



# MARINE MAMMAL COMMISSION

25 August 2020

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

Dear Ms. Harrison:

The Marine Mammal Commission (the Commission), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the U.S. Navy's application seeking authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take marine mammals by harassment. The taking would be incidental to pile driving and removal in association with construction of the Transit Protection Program (TPP) pier at Naval Base Kitsap Bangor (Bangor) in Washington during a two-year period. NMFS plans to issue two separate, but consecutive, one-year incidental harassment authorizations, one for activities from 16 July 2021 through 15 January 2022 (Year 1) and the second from 16 July 2022 through 15 January 2023 (Year 2). The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 10 August 2020 notice (85 Fed. Reg. 48206) announcing receipt of the application and proposing to issue the authorizations, subject to certain conditions.

## Background

The Navy plans to construct the TPP pier to berth blocking vessels that provide a security escort to the submarines going to and from Bangor. Operators would (1) install up to 100 36-in permanent steel piles using a vibratory and an impact hammer and (2) install and remove up to 40 36-in temporary steel piles using a vibratory hammer on up to 80 days in Year 1. In Year 2, operators would install up to 10 24-in and 10 30-in steel piles using a vibratory hammer. The activities would occur during daylight hours<sup>1</sup> only.

NMFS preliminarily has determined that, at most, the proposed activities would cause Level A and/or B harassment of small numbers of harbor seals, California sea lions<sup>2</sup>, Steller sea lions, harbor porpoises, and transient killer whales. It also anticipates that any impact on the affected

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<sup>1</sup> In-water activities would only occur during daylight hours (sunrise to sunset). From July 16 to September 15, impact pile-driving activities would only occur starting two hours after sunrise and ending two hours before sunset to protect foraging marbled murrelets.

<sup>2</sup> The Commission informally noted that the average maximum number of California sea lions observed at Kitsap was 60 rather than 54 for the in-water work window of July through January (see Table A-2 in Appendix A of the Navy's application). This would result in 4,800 rather than 4,320 Level B harassment takes in Year 1 and 600 rather than 540 Level B harassment takes in Year 2. NMFS agreed and indicated that it would amend Table 9 in the *Federal Register* notice for issuance of the authorizations and Table 1 in both final authorizations accordingly.

species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for temporary or permanent hearing impairment would be at the least practicable level because of the proposed mitigation measures. The proposed mitigation, monitoring, and reporting measures include—

- using only one hammer at any given time;
- using a bubble curtain during impact pile driving of 36-in piles and implementing various measures regarding performance standards<sup>3</sup>;
- using soft-start<sup>4</sup>, delay, and shut-down procedures;
- 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;
- using delay and shut-down procedures, if a species for which authorization has not been granted or if a species for which authorization has been granted but the authorized number of takes has been met, approaches or is observed within the Level A and/or B harassment zone;
- using two or three qualified protected species observers (PSOs)<sup>5</sup> to monitor the Level A and B harassment zones<sup>6</sup> for 30 minutes before, during, and for 30 minutes after pile driving;
- reporting immediately any pinniped hauled out at unusual sites (e.g., in work boats) to the local stranding network, and as soon as time allows to NMFS, and following any procedures or measures stipulated by the stranding network<sup>7</sup>;
- 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 monitoring report to NMFS.

### **Bubble curtain efficacy**

The Commission has commented numerous times on the assumptions used by NMFS

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<sup>3</sup> The Commission informally noted that condition 4(h) in the draft authorization for Year 2 does not apply to Year 2 activities and should be removed for the final authorization. NMFS agreed and indicated it would remove the condition from the final authorization for Year 2 activities.

<sup>4</sup> The Commission informally noted that condition 4(g) in the draft authorization for Year 2 does not apply to Year 2 activities and should be removed for the final authorization. NMFS agreed and indicated it would remove the condition from the final authorization for Year 2 activities.

<sup>5</sup> Two land-based PSOs would be required to monitor during vibratory installation and removal and impact installation of piles, with an additional stationary, vessel-based PSO required to monitor during impact installation.

