



# MARINE MAMMAL COMMISSION

21 November 2011

Mr. P. 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

Dear Mr. Payne:

The Marine Mammal Commission, in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by the U.S. Army Corps of Engineers, San Francisco District, on behalf of the Port of San Francisco, seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act to take small numbers of marine mammals by harassment. The taking would be incidental to construction of the Brannan Street Wharf at Pier 36 in San Francisco, California. The incidental harassment authorization would be valid for a one-year period. The Commission also has reviewed the National Marine Fisheries Service's 26 October 2011 *Federal Register* notice (76 Fed. Reg. 66274) 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 incidental harassment authorization, provided that it require the Port to—

- monitor the presence and behavior of marine mammals during all vibratory and impact pile-driving activities;
- monitor before, during, and after all soft-starts of vibratory and impact pile-driving activities to gather the data needed to determine the effectiveness of this technique as a mitigation measure; and
- implement soft-start procedures after 15 minutes for pinnipeds and 30 minutes for cetaceans, if pile driving was delayed or shut down due to the presence of a marine mammal within or approaching the Level A harassment zone.

## RATIONALE

The Port of San Francisco plans to remove the existing Pier 36 and construct 5,295 m<sup>2</sup> of superstructure known as the Brannan Street Wharf for public recreational purposes. The Wharf would consist of a lawn area; a waterside walkway with seating, shelters, and picnic tables; and a small craft float and accessible gangway for launching non-motorized recreational vessels. The Port would use vibratory and/or impact hammers to drive 141 24-inch concrete piles, 161 24-in steel piles, and 4 36-inch steel piles. Vibratory and impact pile driving could occur for approximately 69 days from May through December 2012. Barges and heavy equipment also would be used to remove the existing caissons and decking. All activities would occur during daylight hours only.

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, harbor porpoises, and gray whales. 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. The measures include—

- using a bubble curtain to reduce sound pressure levels during impact driving of steel piles;
- conducting in-situ sound propagation measurements during the initial installation of the three pile sizes/types and adjusting the respective Level A and B harassment zones, as necessary;
- using one Service-approved protected species observer to monitor the Level A and B harassment zones 30 minutes prior to, during, and 30 minutes after impact pile driving;
- using delay and shut-down procedures;
- using soft-start procedures for vibratory and impact pile driving at the beginning of the work day and when hammering ceases for more than 30 minutes;
- ceasing in-water activities for two weeks to minimize impacts on pinnipeds if herring spawning occurs between 1 December and 28 February;
- using at least two Service-approved protected species observers to monitor the Level B harassment zone during vibratory pile driving for the first two weeks of pile driving and reducing monitoring requirements if animals are not observed within the harassment zone during those two weeks;
- using infrared scopes to conduct observations in low light conditions;
- reporting injured and dead marine mammals to the Service and local stranding network using the Service's phased approach and suspending activities, if appropriate; and
- submitting a final report.

### **Mitigation and monitoring measures**

Protected species observers would monitor during all impact pile-driving activities primarily to implement shut-down or delay procedures. However, observers may monitor only for the first two weeks of vibratory pile-driving activities to validate the take estimates and evaluate behavioral impacts. Subsequently, the Service may reduce the monitoring requirements during vibratory pile driving if no animals are observed within the Level B harassment zone. The Service has indicated that it will not require continuous observations during vibratory pile driving, because it believes that the sound levels from those activities will not cause Level A harassment or mortality. However, the Port is required to report on the number of marine mammals that are harassed incidental to the proposed activities.

For a number of reasons, the Commission believes that it would be prudent to monitor behavior during all vibratory pile-driving activities. Marine mammal responses to vibratory pile driving are not well studied and thus it is unclear how some marine mammals may react. Continuous monitoring is the only way to ensure that unexpected reactions are detected, documented, and evaluated. In contrast, intermittent and infrequent observations may not provide the data needed for

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accurate evaluation of the full effects of pile driving. For example, if monitoring does not occur when marine mammals are most likely to be present, especially in the first two weeks of activities, then the resulting observations may not be indicative of actual impacts and the number of takes may be under-estimated. Finally, monitoring during all pile-driving activities (i.e., during impact and vibratory hammer use) is the only way for the applicant and the Service to be confident that they are causing the least practicable impact. For all of these reasons, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the Port to monitor the presence and behavior of marine mammals during all vibratory and impact pile-driving activities.

The Commission has noted in previous correspondence that the effectiveness of ramp-up as a mitigation measure has yet to be empirically verified. As with the ramp-up of airguns, the Service should not assume, absent empirical verification, that using soft-starts when driving piles constitutes an effective mitigation method. Such verification may require not only collecting opportunistic data but also designing and conducting studies to test specific hypotheses regarding the utility of soft-start procedures and analysis of responses of the various species encountered. Because the vibratory hammer has the potential to harass marine mammals, the Marine Mammal Commission repeats its recommendation that the National Marine Fisheries Service require the Port to monitor before, during, and after all soft-starts of vibratory and impact pile-driving activities to gather the data needed to determine the effectiveness of this technique as a mitigation measure.

In addition, the Service indicated that soft-start procedures would occur if pile driving ceases for more than 30 minutes. If, however, a pinniped is not resighted outside of the Level A harassment after a delay or shutdown, observers must wait only 15 minutes to deem that zone clear of all pinnipeds. It appears that pile driving could begin at full power after 15 minutes. The Commission believes that soft-start procedures should be initiated after extended periods without pile driving based on the respective clearance times (i.e., after 15 minutes for pinnipeds and 30 minutes for cetaceans) rather than one set period. As such, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the Port to implement soft-start procedures after 15 minutes for pinnipeds and 30 minutes for cetaceans, if pile driving was delayed or shut down due to the presence of a marine mammal within or approaching the Level A harassment zone.

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

Sincerely,



Timothy J. Ragen, Ph.D.  
Executive Director