



# MARINE MAMMAL COMMISSION

3 April 2015

Ms. Jolie Harrison, Chief  
Permits and Conservation Division  
Office of Protected Resources  
National Marine Fisheries Service  
1315 East-West Highway  
Silver Spring, MD 20910-3225

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the application submitted by Huna Totem Corporation (HTC) 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 activities at the Icy Strait Point Cruise Ship Terminal in Hoonah, Alaska, during a one-year period. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 20 March 2015 notice (80 Fed. Reg. 14945) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

HTC plans to construct a new cruise ship berth terminal in the waters of Port Frederick. During the project, operators would install permanent steel piles ranging in size from 24- to 60-in and install and remove 24-in temporary piles. All piles would be installed and removed<sup>1</sup> using a vibratory hammer and proofed using an impact hammer. The *Federal Register* notice indicated that HTC expects pile removal and installation to take up to 20 days between 1 June and 31 October 2015. However, HTC has now indicated that pile driving and removal would occur on 103 days during that timeframe.

NMFS preliminarily has determined that, at most, the proposed activities would temporarily modify the behavior of small numbers of 9 marine mammal species. NMFS anticipates that any impact on the affected species and stocks would be negligible. NMFS 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 measures. The mitigation, monitoring, and reporting measures include—

- conducting activities during daylight hours only;
- using no more than one vibratory hammer at any given time to remove/install piles;
- using ramp-up, delay, and shut-down procedures;

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<sup>1</sup> However, timber piles would be removed using direct pull and clamshell bucket.

- using at least two and up to three<sup>2</sup> protected species observers (land- and/or vessel-based observers in the near and far field) to monitor the Level B harassment zones 20 minutes prior to, during, and 30 minutes after pile driving and removal;
- ceasing other heavy machinery work (i.e., activities other than pile driving and removal) if any marine mammal comes within 10 m of the vessel or equipment;
- reporting injured and dead marine mammals to NMFS and the regional stranding coordinator using NMFS's phased approach and suspending activities, if appropriate; and
- submitting a final report.

### Sound sources and source levels

The *Federal Register* notice indicated that HTC would use a down-the-hole drilling system<sup>3</sup> to drill the piles into bedrock at the cruise ship terminal. However, estimated source levels were not provided and the potential taking by the down-the-hole drilling system was not discussed. Empirical measurements for pile driving using a down-the-hole drilling system or down-hole hammer apparently do not exist. Nevertheless, in a previous authorization, the Maine Department of Transportation (ME DOT) proposed to establish, and NMFS authorized, a 333-m Level A harassment zone and 1,000-m Level B harassment zone<sup>4</sup> for down-hole pile driving until in-situ measurements were collected (79 Fed Reg. 59248). ME DOT proposed to install piles of smaller diameter, ranging from 16 to 36 in, than those proposed by HTC<sup>5</sup>. Therefore, it is unclear if the ME DOT Level A harassment zone<sup>6</sup> would be directly applicable to HTC's activities<sup>7</sup>, but it does provide a metric for comparison. For the HTC authorization, the Commission acknowledges that HTC's proposed Level B harassment zone is equal to or greater than the Level B harassment zone for ME DOT's activities but that is not the case for the Level A harassment zone. HTC would implement mitigation measures if an animal approaches the Level A harassment zone of 100 m, which is more than three times smaller than the ME DOT zone. Although the approach authorized by NMFS for ME DOT was precautionary, that is not true of the approach proposed for HTC. The Commission is unsure why the use of down-the-hole drilling systems or down-hole hammers, and the potential for taking, would be authorized and impacts mitigated in one incidental harassment authorization but not in another. Since the down-the-hole drilling systems and down-hole hammers are used to install piles much like vibratory and impact hammers, those sources should be included in incidental harassment authorizations. Therefore, the Commission recommends that NMFS (1) include the down-the-hole drilling system in its incidental harassment authorization and consult with either ME DOT or the associated NMFS analyst regarding the appropriate Level A and B harassment zones, which may have been updated with in-situ measurements and (2) take a consistent approach for activities it proposes to authorize in the future, including the use of down-the-hole drilling systems and down-hole hammers.

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<sup>2</sup> Depending on the size of the Level B harassment zone.

<sup>3</sup> Or down-hole hammer.

<sup>4</sup> Those distances were based on the observation by Nedwell and Edwards' (2002) measurements of pile-driving attenuation in salt water.

<sup>5</sup> Up to 60 in.

<sup>6</sup> Which may have been adjusted based on in-situ measurements by this point.

<sup>7</sup> Based on the pile sizes and the sediment characteristics.