<sup>6</sup> The Commission informally noted that the Level B harassment zone during vibratory installation of 24-in piles should be at least 5,412 m, which is based on the calculated distance, rather than 5,400 m. NMFS agreed and further noted that it would amend the Level B harassment zone for vibratory installation and removal of 30- and 36-in piles for consistency with the Level B harassment zones for the other-sized piles that were based on the calculated distance rather than rounding the zones up, thereby decreasing the Level B harassment zone from 11,700 to 11,659 m. NMFS indicated that it would amend the Level B harassment zones in Table 8 in the *Federal Register* notice for issuance of the authorizations and Table 2 in both final authorizations accordingly.

<sup>7</sup> The Commission informally noted that this standard reporting measure for Navy activities in the inland waters of Washington was omitted from the draft incidental harassment authorizations. NMFS agreed and indicated that the measure would be included in the final authorizations.

regarding the efficacy of bubble curtains, please review the Commission's [20 April 2020 letter](#) in concert with this letter. Generally, NMFS uses a standard 7-dB source level reduction when bubble curtains are to be used during impact pile driving. In this instance, NMFS reanalyzed bubble curtain data previously collected by Illingworth & Rodkin, Inc. (Illingworth and Rodkin; 2012) at Kitsap and proposed to use an average source level reduction of 8 dB<sup>8</sup>. The Commission notes that the assumed 8-dB source level reduction may be appropriate for near-field impacts such as Level A harassment<sup>9</sup> but it is not for far-field impacts, particularly Level B harassment. For example, Illingworth and Rodkin (2012) measured the source level reduction for the mid-water hydrophone of 36-in pile TTP#2 to be only 5 dB at 415 m (see Table 8). Similarly, the source level reduction was 5 dB at 120 m for both the mid-water and deep hydrophones during installation of 48-in pile TP#11 and 4 to 5 dB at 754 m for both hydrophones during installation of 48-in pile TP #5 (Table 8 in Illingworth and Rodkin 2012). All such measurements are comparable to the Level A harassment zones estimated for LF and HF cetaceans and phocids (158–351 m) and the Level B harassment zone (541 m; see Table 8 in the *Federal Register* notice, 85 Fed. Reg. 48219).

Bubble curtains that are placed immediately around the pile do not achieve consistent reductions in sound levels because they cannot attenuate ground-borne sound<sup>10</sup>. Appreciable attenuation is not observed for the sound that resonates through the ground into the far field or for low-frequency sound in general, and an 8-dB source level reduction factor is unsubstantiated by the data. The Commission recommends that NMFS (1) refrain from using the 8-dB source level reduction factor for far-field impacts (>100 m) and (2) consult with acousticians, including those at the University of Washington-Applied Physics Laboratory, regarding the appropriate source level reduction factor to use to minimize near-field (<100 m) and far-field effects on marine mammals<sup>11</sup>.

The Commission made a similar recommendation in its [5 June 2020 letter](#), with the added option that NMFS should either consult with acousticians or use the data it has compiled regarding source level reductions at 10 m for near-field effects and assume no source level reduction for far-field effects for all relevant rulemakings and proposed incidental harassment authorizations. NMFS responded that it did not agree with the Commission's recommendation, that it had outlined its rationale for the source level reduction factor in its previous responses (e.g., 84 Fed. Reg. 64833 and 84 Fed. Reg. 28474), and that it would provide a detailed explanation of its decision not to adopt the Commission's recommendation within 120 days, as required by section 202(d) of the MMPA (85 Fed. Reg. 40256). Neither of NMFS's referenced responses were based on, or addressed, the recommendation made in the Commission's 5 June 2020 letter, rather they were based only on a portion(s) of that recommendation. Further, the rationales provided by NMFS in 2019 for not adopting previous Commission recommendations are not applicable to the current recommendation regarding the efficacy of bubble curtains. As such, if NMFS does not adopt the current

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<sup>8</sup> Based on average reduction factors of 8.5 dB for single-strike sound exposure levels (SEL<sub>s-s</sub>), 8 dB for root-mean-square sound pressure levels (SPL<sub>rms</sub>), and 10 dB for peak SPL for impact installation of 36- and 48-in piles (85 Fed. Reg. 48218). The Commission notes that it recalculated the average reduction factors for SEL<sub>s-s</sub> and SPL<sub>rms</sub> based on Tables 8 and 9 in Illingworth and Rodkin (2012) and estimated that the SEL<sub>s-s</sub> reduction factor to be 7.67 rather than 8.5. The Commission only included data from the barge location, 10 to 20 m from the pile.

