This document is scheduled to be published in the
Federal Register on 12/17/2025 and available online at
https://federalregister.gov/d/2025-23088, and on https://govinfo.gov

E 3510-22-P

DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 218

[Docket No. 251211-0182]

RIN 0648-BN44

Takes of Marine Mammals Incidental to Specified Activities; Taking Marine Mammals Incidental to Military Readiness Activities in the Hawaii-California Training and Testing Study Area

AGENCY: National Marine Fisheries Service (NMFS), National Oceanic and Atmospheric Administration (NOAA), Commerce.

ACTION: Final rule; notification of issuance of Letters of Authorization.

SUMMARY: NMFS, upon request from the U.S. Department of the Navy (including the U.S. Navy and the U.S. Marine Corps (Navy)) and on behalf of the U.S. Coast Guard (Coast Guard) and U.S. Army (Army; hereafter, Navy, Coast Guard, and Army are collectively referred to as Action Proponents), issues these regulations pursuant to the Marine Mammal Protection Act (MMPA) to govern the taking of marine mammals incidental to training and testing activities and modernization and sustainment of ranges conducted in the Hawaii-California Training and Testing (HCTT) Study Area over the course of 7 years from December 2025 through December 2032. These regulations allow for the issuance of letters of authorization (LOAs) for the incidental take of marine mammals during specified activities and timeframes, prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on marine mammal species and their habitat, and establish requirements pertaining to the monitoring and reporting of such taking. The Action Proponents' activities are considered military readiness activities pursuant to the MMPA, as amended by the National Defense

Authorization Act for Fiscal Year 2004 (2004 NDAA) and the NDAA for Fiscal Year 2019 (2019 NDAA).

DATES: Effective from December 21, 2025, through December 20, 2032.

ADDRESSES: A copy of the Action Proponents' incidental take authorization (ITA) application and supporting documents, as well as a list of the references cited in this document, may be obtained online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities.* In case of problems accessing these documents, please call the contact listed below (see **FOR FURTHER INFORMATION CONTACT**).

FOR FURTHER INFORMATION CONTACT: Leah Davis, Office of Protected Resources, NMFS, (301) 427-8401.

SUPPLEMENTARY INFORMATION:

Purpose and Need for Regulatory Action

These regulations, issued under the authority of the MMPA (16 U.S.C. 1361 *et seq.*), allow for the authorization of take of marine mammals incidental to the Action Proponents' training and testing activities and modernization and sustainment of ranges (that qualify as military readiness activities) involving the use of active sonar and other transducers, air guns, and explosives (also referred to as "in-water detonations"); pile driving and vibratory extraction; land-based missile and target launches; and vessel movement in the HCTT Study Area. The HCTT Study Area includes areas in the north-central Pacific Ocean, from California west to Hawaii and the International Date Line, and including the Hawaii Range Complex (HRC) and Temporary Operating Area (TOA), Southern California (SOCAL) Range Complex, Point Mugu Sea Range (PMSR), Silver Strand Training Complex (SSTC), areas along the Southern California coastline from approximately Dana Point to Port Hueneme, and the Northern California (NOCAL) Range Complex. Also included in the HCTT Study Area are Navy pierside locations in

Hawaii and Southern California, Pearl Harbor, San Diego Bay, and the transit corridor on the high seas where training and testing may occur (see figure 1 of the proposed rulemaking and figure 1.1-1 of the application). Please see the **Legal Authority for the Proposed Action** section for relevant definitions.

Legal Authority for the Final Action

The MMPA prohibits the "take" of marine mammals, with certain exceptions. Section 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et seq*.) directs the Secretary of Commerce (as delegated to NMFS) to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if certain findings are made and either regulations are proposed or, if the taking is limited to harassment, a notice of a proposed authorization is provided to the public for review and the opportunity to submit comment.

Authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stock(s) and will not have an unmitigable adverse impact on the availability of the species or stock(s) for taking for subsistence uses (where relevant). Further, NMFS must prescribe the permissible methods of taking; other "means of effecting the least practicable adverse impact" on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for taking for certain subsistence uses (collectively referred to as "mitigation"); and requirements pertaining to the monitoring and reporting of the takings. The MMPA defines "take" to mean to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal. The **Analysis and Negligible Impact Determination** section discusses the definition of "negligible impact."

The 2004 NDAA (Pub. L. 108-136) amended section 101(a)(5) of the MMPA to remove the "small numbers" and "specified geographical region" provisions and amended the definition of "harassment" as applied to a "military readiness activity" to read as follows (section 3(18)(B) of the MMPA): (1) any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild (Level A Harassment); or (2) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where such behavioral patterns are abandoned or significantly altered (Level B Harassment). The 2004 NDAA also amended section 101(a)(5)(A)(iii) of the MMPA establishing that "[f]or military readiness activity . . . , a determination of 'least practicable adverse impact' . . . shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity." On August 13, 2018, the 2019 NDAA (Pub. L. 115-232) amended the section 101(a)(5)(A)(ii) of the MMPA to allow incidental take regulations (ITRs) for military readiness activities to be issued for up to 7 years.

Summary of Major Provisions Within the Final Rule

The major provisions of this rule are:

• Take of marine mammals by Level A harassment and/or Level B harassment;

• Take of marine mammals by mortality or serious injury (M/SI);

• Use of defined powerdown and shutdown zones (based on activity);

• Measures to reduce the likelihood of vessel strikes;

• Activity limitations in certain areas and times that are biologically important (*i.e.*, for foraging, migration, reproduction) for marine mammals;

• Implementation of a Notification and Reporting Plan (for dead, live stranded, or marine mammals struck by any vessel engaged in military readiness activities); and

• Implementation of a robust monitoring plan to improve our understanding of the environmental effects resulting from the Action Proponents' training and testing activities and modernization and sustainment of ranges.

This rule includes an adaptive management component that allows for timely modification of mitigation, monitoring, and/or reporting measures based on new information, when appropriate.

Summary of Request

On September 16, 2024, NMFS received an application from the Action Proponents requesting authorization to take marine mammals, by Level A and B harassment, incidental to training, testing, and modernization and sustainment of ranges (characterized as military readiness activities) including the use of sonar and other transducers, explosives, air guns, impact and vibratory pile driving and extraction, and land-based missile and target launches conducted within the HCTT Study Area. The Action Proponents also requested authorization to take, by serious injury or mortality, a limited number of marine mammal species incidental to the use of explosives and vessel movement during military readiness activities conducted within the HCTT Study Area. The Action Proponents requested multiple 7-year LOAs for Navy training activities, Coast Guard training activities, Army training activities, and Navy testing activities. In response to our comments and following an information exchange, the Action Proponents submitted a revised application, deemed adequate and complete on December 13, 2024. Also on that same date (December 13, 2024), NMFS published a notice of receipt of the application (NOR) in the **Federal Register** (89 FR 100982), requesting comments and information related to the Action Proponents' specified activities. During the 30-day public comment period, NMFS received one public comment from the Center for Biological Diversity. On July 16, 2025, NMFS published a proposed rule (90 FR 32118) and requested comments and information related to the Action Proponents' request for 30

days. All relevant comments received during the NOR and the proposed rulemaking comment periods were considered in this final rule. Comments received on the proposed rule are addressed in this final rule in the **Comments and Responses** section.

NMFS previously promulgated ITRs pursuant to the MMPA relating to similar military readiness activities in areas located within the HCTT Study Area. NMFS published the first rule effective from January 5, 2009 through January 5, 2014, (74 FR 1456, January 12, 2009) for incidental take relating to military readiness activities in the HRC and January 14, 2009 through January 14, 2014 (74 FR 3882) for SOCAL. The second rule, effective from December 24, 2013 through December 24, 2018 (78 FR 78106, December 24, 2013), combined the Hawaii and Southern California range complexes, as well as the SSTC, pierside locations in San Diego Bay and Pearl Harbor, and the transit corridor between SOCAL and Hawaii, and throughout San Diego Bay. The third rule was effective from December 21, 2018 through December 20, 2023 (83 FR 66846, December 27, 2018), which was subsequently amended, extending the effective date from December 20, 2023 until December 20, 2025 (85 FR 41780, July 10, 2020) pursuant to the 2019 NDAA and NMFS later amended that rule to increase the take of large whales by vessel strike and modify the mitigation, monitoring, and reporting measures to reduce the occurrence of vessel strikes involving large whales (90 FR 4944, January 16, 2025). For this rulemaking, the Action Proponents plan to conduct substantially similar training and testing activities within the HCTT Study Area that were conducted under previous rules (noting that the Study Area has been expanded, as described in the Geographic Region section of the proposed rulemaking).

The Action Proponents' application reflects the most up-to-date compilation of training and testing activities, and modernization and sustainment of ranges deemed necessary to accomplish military readiness requirements. The types and numbers of activities included in this rule account for interannual variability in training and testing to

meet evolving or emergent military readiness requirements. As explained herein, these regulations also consolidate several actions conducted by the Navy that were previously authorized by NMFS and include some new military readiness activities carried out by the Action Proponents. In particular, these regulations cover incidental take during military readiness activities in the HCTT Study Area that will occur for a 7-year period following the expiration of the pre-existing MMPA authorization which expires on December 20, 2025 (85 FR 41780, as amended by 90 FR 4944). In addition, this rule includes PMSR activities for which incidental take was previously authorized under separate authorizations and will supersede that recent PMSR regulations (87 FR 40888, July 8, 2022). This rule also includes areas along the Southern California coastline from approximately Dana Point to Port Hueneme and supersedes the incidental harassment authorization (IHA) allowing incidental take of marine mammals during pile driving training activities at Port Hueneme (90 FR 20283, May 13, 2025). In this rule, we have undertaken a comprehensive assessment of the risks/impacts of all military training and testing activities on marine mammals likely to be present within the entire range of the Study Area.

Description of Specified Activity

The Action Proponents requested authorization to take marine mammals incidental to conducting military readiness activities. The Action Proponents have determined that acoustic and explosives stressors are likely to result in take of marine mammals in the form of Level A and B harassment, and that a limited number of takes by serious injury or mortality may result from vessel movement and use of explosives (including ship shock trials). Detailed descriptions of these activities are provided in chapter 2 and appendix A of the 2025 HCTT Environmental Impact Statement/Overseas Environmental Impact Statement (2025 HCTT EIS/OEIS) (*https://www.nepa.navy.mil/hctteis/*) and in the Action Proponents' application

(*https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities*). Of note, the U.S. Air Force (USAF) is a joint lead agency for the 2025 HCTT EIS/OEIS; USAF activities consist of air combat maneuvers and air-to-air gunnery (a gunnery exercise in which fixed-wing aircraft fire medium caliber guns at air targets). The Action Proponents determined that USAF activities would not result in the taking of marine mammals, and therefore these activities are not included in the Action Proponents' application. NMFS concurs that these activities are not anticipated to result in incidental take of marine mammals. As such, no authorization for taking marine mammals incidental to USAF activities is required and no LOA will be issued by NMFS for such USAF activities.

A detailed description of the specified activities was provided in our proposed rulemaking (90 FR 32118, July 16, 2025). NMFS hereby refers to the information and analysis provided in the proposed rule which continue to apply to this final rule. Since that time, no changes have been made to the planned activities, with the exception of a reduction in the number of launch events at PMSR as described in the **Changes from the Proposed Rule to the Final Rule** section. Therefore, a detailed description is not provided here. Please refer to the proposed rulemaking for the complete description of the specified activity.

Foreign Navies

In furtherance of national security objectives, foreign militaries may participate in multinational training and testing events in the Study Area. Foreign military activities that are planned by and under the substantial control and responsibility of the Action Proponents are included in the specified activity. These participants could be in various training or testing events described in appendix A of the 2025 HCTT EIS/OEIS, and their effects are analyzed in this final rule. However, when foreign military vessels and aircraft operate independently within the Study Area as sovereign vessels outside the planning,

control, and responsibility of the Action Proponents, those activities are not considered part of the specified activity. There are many reasons why foreign military vessels may traverse U.S. waters or come into a U.S. port, or foreign aircraft may enter U.S. airspace, not all of which are at the request of any of the Action Proponents. Foreign military vessels and aircraft operate pursuant to their own national authorities and have independent rights under customary international law, embodied in the principle of sovereign immunity, to engage in various activities on the world's oceans and in associated airspace.

The most significant joint training event is the Rim of the Pacific (RIMPAC), a multi-national training exercise held biennially primarily in the HRC. The participation level of foreign military vessels in U.S. Navy-led training or testing events within the HRC and within SOCAL differs greatly between RIMPAC and non-RIMPAC years. For example, in 2019 (a non-RIMPAC year), there were 0.1 foreign navy surface vessel at-sea days (*i.e.*, 1 day = 24 hours) within HRC and 20 foreign navy at-sea days within SOCAL (U.S. Department of the Navy, 2021c). Out of 56 U.S.-led training events in 2019, 4 involved foreign navy vessels, with an average time per event of 8.7 hours. During RIMPAC 2022, foreign vessels operated and/or transited through the HRC for 576 hours (24 days). In 2023 (another non-RIMPAC year), there was no foreign vessel participation within SOCAL. Even in a RIMPAC year, the days at sea for foreign militaries engaged in a Navy-led training or testing activity accounts for a small, but variable, percentage compared to the U.S. Navy activities. For instance, the 2020 foreign military participation (a RIMPAC-year) was 1.5 percent of the U.S. Navy's average days at sea (32 days out of an estimated 2,056 days at sea). During RIMPAC 2024, 25 foreign surface vessels participated for a combined 5,000 hours in U.S.-led training events. Therefore, foreign surface vessel activity is estimated to conservatively account for up to 10 percent of the U.S. Navy's annual at sea time in HCTT (205 days out of an estimated

2,056 days at sea). In RIMPAC 2024, 21 U.S. Navy maritime patrol aircraft participated, as did 12 foreign maritime patrol aircraft.