In addition, the *Federal Register* notice indicated that the Level B harassment zone for vibratory pile driving is estimated to be 21.5 km, which was based on the source level of 170 dB re 1  $\mu$ Pa at 10 m for installation of a 72-in pile (California Department of Transportation (Caltrans) 2012). The Commission is concerned that this may not be the most pertinent in-situ source level information. Although the 72-in pile is larger than the piles HTC plans to install, the measurements were collected in 2003 when fewer vibratory hammers were in use and in-situ measurements were just beginning to be collected. Two vibratory hammers also were used to install the 72-in pile, neither of which was able to install it to the specified depth. Thus, the source levels may not have been accurate. In recent years, Washington Department of Transportation (WSDOT) has been conducting in-situ measurements of vibratory installation of various-sized piles. In a recent authorization, NMFS and WSDOT used source levels of 174 and 177 dB re 1  $\mu$ Pa at 10 m for installation of 30- and 36-in piles, respectively (80 Fed. Reg. 11648<sup>8</sup>). WSDOT data may be available for the larger piles that HTC plans to use as well. The Commission understands that the extent of the Level B harassment zone likely will not be affected by a greater source level, because the zone apparently intersects land before reaching its maximum extent. However, the Commission continues to believe that accurate information should be included in NMFS's analysis of the proposed activities and its proposed authorizations and therefore recommends that NMFS review WSDOT's available data and reports, consult with the associated NMFS analyst to determine the appropriate source levels relative to HTC's proposed activities, and amend the authorization accordingly. In the future, NMFS should ensure that the best available information is used to inform its authorizations, including in-situ measurements collected by Caltrans, WSDOT, and other operators—this may be achieved by compiling pile-driving<sup>9</sup> and -removal data in a central database.

### Number of takes

Although data from Dahlheim et al. (2008)<sup>10</sup> were referenced extensively throughout NMFS's *Federal Register* notice, it appears that the Gabriele and Lewis (2000) data<sup>11</sup> were used to estimate the numbers of marine mammals that would be taken during the proposed activities. For most species, HTC determined the maximum number of each species sighted during the three-month period in Gabriele and Lewis (2000) and prorated that to the four months that the proposed activity could occur. While Gabriele and Lewis (2000) presented actual numbers of sightings in tabular form<sup>12</sup>, the vast majority of those sightings did not occur in HTC's project area. There appear to be more sightings data for the project area in Dahlheim et al. (2008)<sup>13</sup> than in Gabriele and Lewis (2000), making the former a better source upon which to base the take estimates. In addition, the data from Gabriele and Lewis (2000) are older than the data in Dahlheim et al. (2008). The Commission also is concerned, that although the numbers of takes were estimated for a four-month work window, HTC originally indicated that pile driving would occur on only 20 days. Some of the

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<sup>8</sup> See WSDOT's application and associated marine mammal monitoring plan for specifics on source levels since NMFS did not include the levels in the notice.

<sup>9</sup> Including impact, vibratory, and down-hole hammers, down-the-hole drilling systems, and other equipment.

<sup>10</sup> Data were based on systematic marine mammal surveys conducted from 1991–2007 throughout southeast Alaska, including Icy Strait.

<sup>11</sup> Data were based on opportunistic marine mammal surveys conducted from 1994–1999 in Glacier Bay and northern Icy Strait. For most species, HTC determined the maximum number of each species sighted during the three-month period and prorated that to the four months that the proposed activity could occur.

<sup>12</sup> Dahlheim et al. (2008) presented the data in figures, which are a bit more difficult to analyze.

<sup>13</sup> And from Dahlheim (2015).

take estimates (e.g., for humpback whales and harbor seals) may be reasonable if activities were to occur on 20 days but if pile driving and removal (not including the use of the down-the-hole drilling system) are to occur on 103 days, the takes likely are vastly underestimated. Therefore, to provide a more accurate assessment of the numbers of marine mammals<sup>14</sup> that could potentially be harassed in the area, the Commission recommends that NMFS re-estimate the numbers of takes based on (1) sightings data<sup>15</sup> that serve as the basis for Dahlheim et al. (2008), Dahlheim (2015), and other related references and correspondence and (2) the total number of activity days for pile installation and removal, including days the down-the-hole drilling system would be used. For species not found in any of the Dahlheim references, NMFS should review the current literature and consult as necessary with the relevant NMFS researchers at AFSC to determine appropriate sightings data to be used. For species in which the estimated takes are less than mean group size, takes should be increased to mean group size.

If NMFS does not intend to revise the take estimates based on the total number of activity days, the Commission offers the following rationale and recommendations. In addition to sightings data, Dahlheim et al. (2008) included information on group size—information that does not appear to have been incorporated into the proposed authorization. For example, NMFS proposed to authorize 1 take for Pacific white-sided dolphins and 1 take for gray whales, species that generally aren't observed in the project area on a regular basis. However, Dahlheim et al. (2008) observed Pacific white-sided dolphins just west of the project area in summer and found that group size ranged from 16 to 153 dolphins in southeast Alaska in summer, which is much greater than 1. For gray whales, NMFS indicated that whales of this stock migrate to the southern end of their range for breeding and calving and it is assumed that any individual gray whale that were to be exposed to Level B harassment would be a solitary adult male or female. The Commission is unsure why NMFS would assume that most gray whales would be found on the breeding and calving grounds in the summer, as many gray whales feed off of Alaska during those months. In addition, gray whales likely wouldn't be observed as lone individuals off Alaska. For these reasons, the Commission recommends that NMFS increase the total authorized takes to at least the mean group size for Pacific white-sided dolphins and gray whales.