<sup>9</sup> And maybe only for certain functional hearing groups, as Level A harassment zones for low-frequency (LF) and high-frequency (HF) cetaceans and in some instance phocids extend well into the far field.

<sup>10</sup> Bubble curtains also attenuate higher rather than lower frequency sound.

<sup>11</sup> Which includes Level A harassment as well.

recommendation, the Commission expects that a clear and sufficiently detailed explanation will be provided in any decision document.

The Commission is increasingly concerned that NMFS is opting to provide a detailed explanation for not adopting some Commission comments and recommendations solely under section 202(d) of the MMPA and not in the relevant decision document<sup>12</sup>. While providing a timely, detailed response separately to the Commission satisfies NMFS's obligations under section 202(d) of the MMPA, failing to address the Commission's comments and recommendations in the decision document runs counter to the requirements of the Administrative Procedures Act. The agency is expected to provide a full and sufficient rationale supporting its action at the time the decision is made, which necessitates that NMFS address *all* substantive comments, whether from the Commission or any other entity, *before* publishing a notice of issuance. That includes all recommendations from the Commission, whether or not they are addressed subsequently and separately to satisfy NMFS's responsibilities under section 202(d) of the MMPA.

### **Extrapolation of takes and reporting requirements**

NMFS omitted from the Navy's draft authorizations what has become one of its standard conditions for extrapolating and reporting takes for construction-related authorizations. Instead, NMFS included only its basic condition that would require the Navy to include in its monitoring reports the "number of individuals of each species (differentiated by month as appropriate) detected within the monitoring zone, and estimates of [the] number of marine mammals taken, by species (a correction factor may be applied to total take numbers, as appropriate)" (see condition 6(b)(ix) in both draft authorizations). That condition is (1) ambiguous; (2) denotes 'monitoring zones' that are not included elsewhere within either of the draft authorizations, while 'Level B harassment zones' are denoted throughout; (3) requires monthly take enumeration, which seems unnecessary and has never been consistently included by action proponents in monitoring reports for construction-related activities, even though it has been required for years; (4) omits a requirement to specify the numbers of marine mammals taken by Level A harassment; and most importantly, (5) allows the action proponent to *potentially* apply a correction factor rather than requiring extrapolation of observed takes to account for those portions of the Level B harassment zones that are not visible.

Based on these issues with NMFS's basic reporting condition, the Commission had worked with NMFS a few years ago to incorporate an additional reporting condition that required action proponents to include in their monitoring report an extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible<sup>13</sup> (see, e.g., condition 6(b)(xix) in the recently published draft authorization for Alaska Gasline Development Corporation (AGDC)<sup>14</sup>). The Commission understands that, even in situations when it should be relatively straightforward to do so, action proponents are not reporting extrapolated takes appropriately, if at all. However, rather

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<sup>12</sup> Although NMFS responded to the majority of the Commission's recommendations from its 5 June 2020 letter and all of the public's comments in the notice of authorization issuance (85 Fed. Reg. 40255), NMFS deferred its 'detailed explanation' for not adopting two of the Commission's recommendations.

<sup>13</sup> This also applies to Level A harassment takes when the Level A harassment zone extends beyond the visual detection range of the PSOs.

<sup>14</sup> <https://www.fisheries.noaa.gov/webdam/download/108724946>.

than remove the standard condition, NMFS should retain it and provide appropriate guidance and examples<sup>15</sup> that enable action proponents to extrapolate and report takes properly.

