



MARINE MAMMAL COMMISSION

8 March 2013

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 submitted by the Washington State Department of Transportation Ferries Division 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 replacement of structures at the Orcas Island and Friday Harbor ferry terminals in the San Juan Islands, Washington. The incidental harassment authorization would be valid for one year. The Commission also has reviewed the National Marine Fisheries Service's 8 February 2013 notice (78 Fed. Reg. 9373) 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 but—

- justify its conclusion that the proposed taking will involve only a small number of southern resident killer whales and work with the Fish and Wildlife Service and the Commission to develop a policy that sets forth the criteria and/or thresholds for determining what constitutes “small numbers” and “negligible impact” for the purpose of authorizing incidental takes of marine mammals;
- require the Ferries Division to monitor the Level B harassment zone at least 30 minutes before, during, and 30 minutes after the proposed pile-removal and -driving activities to ensure that those activities are not having an unintended effect on marine mammals in or near the zone; and
- specify in its authorization that, after a delay, power down, or shutdown, the Ferries Division would not resume activities until the marine mammal (1) is observed to have left the Level B harassment zone or (2) has not been seen or otherwise detected within the Level B harassment zone for 15 minutes for small odontocetes and 30 minutes for mysticetes and large odontocetes, including killer whales.

RATIONALE

The Ferries Division plans to replace the current structures used to guide ferries into each of the two terminals and hold them in place while docked. During the project, operators would remove

208 13-in timber piles using a vibratory hammer, clamshell bucket, and/or direct pull. They also would install 12 24- to 30-in and 8 36-in steel piles using a vibratory hammer. They would install the piles in waters of approximately 10.4 m depth based on mean lower low water. The Ferries Division expects pile removal and installation to take 17 days (weather permitting) between 1 September 2013 and 15 February 2014. It would limit activities to daylight hours only.

The Service preliminarily has determined that, at most, the proposed activities temporarily would modify the behavior of small numbers of 11 marine mammal species. The Service anticipates that any impact on the affected species and stocks would be negligible. The Service also 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 no more than one vibratory hammer at any given time to remove/install piles;
- using two Service-approved protected species observers (one land- and one vessel-based) to monitor the Level B harassment zone 20 minutes prior to, during, and 30 minutes after vibratory pile removal and driving (no Level A harassment zone);
- using ramp-up procedures at the beginning of pile-removal or –driving activities and when those activities have been interrupted for more than 30 minutes;
- using delay, power-down, and shut-down procedures if the number of marine mammal takes for any species or stock reaches the limit authorized for that species or stock under the incidental harassment authorization and an animal from that species or stock approaches the Level B harassment zone;
- obtaining in-situ marine mammal sightings data from the Orca Network and/or Center for Whale Research on a daily basis and, if a southern resident killer whale is sighted, on a real-time basis;
- obtaining in-situ marine mammal acoustic detection data from the Orca Network on a daily basis to supplement its monitoring efforts;
- 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.

Small numbers and negligible impact

The Act allows the authorization of incidental taking if it involves “small numbers of marine mammals of a species or population stock” and has negligible impact on such species or stock. The courts have ruled that “small numbers” and “negligible impact” are not synonymous and the former cannot be defined on the basis of the latter—that is, they are separate standards. Defining the term “small numbers” for application to multiple species or stocks has been a challenge. An absolute definition (i.e., a set number of animals) might make sense in some cases but would not in others. A relative definition (e.g., a percentage) also might be appropriate in some cases but not in others.

The Ferries Division indicated in its application that the Service has defined “small numbers” as no more than 20 percent of the species or stock. Based on that definition, the Service could authorize the incidental taking of no more than 16 southern resident killer whales (based on an abundance estimate of 84 individuals). The Commission was unaware that the Service had

defined “small numbers” to be no more than 20 percent of the species or stock, because it recently had authorized incidental takes that exceed that threshold (77 Fed. Reg. 65060, 77 Fed. Reg. 27284). The inconsistency raises the important question of how the Service determines whether the number of takes incidental to any proposed activity constitutes “small numbers.” In this case, the southern resident killer whale population has been declining and likely would continue to decline even if the Ferries Division did not conduct the proposed activity. That is, the population appears to have no tolerance for added impacts or losses.

Perhaps the best approach to define “small numbers” would be for the National Marine Fisheries Service, Fish and Wildlife Service, and Commission to form a task force to develop an appropriate working definition that could then be submitted for public review and comment. Until such a definition is developed, the Service will need to justify its judgments regarding “small numbers” of marine mammal species taken by various human activities. With that need in mind, the Marine Mammal Commission recommends that the National Marine Fisheries Service justify its conclusion that the proposed taking will involve only a small number of southern resident killer whales. To address this issue more broadly, the Commission recommends that the Service work with the Fish and Wildlife Service and the Commission to develop a policy that sets forth the criteria and/or thresholds for determining what constitutes “small numbers” and “negligible impact” for the purpose of authorizing incidental takes of marine mammals.

