



# MARINE MAMMAL COMMISSION

9 July 2020

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 Washington State Department of Transportation (WSDOT) seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to construction of a ferry terminal in Mukilteo, Washington. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 12 June 2020 notice (85 Fed. Reg. 35906) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions.

WSDOT plans to install and remove piles during construction of a new ferry terminal in Mukilteo. This is the fourth and final season of pile-driving and -removal activities. Operators would (1) install 2 36-in steel pipe piles and remove up to 69 24-in steel piles using a vibratory hammer and (2) remove up to 290 12-in timber piles using a vibratory hammer, direct pull, or clamshell bucket. WSDOT's activities could occur on up to 54 days, weather permitting, during daylight hours only.

NMFS preliminarily has determined that, at most, the proposed activities could cause Level B harassment of small numbers of 11 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 proposed mitigation, monitoring, and reporting measures include—

- ceasing in-water heavy machinery activities if any marine mammal comes within 10 m of the equipment and reducing vessel speed to the minimum level required to maintain steerage and safe working conditions<sup>1</sup>;

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<sup>1</sup> The Commission informally noted that NMFS omitted its recently revised standard measure from the *Federal Register* notice: "For in-water heavy machinery work other than pile driving (*e.g.*, standard barges, *etc.*), if a marine mammal comes within 10 m, operations shall cease and vessels shall reduce speed to the minimum level required to maintain steerage and safe working conditions. This type of work could include the following activities: (1) Movement of the barge to the pile location; or (2) positioning of the pile on the substrate via a crane (*i.e.*, stabbing the pile)" 85 Fed. Reg. 35288. NMFS indicated the measure would be added to the notice for final authorization issuance.

- using standard delay and shut-down procedures;
- using two or four (land- or ferry-based)<sup>2</sup> qualified protected species observers to monitor the Level A<sup>3</sup> and B harassment zones for 30 minutes before, during, and for 30 minutes after the proposed activities;
- obtaining both marine mammal (1) sightings data from the Orca Network and/or Center for Whale Research and (2) acoustic detection data from the Orca Network<sup>4</sup> on a daily basis;
- using delay and shut-down procedures, if a species for which authorization has not been granted or if a species (including Southern Resident killer whales<sup>5</sup>) for which authorization has been granted but the authorized takes are met, approaches or is observed within the Level A and/or B harassment zone;
- reporting injured and dead marine mammals to the Office of Protected Resources and the West Coast Regional Stranding Coordinator and ceasing activities, if appropriate; and
- submitting a draft and final report.

### General comments

*Issues with the proposed authorization*—In addition to the various inconsistencies and omissions in the *Federal Register* notice and draft authorization that have already been noted herein, the Commission informally noted multiple substantive issues as well. Those included—

- The Level B harassment zone for vibratory removal of 12-in timber piles was underestimated and did not comport with the method and assumptions used for vibratory installation of 30-in steel piles. Both were based on previous in-situ measurements conducted by WSDOT and local ambient conditions at Mukilteo. However, the Level B harassment zone for vibratory removal of 12-in timber piles was based on where the sound was *still audible*, while the Level B harassment zone for vibratory installation of 30-in steel piles was based on where the sound was *inaudible* due to ambient conditions<sup>6</sup>. NMFS indicated that it would increase the Level B harassment zone for vibratory removal of 12-in timber piles from 1.13 km to 1.60 km<sup>7</sup> and revise the numbers of takes accordingly.

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<sup>2</sup> The Commission informally noted that NMFS stated in the *Federal Register* notice that two land-based PSOs would monitor during removal of 12-in piles and four land- and one ferry-based PSOs would monitor during installation of 30-in piles and removal of 24-in piles; whereas, those details were omitted from section 5 in the draft authorization and are inconsistent with WSDOT's monitoring plan. The monitoring plan indicated that two land-based PSOs would monitor during removal of 12-in piles and three land- and one ferry-based PSOs would monitor during installation of 30-in piles and removal of 24-in piles. NMFS confirmed that the information in the monitoring plan was correct and that the notice for final authorization issuance and the final authorization will specify the correct number and location of PSOs.

<sup>3</sup> And shut-down zones.