When foreign militaries are participating in a U.S. Navy-led exercise or event, foreign military use of sonar and explosives, when combined with the Action Proponents' use of sonar and explosives, would not result in exceedance of the analyzed levels (within each Navy Acoustic Effects Model (NAEMO) modeled sonar and explosive bin) used for estimating predicted impacts, which formed the basis of our acoustic impacts effects analysis that was used to estimate take in this final rule. Please see the **Mitigation Measures** section and **Reporting** section of this final rule for information about mitigation and reporting related to foreign navy activities in the HCTT Study Area.

Comments and Responses

We published the proposed rule in the **Federal Register** on July 16, 2025 (90 FR 32118) with a 30-day comment period. In that proposed rule, we requested public input on our analyses, our preliminary findings, and the proposed regulations, and requested that interested persons submit relevant information and comments. During the 30-day comment period, we received six comments. Of this total, one submission was from the Marine Mammal Commission (Commission), and the remaining comments were from non-governmental organizations (NGO) and private citizens. The majority of the comments either opposed or recommended revisions to the proposed rule.

NMFS has reviewed and considered all relevant public comments received on the proposed rule and issuance of the LOAs. All substantive, relevant comments and our responses are described below. We organize our comment responses by major categories.

Impact Analysis and Thresholds

Comment 1 (ref 20, 21): The Commission stated that a 5-minute accumulation time for an entire day of pile driving is insufficient, particularly because of the Commission's assertion that the Navy does not implement, and NMFS has not proposed

to require, soft-start procedures during pile-driving training activities. The Commission also noted differences in pile driving between the proposed rule and another recent military readiness activity involving pile driving (90 FR 20283, May 13, 2025). The Commission recommended that NMFS revise: (1) the range to effects for pile driving for temporary threshold shift (TTS) and auditory injury (AUD INJ) based on the number of piles of each pile type and installation method that would be installed on a given day, the number of minutes or strikes needed to install each pile to depth, and the correct source levels, including for vibratory installation of 24-inch (in; 0.61 meters (m)) sheet piles; (2) the range to effects for pile driving for behavioral response for vibratory installation of 24-in (0.61 m) sheet piles based on a source level of 159 decibel referenced to 1 microPascal (dB re 1 μPa) at 11 m; and (3) the numbers of takes accordingly for the final rule.

Response: NMFS disagrees with the Commission's assertion that the source levels used for vibratory installation of 24-inch (0.61 m) sheet piles are incorrect. As indicated in the proposed rule and technical report "Quantifying Acoustic Impacts on Marine Mammals and Sea Turtles: Methods and Analytical Approach for Phase IV Training and Testing" (U.S. Department of the Navy, 2024a), hereafter referred to as the Acoustic Impacts Technical Report, a source level of 159 dB root-mean-square (RMS) for vibratory driving of 24-inch (0.61 m) steel sheet piles measured at 10 m (32.8 ft) (NAVFAC, 2020) is a reasonable representation of likely sound levels.

The Navy assumed and NMFS concurred that most animals in the area of pile driving activities would avoid higher sound levels that could cause injury over periods of time shorter than 5 minutes. Furthermore, criteria for AUD INJ and TTS are conservative in that they do not account for recovery of hearing effects during breaks in sound exposure (*e.g.*, silent periods as the hammer is repositioned, when pinnipeds lift their heads out of the water or haul out).

The Navy considers soft-start procedures for impact pile driving to be part of its standard operating procedures. As such, the 2025 HCTT EIS/OEIS, 2024 HCTT Draft EIS/OEIS, application, and the HCTT proposed rule (90 FR 32118, July 16, 2025) do not list soft start as a mitigation measure. The Navy states that its standard operating procedures are essential to safety and mission success and are implemented regardless of their secondary benefits, whereas its mitigation measures are designed entirely for the purpose of avoiding or reducing impacts to marine mammals. As such, the Action Proponents did not include a description of the soft-start procedure in the mitigation section of the application, and NMFS did not propose to include soft start as a mitigation measure in the proposed rule. However, NMFS agrees with the Commission that it is appropriate to require soft-start procedures as a mitigation measure, and this final rule clarifies that the Navy must implement soft start techniques for impact pile driving.

Comment 2 (ref 12, 79): The Commission highlighted multiple points regarding the behavioral response functions (BRF) following its review of the technical report "Criteria and Thresholds for U.S. Navy Acoustic and Explosive Effects Analysis (Phase 4)" (U.S. Department of the Navy, 2025a). These points generally relate to the upper bound of the BRFs, Southall *et al.* data, odontocete BRFs, sensitive species BRFs, harbor porpoise data, pinniped BRFs, response severity denotation, and inconsistencies in some tables and figures. Please see the Commission's letter for a detailed discussion of its recommendation.

The Commission recommended that NMFS require the Navy to revise Department of the Navy (2025a) to clarify and address these points, as that document underpins the current and future Phase IV rulemakings. The Commission also stated that to increase efficiency for all of the agencies involved and to ensure accurate information is being provided for public comment, the Commission would welcome the opportunity to informally review future versions of the Navy's criteria and threshold documents. The

Commission further recommended that NMFS work with the Navy to use the dose-response functions that were developed from all of the raw data rather than those that were regenerated for only moderate and severe responses and to refrain from extrapolating beyond the bounds of the underlying data when revising the BRFs.

In a related comment, a commenter stated that NMFS has not incorporated recent behavioral response data on common dolphins (Southall *et al.*, 2024), and other important studies highlighted by the Commission, into its biphasic risk functions. The commenter references a fuller description of its concern in a comment on the 2024 Hawaii-California Training and Testing (HCTT) Draft EIS/OEIS.

Response: Regarding the upper bound of the BRFs, the Navy adjusted the upper bound of the BRFs in Phase IV to more accurately reflect observed behavioral data, particularly at higher received levels. For example, sonar received levels between 170 and 182 dB re 1 µPa for humpback whales during the 3S2 study (the second phase of the Sea Mammals, Sonar, Safety (3S) project) and between 175 and 186 dB re 1 µPa for sperm whales during the 3S3 study (the third phase of the 3S project) did not elicit observable responses. See section 3.1.6.1.2 of the Criteria and Thresholds Technical Report for discussion of the 3S and 3S2 study, and section and 3.1.6.1.3 for discussion of the 3S3 study. Please see table E-1 in the Criteria and Thresholds Technical Report for details of all individual responses documented during studies in conjunction with received levels of sonar and sonar like sources.

The descriptions of responses in appendix E (Behavioral Responses to Sonar and Sonar-Like Sources: All Individuals Included) of the Criteria and Thresholds Technical Report were updated to include additional information on the observed responses.

Extending the upper bound to 200 dB re 1 µPa allows the BRFs to account for this lack of response at higher received levels. This adjustment does not arbitrarily shift the entire curve to the right, as the Commission suggests. For groups like pinnipeds,

where responses are consistently observed at lower received levels, the BRF approaches 100 percent response probability at 185 dB re 1 µPa. Therefore, the upper bound adjustment primarily impacts the odontocete and mysticete BRFs, reflecting the observed data at higher exposures. It is also important to note that the lower bound of the BRFs were extended to 90 dB re 1 µPa in Phase IV (compared to the 100 dB re 1 µPa lower limit used in Phase III), further demonstrating that the adjustments were not solely focused on increasing the upper bound.

The Commission's observation of a flat slope between 185 and 200 dB re 1 µPa for the Phase III BRFs shown in figure 42 (U.S. Department of the Navy, 2024a) was a result of anchoring the Phase III BRFs at 185 dB re 1 µPa and then extending them to 200 dB re 1 µPa for plotting purposes.

Finally, regarding the point that the upper level of the mysticete BRF exceeds the TTS onset, it is important to emphasize that auditory and behavioral criteria are not directly linked. The Navy recognizes the evolving nature of acoustic science and will continue to refine its effects criteria as new data and understanding become available.

Regarding data from Southall *et al.* (2024), the Navy develops its BRFs using the best available scientific data. While data from the Atlantic behavioral response study (BRS) cited by the Commission were collected during the timeframe referenced, these data are not available for use in the development of the BRFs for Phase IV. These functions are always developed in close consultation with scientists conducting BRS/controlled exposure experiment (CEE) studies, but when the data are not yet published, the researchers determine the appropriate time at which to share data with the Navy. In this case, Atlantic BRS behavioral response results have not been shared in time for the development of the Navy risk thresholds. The Navy did consider data from Southall *et al.* (2024) in appendix D of the 2025 HCTT EIS/OEIS, indicating the potential responses observed in this study occurred at received levels and distances

assessed for potentially significant behavioral responses in the analysis of Phase IV; however, the findings of this study do not change the conclusions made by the Navy nor NMFS' determination. The Navy remains committed to incorporating the best available scientific data into its impact assessments and will revisit its BRFs as new information, including the published results of the Atlantic BRS, becomes available.

Regarding the odontocete BRF, all the data from Houser *et al.* (2013a, 2013b) were included in the modified risk functions developed for subsampling in the Navy's BRFs. However, low-severity responses were classified as "non-responses" when deriving the BRFs (see also Southall *et al.* (2021) for a description of severity scoring). This approach, consistent with Phase III, reflects that low-severity behavioral responses are not typically considered "harassment" under the MMPA during military readiness activities. To balance field and captive study data, a subsampling method was used. This involved creating modified risk functions incorporating the new scoring values (classifying low-severity responses as non-responses) at different received levels. Thirty data points were then randomly selected from the bottlenose dolphin risk function generated using this method. This subsampling approach, similar to that used for beaked whale data in both Phase III and Phase IV, ensures each individual animal from the captive study receives equal weight, comparable to individuals from field studies. This allows for a more comprehensive consideration of exposures and responses for each species, unlike Phase III's selection of a single response level per individual. The Navy clarified this methodology in the Criteria and Thresholds Technical Report. Further, the Navy's current Odontocete BRF considers the potential for behavioral responses that may qualify as 'harassment' under the MMPA for military readiness activities at the estimated received levels in Southall *et al.* (2024).

Regarding the sensitive species BRF, while the generalized additive model (GAM) published in Jacobson *et al.* (2022) only extended to 165 dB, the Navy requested

that authors rerun their model to 200 dB to create a new curve that could be subsampled for the Navy Phase IV risk function; the same was done for the Moretti *et al.* (2014) data. Therefore, the two beaked whale range-based risk functions extended to the same bandwidth as the Navy BRF and the subsampling matched the rest of the data. Navy updated the Criteria and Thresholds Technical Report to reflect that the published GAMs were rerun with the broader bandwidth. Both Moretti *et al.* (2014) and Jacobson *et al.* (2022) were subsampled 10 times each.

To be included in the BRF, data sets need to relate known or estimable received levels to observations of individual or group behavior. The data in Falcone *et al.* (2017) was not included in the development of the BRFs because it is not possible to reasonably estimate the received levels in this study; however, this data was considered in developing the distance conditions for the application of the Sensitive Species BRF.

The Navy and NMFS are committed to ensuring scientific integrity in datasets used for BRF development. Using data that do not meet these criteria could result in unreliable or misleading risk assessments. A risk function has not yet been fit to Southern California Anti-Submarine Warfare Range (SOAR) data for beaked whales, nor has one been fit for minke whales at Pacific Missile Range Facility (PMRF). The BRFs in Phase IV utilized only individual response-RL data outside of the four pre-existing risk functions that were subsampled. There were no individual response-RL data available for beaked whales at SOAR nor for minke whales at PMRF, therefore those data were not used in the Phase IV BRFs. As science continues to evolve, the Navy and NMFS will continue to refine the effects criteria. The Navy remains committed to incorporating new data and analyses, including those from SOAR and PMRF, as they become available and meet the rigorous standards required for robust BRF development.

Regarding the Kastelein harbor porpoise data, when the same individuals were tested at multiple received levels for the same source within a single study, only the

lowest received level eliciting a response was included in the data used for BRF development. However, in some studies, Kastelein tested the same sources using different parameters, such as an upsweep versus a downsweep signal (*e.g.*, Kastelein *et al.* (2014b), where both low frequency and mid frequency active sonar signals were tested as both a downsweep and upsweep), or as a continuous versus pulsed active sonar signal (*e.g.*, Kastelein *et al.*, 2018). In that case, the response to both signal parameters would have been used in the BRF as those would be considered different signals. The citations for the relevant Kastelein studies, previously provided in tables 19 and 20, were added to table E-1 in the Criteria and Thresholds Technical Report.

Regarding the pinniped BRFs, the Navy confirms that all data from the Houser *et al.* (2013a) California sea lion controlled exposure experiment were considered in developing the Phase IV BRFs. However, as with the odontocete BRF, low-severity responses were classified as "non-responses" when deriving the BRF. This decision aligns with the Navy's approach to assessing potential harassment under the MMPA during military readiness activities, where low-severity responses are not typically considered indicative of harassment. The original curves developed by Houser *et al.* (2013a) were not used because they included the low-severity responses as responses indicative of harassment. The Navy clarified this approach in the Criteria and Thresholds Technical Report.

Regarding the identified inconsistencies in some data, tables, and figures, NMFS and the Navy have carefully reviewed those identified in the Commission's comments and the Navy made the necessary corrections to the Criteria and Thresholds Technical Report. These revisions ensure consistency in the reported ranges of received levels, distances, and significant responses across the executive summary, tables, figures, and accompanying text. Specifically, the Navy updated table E-1 in the Criteria and Thresholds Technical Report to include data for Blainville's beaked whales from Tyack *et*

al. (2011). The studies by Moretti *et al.* (2014) and Jacobson *et al.* (2022) involved aggregated and modeled data rather than individual animal responses and were therefore incorporated into the BRFs through a random subsampling process, as described in the Criteria and Thresholds Technical Report, rather than being presented directly in table E-1, which focuses on individual-level data. The Navy also addressed inconsistencies between Curé *et al.* (2025) and table E-1 of Criteria and Thresholds Technical Report identified by the Commission. The Navy updated the closest points of approach so that the onset closest point of approach is given for signals that elicited significant responses, while the closest point of approach of the overall exposure session is given for signals that did not elicit a significant response. These corrections only affect the way data was presented in table E-1 and do not change the BRFs.