Mitigation and monitoring measures

The Service would require observers to monitor the Level B harassment zone 20 minutes before, during, and 30 minutes after pile removal or driving. It also would require that operators implement delay, power-down, or shut-down procedures during pile removal or driving if, for any given marine mammal species or stock, the number of takes reaches the limit stipulated in the incidental harassment authorization and an animal from that species or stock approaches the Level B harassment zone. However, the Service did not, but should, describe in the incidental harassment authorization, if issued, the specific details regarding how those procedures would be implemented.

The Service indicated that continuous monitoring would be required to ensure that the number of authorized takes would not be exceeded, primarily to protect southern resident killer whales. The Commission commends the Service for requiring continuous monitoring of the Level B harassment zone during all activities and believes that such monitoring should be required for all incidental harassment authorizations to ensure the numbers of authorized takes are not exceeded for all species, not just species that also are protected under the Endangered Species Act. Therefore, it encourages the Service to include such requirements in all incidental harassment authorizations.

The Service indicated that it believes that monitoring for only 20 minutes before the pile removal or driving would be sufficient given that there is no exclusion zone (i.e., Level A harassment zone) and no animals would be injured. The Commission does not agree with that view. First, monitoring serves a two-fold purpose: it provides a basis for determining the number of animals taken and it also provides an indication of when mitigation measures are needed to ensure marine mammals in the area are adequately detected and protected. Whether a marine mammal in the Level B harassment zone is observed is a function of at least two factors: its “availability” for sighting (i.e., it is at the surface) and the probability that the observer “detects” it when it is available for sighting. These factors are subject to change or influence by additional secondary factors (e.g.,

marine mammal behavior, lighting, surface conditions, observer distractions). Observation results clearly indicate that the probability of sighting a specific object (in this case a marine mammal) increases with sighting effort (including time). Thus, an additional 10 minutes of observation should increase the probability of detecting a killer whale (for example) in the Level B harassment zone.

Second, Level B harassment zones generally are large because the low-frequency sounds produced by vibratory hammers propagate over large distances. Observers are more likely to sight marine mammals in close proximity, but less likely to observe marine mammals farther from their monitoring platform. That being the case, more time spent observing the farther reaches of the Level B harassment zone should increase the likelihood of detecting marine mammals in that zone.

Third, the supposition that no injury will occur is based on the assumption that the sounds produced by pile-removal and -driving activities are all the same and that individual animals are all equally and predictably vulnerable to the sound. But research supports that not all animals are the same and some may be more vulnerable than others as a function of age, previous exposure, or natural variability in hearing. Thus, one might conclude that the probability of injury is generally low, but that conclusion is not sufficient to rule out the possibility that at least some animals might be more vulnerable than is implied by use of an absolute threshold.

Fourth, the southern resident killer whale stock is the population of most concern in this instance. The four leading hypotheses to explain the decline of this population include presence of contaminants, loss of prey, disturbance by human activities, and some combination of those three. The sound created by pile removal and driving is of most concern for the proposed activity, and it may have a biologically significant effect if it changes the behavior of even a single killer whale. As stated previously, the entire stock is thought to include about 84 animals and any reduction in survival or reproduction would be significant. For all these reasons, the Marine Mammal Commission recommends that the National Marine Fisheries Service require the Ferries Division to monitor the Level B harassment zone at least 30 minutes before, during, and 30 minutes after the proposed pile-removal and -driving activities to ensure that those activities are not having an unintended effect on marine mammals in or near the zone.

Finally, the Service generally requires that pile removal or driving be delayed, powered down, or shut down when a marine mammal has been detected near or within the proposed harassment zone. Under those conditions, the action proponent would not resume its activities until the marine mammal (1) is observed to have left the harassment zone or (2) has not been seen or otherwise detected within the harassment zone for 15 minutes in the case of small odontocetes and 30 minutes in the case of mysticetes and large odontocetes, including killer whales. For reasons similar to those described above, the Marine Mammal Commission recommends that the National Marine Fisheries Service specify in its authorization that, after a delay, power down, or shutdown, the Ferries Division would not resume activities until the marine mammal (1) is observed to have left the Level B harassment zone or (2) has not been seen or otherwise detected within the Level B harassment zone for 15 minutes for small odontocetes and 30 minutes for mysticetes and large odontocetes, including killer whales.

Mr. P. Michael Payne
8 March 2013
Page 5

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

Sincerely,

A handwritten signature in blue ink that reads "Timothy J. Ragen". The signature is written in a cursive style with a prominent horizontal line at the beginning.

Timothy J. Ragen, Ph.D.
Executive Director