<sup>4</sup> The Commission informally noted that NMFS stated in the *Federal Register* notice that the Orca Network via the SeaSound Remote Sensing Network would provide acoustic detection data; whereas, condition 5(c)(i) in the draft authorization indicated that WSDOT would coordinate with the Local Marine Mammal Research Network to obtain such data. NMFS indicated that it would revise the final authorization to clarify this in the final authorization.

<sup>5</sup> Including shutting down when killer whales are observed and their stock is unknown. The Commission informally noted that NMFS omitted the 15-minute clearance time from condition 4(i)(C) in the draft authorization. NMFS indicated it would include the clearance time in condition 4(i)(C) in the final authorization

<sup>6</sup> Which was greater than the 120-dB re 1  $\mu$ Pa threshold.

<sup>7</sup> The ensonified area also increased from 1.2 km<sup>2</sup> to 3.9 km<sup>2</sup>.

- None of the densities that were provided in Table 7 of the *Federal Register* notice and used to estimate number of takes are correct based on Department of the Navy (2019)<sup>8</sup>, which was the reference for those densities (85 Fed. Reg. 35914). NMFS indicated that it would increase the densities for harbor seals, California sea lions, Steller sea lions, transient killer whales, and humpback whales and decrease the densities for gray whales, minke whales, harbor porpoises, and Dall's porpoises based on the appropriate data<sup>9</sup> in Department of the Navy (2019) and revise the numbers of takes accordingly. Based on NMFS's revised take estimates—
  - Take estimates would remain unchanged for gray whales, humpback whales, minke whales, and transient killer whales due to either small changes in the densities or group size assumptions superseding the take estimates<sup>10</sup>.
  - The number of takes would decrease from 1,360 to 1,322 for harbor porpoises.
  - The number of takes would increase from 3,794 to 4,989 for harbor seals, which NMFS contends is an overestimate. The Commission disagrees. WSDOT's 2019–2020 monitoring report indicated that on a given day, up to 46 harbor seals<sup>11</sup> were sighted within 350 m of the PSOs. Using the revised density estimates, 11 harbor seals are estimated to occur within the Level B harassment zone of 1.6 km. As such, the revised harbor seal density estimate does not lead to an overestimation of takes. If anything, it is still an underestimation, particularly when WSDOT extrapolates the number of observed takes to the total takes based on the actual extents of the Level B harassment zones, which is discussed in further detail herein. NMFS has since indicated it would use a daily high sightings count of 72 harbor seals<sup>12</sup> from 2017, as cited in WSDOT's application. That is still an underestimate, as NMFS's area x density method would yield an average daily take estimate of approximately 92 seals<sup>13</sup>. NMFS should be using best available science to inform its take estimates, unless those take estimates are underestimated as compared to monitoring data. In this instance, the unextrapolated monitoring data would yield fewer takes than the area x density method, which can be perceived as an effort to reduce the numbers of takes arbitrarily. NMFS should authorize 4,989 harbor seal takes.
  - The numbers of takes would increase from 217 to 390 for California sea lions and from 63 to 84 for Steller sea lions<sup>14</sup>. However, those take estimates are still underestimated based on WSDOT's monitoring data from 2019–2020. The Commission informally

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<sup>8</sup> It appears that Department of the Navy (2015) was used instead of Department of the Navy (2019).

<sup>9</sup> Based on the location of Mukilteo and the highest seasonal density estimate for that area.

<sup>10</sup> Take estimates also did not change for common bottlenose dolphins and elephant seals, because Navy (2019) does not include densities for those species near Mukilteo and group size estimates were used to inform the take estimates from the outset.

<sup>11</sup> Based on 46 harbor seal sightings denoted as 'not a duplicate' on 9 December 2019 in WSDOT's raw sightings spreadsheet.

<sup>12</sup> Again, harbor seals are sighted, at most, 1 km from a PSO. The Level B harassment zones extend to 1.6 km and 7.9 km.

<sup>13</sup> 4,989 takes divided by 54 days of activities equates to 92.4 seals estimated to be taken per day on average.