Finally, the Navy has confirmed to NMFS that it used the data from Houser *et al.* (2013a) and Houser *et al.* (2013b) to develop the new risk functions. As noted previously, low-severity responses were scored as "non-responses" within these functions to align with the Navy's approach to assessing potential harassment under the MMPA. These new risk functions were then subsampled using the same method applied to the beaked whale range risk functions in both Phase III and Phase IV, ensuring consistency in the Navy's treatment of such data. This subsampling approach, described in detail within those reports, ensures appropriate weighting of individual responses and contributes to the robustness of the Navy's BRFs.

Regarding the Commissions' offer to informally review future versions of the criteria and threshold reports, NMFS recommends that the Commission coordinate directly with the Navy for any potential early reviews as the Navy is the primary author.

Comment 3 (ref 13): The Commission recommended that NMFS work with the Navy in a concerted manner to incorporate data that support criteria and threshold development more often than on a decadal cycle and to revise NAEMO to implement the

relevant criteria and thresholds at a true post-processing stage so that animat (*i.e.*, a virtual animal) dosimeter data can be re-queried if thresholds change, rather than needing to remodel the animat-portion of NAEMO.

Response: The Criteria and Thresholds are typically updated at the beginning of each at-sea Phase. This is a significant effort that involves collecting published data, working with marine mammal researchers to collect and understand emergent data, developing methods to incorporate the data, writing and publishing the technical report, and seeking approvals from Navy leadership and NMFS. Nevertheless, emergent data is continuously assessed against the current criteria and thresholds to ascertain whether it would create significant changes to the Navy's analysis. If so, the analysis would be altered to reflect this emergent data.

The Navy is continuously reassessing and evolving its analytical methods including the need to more frequently update criteria and threshold and the feasibility for NAEMO to more rapidly incorporate such changes. For example, the Navy has undertaken efforts to investigate the feasibility of moving the weighting functions to the post-processor for impulsive modeling, which would allow added flexibility to the modeling process when new data emerges outside of the normal criteria and threshold timeline. NMFS supports such efforts.

Comment 4 (ref 10): The Commission recommended that NMFS determine whether inclusion of data from Kastelein *et al.* (2024a, 2025a, 2025b) would alter the weighting functions and/or thresholds for the functional hearing groups and, if so, whether those modifications would be sufficient to warrant revision of the weighting functions and associated thresholds for non-impulsive sources as stipulated in the Criteria and Thresholds Technical Report.

Response: Whether and when to share data for ongoing research is at the discretion of the researchers and funding agencies. Since the specific data from Kastelein

et al. (2024a) were not shared with the Navy prior to peer review and publication, the data could not be incorporated into the development of the Phase IV Criteria and Thresholds. However, the Navy's current approach using the existing Phase IV criteria remains protective even when compared to the findings of Kastelein *et al.* (2024a). Specifically, incorporating the TTS onset value of 169 dB sound exposure level (SEL) reported by Kastelein *et al.* (2024a) would raise the very high frequency (VHF) non-impulse exposure function by 4 dB. The impact on other impulsive and non-impulsive exposure functions is negligible (1 dB or less).

NMFS has also reviewed the data from Kastelein *et al.* (2024b, 2025a, 2025b). Kastelein *et al.* (2025a) evaluated the effect of one-sixth octave band noise centered at 40 kilohertz (kHz) on TTS in two California sea lions (*Zalophus californianus*). Results indicate that TTS onset (6 dB threshold shift) occurred at approximately 169 dB cumulative SEL, which is lower than predicted by the current Phase IV TTS threshold and weighting function. Interestingly, this TTS onset level is lower than what was measured during exposure to 32 kHz in a previous study (179 dB cumulative SEL; Kastelein *et al.* (2024b)). So, despite hearing sensitivity decreasing at higher frequencies, Kastelein *et al.* (2025a) indicate that TTS onset occurs at a lower level than predicted, which contradicts typical trends in TTS onset previously measured in marine mammals. Thus, these data suggest a need to evaluate exposures at potentially higher frequencies to examine whether this disparate trend continues.

Kastelein *et al.* (2025b) examined TTS in two harbor seals (*Phoca vitulina*) exposed to one-sixth octave band noise centered at 8 kHz. In this study, TTS onset (6 dB threshold shift) occurred at approximately 181 dB cumulative SEL, which is higher than what is predicted with the current Navy Phase IV criteria.

In consideration of the information discussed above, NMFS and Navy have concluded that revisions to the Phase IV criteria and thresholds are not warranted at this time.

Comment 5 (ref 11, 78): The Commission recommended that NMFS determine whether the low frequency (LF) cetacean weighting function has been shifted far enough to the higher frequencies to reflect that 32 kHz was the most sensitive frequency tested in minke whales, determine whether use of the phocid carnivore in water (PCW) composite audiogram, weighting function, and threshold parameters are more representative of very low-frequency (VLF) and LF cetaceans than medians and means of the five other functional hearing groups, and work with the Navy to revise the VLF and LF cetacean composite audiograms, weighting functions, and thresholds as needed for impulsive and non-impulsive sources for the final rule and 2025 HCTT EIS/OEIS.

In a related comment, a commenter stated that NMFS has applied a patently unrealistic, non-conservative auditory weighting scheme for "low frequency cetaceans" and references a similar comment on the 2024 HCTT Draft EIS/OEIS.

Response: The lack of data on mysticete hearing, especially in terms of the impacts of noise on hearing, has made this a challenging group for which to develop acoustic criteria. The Navy has split the mysticetes into two hearing groups for its Phase IV analyses: VLF and LF cetaceans (see appendix B of the Criteria and Thresholds Technical Report). This decision is outlined in detail within the documentation and includes the best available science including the recommendations of Southall *et al.* (2019c) and the minke whale study by Houser *et al.* (2024). Navy was given access to pre-published data on the 2023/2024 minke whale field season and was able to incorporate into their Phase IV criteria (noting, as the commenter did, that the 2023 field season data was published in November 2024). In their Phase IV criteria, the Navy separated VLF cetaceans (*i.e.*, blue, fin, right, and bowhead) whales from LF cetaceans

(all other mysticetes). Thus, they are acknowledging differences among mysticetes species.

NMFS and the Navy disagree that wholesale adoption of the PCW parameters or shifting the LF weighting function solely based on the 32 kHz sensitivity of minke whales is scientifically justified. There is no scientific evidence to support the exclusive use of the PCW composite audiogram and weighting function parameters for the LF and VLF groups. Adolescent minke whales were tested by Houser *et al.* (2024) specifically because of their small size compared to other baleen whales. Smaller head size generally facilitates hearing at higher frequencies, so a shift of the entire LF curve (intended to represent all species within the hearing group) to a center frequency of 32 kHz is not likely representative of most baleen whales, which are larger in size compared to adolescent minke whales.

Therefore, the Navy maintains, and NMFS concurs, that based on the weight of the evidence, the existing LF weighting function and the use of medians and means from multiple functional hearing groups provide a more representative and protective approach for assessing acoustic impacts on VLF and LF cetaceans. This approach incorporates data from a broader range of species and avoids overreliance on data from a single species or functional hearing group. NMFS' approach has remained consistent throughout our Technical Guidance development (2016, 2018, 2024), and we have addressed comments on the LF cetacean weighting function in our previous **Federal Register** notices finalizing these documents (81 FR 51693, August 4, 2016; 89 FR 84872, October 24, 2024). NMFS' 2024 Technical Acoustic Guidance does not incorporate the recent data on minke whale hearing. However, NMFS has committed to incorporating this data into future versions, as indicated in our 2024 Updated Technical Guidance. NMFS is awaiting publication of results from the 2024 field season before re-evaluating our acoustic criteria for mysticetes.

Comment 6 (ref 14): The Commission recommended that NMFS work with the Navy to reprogram NAEMO to implement densities at a post-processing stage so that densities can be easily revised rather than needing to remodel the animat-portion of NAEMO when density estimates change. The Commission states that such an improvement was recommended by Simmons *et al.* (2025) to be addressed through modifications to animat seeding and investigating runs by hearing group within NAEMO.

Response: NMFS concurs that it is appropriate to explore whether NAEMO can be reprogrammed to implement densities at a post-processing stage so that densities can be easily revised rather than needing to remodel the animat-portion of NAEMO when density estimates change. The Navy has undertaken work in Fiscal Year 2025 to explore standardization of animat distributions and statistical considerations of applying species' densities after the NAEMO post-processor to scale results. If the Navy, in coordination with NMFS, finds that this proves feasible and appropriate, the Navy hopes to implement this for Phase V.

Comment 7 (ref 17, 18): The Commission recommended that NMFS work with the Navy to use an avoidance swim speed of no more than 2 m per second (m/second) for harbor porpoises and 1 m/second for pinnipeds and to revise the NAEMO modeling and take estimates appropriately for the final rule. The Commission further recommended that NMFS work with the Navy to incorporate moving animats into NAEMO that can actively avoid sound sources based on species-specific dive profiles and swim speeds for Phase V activities (which would occur in HCTT from 2032 to 2039) and, if that is not feasible, incorporate species-specific swim speeds and the actual modeled sound propagation into NAEMO to simulate avoidance for a given event. The Commission stated that both creating an emulator and running simulation studies outside of NAEMO, as recommended by Simmons *et al.* (2025), should inform how best to deal with moving animats and implementing avoidance within NAEMO.

Response: NMFS and the Navy acknowledge the importance of using appropriate swim speeds in the avoidance analysis in NAEMO, which assesses the potential for marine mammals to mitigate high-intensity sound exposures that could lead to auditory injury. While baseline swim speeds can be informative, the Navy prioritized data on swim behavior observed near and during anthropogenic disturbance because these data were considered more representative of how animals might respond to acoustic stimuli and potentially reduce injury risk. NMFS concurs with this approach.

The Commission referenced a study by Kastelein *et al.* (2018) as support for a lower harbor porpoise swim speed. However, the cited speed of 7.1 kilometers per hour (km/hr) represents the sustained average speed of a single captive harbor porpoise in a relatively small pool during a pile driving playback study at exposures below those causing auditory injury. This specific observation does not accurately reflect the full range of harbor porpoise swim capabilities. As documented in table 8 of the appendix to the Acoustic Impacts Technical Report, data from free-swimming harbor porpoises indicate swim speeds up to and exceeding 3 m/second, supporting the Navy's chosen value for modeling avoidance.

For pinnipeds, the avoidance analysis used a reasonable swim speed of 2 m/second for a limited duration (10 minutes), acknowledging the lack of observed data on their swim behavior during acoustic exposures. This assumption balances the need for a realistic representation of potential avoidance behavior with the limited data availability, contributing to a conservative assessment of potential impacts.

The Navy's approach to modeling impacts is described in the Acoustic Impacts Technical Report. NMFS has reviewed the Acoustic Impacts Technical Report and concurs with the Navy that the approach is based on the best available science. In early NAEMO development, the Navy compared the number of exposures (*i.e.*, >120 dB) using the Marine Mammal Movement and Behavior (3MB) model versus horizontally

stationary animats and concluded that there was no significant difference in behavioral exposures between the two distribution methods. Thus, horizontally stationary animats were selected for computational efficiency.

NMFS and the Navy recognize the evolving nature of modeling techniques and acknowledge the Commission's desire for more dynamic and species-specific avoidance behaviors in future iterations of NAEMO. NMFS has encouraged the Navy to continue to explore NAEMO enhancements, and the Navy has indicated that it will consider species-specific swim speeds and potentially more complex movement models, as data availability and computational capabilities allow. Currently, however, detailed avoidance data for many species are limited, necessitating the use of surrogate data and generalized approaches, as is also the case with dive profiles.

The Navy states that it will continue to prioritize research and development efforts to enhance the accuracy of its impact modeling tools, ensuring the best available science informs its environmental assessments.

Comment 8 (ref 19): The Commission recommended that NMFS work with the Navy to use its Range-Dependent Acoustic Model and the Navy's Standard Parabolic Equation (RAM/PE) model for non-impulsive sources to model all underwater detonations (*i.e.*, impulsive sources) for Phase IV activities for which modeling has not been completed and for all Phase V activities, until such time that Comprehensive Acoustic Simulation System/Gaussian Ray Bundle (CASS/GRAB) and the similitude equation have been validated for the range of detonation sizes and environmental parameters (*i.e.*, water depth and receiver range) in which it would be used. They supported this recommendation by stating that, given the comparability of the modeled zones from the Peregrine version of RAM/PE to the measured values and that RAM/PE is already used by the Navy for modeling non-impulsive sources that operate at less than 100 Hz and in shallow water, the Navy has the data to conduct a rigorous comparison of

CASS/GRAB and the similitude equation and the in situ measurements of the USS Ford ship shock trial from Seger *et al.* (2023) to fulfill the project's intent and to inform future rulemakings.

Response: Navy has indicated that it plans to conduct a verification of the impulsive propagation methods in NAEMO using the Seger *et al.* (2023) data, which was published by Madhusudhana *et al.* (2024).

The NAEMO impulsive modeling methods, as described in the Acoustic Impacts Technical Report, require arrival times, sound levels, and phases to be output from the propagation model. RAM/PE does not output the time information necessary for simulation and is thus not a suitable option for impulsive modeling in NAEMO. The limitations of the similitude equation are discussed in section 4.1.3.2 of the Acoustic Impacts Technical Report and comparisons between the peak pressure computed at various ranges against the theoretical value based on the similitude equation showed agreement, providing confidence that the similitude equation was appropriate for use in NAEMO.

The Navy states that it is committed to ensuring the accuracy of its impulsive propagation models and recognizes the importance of ongoing validation efforts. While the similitude equation has been evaluated and demonstrated good agreement with measured data, as detailed in section 4.1.3.2 of the Acoustic Impacts Technical Report, the Navy is open to exploring alternative approaches to meet NAEMO's requirements.