NMFS proposed to authorize up to 120 takes for killer whales and 12 takes for Dall's porpoises based on Gabriele and Lewis (2000). However, based on sightings and group sizes in the Icy Strait area from Dahlheim et al. (2008), those also appear to be underestimates. Group size for killer whales in summer ranged from 24 to 45 for residents and 3 to 15 for transients (Dahlheim et al. 2008). Sightings of animals from both killer whale stocks occur in the project area in summer and fall. Further information provided by Dahlheim (2015) indicated that, for the specific resident killer whale pods found in the Icy Strait area, group size ranges from 42 to 79. Those whales use the Icy Strait corridor to enter and exit inland waters and are observed in every month of the year, with certain pods being observed inside Port Frederick passing directly in front of Hoonah (Dahlheim 2015). Based on those group sizes, only a few pods of killer whales would have to be observed during the proposed activities to reach the authorized number of takes. Similarly for Dall's porpoises, group size ranged from 3 to 6 (Dahlheim et al. 2008). Only a few groups of Dall's porpoises would have to be observed to meet the take limit of 12. However, Dall's porpoises have been observed in large concentrations in the project area (Dahlheim et al. 2008) and it is unrealistic

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<sup>14</sup> This may include both the number of individuals and the total number of takes for each species.

<sup>15</sup> Densities would be preferred but raw daily sightings data could be used as well.

to assume they would be observed on only a few occasions. Therefore, the Commission recommends that NMFS review sightings and group size data for killer whales and Dall's porpoises from Dahlheim et al. (2008) and Dahlheim (2015) and adjust the number of takes based on the proposed activities accordingly.

For harbor porpoises, NMFS proposed to authorize 504 harbor porpoise takes based on Gabriele and Lewis (2000). Dahlheim et al. (2008) included a very large number of sightings in the project area, and Dahlheim (2015) further indicated that 332 resident harbor porpoises occur in the Icy Strait area, which are known to use the Port Frederick area as part of their core range. Thus, the take estimates provided would equate to all the individuals being taken fewer than two times during the proposed activities—an unlikely scenario given that the proposed activities would occur on 103 days. Again on the basis of sightings data from Gabriele and Lewis (2000), NMFS proposed to authorize 56 Steller sea lion takes. Womble et al. (2009) included more recent Steller sea lion haul-out abundance estimates from 2001–2004. Based on the Womble et al. (2009) counts at the three haul-out sites<sup>16</sup> closest to the proposed project area, takes of Steller sea lions should be reassessed as well. For these reasons, the Commission recommends that NMFS review data from Dahlheim et al. (2008) and Dahlheim (2015) for harbor porpoises and from Womble et al. (2009) for Steller sea lions to ensure that the number of takes for those species have been estimated appropriately for the proposed activities and if not, amend the take estimates accordingly.

### **Mitigation and monitoring measures**

NMFS would require observers to monitor the Level A and B harassment zones 20 minutes before, during, and 30 minutes after pile driving and removal. It also would require that operators implement delay, power-down, or shut-down procedures during pile removal or driving if an animal approaches the Level A harassment zone. However, NMFS did not describe in the incidental harassment authorization any details regarding how those procedures would be implemented. In other pile-driving authorizations that include the taking of large and medium-sized whales<sup>17</sup>, NMFS requires observers to monitor the harassment zones 30 minutes before, during, and 30 minutes after pile driving and removal. NMFS also requires that, after a delay, power down or shutdown, the operator would not resume 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 for small odontocetes and pinnipeds and 30 minutes for large and medium-sized whales. Those requirements are considered standard mitigation and monitoring measures<sup>18</sup>. Therefore, the Commission recommends that NMFS require HTC to (1) monitor the harassment zones at least 30 minutes before, during, and 30 minutes after the proposed pile-driving and -removal activities and (2) that after a delay, power down, or shutdown, not resume activities until the marine mammal (a) is observed to have left the Level A harassment zone or (2) has not been seen or otherwise detected within the Level A harassment zone for 15 minutes for small odontocetes and 30 minutes for large and medium-sized whales.

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<sup>16</sup> Point Carolus, Rocky Island, and Funter Bay.

<sup>17</sup> Which NMFS has assumed can remain underwater and undetected for longer than 15 minutes.

<sup>18</sup> See 80 Fed. Reg. 11648 for a recent authorization regarding pile driving and removal.

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The Commission hopes you find this letter helpful. Please contact me if you have questions regarding the Commission's recommendation.

Sincerely,



Rebecca J. Lent, Ph.D.  
Executive Director

## References

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