduce the sound produced;
(3) driving the temporary piles primarily with vibratory hammers and using impact hammers only to proof the piles;
(4) using no more than two impact hammers simultaneously in one water body channel;
(5) conducting in-situ sound propagation measurements to verify or adjust the respective Level A and B harassment zones, as necessary;
(6) using sound attenuation devices (i.e., bubble curtains, water-filled cofferdams, etc.), except when testing the effectiveness of the devices (i.e., up to 7.5 minutes of unattenuated sound per week);
(7) using ramp-up and shut-down procedures;
(8) using Service-approved observers to monitor for 30 minutes before, during, and for 30 minutes after any pile driving activity;
(9) ceasing operations using heavy equipment and/or reducing vessel speed to maintain steerage and safe working conditions if a marine mammal comes within 50 m of the operation;
(10) reporting injured and dead marine mammals to the Service and local stranding network using the Service's phased reporting approach and suspending activities, if appropriate; and
(11) submitting an acoustic report, weekly and annual monitoring reports, and a final comprehensive monitoring report.

Mitigation and monitoring measures

The Service proposes to require project operators to use ramp-up procedures from January 1 to 15 June only, which is the period when pinnipeds are most likely to occur in the project area. The Commission agrees that protective measures are not necessary if pinnipeds are not in the area. However, the Service and applicant should be ready to adjust its mitigation measures if pinnipeds are present in the construction area outside the 1 January to 15 June time period. With that in mind, the Marine Mammal Commission recommends that the National Marine Fisheries Service require that the time frame for implementing ramp-up procedures be adjusted if pinnipeds are in the construction area, regardless of time of year.

In addition, the Service would require the operators to implement those procedures only at the beginning of each work day and only when pile-driving activities have ceased for more than one hour. The 1-hour timeframe is longer than normally stipulated by the Service in its incidental harassment authorizations. It generally conditions authorizations to require ramp-up procedures if hammering ceases for more than 30 minutes (77 Fed. Reg. 20361, 77 Fed. Reg. 14736, 76 Fed. Reg. 51947). The Service also generally requires that if a pinniped is sighted within or on a path toward a shutdown zone (i.e., based on the Level A harassment zone) during pile driving, operators cease pile driving until that pinniped has cleared the zone and is on a path away from the zone or 15 minutes has lapsed since the last sighting. The Commission continues to believe that ramp-up procedures should be initiated after extended periods (i.e., after 15 minutes for pinnipeds) without pile driving based on their respective clearance times when animals are observed within or approaching the shutdown zone. For that reason, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the applicant to implement ramp-up procedures (1) after 15 minutes, if pile driving was delayed or shut down due to the presence of a pinniped within or approaching the shutdown zone or (2) after 30 minutes, if pile driving has ceased for other reasons (i.e., equipment problems, work schedules, logistics) and no pinniped has been observed within or approaching the shutdown zone.

During the proposed activities, the applicant would use observers to monitor 30 minutes before, during, and 30 minutes after any pile driving activity (i.e., during vibratory and impact hammer and oscillator use). The Commission supports monitoring during all activities rather than during just a portion of them. However, the applicant plans to monitor only a portion of the proposed Level B harassment zone (i.e., an approximate radius of 800 m) rather than the entire zone (i.e., radius of 582 m for impact pile driving based on in-situ sound measurements and approximately 46 km for vibratory pile driving based on estimated sound measurements). It does not plan to monitor beyond a distance of approximately 800 m, although it notes that sightings beyond that distance would be recorded as a take.

The Commission recognizes that a large number of observers would be needed to monitor the river out to 46 km from the construction site and that complete monitoring of that area may be impracticable. At the same time, however, it does not consider monitoring out to 800 m to be necessarily sufficient. The key questions are whether, to what extent, and to what distance construction is having an impact up- or down-river. Useful data could be collected to address those questions by using a small number of shore- or watercraft-based observers to assess changes in

pinniped behavior as a function of distance from the construction site. At least in this way, the applicant could provide a realistic assessment of the potential effects of bridge construction and demolition. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the applicant to use an additional small number of shore- or watercraft-based observers to determine how far up- or down-river bridge construction and demolition have an effect on pinniped behavior.

In-air takes

Because pinnipeds occur in the project area, taking may occur by exposure both to sound underwater and in air. The Service proposes to require the applicant to establish disturbance zones associated with in-air sound and adjust those zones accordingly based on in-situ sound measurements. However, the Service did not propose to authorize additional in-air takes nor did it stipulate that pinnipeds taken within the in-air disturbance zone also would be taken by in-water sound. The Commission believes that it is important for the Service to acknowledge that pinnipeds taken under water also will be taken in air when close to the source. Therefore, the Marine Mammal Commission recommends that the National Marine Fisheries Service specify that the proposed number of pinniped takes may occur by in-water and in-air harassment when the animals are near the sound source.

In-situ sound measurements

The Service plans to condition the final rule to allow concurrent use of no more than two impact hammers at any given time within a water body channel. The Crossing project also could use an unlimited number of vibratory hammers, although it would be constrained by the number of hammers available at the project site and concurrent hammer use would occur only on occasion. The Service would require the Crossing project to conduct in-situ sound measurements but does not intend to require those measurements to be taken when multiple hammers are being used within a water body channel. Because the Service currently uses thresholds based on sound pressure levels, that approach may be reasonable during impact hammer use. It is unlikely that two impact hammers would be striking their respective piles at the exact same time and emitting the same source level such that sound levels would increase. However, vibratory hammers emit a continuous sound and concurrent use of multiple hammers could increase sound levels. Thus, the distance to the 120-dB re 1 □Pa threshold would increase. The Commission understands that the use of multiple vibratory hammers would occur rarely, but it also wants to ensure that the appropriate size of the Level B harassment zone is monitored during those instances and takes are estimated accordingly. That being the case, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the applicant to conduct in-situ sound measurements if and when vibratory hammers are used concurrently and adjust the extent of the Level B harassment zone as necessary.

Please contact me if you have questions regarding the Commission's recommendations.

Sincerely,

Timothy J. Ragen, Ph.D.
Executive Director