Comment 9 (ref 16): The Commission continues to maintain that NMFS has not provided adequate justification for dismissing the possibility that single underwater detonations can cause a behavioral response, and, therefore, again recommended that it estimate and authorize takes by Level B harassment of marine mammals during all explosive activities, including those that involve single detonations and gunnery exercises that have several detonations occurring within a few seconds. The Commission further

recommends that NMFS encourage the Navy to invest resources in conducting BRSs on marine mammals' responses, including pinniped responses, to underwater detonations for the derivation of explosive BRFs, or at the very least a source-specific step-function threshold, noting that the Navy's Living Marine Resources program has provided funding for a few opportunistic studies involving behavioral response of cetaceans exposed to underwater detonations.

Response: NMFS acknowledges the possibility that single underwater detonations (including some multiple explosive events, such as certain naval gunnery exercises, that may be treated as a single event because a few explosions occur closely spaced within a very short time (a few seconds)) can cause a behavioral response. The current take estimate framework allows for the consideration of animals exhibiting behavioral disturbance during single explosions as they are counted as "taken by Level B harassment" if they are exposed above the TTS threshold, which is 5 dB higher than the behavioral harassment threshold for multiple detonations. We acknowledge in our analysis that individuals exposed above the TTS threshold may also be harassed by behavioral disruption and those potential impacts are considered in the **Analysis and Negligible Impact Determination** section. Neither NMFS nor the Navy are aware of evidence to support the assertion that animals will have multiple significant behavioral responses (*i.e.*, those that would qualify as take) to temporally and spatially isolated explosions at received levels below the TTS threshold. However, if any such responses were to occur, they would be expected to be rare and since separated in space and time, would most likely result only in isolated startle responses (*i.e.*, additional behavioral responses would not be expected to add cumulatively or in severity). Furthermore, these rare responses would not be expected to occur at received levels below TTS onset. Thus, they would occur at received levels already bounded by the single detonation criteria (*i.e.*,

TTS is used as the Level B harassment criteria for single detonations) and would therefore already be accounted for in the current take estimates.

The derivation of the explosive injury criteria is provided in the Criteria and Thresholds Technical Report. There is limited information upon which to estimate behavioral response thresholds specific to explosives. Therefore, as described in the Criteria and Thresholds Technical Report, the behaviors exhibited by animals exposed to brief intense tones in the Schlundt *et al.* (2000) study continue to inform the behavioral response threshold for explosives. Some of the observed behaviors in that study would be considered moderate severity for captive animals with trained behaviors and thus may be potentially significant in the context of wild animals. Appropriate threshold metrics are applied for this criterion given the supporting data. Additionally, RMS sound pressure levels (SPLs) are not a preferred metric for explosives due to the challenge of identifying the appropriate time window.

Most explosive activities, including all explosive gunnery activities, analyzed in the rule and the 2025 HCTT EIS/OEIS include multiple detonations. For these activities, significant behavioral responses are assumed to occur if the cumulative SELs are greater than or equal to 5 dB less than the threshold for onset of TTS. For single detonations, the analysis in appendix E of the 2025 HCTT EIS/OEIS assumes that any auditory impact (TTS or AUD INJ) may have a concurrent significant behavioral response. This assumption for single detonations has been clarified in the Criteria and Thresholds Technical Report.

BRSs on marine mammal responses to underwater detonations would support future analyses, and NMFS will consider such a recommendation to the Navy relative to other new and ongoing research priorities. The Navy supports a wide range of research to inform the development of criteria. The Navy is supporting new research into marine mammal behavioral responses to detonations through its Living Marine Resources

program (*https://exwc.navfac.navy.mil/Products-and-Services/Environmental-Security/LMR/*). The findings of this research will be incorporated into the behavioral response criteria when available. To clarify, the Navy has specifically monitored shock trial detonations since the 1990s. Madhusudhana *et al.* (2024) present data on pre- and post-detonation vocalizations at monitoring sites in the vicinity of the 2021 full ship shock trial. Most sites showed no significant changes in vocalization activity for the timeframes analyzed.

Comment 10 (ref 66)*:* A commenter recommended that, in addition to the designation of geographic mitigation areas identified above, efforts should be undertaken in an iterative manner to identify additional important habitat areas across the HCTT Study Area, using the full range of data and information available (*e.g.*, habitat-based density models, NMFS-recognized Biologically Important Areas (BIAs), Endangered Species Act (ESA) critical habitat designations, passive acoustic monitoring data, other survey data, oceanographic and other environmental data).

Response: NMFS and the Navy used the best available scientific information (*e.g.*, stock assessment reports (SARs) and numerous study reports from Navy-funded monitoring and research in the specific geographic region) in assessing density, distribution, and other information regarding marine mammal use of habitats in the HCTT Study Area. In addition, NMFS consulted Calambokidis *et al.* (2024) and Kratofil *et al.* (2023), which provides a specific, detailed assessment of known BIAs, which may be region-, species-, and/or time-specific, include reproductive areas, feeding areas, migratory corridors, and areas in which small and resident populations are concentrated. While the science of marine mammal occurrence, distribution, and density resides as a core NMFS mission, the Navy does provide extensive support to the NMFS mission via ongoing HCTT specific monitoring as detailed in this final rule. Also included are direct

Navy funding support to NMFS for programmatic marine mammal surveys in Hawaii and the U.S. West Coast, and spatial habitat model improvements.

Comment 11 (ref 68)*:* A commenter stated that there is a need for the Navy to compile more information regarding the number, nature, and timing of testing and training events that take place within, or in close proximity to, important habitat areas, and to refine its scale of analysis of operations to match the scale of the habitat areas that are considered to be important. The commenter states that while the 2024 HCTT Draft EIS/OEIS, in assessing environmental impacts on marine mammals, breaks down estimated impacts by region, the resolution is seldom greater than range complex or homeport and is not specifically focused on areas of higher biological importance. Current and ongoing efforts to identify important habitat areas for marine mammals should be used by the Navy as a guide to the most appropriate scale(s) for the analysis of operations.

Response: In their take request and effects analysis provided to NMFS, the Action Proponents considered historic use (number and nature of training and testing activities) and locational information of training and testing activities when developing modeling boxes. The timing of training cycles and testing needs varies based on deployment requirements to meet current and emerging threats. Due to the variability, the Action Proponents' description of the specified activities is structured to provide flexibility in training and testing locations, timing, and number. In addition, information regarding the exact location of sonar usage is classified. Due to the variety of factors, many of which influence locations that cannot be predicted in advance (*e.g.*, weather), the analysis is completed at a scale that is necessary to allow for flexibility. The purpose of the Action Proponents' quantitative acoustic analysis is to provide the best estimate of impact/take to marine mammals and ESA-listed species for the regulatory and ESA section 7 consultation analyses. Specifically, the analysis must take into account multiple training

and testing activities over large areas of the ocean for multiple years; therefore, analyzing activities in multiple locations over multiple seasons produces the best estimate of impacts/take to inform the 2025 HCTT EIS/OEIS and regulators. Also, the scale at which spatially explicit marine mammal density models are structured is determined by the data collection method and the environmental variables that are used to build the model. Therefore, altogether, given the variables that determine when and where the Action Proponents train and test, as well as the resolution of the density data, the analysis of potential impacts is scaled to the level that the data fidelity will support. NMFS has worked with the Navy over the years to increase the spatio-temporal specificity of the descriptions of activities planned in or near areas of biological importance, when possible (*e.g.*, in BIAs or Sanctuaries, where possible).

The HCTT analysis in the Action Proponents' application (see appendix A of the application) includes improved modeling since Phase III to predict the number of expected takes, by effect type, within important habitat areas such as identified BIAs and ESA-designated critical habitat. NMFS is confident that the granularity of information provided sufficiently allows for an accurate assessment of both the impacts of the Action Proponents' activities on marine mammal populations and the protective measures evaluated to mitigate those impacts. NMFS and the Action Proponents will continue to consider how to appropriately refine our future analyses.

Comment 12 (ref 77): A commenter stated that NMFS has relied improperly on means and medians in establishing its thresholds for auditory impacts and references a similar comment on the 2024 HCTT Draft EIS/OEIS. In that comment, the commenter recommends implementation of a 6 dB reduction to its TTS and PTS thresholds in line with the suggestions by Tougaard *et al.* (2015). The commenter states that a 6 dB adjustment would accord with the minimum level of "non-trivial" TTS required to

evaluate onset, effectively adjusting the exposure functions to more closely match the point where TTS begins.

Response: The technical guidance appropriately uses measures of central tendency based on an onset level of 6 dB TTS. No reduction is necessary or supported by the scientific literature, especially considering numerous other conservative methods in the auditory criteria. For example, the proposed and final rules assume no recovery of hearing during time intervals between intermittent exposures. However, multiple studies from humans, terrestrial mammals, and marine mammals have demonstrated less TTS from intermittent exposures compared to continuous exposures with the same total energy because hearing is known to experience some recovery in between noise exposures. Therefore, NMFS' approach in the proposed and final rules is known to overestimate the effects of intermittent noise sources such as tactical sonars. Further, marine mammal TTS data have shown that, for two exposures with equal energy, the longer duration exposure tends to produce a larger amount of TTS. Since most marine mammal TTS data have been obtained using exposure durations up to an hour, much longer than the durations of many tactical sources, the use of the existing marine mammal TTS data tends to over-estimate the effects of sonars with shorter duration signals.

Comment 13 (ref 15, 80): The Commission recommended that NMFS refrain from using cut-off distances in conjunction with the Bayesian BRFs and re-estimate the numbers of marine mammal takes based solely on the Bayesian BRFs for the final rule.

In a related comment, a commenter stated that NMFS reduces the Navy's modeled take estimates through the application of cut-off distances that do not make sense conceptually, that are based on little or no data from the behavioral response literature, and that contradict data that are available, including Falcone *et al.* (2017) and Melcón *et al.* (2012). The commenter refers to a description of their concern in a comment on the 2025 HCTT Draft EIS/OEIS, in which they state that they agree with the

Commission's recommendation that the Navy refrain from using cut-off distances and rely instead on the take estimates produced through its response functions.

Response: The consideration of proximity (cut-off distances) was part of the criteria developed in consultation between the Navy and NMFS, and is appropriate based on the best available science, which shows that marine mammal responses to sound vary based on both sound level and distance. Therefore, these cut-off distances were applied within NAEMO. The derivation of the BRFs and associated cut-off distances is provided in the Criteria and Thresholds Technical Report.

The Phase IV approach represents a refinement in assessing potential behavioral impacts. It employs a probability of response condition for high source level exposures, addressing previous concerns from the Commission about potentially cutting off responses when the probability remained above 50 percent. This approach, combined with the distance cut-off, provides a more nuanced and protective assessment compared to the Phase III methodology, which relied solely on distance cut-offs. Therefore, directly comparing Phase III and Phase IV cut-off distances is not appropriate.

NMFS and the Navy are confident that this combined distance and probability threshold approach is well-substantiated by available data and effectively avoids underestimating potential behavioral responses to acoustic sources.

To clarify, section 3.1.4 (Dose and Contextual Responses) of the Criteria and Thresholds Technical Report explains that at low received levels, distance to the sound source factors into the likelihood of a behavioral response. Although distance was investigated as a covariate in the Bayesian BRF model, most BRSs to date have used similar source levels making received level and source-receiver distance tightly correlated (see section 3.1.9 (Behavioral Cut-off Conditions) of the Criteria and Thresholds Technical Report). Therefore, including distance in the BRF model using the available response-received level data did not improve the BRFs. Still, NMFS and the

Navy agree that distance is an important contextual factor. Since it was not possible to directly account for distance in the Bayesian model at this time, the Navy incorporated the behavioral cut-off conditions, beyond which significant behavioral reactions are assumed to be unlikely. As described in section 3.1.9 of the Criteria and Thresholds Technical Report, the distance cut-off conditions were conservatively estimated based on observations from multiple cited studies. Applying the distance cut-off condition is appropriate to reasonably estimate significant impacts. In addition, high source level exposures are addressed by also using a probability of response condition rather than the dual distance cut-off applied in Phase III. This method was devised in part to address public comments, including those from the Commission received in Phase III that were focused on cutting off behavioral responses, in some cases, where the probability of response was still above 50 percent. The probability of response cut-off condition in Phase IV allows for prediction of significant impacts beyond the distance cut-off.

Regarding the studies cited by a commenter, Melcón *et al.* (2012) found that the probability of recording blue whale "D calls" decreased with higher received levels at the high-frequency acoustic recording package (HARP) buoy averaged over many hours; however, this study does not provide any information about the distance between the sound source and any animals and cannot be used to derive cut-off distances. Falcone *et al.* (2017) was reviewed by the Navy and discussed in the Criteria and Thresholds Technical Report: "…Falcone *et al.* (2017) modeled apparent responses to mid-powered sources out to 50 km (27 nautical miles (nmi)) and responses to high-powered sources at distances as great as 100 km (54 nmi). However, the models were not developed to estimate distances to response, and care needs to be taken when interpreting the results in that context." Responses at 100 km (54 nmi) were generally mild, such as a slight (*i.e.*, less than 2 minutes) increase in the duration of shallow dives that was similar to the range of duration variability found in dives when no mid-frequency active sonar (MFAS) was

present. The inter-deep dive interval duration also increased for both mid- and high-powered MFAS sources starting at 100 km (54 nmi); however, the inter-deep dive interval duration only exhibited the strongest increase within 20 km (10.8 nmi) of the source.

As described in section 3.1.9 of the Criteria and Thresholds Technical Report, the cut-off conditions are applied to predict significant behavioral responses. The data used to inform the BRFs includes observations beyond 10 km (5.4 nmi) and studies cited in section 3.1.9 of the Criteria and Thresholds Technical Report. This includes data on exposures to other sound sources which is informative when data on exposure to sonars is limited. All the identified significant behavioral responses that were used to develop the BRFs are within the cut-offs (either by distance or SPL). Although behavioral responses are predicted beyond the cut-off conditions, these are not expected to rise to the level of harassment under the MMPA as defined for military readiness activities.