Although NMFS may decide to develop a more sophisticated method for extrapolating takes during construction activities<sup>16</sup>, the Commission is not convinced that it is necessary or appropriate for coastal construction projects. Until NMFS develops an alternative method, the Commission contends that NMFS should be including its standard reporting condition for extrapolating takes rather than relying on its basic, more ambiguous condition. The Commission recommends that, for both final authorizations, NMFS (1) revise the currently-proposed condition 6(b)(ix) to require the Navy to include in the monitoring report the number of individuals of each species detected within the Level A and B harassment zones and the numbers of marine mammals taken by Level A and B harassment, by species (i.e., observed takes), (2) include the standard requirement that the Navy include in its monitoring report an extrapolation of the estimated takes by Level B harassment based on the number of observed exposures within the Level B harassment zone and the percentage of the Level B harassment zone that was not visible (i.e., extrapolated takes), and (3) include an additional requirement that the Navy include in its monitoring report the total number of Level B harassment takes based on both the observed and extrapolated takes for each species.

### **Tally of takes**

Although it is unclear from both the *Federal Register* notice and the draft authorizations whether the Navy will keep a running tally of the total Level A and B harassment takes, including observed and extrapolated takes, it is imperative that the Navy do so to ensure that the numbers of authorized takes are not exceeded and to inform when condition 4(i) in the draft authorizations needs to be implemented. The Commission recommends that NMFS reinforce the need for the Navy to keep a running tally of the total takes, based on observed and extrapolated takes, for Level A and B harassment consistent with condition 4(i) in the final Year 1 authorization and 4(g)<sup>17</sup> of the final Year 2 authorization.

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<sup>15</sup> For example, if a PSO is only able to observe consistently out to 1 km (or an area of 1.5 km<sup>2</sup>) and two PSOs are monitoring separate portions of a total ensonified area of 6 km<sup>2</sup>, then the number of *observed takes* should be multiplied by two to estimate the number of *total takes*—this method is consistent with NMFS's assumption in its take estimation method that densities are uniform within the Level B harassment zones and should be used absent information indicating otherwise. In addition, action proponents must account for detection ranges varying amongst species or groups of marine mammals (e.g., no more than 1 km for pinnipeds and harbor porpoises and 2 to 3 km for killer whales and mysticetes for land- and vessel-based PSOs).

<sup>16</sup> The Commission agrees with NMFS's recent assertion that it is *not appropriate* to use distance sampling methods to extrapolate takes, as it stated for AGDC's activities (85 Fed. Reg. 43409). That is, it is not appropriate to apply vessel-based distance sampling methods to shore-based or stationary vessel-based observations (i.e., applying line-transect methods to point-transect observations). However, NMFS recently contradicted its stance and specified that distance sampling methods *must be used* to properly extrapolate marine mammal takes in the area (85 Fed. Reg. 47740). The Commission is unaware of shore-based, point-transect  $f(0)$  values that would apply to marine mammal species that could be taken during coastal construction projects in the United States, let alone  $g(0)$  and  $f(0)$  values for pinnipeds in general.

<sup>17</sup> Based on NMFS confirming that conditions 4(g) and (h) would be removed from the final Year 2 authorization, making condition 4(i) in the draft authorization 4(g) in the final authorization.

## Proposed one-year authorization renewals

The Commission has raised ongoing concerns regarding NMFS's renewal process over the past few years<sup>18</sup>. Although NMFS recently responded to those concerns, the Commission has not yet had time to consider fully whether and how it plans to respond, but anticipates doing so in separate correspondence. In the meantime, for purposes of this letter, the Commission recommends that NMFS refrain from issuing a renewal for any authorization unless it is consistent with the procedural requirements specified in section 101(a)(5)(D)(iii) of the MMPA.

As explained previously, the Commission is concerned that the renewal process is inconsistent with the statutory limit on issuing incidental harassment authorizations for periods exceeding one year. Each authorization beyond that is to be subject to an additional opportunity for public review and comment and, as required by section 101(a)(5)(D)(iii) of the MMPA, the comment period is to remain open for 30 days. The Commission has similar concerns with NMFS's adopted practice of simultaneously proposing and issuing sequential one-year authorizations for conducting activities associated with the same project by the same applicant but providing a single 30-day comment opportunity. Although packaged as two separate one-year authorizations, because there is only a single comment opportunity, this is functionally equivalent to issuing a two-year authorization. Rather than going into greater detail in this letter, the Commission will address this issue in its response regarding renewals.