<sup>14</sup> The Commission also informally noted that the Steller sea lion densities in Navy (2019) must be increased based on the growth rate data up to 2020, consistent with its previous letters on this matter (e.g., [12 June 2020 letter](#)) and NMFS's previous approach when using pinniped densities from Navy (2019; e.g., 85 Fed. Reg. 19617). The revised forward-projected density of 0.062 sea lions/km<sup>2</sup> would result in 109 takes.

noted that up to 45 California sea lions and 6 Steller sea lions<sup>15</sup> were observed on a given day by WSDOT. NMFS indicated that it would instead assume that 30 California sea lions and 2 Steller sea lions would be taken on a given day based on daily high sightings counts from 2015 and 2019, respectively, as cited in the application. Neither of those estimates are high sightings counts based on WSDOT's 2019–2020 monitoring report, even though WSDOT indicated that the Steller sea lion data originated from that report. For California sea lions, more than 30 sea lions were observed on 7 of the 34 days of monitoring in 2019–2020. Similarly, more than two Steller sea lions were observed on two of the nine days that Steller sea lions were observed in 2019–2020. If NMFS intends to base the numbers of California and Steller sea lion takes on the highest daily sightings count, then those would be 45 and 6 sea lions, respectively, based on monitoring data from 2019. NMFS should authorize 2,430 takes of California sea lions and 324 takes of Steller sea lions.

- The number of takes would decrease from 82 to 1 for Dall's porpoises. The revised number of takes for Dall's porpoises was underestimated based on average group size of Dall's porpoises, which the Commission informally noted was five as specified in Department of the Navy (2018). NMFS indicated that it would revise the number of takes based on the assumption that a group would be taken during each of the seven months of activities, resulting in 35 takes of Dall's porpoises<sup>16</sup>.
- WSDOT's monitoring plan specified incorrect Level A harassment zones and shut-down zones and the plan would need to be amended based on the revised Level B harassment zone for vibratory removal of 12-in piles. Although WSDOT has since revised its monitoring plan, the Level A harassment zones have yet to be amended and are all still incorrect.

The Commission recommends that NMFS (1) include the revised Level B harassment zone of 1.6 km in the *Federal Register* for final issuance and in Tables 2<sup>17</sup> and 3 of the final authorization, (2) include the revised densities from Navy (2019) in the notice for final issuance, (3) revise the Level B harassment takes to 1,322 for harbor porpoises, 35 for Dall's porpoises, 4,989 for harbor seals, 2,430 for California sea lions, and 324 for Steller sea lions in the notice for final issuance and in Table 1 of the final authorization, and (4) ensure WSDOT is aware of the extents of the Level A harassment zones, as those specified in its monitoring plan are still incorrect.

*Issues with WSDOT's monitoring reports*—The Commission informally noted that WSDOT's monitoring report for 2019–2020 activities did not include the basic information (e.g., distance from the pile to the animal and total number of each species taken, including a correction factor as appropriate) that was required to be reported under the final authorization (e.g., conditions 6(a)(ix) and (xi), respectively)<sup>18</sup>. WSDOT must specify how far each animal is from the pile to determine whether the animal has been taken and extrapolate the observed takes to the total number of takes to ensure that it has not exceeded the authorized number. The Commission has informally and

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<sup>15</sup> Based on sightings denoted as 'not a duplicate' for 45 sightings of California sea lions on 6 and 13 December 2019 and for 6 sightings of Steller sea lions on 5 December 2019, respectively, in WSDOT's raw sightings spreadsheet.

<sup>16</sup> NMFS originally proposed to authorize 82 takes of Dall's porpoises (Table 8; 85 Fed. Reg. 35915). As such, authorizing 35 takes should not be an issue.

<sup>17</sup> Which is the shut-down zone for Southern Resident killer whales.

<sup>18</sup> <https://www.fisheries.noaa.gov/webdam/download/94475424>.

formally commented on this latter issue for previous WSDOT authorizations<sup>19</sup>, the most recent were for authorizations involving activities at Bremerton, Edmonds, and Seattle in summer 2019. At the time, NMFS indicated it would discuss internally how to extrapolate takes. The Commission assumed that the explicit requirements to extrapolate takes as included in the final authorizations, as well as any pre-determined method, would be conveyed to WSDOT. That apparently did not occur.