NMFS and the Navy acknowledge the Commission's perspective but maintain that the combined use of cut-off distances and BRFs provides a more accurate and realistic assessment of potential behavioral impacts, particularly for military readiness activities. While Tyack and Thomas (2019) cautioned against using step functions anchored to the 50 percent response level of dose-response curves, the Navy's methodology does not employ such an approach. Instead, the cut-off distances, informed by the farthest observed distances of significant behavioral reactions in the available data (including those exceeding 10 km (5.4 nmi)), serve as a threshold for identifying responses reasonably likely to qualify as harassment under the MMPA. This approach prevents underestimating significant impacts while acknowledging that responses occurring beyond these distances, while possible, are less likely to reach this level of concern.

The Navy's Phase IV approach, incorporating both BRFs and scientifically informed cut-off distances, offers a more realistic assessment of potential behavioral impacts compared to relying solely on BRFs. This approach balances the statistical probabilities derived from the BRFs with empirical observations of behavioral responses in the field. NMFS and the Navy are confident that this combined approach, while still incorporating conservatism to account for uncertainty, does not underestimate potential take by Level B harassment under the MMPA during military readiness activities and provides a more accurate representation of potential impacts.

NMFS has independently assessed the thresholds used by the Navy to identify Level B harassment by behavioral disturbance and finds that they appropriately apply the best available science and it is not necessary to recalculate take estimates. As the science related to marine mammal behavior advances, NMFS and the Navy will continue to refine consideration of contextual factors, such as distance, in its assessment of behavioral responses.

Comment 14 (ref 81): A commenter stated that NMFS wholly discounted gas-bubble pathology as a mechanism of harm to marine mammals due to the specified activities, and that the Action Proponents must assume that a number of beaked whales are subject to injury and mortality from gas-bubble formation.

Response: The commenter's characterization of NMFS' analysis is incorrect. NMFS does not disregard the fact that it is possible for naval activities using hull-mounted tactical sonar to contribute to the death of marine mammals in certain circumstances (that are not present in the HCTT Study Area) via strandings resulting from behaviorally mediated physiological impacts or other gas-related injuries. In the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section of the proposed rule, NMFS discusses these potential causes and outlines the few cases where active naval sonar (in the U.S. or, largely, elsewhere) has either potentially

contributed to or, as with the Bahamas example, been more definitively causally linked to marine mammal strandings. As noted, there are a suite of factors that have been associated with these specific cases of strandings directly associated with sonar (steep bathymetry, multiple hull-mounted platforms using sonar simultaneously, constricted channels, strong surface ducts, etc.). These factors are not present together in the HCTT Study Area during the specified activities. Further, there have never been any strandings associated with Navy sonar use in the HCTT Study Area. For these reasons, NMFS does not anticipate that the Action Proponents' training or testing activities will result in marine mammal strandings, and none are authorized. Furthermore, ongoing Navy funded beaked whale monitoring at a heavily used training and testing area in the SOCAL Range Complex has not documented mortality or habitat abandonment by beaked whales. Passive acoustic detections of beaked whales have not significantly changed over 10 years of monitoring (DiMarzio *et al.*, 2018; DiMarzio *et al.*, 2019; DiMarzio *et al.*, 2020). From visual surveys in the area since 2006 there have been repeated sightings of the same individual beaked whales, beaked whale mother-calf pairs, and beaked whale mother-calf pairs with mothers on their second calf (Schorr *et al.*, 2018; Schorr *et al.*, 2020). Satellite tracking studies of beaked whales documented high site fidelity to this area even though the study area is located in one of the most used Navy areas in the Pacific (Schorr *et al.*, 2018; Schorr *et al.*, 2020).

Comment 15 (ref 82): A commenter stated that NMFS failed to present a meaningful analysis of the Navy's aggregate effects on marine mammal populations and refers to its comment on the 2024 HCTT Draft EIS/OEIS.

Response: NMFS fully analyzed and considered the potential for aggregate effects from all of the Action Proponents' specified activities, and has applied a reasoned and comprehensive approach to evaluating the effects of these activities on marine mammal species or stocks and their habitat. This analysis was detailed in the Preliminary Analysis

and Negligible Impact Determination section of the proposed rule and is included here in the **Analysis and Negligible Impact Determination** section of this final rule.

Our analysis includes consideration of unusual mortality events (UMEs) and previous environmental impacts, where appropriate, to inform the baseline levels of both individual health and susceptibility to additional stressors, as well as stock status. Further, the species and stock-specific assessments in the **Analysis and Negligible Impact Determination** section (which have been updated and expanded since the previous HCTT rulemaking to consider additional species- and stock-specific factors) present and address the combined mortality, injury, behavioral harassment, and other effects of the aggregate activities, including impacts anticipated in important habitats such as ESA-designated critical habitat and known BIAs (and in consideration of applicable mitigation), as well as other information that supports our determinations that the Action Proponents' activities will not adversely affect any species or stocks via impacts on annual rates of recruitment or survival. We refer the reader to the **Analysis and Negligible Impact Determination** section for this analysis.

Further, widespread, extensive monitoring since 2006 on Navy ranges that have been used for training and testing for decades has demonstrated no evidence of population-level impacts (see *https://www.navymarinespeciesmonitoring.us/regions/pacific/current-projects/* for results, *e.g.*, "Cuvier's Beaked Whale and Fin Whale Population Dynamics and Impact Assessment at the Southern California Offshore Antisubmarine Warfare Range (SOAR)"). Based on the best available research from NMFS and Navy-funded marine mammal studies, there is no evidence that "population-level harm" to marine mammals, including beaked whales, is occurring in the HCTT Study Area.

Comment 16 (31)*:* A commenter stated that the Eastern North Pacific stock of gray whale has been declining for years since the recent UME, and that NOAA estimates

13,000 Eastern North Pacific gray whales, rather than 26,960 whales as reported in the proposed rule. The commenter stated that this makes the other species estimates, impacts, and information in the draft very questionable. The commenter further states that there should be no harassment or takes of the Eastern North Pacific gray whales, nor the Southern Resident killer whales, nor other endangered or threatened species.

The commenter also stated that more research is needed on the unknown impacts to multiple species of which the proposed rule proposed to authorize take, particularly research on new technologies, impulsive and continuous sonar broadcast, and uncrewed sea craft.

Response: The 2023 Pacific SAR indicates the Eastern North Pacific stock of gray whales is increasing and has an abundance of 26,960 animals. However, recent (2024-2025) surveys conducted by NMFS' Southwest Fisheries Science Center (SWFSC) indicated that the estimated total abundance of gray whales during the 2024-2025 southbound migration was 12,950 (Eguchi *et al.*, 2025). NMFS has updated its analysis to consider both abundance estimates, and has determined the authorized take of the Eastern North Pacific stock of gray whale will have a negligible impact on the stock, including in consideration of the Eguchi *et al.* (2025) estimate. As described in the **Analysis and Negligible Impact Determination** section, this stock is not listed under the ESA and is not considered as depleted or strategic under the MMPA and there are no UMEs or other for this stock. Any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with gray whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ

that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Gray whales are large-bodied capital breeders with a slow pace of life and are therefore generally less susceptible to impacts from shorter duration foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

Given the number of takes by harassment as compared to the stock/species abundance (see table 54), and the fact that a portion of the takes of the Eastern North Pacific occur in BIAs, it is likely that some portion of the individuals taken are taken repeatedly over a limited number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the status of the stock and in consideration of other ongoing anthropogenic mortality (fisheries interactions, vessel strike), the authorized M/SI (three over the course of the 7-year rule, or 0.43 annually) will not, alone, nor in combination with the impacts

of the take by harassment discussed above (which is not expected to impact the reproduction or survival of any individuals), be expected to adversely affect rates of recruitment and survival for any of this stock.

NMFS did not propose to authorize take of southern resident killer whale (90 FR 32118, July 16, 2025), and this final rule does not authorize take of that stock. This rule does, however, authorize take of certain species that are listed as threatened or endangered under the ESA, as indicated in table 1. The MMPA provides for the authorization of incidental take caused by specified activities at the request of an applicant, provided certain findings are made. The law directs NMFS to process adequate and complete applications for incidental take authorization, and issue the authorization provided all statutory findings and requirements, as well as all associated legal requirements, are met. As described in the **Analysis and Negligible Impact Determination** section, based on the analysis contained herein of the likely effects of the specified activities on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS finds that the total marine mammal take from the specified activity will have a negligible impact on all affected marine mammal species or stocks.

On September 16, 2024, NMFS received an application from the Action Proponents requesting authorization to take marine mammals incidental to training, testing, and modernization and sustainment of ranges (characterized as military readiness activities) within the HCTT Study Area. In response to our comments and following an information exchange, the Action Proponents submitted a revised application, deemed adequate and complete on December 13, 2024. NMFS, following its own analysis and proposed rule, has determined it is appropriate to promulgate a final rule and LOAs pursuant to 16 U.S.C. 1371(a)(5)(A) and 50 CFR 216.105.

Regarding the commenter's assertion that more research is needed on the unknown impacts to multiple species of which the proposed rule proposed to authorize take, particularly research on new technologies, impulsive and continuous sonar broadcast, and uncrewed sea craft, this final rule requires the Action Proponents to conduct all monitoring and reporting required under the LOAs, including abiding by the HCTT Study Area monitoring program. Details on program goals, objectives, project selection process, and current projects are available at *https://www.navymarinespeciesmonitoring.us.*

The commenter appears to imply that NMFS should not authorize take of marine mammals prior to completion of the research it states is needed. However, as stated in the **Legal Authority for the Final Action** section of this final rule, an authorization for incidental takings shall be granted if NMFS finds that the taking will have a negligible impact on the species or stocks and will not have an unmitigable adverse impact on the availability of the species or stocks for taking for subsistence uses (where relevant) (16 U.S.C. 1371(a)(5)(A)). Further, NMFS must prescribe the permissible methods of taking and other means of effecting the least practicable adverse impact on the affected species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of such species or stocks for taking for certain subsistence uses (referred to in this rule as "mitigation measures"); and requirements pertaining to the monitoring and reporting of such takings (16 U.S.C. 1371(a)(5)(A)). NMFS has made the required findings, and therefore, it must issue the requested incidental take authorization to the Navy.

Comment 17 (32-3)*:* A commenter recommended that NMFS integrate Indigenous and local ecological knowledge into baseline data collection and cumulative impact assessments. In a related comment, the commenter stated the proposed rule evaluates impacts primarily from the military readiness activities themselves but does not

meaningfully incorporate the cumulative effects of commercial shipping, climate change-driven habitat shifts, and prior authorization of incidental take in the same region.

Response: It is unclear what the commenter is referring to regarding baseline data collection, and the commenter has not identified, with any degree of specificity, which Indigenous or local ecological knowledge it recommends NMFS consider.

The MMPA requires that NMFS issue an incidental take authorization, provided the necessary findings are made for the specified activity put forth in the application and appropriate mitigation and monitoring measures are set forth, as described in the **Legal Authority for the Final Action** section of this rule. As described in the proposed rule (90 FR 32118, July 16, 2025) and this final rule, the preamble for NMFS' implementing regulations under section 101(a)(5) (54 FR 40338, September 29, 1989) explains in response to comments that the impacts from other past and ongoing anthropogenic activities are incorporated into the negligible impact analysis via their impacts on the environmental baseline. Consistent with that direction, NMFS has factored into its negligible impact analyses the impacts of other past and ongoing anthropogenic activities via their impacts on the baseline (*e.g.,* as reflected in the density/distribution and status of the species, population size and growth rate, and other relevant stressors (such as UMEs)). See the **Analysis and Negligible Impact Determination** section of this rule.

Our 1989 final rule for the MMPA implementing regulations also addressed how cumulative effects from unrelated activities would be considered. There we stated that such effects are not separately considered in making findings under section 101(a)(5) concerning negligible impact, but that NMFS would consider cumulative effects that are reasonably foreseeable when preparing a NEPA analysis and also that reasonably foreseeable cumulative effects would be considered under section 7 of the ESA for ESA-listed species.

The cumulative effects of the incremental impact of the proposed action when added to other past, present, and reasonably foreseeable future actions (as well as the effects of ocean pollution and ecosystem alteration trends; see Table 4-2) were evaluated against the appropriate resources and regulatory baselines in the 2025 HCTT EIS/OEIS. The best available science and a comprehensive review of past, present, and reasonably foreseeable actions (including commercial shipping, ecosystem alteration trends, and other activities for which incidental take of marine mammals may occur) was used to develop the Cumulative Impacts analysis. This analysis is contained in chapter 4 of the 2025 HCTT EIS/OEIS. As required under NEPA, the level and scope of the analysis is commensurate with the scope of potential impacts of the action and the extent and character of the potentially-impacted resources (*e.g.,* the geographic boundaries for cumulative impacts analysis for some resources are expanded to include activities outside the HCTT Study Area that might impact migratory or wide-ranging animals), as reflected in the resource-specific discussions in chapter 3 (Affected Environment and Environmental Consequences) of the 2025 HCTT EIS/OEIS. The 2025 HCTT EIS/OEIS considered the proposed training activities alongside other actions in the region whose impacts may be additive to those of the proposed training. Past and present actions are also included in the analytical process as part of the affected environmental baseline conditions presented in chapter 3 of the 2025 HCTT EIS/OEIS.

Further, cumulative effects to listed species of the specified activity in combination with other activities are analyzed in the ESA biological opinion. This analysis is contained in section 7 (Cumulative Effects). The opinion states that it assumes effects in the future would be similar to those in the past and, therefore, are reflected in the anticipated trends described in the Species and Designated Critical Habitat that May be Affected and Environmental Baseline sections of the biological opinion (sections 4 and 5, respectively).

Marine Mammal Densities

Comment 18 (ref 1): The Commission recommended that NMFS use an abundance estimate of 72,631 rather than 48,780 for April-June and 63,850 rather than 43,360 for July-March, along with a 75 percent assumption for the core area and 30 percent assumption for the geographic area to revise the density estimates and resulting numbers of takes of Guadalupe fur seals for the final rule.