Also of concern to the Commission and as denoted in a similar comment in its [12 May 2020](#) letter, is the prospect that, if the Navy is unable to complete Year 1 activities by 15 January 2022 and a renewal is issued, the renewal authorization<sup>19</sup> would overlap with the activities subject to the Year 2 authorization that would be authorized to begin on 16 July 2022. This is the fourth time NMFS has proposed issuing back-to-back authorizations combined with the possibility that the first authorization could be renewed. As such, two separate authorizations could apply to the same project at the same time or within the same year. As noted in the Commission's previous letters<sup>20</sup>, one significant problem with back-to-back authorizations is that NMFS is not making its small numbers and negligible impact determinations based on the two authorizations combined. This problem would be exacerbated if a Year 1 renewal applies to the same year as a Year 2 authorization, potentially allowing a greater number of marine mammals to be taken in the second year with potentially greater impacts than had been analyzed. As such, it is important not only that the effective date of any Year 2 authorization be deferred if a renewal is issued, but that NMFS's analysis consider the total number of marine mammals that could be taken under the combined authorizations and the potential impacts of all authorized activities on the affected marine mammal species and stocks.

In response to the Commission's previous recommendation that NMFS either make its determinations regarding small numbers and negligible impact based on the total number and type of taking for each species or stock for both authorizations combined *or* delay the Year 2 activities if a renewal authorization is issued for the Year 1 activities, NMFS indicated that the activities would occur in linear fashion and the activities described in association with the Year 1 authorization

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<sup>18</sup> Some of which can be reviewed in the Commission's [10 February 2020](#) letter.

<sup>19</sup> Which would be valid as of 16 July 2022.

<sup>20</sup> See the Commission's [12 May 2020](#), [23 January 2020](#), and [14 August 2019](#) letters.

would not occur *concurrently* with activities described in association with the Year 2 authorization, whether occurring under the issued Year 1 authorization or under a renewal of the Year 1 authorization, if necessary (85 Fed. Reg. 37837). NMFS therefore contended that the Commission's recommendation was moot (85 Fed. Reg. 37837). NMFS provided a similar informal response for the Navy's proposed activities.

The Commission did not state that the activities would occur *concurrently*. That is, the Year 1 activities would occur on the same day, at the same time as the Year 2 activities. Rather, the Commission is concerned that the Year 1 and Year 2 activities could occur *during* the same one-year period, a possibility that the agency has confirmed. For the Navy's proposed activities, NMFS informally indicated that there is a chance that the Year 1 and 2 activities could occur within the same in-water work window, if a renewal is issued for Year 1 activities. Whether the activities occur concurrently or in a linear fashion is irrelevant, as in either instance they could occur within the same year and need to be assessed accordingly, which is precisely the Commission's point.

Additionally, NMFS has stated that the small numbers and negligible impact determinations are made in the context of the impacts of each of the specified activities considered in *each* of the separate authorizations (85 Fed. Reg. 679). That approach is completely inappropriate when a single action proponent proposes to conduct activities in support of the same project in the same area during the same in-water work window for Year 2 activities, in this case 16 July 2022 to 15 January 2023. If a renewal is issued for Year 1 activities, any or all of the 80 days of Year 1 activities could occur during the same in-water work window as the 10 days of Year 2 activities. As such, the Commission again recommends that NMFS either make its determinations regarding small numbers and negligible impact based on the total number and type of taking<sup>21</sup> for each species or stock for both authorizations combined *or* delay the Year 2 activities until 2023 if a renewal authorization is issued for the Year 1 activities.

Please feel free to contact me should you have questions regarding the Commission's recommendations and comments.

Sincerely,



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

## Reference

Illingworth and Rodkin. 2012. Naval Base Kitsap at Bangor test pile program: Acoustic monitoring report. Cotati, California. 1,032 pages.

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<sup>21</sup> Level A harassment takes would be authorized only for Year 1 activities.