NMFS has indicated that it would work with WSDOT to develop a method to extrapolate Level B harassment takes again this year. It is unclear exactly what that method would entail. However, the Commission notes that the overwhelming majority of the pinniped sightings (98.8 and 98.6 percent of all harbor seal and California sea lion sightings, respectively<sup>20</sup>) included in the previous Mukilteo monitoring report occurred at or within 500 m of the PSOs. The majority of the sightings made beyond 500 m were made from the ferry and not land<sup>21</sup>—of those sightings all occurred at 1 km or less except a single sighting of each species at 1.5 km. The Commission questions the reported sighting of a harbor seal at 4,033 m from the PSO stationed at the new ferry terminal. Sighting a pinniped at that distance is impossible, particularly from that elevation, let alone being able to identify it as a harbor seal. Based on WSDOT's monitoring data, land-based PSOs are not consistently able to observe pinnipeds farther than 500 m and ferry-based PSOs are only readily observing them out to 1 km. Pinnipeds are not absent beyond those distances, detectability merely drops off with range. Absent information denoting otherwise and consistent with NMFS's assumption that densities are uniform in its take estimation method, extrapolation of the total number of takes should be implemented consistently across the Level B harassment zones. That is, if a PSO is only able to observe out to 1 km (or an area of 1.5 km<sup>2</sup>) and two PSOs are expected to be monitoring a total area of 6 km<sup>2</sup>, then the number of *observed takes* should be multiplied by two<sup>22</sup> to estimate the number of *total takes*.

Conversely, PSOs have sighted harbor porpoises 800 m from the ferry but can sight them out to a few kilometers from the various overlooks. It is imperative that WSDOT not assume that each observation platform affords the same detection range for the same species or across species. There could be two different detection ranges for each species or group (e.g., 500 m for land-based PSOs and 1 km for ferry-based PSOs for pinnipeds, 1 km for PSOs monitoring from the terminal, lighthouse, and ferry and 3 km for PSOs monitoring from overlooks for porpoises, etc.). The Commission recommends that NMFS (1) reinforce the fact that WSDOT must comply with the various reporting requirements in the final authorization, including conditions 6(a)(vii) and (xii), (2) ensure that WSDOT extrapolates the observed numbers of takes to the extents of the Level B harassment zones when estimating the total numbers of takes and by considering both the observation platform of each PSO and the species (e.g., 500 m for land-based PSOs and 1 km for ferry-based PSOs for pinnipeds, 1 km for PSOs monitoring from the terminal, lighthouse, and ferry and 3 km for PSOs monitoring from the Langley overlook for porpoises, etc.) for the 2020 final authorization, and (3) require WSDOT to submit a revised monitoring report for its 2019–2020 activities, consistent with conditions 6(a)(ix) and (xi) in the 2019 final authorization and the recommendations herein.

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<sup>19</sup> WSDOT did not provide raw sightings data in previous monitoring reports, otherwise the Commission would have alerted NMFS to this issue as well.

<sup>20</sup> From 1,145 sightings events for harbor seals and 694 sightings events for California sea lions.

<sup>21</sup> The same trends are evident for Steller sea lions, with only one sighting made beyond 500 m (at 600 m) and also from the ferry.

<sup>22</sup> The PSOs would only be able to monitor 3 km<sup>2</sup> of the 6 km<sup>2</sup> ensouffied area.

WSDOT also was required under the previous authorization to conduct in-situ measurements of vibratory installation of one 120- and two 78-in steel pipe piles at Mukilteo (see conditions 5 and 5(b) in the final authorization<sup>23</sup> and WSDOT's 14 June 2018 acoustic monitoring plan<sup>24</sup>). However, WSDOT was unable to conduct measurements during installation of any of those three piles. The Commission understands that issues can arise but, in the future, WSDOT should make a concerted effort to conduct the various measurements, particularly for larger piles installed with a vibratory hammer for which measurements are lacking.

The Commission has commented informally and formally on the shortcomings and inconsistencies associated with numerous recent proposed incidental harassment authorizations and monitoring reports<sup>[1]</sup>. It appears that NMFS's review processes (including its early review team meetings) are not adequately identifying and evaluating whether the proper source levels, Level A harassment inputs, modeling methodologies, Level A and B harassment zones, densities, group size estimates, take estimates, shut-down zones, etc. are being used. It is clear that NMFS needs to conduct more thorough reviews of applications, monitoring reports, *Federal Register* notices, and draft and final authorizations to minimize inaccuracies and inconsistencies and ensure transparency for the public. However, given limited staff time and resources, NMFS also should consider reassessing its various review processes to better support staff in identifying and addressing the deficiencies and inconsistencies noted herein.