Response: Juárez-Ruiz *et al.* (2022) revised abundance estimate became available after the densities were derived for the Navy's acoustic and explosive impact modeling. The Navy worked with one of the co-authors on the paper by Juárez-Ruiz *et al.* (2022) to develop the density estimates used in the analysis, which included identifying the most appropriate abundance estimate for Guadalupe fur seal.

During the process of calculating pinniped densities for the pending Northwest Training and Testing Phase IV Supplemental EIS/OEIS Study Area, The Marine Mammal Center reported to the Navy a revised unpublished abundance for Guadalupe fur seals of 96,468. Considering that this is a two-fold increase in the abundance estimate used to derive densities, the Navy decided that the Guadalupe fur seal densities should be revised and take estimates recalculated based on the adjusted densities. Since there are only two uniform density strata for Guadalupe fur seal, the Navy determined that remodeling to estimate takes would not be necessary and that the increase in takes can be estimated by calculating a multiplier equal to the ratio between the initial and recalculated densities. Two multipliers were calculated and used to revise take estimates: (1) a warm season multiplier of 2.07945; and (2) a cold season multiplier of 2.05908. This was a reasonable approach given that remodeling is not feasible at this point because exposure estimates from previous analyses in at-sea study areas have shown that changes in densities result in approximately proportional changes in predicted exposures. The "U.S. Navy Marine Species Density Database Phase IV for the Hawaii-California

Training and Testing Study Area" (U.S. Department of the Navy, 2024b), hereafter referred to as the Density Technical Report, was amended with the revised densities in September 2025 and is hereafter referred to as the revised Density Technical Report (U.S. Department of the Navy, 2025b), and NMFS concurs with that revision. The HCTT proposed rule and this final rule include the resulting take numbers.

Comment 19 (ref 2): The Commission recommended that NMFS use the monk seal abundance estimates from the 2022 SAR to derive its density estimates and re-estimate the numbers of takes for the final rule.

Response: The abundance of 1,437 monk seals published in the 2021 SAR (Carretta *et al.*, 2022) was the latest abundance estimate available when the Navy calculated densities. The 2022 SAR (Carretta *et al.*, 2023b) was published in August 2023, over 1 year after densities were finalized.

The Navy revised the density estimates for Hawaiian monk seal using the latest abundance estimates reported in the 2024 draft SAR (Carretta *et al.*, in review) for each island where separate abundances were reported. The total abundance reported by Carretta *et al.* (in review) is 1,605 monk seals. In order to account for the increase in total abundance, the Navy calculated multipliers for each island by taking the ratio of the revised and initial densities. An analysis of the acoustic effects modeling results showed that all predicted exposures of Hawaiian monk seals occurred in the Main Hawaiian Islands (MHI) and no exposures occurred in the Northwestern Hawaiian Islands. Therefore, the Navy used the highest multiplier derived for the MHI of 1.2919 to increase the estimated takes in waters both greater than and less than 200 m. NMFS concurs with this method.

Comment 20 (ref 3): The Commission recommended that NMFS: (1) revise the elephant seal density estimates by increasing the (a) in-water percentage of females from 0-25 percent for May and June, (b) percentage of females off California from 80-100

percent for January, February, and May, (c) in-water percentage of males from 0-25 percent for August, and (d) percentage of females off California in September and October from 5 percent and males off California in April, May, June, and October from 0-10 percent to the percentage of the population expected to be comprised of yearlings and juveniles and the sex-based ratios provided in table 9-12 of the Density Technical Report; and (2) re-estimate the numbers of takes accordingly for the final rule. The Commission stated that these revisions are particularly important, because NMFS relies on the Navy's density estimates for authorizing the taking associated with many other activities off California and will do so for at least the next 7 years until the Phase V densities are available.

Response: The Navy used the kernel density distribution areas shown in figure 4 in Robinson *et al.* (2012) to approximate the spatial strata to use in density calculations. The Navy recognized that the data in Figure 4 indicated a higher relative density of female elephant seals off California in May and June; however, that is the time during which females return to natal rookeries and are hauled out molting and fasting and not expected to spend much, if any, time in the water. The sex and age class haulout behavior of northern elephant seals is complex and difficult to represent in this type of calculation where some portion of seals of each age and sex class is hauled out at different but overlapping time periods that span partial months. For 7 months (males) or 8 months (females) out of the year, the Navy assumes 100 percent of seals are in the water, which is undoubtedly an overestimate considering that seals are known to haulout during foraging periods. While the Navy strives to improve density estimates to accurately represent pinniped haulout behavior, the level of precision is limited by both the available and sometimes conflicting data on species' behavior and the large scale of the study area over which behavior may vary. The assumptions made for the purposes of calculating

monthly densities at this scale were reasonable and generally representative of the species behavior.

While the majority of tagged elephant seals reported by Robinson *et al.* (2012) were from Año Nuevo Island, a few were tagged on Islas San Benito, Mexico and followed similar migration patterns. Seals from all other breeding and haulout sites are expected to follow similar migration patterns (*i.e.*, move north or northwest after breeding and molting periods) and to follow similar annual breeding and molting haulout cycles. For females, this means hauling out to molt in May and June and spending little to no time in the water. Again, the information in Robinson *et al.* (2012) was primarily used to define strata for calculating densities. It's clear from Robinson *et al.* (2012) figure 4 that 100 percent of females do not occur off CA in January, February, and May; the Navy considers 80 percent to be a reasonable estimate. It's not clear how the Commission determined that 10 percent instead of 5 percent of females would be off California in September and October. While the density estimates do not distinguish abundance by age class, the entire population abundance is used in the calculations, which includes all age classes.

Furthermore, the analyzed abundance of elephant seals includes 22,000 seals from the Mexico breeding population (a likely overestimate for that declining population as noted in the Density Technical Report and revised Density Technical Report and exceeds the abundance of the California breeding stock managed by NMFS. This conservative abundance estimate puts more seals in the water during the majority of the year and likely inflates predicted exposure estimates.

Lastly, the majority of sonar and explosive use occurs in the SOCAL Range Complex located south of the elephant seal at-sea distribution following both the post-breeding and post-molting migrations, which extend north and northwest of the Channel Islands and into the North Pacific.

As such, the Navy has not revised the density estimates as recommended by the Commission. NMFS concurs, and has not revised the number of estimated takes of this stock.

Comment 21 (ref 4, 5): The Commission recommended that NMFS: (1) revise the harbor seal density estimates by using (a) the 2.86 correction factor from Harvey and Goley (2011) rather than 2.44 for the Channel Islands and 1.15 for Point Mugu and La Jolla to estimate the total abundances at the various locations in Table 9-21 of Density Technical Report, (b) the 65 percent in-water percentage from Harvey and Goley (2011) for Point Mugu, La Jolla, and all of the Channel Islands except for San Nicolas and San Miguel Islands for the entire year, and (c) 40 km from shore from Calambokidis (2004) and the 200-m isobath based on Stewart and Yochem (1994) rather than 20 km from shore and the 120-m isobath as stratum demarcations for areas where harbor seals could occur; and (2) re-estimate the numbers of takes accordingly for the final rule.

The Commission further recommended that NMFS: (1) contact the SWFSC to obtain the maximum harbor seal abundance estimate from Santa Catalina Island during which the relevant haul-out sites were surveyed and use the 2.86 correction factor to estimate the total abundance at Santa Catalina Island; (2) estimate the total abundance of harbor seals from La Jolla to Point Mugu and from Point Mugu around past Pt. Conception based on the number of harbor seals of the 30,968 abundance estimate for the California stock from Harvey and Goley (2011) that remains after subtracting the Channel Islands, Point Mugu, and La Jolla abundance estimates; (3) use the 65 percent in-water percentage from Harvey and Goley (2011), 40 km from shore from Calambokidis (2004), and the 200-m isobath based on Stewart and Yochem (1994) to estimate the harbor seal density for Santa Catalina Island, from La Jolla to Point Mugu, and from Point Mugu around past Pt. Conception; and (4) re-estimate the numbers of takes accordingly for the final rule.

Response: Regarding the Commission's recommendation to use the 2.86 correction factor from Harvey and Goley (2011), the correction factor for San Nicolas Island from Stewart and Yochem (1983) of 59 percent in-water is the most appropriate haulout factor (*i.e.*, with one exception it is the highest percentage of seals in the water) compared with other available haulout factors. Harvey and Goley (2011) recommend a factor of 1.54 (or 35 percent in water) for all of California. A factor of 2.86 (65 percent in-water) for southern California was also reported by the authors, but was based only on one survey, so the authors recommended using the mean of 1.54 (35 percent in-water) for California over the 2.86 factor. Note that the authors describe the single survey from southern California as "a poor sample estimate of the proportion ashore." The Navy used 2.44 (59 percent in-water), which is higher than most other factors including all three of the mean haulout factors derived by Harvey and Goley (2011) (see table 2 in the paper), which would also have been reasonable alternatives.

Haulout factors were also chosen to be specific to season (breeding/molting vs. non-breeding/molting) as well as location where data were available. The survey data reported by Lowry *et al.* (2021) that were used to estimate abundances and densities were conducted in summer, so Navy used the most conservative haulout factor for summer (59 percent in-water) from Stewart and Yochem (1983) for the in-water abundance estimate, and NMFS concurs.

The 87 percent ashore estimate was a typo in the Navy's 2024 Marine Species Density Database (NMSDD) which has been superseded by the revised Density Technical Report. It should have been 83 percent ashore equating to 17 percent in-water, as shown in table 9-20 in the revised Density Technical Report. The factor of 1.2 or 17 percent in-water is from table 1 in Huber *et al.* (2001) which cites the source as Hanan (1996), a Ph.D. dissertation. The Navy corrected the typo in the revised Density Technical Report. The Navy selected the 1.2 haulout factor for the two mainland

locations in Southern California because several of the sites used in the research were located along the mainland coast and the Navy sought out correction factors specific to seals along the mainland, and NMFS concurs with this approach.

Below table 9-25 in the revised Density Technical Report, the following text states which correction factor was used for the September-February time period, "For the September through February time period, the in-water abundance was estimated as 86 percent of the total abundance, based on data from San Miguel Island reported by Yochem *et al.* (1987) and included in a summary by Huber *et al.* (2001)." Table 9-24 shows an in-water percentage range of 81-86 percent; the Navy selected 86 percent in-water as a more conservative approach. NMFS concurs with this decision.

The Navy used the 59 percent in-water factor for March through August for all Channel Islands except for San Miguel Island, which used 23 percent based on a tagging study conducted with seals on the island, and NMFS concurs.

As a conservative measure, the Navy used the highest counts from 2016 to 2019 by Lowry *et al.* (2021) to estimate in-water abundances instead of using a multi-year average or counts from the most recent year (*i.e.*, 2019) (refer to table 9-25 in the revised Density Technical Report). Both alternative options would have been reasonable to select, but instead the Navy chose to use the maximum count over the 4 year survey period. Note that the maximum counts for six of the eight islands occurred in 2016 (the other two occurred in 2019), suggesting that the overall harbor seal abundance in the Channel Islands may be declining and that the Navy's density estimates may be high for predicting takes beyond the year 2019. NMFS concurs with this approach.

Regarding the strata, harbor seals are well known for remaining close to haulouts and foraging in relatively shallow waters, as documented in the half dozen sources cited on page 237 of the revised Density Technical Report. The sources also demonstrate that while habitat use is generally similar in multiple regions, there is variability in the depth

and distance from shore characteristics of harbor seal distribution in various studies. The Navy reviewed the sources and attempted to define strata that captured the general and expected distribution of the species. Expanding strata farther offshore into deeper waters to capture extralimital and infrequent excursions by individual seals (as recommended by the Commission) would have the effect of reducing the density in the nearshore habitat where harbor seals predominantly occur. Stewart and Yochem (1994) reported the 20 km distance-from-shore metric used in the analysis. The 120 m depth contour used to define strata encompassed the vast majority of reported foraging depths without expanding the strata farther offshore (*e.g.*, to the 200 m depth contour representing the shelf break as the Commission recommended) and reducing the densities. The density estimates are intended to represent the predominant occurrence and distribution of the population rather than capture all possible areas where wide-ranging individuals have been sighted. The Channel Islands are part of the Continental Borderland region in the Southern California Bight which exhibits a complex bathymetry without a clearly distinct shelf break. While the shelf break (often represented by the 200 m depth contour) is a reasonable boundary to choose in more conventional continental margins, it does not accurately demarcate the shelf break in the Southern California Bight.

As noted above, the harbor seal abundances were based on counts reported by Lowry *et al.* (2021), which reported eight harbor seals off Santa Catalina island in 2019 only; no counts were reported in 2016 through 2018. Using a haulout factor of 59 percent results in a total abundance of 20 seals associated with the island and in-water abundance estimates of 12 seals (March-August) and 17 seals (September-February). The area around Santa Catalina Island extending from shore to the 120 m isobath is approximately 42,205 square kilometers (km^2), which results in densities of 0.0003 to 0.0004 seals/km^2 for March-August and September-February, respectively. The densities are about three orders of magnitude lower than densities around the other islands where the Navy

conducts more activities (*e.g.*, San Nicolas, San Miguel, San Clemente). Based on these factors, the Navy has determined that adding a density for Santa Catalina Island and remodeling would not contribute substantively, if at all, to the current take estimates, and NMFS concurs.

The Navy worked with scientists from the NMFS SWFSC to derive the pinniped density estimates, including estimates for harbor seals. There is a lack of survey data between La Jolla and Point Mugu along the mainland coast, which is why densities are not provided along that part of the coast. It is also noteworthy that the majority of training and testing activities using sonar and other transducers or explosives would occur beyond 12 nmi (22.2 km) from shore along the mainland coast. The adjacent warning area (W-291) begins approximately 12 nmi (22.2 km) from shore along the coast between La Jolla and Point Mugu. Therefore, any harbor seals occurring along the coast in this area are unlikely to be affected, and calculating the density using the method suggested by the Commission is not warranted.