### **Mitigation, monitoring, and reporting measures**

*Daylight hours*—NMFS indicated in the 'Proposed Mitigation' section of the *Federal Register* notice that pile installation would occur during daylight hours only (85 Fed. Reg. 35915). However, NMFS did not stipulate in the draft authorization that activities must occur during daylight hours only. Those standard conditions have been included in other recently-issued authorizations<sup>25</sup> and in other draft authorizations<sup>26</sup>. It is unclear why NMFS did not include them for WSDOT's draft authorization, particularly since NMFS indicated that daylight hours were one of two timing restrictions in the 'Proposed Mitigation' section of its notice. NMFS specifically stated that work would occur only during daylight hours, when visual monitoring of marine mammals can be conducted (85 Fed. Reg. 35915). The Commission agrees that requirement is necessary to ensure that WSDOT is effecting the least practicable adverse impact on the species and stocks, particularly Southern Resident killer whales<sup>27</sup>, and recommends that NMFS include in the final authorization the requirement that WSDOT conduct pile-driving and -removal activities during daylight hours only.

*Tally of takes*—Although it is unclear from both the preamble and the draft authorization whether WSDOT will keep a running tally of the total Level B harassment takes, including observed and

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<sup>23</sup> <https://www.fisheries.noaa.gov/webdam/download/94475424>.

<sup>24</sup> <https://www.fisheries.noaa.gov/webdam/download/76715962>.

[1] For example, see the Commission's recent [29 June 2020](#), [5 June 2020](#), [21 May 2020](#), [20 April 2020](#), [23 March 2020](#), [10 February 2020](#), [3 February 2020](#), [23 January 2020](#), and [9 January 2020](#) letters.

<sup>25</sup> e.g., see the Chesapeake Tunnel Joint Venture final authorization; <https://www.fisheries.noaa.gov/webdam/download/104970969>.

<sup>26</sup> e.g., see the City and County of San Francisco draft authorization that published three days before the WSDOT proposed authorization; <https://www.fisheries.noaa.gov/webdam/download/107318912>.

<sup>27</sup> WSDOT is required to shut down if any Southern Resident killer whale or a killer whale of an unknown stock is observed approaching or within the Level B harassment zones.



extrapolated takes, it is imperative that WSDOT do so to ensure that the takes are within the authorized limits and the authorized numbers of takes are not exceeded, as required by condition 4(h) in the draft authorization. The Commission recommends that NMFS ensure that WSDOT keep a running tally of the total takes, based on observed and extrapolated takes, for Level B harassment consistent with condition 4(h) of the final authorization.

### **Proposed one-year authorization renewals**

In this instance and consistent with previous Commission recommendations, NMFS stipulated that a renewal is a *one-time opportunity* (a) in the *Federal Register* notice (see 85 Fed. Reg. 35919), (b) on its webpage(s) detailing the renewal process (see the revised webpages<sup>28</sup>), and (c) in its draft authorization for WSDOT (see condition 8<sup>29</sup>). Although the Commission expects that this tack will be taken for *all* proposed and final incidental harassment authorizations that include the possibility of a renewal, it still has ongoing concerns regarding NMFS's renewal process. Those concerns can be reviewed in its [10 February 2020](#) letter. As such, the Commission again recommends that NMFS refrain from issuing renewals for any authorization and instead use its abbreviated *Federal Register* notice process, which is similarly expeditious and fulfills NMFS's intent to maximize efficiencies.

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

Sincerely,



Peter O. Thomas, Ph.D.,  
Executive Director

### **References**

- Department of the Navy. 2015. Pacific Navy Marine Species Density Database: Revised Final Northwest Training and Testing Technical Report. Naval Facilities Engineering Command Pacific, Pearl Harbor, Hawaii. 488 pages.
- Department of the Navy. 2018. Dive distribution and group size parameters for marine species occurring in the U.S. Navy's Northwest Training and Testing study area. NUWC-NPT Technical Report 12,298, Naval Undersea Warfare Center Division Newport, Rhode Island. 75 pages.
- Department of the Navy. 2019. U.S. Navy Marine Species Density Database Phase III for the Northwest Training and Testing Study Area: Final technical report. Naval Facilities Engineering Command Pacific, Pearl Harbor, Hawaii. 262 pages.

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<sup>28</sup> See <https://www.fisheries.noaa.gov/permit/incidental-take-authorizations-under-marine-mammal-protection-act> and <https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-harassment-authorization-renewals>.

<sup>29</sup> <https://www.fisheries.noaa.gov/webdam/download/107396797>.