Calambokidis *et al.* (2004) reported harbor seal sightings off the Washington coast from 1995 to 2002. While not as relevant to more recently reported harbor seal behavior off California, the authors reported a mean depth for the 15 sightings of 102 m and a mean distance from shore of 15.5 km, which further supports the Navy's decision to use the 120 m depth contour and a distance of 20 km from shore to define the strata used in the Navy's HCTT density estimates rather than greater depths and distances from shore recommended by the Commission.

Given that the densities remain unchanged, re-estimating the number of takes for this final rule was not required.

Comment 22 (6, 7): The Commission recommended that NMFS work with the Navy to derive harbor seal and bottlenose dolphin density estimates for both within San Diego Bay and the SSTC area based on sightings data from the numerous monitoring

reports available, while also considering the area beyond the Coronado Bridge in San Diego Bay.

Response: The Navy has derived densities for bottlenose dolphin for the SSTC, located south of the entrance to San Diego Bay (see figure 6-53 in the Density Technical Report). The Navy recognizes that in addition to the regularly occurring California sea lion, other marine mammal species, such as harbor seal and common bottlenose dolphin occasionally enter San Diego Bay; however, those species tend to remain near the mouth of the Bay, with only a few moving farther into the Bay. The planned activities involving in-water sound sources within San Diego Bay occur well into the Bay, typically south of the Coronado Bridge, and do not include pile driving. The monitoring report for the Naval Base Point Loma Pier 302 Replacement Project (available at *https://www.fisheries.noaa.gov/action/incidental-take-authorization-naval-base-point-loma-pier-302-replacement-project*) cited by the Commission reported observation of 1 bottlenose dolphin and 13 harbor seals over 181 observer hours. It is not unusual for individuals of both species that occur in nearshore waters to be sighted at the mouth of San Diego Bay near Point Loma. The Naval Base San Diego (NBSD) Pier 6 Replacement Project monitoring report (available at *https://www.fisheries.noaa.gov/action/incidental-take-authorization-naval-base-san-diego-pier-6-replacement-project-san-diego*) recorded species during two IHA periods over approximately 15 months (October 2021-January 2023). Only two harbor seals were observed over 450 monitoring days under the first IHA and no harbor seals were observed over 88 monitoring days under the second IHA. These few observations are not indicative of regular occurrence in the central or southern part of San Diego Bay and do not support the need for a density estimate in San Diego Bay.

The report also shows 86 bottlenose dolphin observations under the first IHA and 0 bottlenose dolphin observations under the second IHA (table 3-3). The report qualifies

the total number of observations by quantifying re-sightings in table 3-5 (*i.e.*, sightings of the same individual multiple times based on identifiable markings on dorsal fins (*e.g.*, cuts, scrapes, shape, *etc.*)). The data indicate approximately 72 percent of individuals observed were resights. Table 3-12 in the report shows that bottlenose dolphins were only sighted in January, February, and March of 2022 and were not sighted during any other month. Monitoring also occurred in January 2023 with zero bottlenose dolphin observations; however, no monitoring occurred in February or March of 2023. It is possible that the occurrence in San Diego Bay from January to March of 2022 was an anomaly; the report noted that bottlenose dolphins were not expected to occur in San Diego Bay at all. Observer bias may have also contributed to the increased sightings, as noted in section 3.2.2 of the report, which discussed a similar trend in observations of California sea lions.

The Commission references 15 IHAs issued to the Navy in the last decade, but aside from the two noted above, the Commission does not clearly state which other projects are referenced. The non-systematic observations reported in the monitoring reports mentioned previously do not support robust density estimates for San Diego Bay. Additional data would be required to better quantify abundance and seasonal occurrence in the bay to support a density estimate.

Therefore, given their occasional presence and the limitations of the observational data, the Navy did not develop density estimates for harbor seal and bottlenose dolphin specific to San Diego Bay for the HCTT EIS/OEIS, and NMFS concurs such density estimates are not necessary.

Comment 23 (ref 8): The Commission recommended that NMFS work with the Navy to derive the California sea lion density estimates south of the Coronado Bridge based on sightings data from the numerous monitoring reports rather than Graham and Saunders (2015).

Response: While the observations of California sea lions during pier replacement activities at NBSD confirm the presence of sea lions south of the Coronado Bridge, the observations were not based on line transect surveys unlike the data reported by Graham and Saunders (2015). Naval Facilities Engineering Command Southwest (2024) reported 237 observations over 493 monitor days, or 0.48 animals per day, and also acknowledged that the observations included repeat sightings (approximately 26 percent of individuals), making the data less useful for estimating densities. As with the bottlenose dolphin sightings, the report noted that sightings of California sea lions increased substantially in January, February, and March of 2022, and the increase was likely due to the presence of additional observers. This suggests a bias in the data that limits its usefulness for deriving densities representative of species distribution and occurrence. These non-systematic observations reported in both in the Naval Facilities Engineering Command Southwest (2024) monitoring report do not support robust density estimates for south and central San Diego Bay. Additional data would be required to better quantify abundance and seasonal occurrence in the bay to support a density estimate. Furthermore, the proposed military readiness activities in San Diego Bay do not include pile driving or other sound-producing activities that would require a density for analysis.

Comment 24 (ref 9)*:* The Commission noted the following points related to the pinniped densities provided in the Density Technical Report. The Commission recommended that NMFS work with the Navy to revise the Density Technical Report to clarify and address these points since the densities will inform the numbers of takes for the final rule and other incidental take authorizations for activities conducted by the Navy and other applicants.

• The Navy stated that, on average, post-partum female northern fur seals spent 180 hours in the water for every 40 hours on land, equating to 78 percent of time in the

water, which equated to 78 percent of adult females being in the water from June through November. The in-water percentage would be 82 rather than 78 percent.

• The Navy incorrectly identified the various in-water percentages for California sea lions in Table 9-25 as haul-out correction factors in the table heading and underlying text. The heading and text should indicate that those are indeed in-water percentages, similar to table 9-20 for harbor seals.

• The Navy did not include the California sea lion juveniles and pups specified in table 9-25 in the non-breeding season abundance estimate for the California breeding strata. Juveniles and pups should be included in the abundance estimate as was done for the breeding season density.

• The Navy specified that the in-water percentages for Steller sea lions were correction factors for estimation of the in-water abundances. The percentages should be specified as in-water percentages rather than correction factors, similar to harbor seals.

Response: Regarding the Commission's first point, Antonelis *et al.* (1990) states that the average foraging trip was 180.6 hours (standard deviation (SD) = 37 hours) and the average time on land was 39.6 hours (SD = 10 hours). The Navy interpreted that as a ratio of 40 hours on land to 180 hours in water or 40:180 = 40/180 = 22 percent on land (78 percent in water). The Navy acknowledges a different interpretation of the source is reasonable, but notes that any difference in the resulting percentages (78 percent vs. 82 percent) is within the range of the SD in both measurements. As such, the Navy has not adjusted the percentage, and NMFS concurs no adjustment is warranted.

Regarding the Commission's second and fourth points, the Navy changed the heading on table 9-25 in the Density Technical Report and adjusted related text on correction factors in the sections on California sea lions and Steller sea lions and in the revised Density Technical Report. NMFS concurs with this change.

Regarding the Commission's third point, the abundance estimate used to calculate densities for the non-breeding season was based on the total stock abundance and therefore considered all lifestages, even though they were not specifically called out in the calculation. The in-water percentages reported in table 9-25 were based on data on haulout behavior for each lifestage, but not all percentages were used to calculate densities. For example, for the non-breeding season female pups were effectively assigned the in-water percentage of 75 percent characteristic of adult females, but used for all females, rather than the 34 percent in-water percentage representing pup haulout behavior. Using this approach helped to simplify the calculation somewhat but also resulted in a more conservative density estimate. Also, the abundance used was based on data reported by Hernández-Camacho *et al.* (2021) and exceeded the current abundance for the California Stock reported in the SAR. As such, no change is warranted.

Mitigation

C*omment 25* (ref 32-1)*:* A commenter recommended that NMFS expand the exclusion and shutdown zones to reflect what the author suggests is "current science on behavioral harassment thresholds."

Response: The comment is vague, and the commenter does not provide citations or otherwise support the assertion that the proposed zones do not adequately reflect current science. The mitigation zones and the shutdown requirements included in the proposed rule and this final rule considered the current science regarding behavioral response, as well as practicability for implementation. The practicability assessment criteria are described in table 5-1 of the 2025 HCTT EIS/OEIS.

Comment 26 (ref 33)*:* A commenter stated that for mitigation areas to effectively protect marine mammals they must be properly sited, and the management objectives for each mitigation area must be based on best available scientific information. The commenter stated, when uncertainty exists and options are proposed that risk

overprotection or underprotection, the MMPA requires the permitting agency to consider "whether the precautionary approach would give more protection to marine mammals, and then whether that protection would impede military training to a degree making that mitigation not practicable." *Natural Resources Defense Council v. Pritzker*, 828 F.3d 1125, 1138 (9th Cir. 2016). The commenter stated that the final rulemaking should reflect that consideration to the extent that NMFS intends to adopt it for purposes of MMPA authorization.

Response: NMFS concurs that for mitigation areas to effectively protect marine mammals, they must be properly sited and management objectives for each must be based on best available scientific information. A full technical analysis of the mitigation areas is provided in appendix K (Geographic Mitigation Assessment) of the 2025 HCTT EIS/OEIS. A complete discussion of the Action Proponents' evaluation process used to develop, assess, and select mitigation measures, can also be found in chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS. NMFS has reviewed the information contained therein and finds that it reflects the best available science. Supporting documents include peer-reviewed articles; scientific committee reports; cruise reports or transects; books, government reports, or non-governmental organization (NGO) reports; and notes, abstracts, and conference proceedings. NMFS independently analyzed the mitigation areas and found these geographic mitigation areas are both practicable and will reduce the likelihood, magnitude, or severity of adverse impacts to marine mammals or their habitat in the manner described in the Action Proponents' analysis and this rule.

We acknowledge that the Ninth Circuit opinion stated that NMFS "should have considered whether `the precautionary approach' would give more protection to marine mammals, and then whether that protection would impede military training to a degree making that mitigation not practicable." *Pritzker,* 828 F.3d at 1138. However, taken in the context of the Court's full discussion, we read the Ninth Circuit's use of the term "the

precautionary approach" as specifically referring to the recommendations in the White Paper for designating Offshore Biologically Important Areas (OBIAs) in "data-poor" regions of the ocean (described therein as a precautionary approach for designating OBIAs), rather than a broader mandate to adopt a "precautionary approach" in carrying out the requirements of the MMPA. Accordingly, we disagree with the commenter's interpretation of the MMPA and *Pritzker* case. As we explained in the preamble of our 2019 incidental take regulations for Surveillance Towed Array Sensor System LFA training and testing in the North Pacific Ocean and Eastern Indian Ocean (84 FR 40132, August 13, 2019), NMFS' interpretation of the Ninth Circuit's opinion is based on the fact that neither the MMPA, 16 U.S.C. 1361 et seq., nor NMFS' implementing regulations, 50 C.F.R. part. 216, subpart I, include express references to, or requirements for, the precautionary approach, nor is there a clear, agreed-upon description of what the precautionary approach is or would entail in the context of the MMPA or any specific activity.

The MMPA by nature is inherently protective, including the requirement to mitigate to the lowest level practicable ("least" practicable adverse impacts, or "LPAI," on species or stocks and their habitat). To fulfill that requirement, NMFS considers all measures that we are reasonably aware of (*e.g.*, from recommendations or review of data) that have the potential to reduce impacts on marine mammal species or stocks, their habitat, or subsistence uses of those stocks. The extent to which the mitigation areas reduce impacts on the affected species is addressed in the A**nalysis and Negligible Impact Determination** section of this rule.

Comment 27 (ref 67)*:* A commenter stated that the Navy does not incorporate stand-off distances of any size within its requirements for mitigation areas. Thus, activities that are otherwise restricted or limited within a mitigation area could occur directly along the boundary and ensonify the area at levels capable of causing injury or

increasing the risk or severity of behavioral disruption. The commenter recommended that Navy consider establishing stand-off distances around its mitigation areas to the greatest extent practicable, allowing for variability in size given the location of the mitigation area, the type of operation at issue, and the species of concern.

Response: The mitigation areas included in the final rule and described in chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS represent the maximum mitigation within mitigation areas and the maximum size of mitigation areas that are practicable for the Action Proponents to implement under their specified activity. The Action Proponents have asserted, and NMFS concurs with the assessment, that implementing additional mitigation (*e.g.*, stand-off distances that would extend the size of the mitigation areas) beyond what is included in the final rule is impracticable due to implications for safety, sustainability, and the Action Proponents' ability to continue meeting their mission requirements.

When practicable, NMFS sometimes recommends the inclusion of buffers around areas specifically delineated to contain certain important habitat or high densities of certain species, to allow for further reduced effects on specifically identified features/species. However, buffers are not typically considered necessary or appropriate in combination with more generalized and inclusive measures, such as coastal offsets or other areas that are intended to broadly contain important features for a multitude of species. In the case of this rulemaking, NMFS and the Action Proponents have included an extensive array of broad protective areas that will reduce impacts on numerous species and habitats (including additions to what was described in the proposed rule) and, as described above, limitations in additional areas is not practicable.

Comment 28 (ref 34)*:* A commenter stated that new scientific information could be incorporated into the design of mitigation areas, specifically referencing Houser *et al.* (2024) and Southall *et al.* (2024). The commenter stated that they can inform which types

of acoustic sources to limit in mitigation areas important to particular species, and the size of the stand-off distances to apply to those areas.

Response: The mitigation measures in this rule are informed by multiple factors, including the sensitivity of certain hearing groups to certain sound sources (informed by the Phase IV criteria and thresholds) and vulnerability to other threats (*e.g.*, vessel strike). The Phase IV criteria and thresholds incorporate data from Houser *et al.* (2024), and as such, the mitigation areas in the proposed rule and final rule inherently consider those data. While the Phase IV criteria and thresholds do not incorporate data from Southall *et al.* (2024), they include delphinid response data from other studies, and the potential responses observed in Southall *et al.* (2024) occurred at received levels and distances assessed for potentially significant behavioral responses in the HCTT analysis. The commenter did not provide specific mitigation recommendations that may stem from the publications they reference. However, NMFS has responded to other mitigation recommendations from the commenter in separate responses herein and has explained that it has determined that the Action Proponents' planned mitigation measures would effect the least practicable adverse impact on the affected species and their habitat.

Comment 29 (ref 73)*:* A commenter recommended that NMFS should consider requiring compensatory mitigation for the adverse impacts of the permitted activity on marine mammals and their habitat that cannot be prevented or mitigated.

Response: Compensatory mitigation is not required under the MMPA. Instead, authorizations must include means of effecting the least practicable adverse impact from the activities on the affected species or stocks and their habitat, which this rule has done through the required procedural and geographic area mitigation measures. Also, the commenter did not recommend any specific measures, rendering it impossible to consider its recommendation at a broader level.

Comment 30 (ref 69): A commenter recommended further research and exploration of the feasibility of signal modification, including converting up-sweeps to down-sweeps, reducing the level of the side bands, or lengthening the rise time. The 2024 HCTT Draft EIS/OEIS considered, but rejected, modification of active sonar sources for training as part of a potential mitigation measure ("26. Reducing annual active sonar hours, replacing active sonar, with passive sonar or modifying active sonar sources for training"), deeming it impractical for achieving the mission. The commenter stated that the rationale provided in the 2024 HCTT Draft EIS/OEIS does not clearly justify why signal modifications alone would be impractical. The commenter states that some of those modifications, such as converting up-sweeps to down-sweeps, would not alter the system's spectral output in any way. The commenter stated that it believes source modification requires greater validation across species and in more behavioral contexts before any decisions are made to alter signals—but, given the preliminary data, and given the potential of this measure to reduce the instances and severity of behavioral harassment, it urges NMFS to elevate that research with the Navy.

Response: Active sonar signals are designed explicitly to provide optimum performance at detecting underwater objects (*e.g.*, submarines) in a variety of acoustic environments. The Action Proponents train with various active sonar signals, including up-sweeps and down-sweeps, to accurately replicate operational scenarios. Reducing training realism by restricting the signal used would ultimately prevent units from deploying with the required level of readiness necessary to accomplish their missions and impede the Action Proponents' ability to certify forces to deploy to meet national security tasking. Likewise, testing program requirements include test parameters designed to accurately determine whether a system is meeting its operational and performance requirements. Reducing realism by restricting the signal used would impact the ability of researchers, program managers, and weapons system acquisition programs to effectively

test systems and platforms (and components of these systems and platforms) before full-scale production or delivery to the fleet. For these reasons, the Navy has determined, and NMFS concurs, that modifying or limiting the sonar signal as mitigation is impractical to implement as it would result in degraded realism of training and testing.

NMFS and the Navy will explore whether future studies on the efficacy and practicality of signal modification are appropriate in consideration of other ongoing research efforts, including some recommended by the commenter (*e.g.*, thermal detection). However, at this time, given the numerous other research priorities and established impracticality, NMFS is not requiring the Action Proponents to investigate the efficacy of signal modification.

Comment 31 (70): A commenter asserted that mitigation measures based on visual observation (*i.e.*, by Lookouts), such as safety zone maintenance, results in highly limited risk reduction for most species and under most conditions. The commenter stated that NMFS should require infrared and thermal detection technologies as alternative detection measures for mitigation and monitoring, stating that these technologies have achieved a readiness level that is capable of supporting monitoring and mitigation during Phase IV military readiness activities.

Response: Lookouts remain an important component of the Action Proponents' mitigation strategy, especially as it relates to minimizing exposure to the more harmful impacts that may occur within closer proximity to the source, where Lookouts are most effective. As stated by the commenter, thermal detection technologies have advanced in recent years. However, significant limitations still exist, and the technology has not yet reached the level of performance needed for deployment during military readiness activities for mitigation uses. Current technologies are limited by: (1) low sensor resolution and a narrow field of view; (2) reduced performance in certain environmental conditions; and (3) high cost and uncertain long-term reliability.

Thermal detection systems are more useful for detecting marine mammals in some marine environments than others. Current technologies have limitations regarding water temperature and survey conditions (*e.g.*, rain, fog, sea state, glare, ambient brightness), for which further effectiveness studies are required. Thermal detection systems are generally thought to be most effective in cold environments, which have a large temperature differential between an animal's temperature and the environment. Current thermal detection systems have proven more effective at detecting large whale blows than the bodies of small animals, particularly at a distance. The effectiveness of current technologies has not been demonstrated for small marine mammals at-sea (noting that Richter *et al.* (2023) demonstrated efficacy in detecting killer whales in the Salish Sea using land-based thermal imaging systems). Thermal detection systems exhibit varying degrees of false positive detections (*i.e.*, incorrect notifications) due in part to their low sensor resolution and reduced performance in certain environmental conditions. False positive detections may incorrectly identify other features (*e.g.*, birds, waves, boats) as marine mammals (Boebel and Zitterbart, 2017; Zitterbart *et al.*, 2020).

Thermal detection systems for military applications are deployed on various Department of Defense (DoD) platforms. These systems were initially developed for nighttime targeting and object detection such as a boat, vehicle, or people and are not optimized for marine mammal detections versus object detection, nor do these systems have the automated marine mammal detection algorithms the Navy is testing via its ongoing research program. The Action Proponents do not have available personnel to add Lookouts to use thermal detection systems in tandem with existing Lookouts who are using traditional observation techniques.

Existing specialized DoD infrared/thermal capabilities on Navy aircraft and surface ships are designed for fine-scale targeting. Viewing arcs of these thermal systems are narrow and focused on a target area. Furthermore, sensors are typically used only in

select training events and have a limited lifespan before requiring expensive replacement. Some sensor elements can cost upward of $300,000 to $500,000 per device, so their use is predicated on a distinct military need.

The Office of Naval Research sponsored a project from 2019 to 2023 titled "Development of the Next Generation Automatic Surface Whale Detection System for Marine Mammal Mitigation and Distribution Estimation." The aim of the project was to develop a system to be used by non-experts, with minimal installation requirements, applying algorithms to reliably detect, localize, and identify surfaced marine mammals from a vessel, while minimizing false detections. In 2024, the project transitioned to the Navy's Living Marine Resources Program, the applied research, development, test, and evaluation (RDT&E) program that funds Navy driven research needs to support at-sea compliance and permitting. Thermal Imaging for Vessel Strike Mitigation on Autonomous Vessels (Project #LMR-68) will focus on adapting and testing two existing and proven thermal imaging-based whale detection systems to reduce the potential for vessel strike during navigation of unmanned Navy surface vessels.

When infrared and thermal mitigation technologies mature to the state where they are determined to be sufficiently effective at mitigating marine mammal impacts when considering the range of environmental conditions analogous to where the Action Proponents train and test and the species that could co-occur in space and time with the activities, then the Action Proponents will assess their compatibility with military readiness applications on both manned and unmanned vessels. This would include a practicality assessment of the budget and acquisition process (including costs associated with designing, building, installing, maintaining, and manning equipment), the logistical and physical considerations for retrofitting platforms with the appropriate equipment and their associated maintenance, repairs, or replacements (*e.g.*, conducting engineering studies to ensure compatibility with existing shipboard systems), the resource

considerations for training personnel to effectively operate the equipment, and the potential security and classification issues. New system integration on Action Proponents' assets can entail up to 5-10 years of effort to account for acquisition, engineering studies, and development and execution of systems training.

Given the assessment above, this final rule does not require the Action Proponents to utilize thermal detection for mitigating training and testing impacts on marine mammals. As thermal detection technology improves and practicability of applying the technology for training and testing activities is further assessed, NMFS will consider whether requirements to utilize thermal detection for mitigating impacts to marine mammals is appropriate.

Comment 32 (ref 24, 72): The Commission recommended that NMFS require the Navy to use its instrumented ranges and sonobuoys to localize marine mammals and implement the relevant mitigation measures during active acoustic events and to take a harder look at the technologies that the Canadian Department of National Defense (DND) uses during its at-sea activities and incorporate those technologies accordingly for other Phase IV LOA applications. The Commission cites the Lookout Effectiveness Study (Oedekoven and Thomas, 2022) in support of its recommendation.

In a related comment, a commenter stated that the Navy has substantial capability, at both SOAR and PMRF, to detect, identify, localize, and track various cetacean species in real time, citing that the capability has been used to support behavioral response studies in both locations (*e.g.*, Helble *et al.*, 2015; Kates Varghese *et al.*, 2020; Jacobson *et al.*, 2022). Yet, the Navy claims that using passive acoustic range instrumentation for mitigation purposes is still in a research and development stage "not sufficiently beneficial" (2024 HCTT Draft EIS/OEIS at 5-33, table 5-20). However, scientific studies have used that instrumentation for exactly these types of purposes, and the methodologies undertaken—while continually evolving—do not require more research and development

before they can be used to support the mitigation of acoustic, explosive, and vessel-related stressors. The commenter states that NMFS should require use of what is plainly a viable form of mitigation.

Response: The Action Proponents intend to continue to use passive acoustic monitoring (PAM) prior to activities involving explosive sonobuoys and explosive torpedoes, and during sinking exercises (SINKEX). During the use of active acoustics, Navy assets with PAM capabilities (*e.g.*, sonobuoys) that are already participating in an activity will continue to monitor for marine mammals, as described in section 5.6 (Activity-based Mitigations) of the 2025 HCTT EIS/OEIS. However, the fluidity and nature of military readiness activities (*e.g.*, fast-paced and mobile readiness evolutions), as well as the limitations of these monitoring capabilities, make it impractical for passive acoustic devices to be used as precise real-time indicators of marine mammal location for mitigation (*e.g.*, active sonar power downs or shutdowns, ceasing use of explosives) without an accompanying visual sighting. While we acknowledge that the Lookout Effectiveness Study suggests that detection of marine mammals is less certain than previously assumed at certain distances, we disagree with the assertion that the use of Lookouts has been shown to be wholly ineffective. Lookouts remain an important component of the Action Proponents' mitigation strategy, especially as it relates to minimizing exposure to the more harmful impacts that may occur within closer proximity to the source, where Lookouts are most effective.

The Navy asserts that its instrumented ranges do not have the capabilities to be used effectively for mitigation. The range hydrophones cannot track animals with any granularity and can only detect whether animals are present in a general area. Most notably, there is not a real-time feed of hydrophone data to vessel and aircraft operators. Further, animals are almost always present on the ranges, therefore expending the resources to notify exercise participants is not necessary. Given these practicability issues

and expected ineffectiveness, NMFS concludes that these suggested measures are not practicable and is not requiring the Action Proponents to utilize its passive acoustic range instrumentation for mitigating impacts to marine mammals. Please see section 5.5.3 (Active and Passive Acoustic Monitoring Devices) of the 2018 HSTT EIS/OEIS.

The Action Proponents and NMFS have considered and will continue to study the Canadian DND project, including the technologies used during at-sea activities; however, NMFS disagrees that such a requirement is warranted in this final rule. As more information from the Canadian DND project becomes available, the Action Proponents and NMFS may reconsider whether additional requirements are needed.

Comment 33 (ref 25): The Commission strongly recommended that NMFS require the Navy to use PAM prior to and during activities involving ship shock trials in the final rule, consistent with explosive sonobuoys, explosive torpedoes, and sinking exercises. The Commission notes that since mission effectiveness would not be impacted, the measures are considered practicable, and their implementation would reduce the potential for the most lethal marine mammal impacts.

Response: Consistent with the proposed rule, this final rule requires the Navy to use PAM prior to and during activities involving explosive sonobuoys and explosive torpedoes, and during sinking exercises when passive acoustic devices are already being used during weapon firing. For ship shock trials, while use of sonobuoys would not affect the ship shock trial, PAM from a 2001 ship shock trial for the Churchill full ship shock trial was considered ineffective (Clarke and Norman, 2005). As such, and given the significant expense associated with implementing PAM for ship shock trials, NMFS is not requiring the Navy to conduct PAM prior to and during ship shock trials.

Comment 34 (ref 26): The Commission strongly recommended that NMFS require the Navy to use passive acoustic devices (*i.e.*, directional frequency analysis and recording (DIFAR) and other types of passive sonobuoys, operational hydrophones) prior

to explosive bombing exercises and air-to-surface and surface-to-surface explosive missile and rocket exercises to detect marine mammals and implement the necessary mitigation measures in the final rule.

Response: The Navy employs PAM to supplement visual monitoring when practicable to do so (*i.e.*, when assets that have PAM capabilities are already participating in the activity). For explosive events in which there are no platforms participating that have PAM capabilities, adding PAM capability for mitigation, either by adding a PAM device (*e.g.*, hydrophone) to a platform already participating in the activity or by adding a platform with integrated PAM capabilities to the activity (*e.g.*, a sonobuoy), is not practicable.

The type of aircraft that conduct these bombing, missile, and rocket exercises do not have the capability to deploy and employ sonobuoys. The Action Proponents state that diverting platforms that have PAM capabilities would impact their ability to meet their Title 10 requirements and reduce the service life of those systems. The Action Proponents additionally state that there are significant manpower and logistical constraints that make constructing and maintaining additional PAM systems or platforms for additional training and testing activities impracticable. Given the impracticality of such a measure, NMFS has found that this measure is not warranted, and it is not required in this final rule.

Comment 35 (ref 31, 32-2)*:* A commenter recommended that NMFS prohibit high-intensity acoustic and explosive activities in BIAs during breeding, calving, or nursing seasons. Another commenter stated that training places should also be limited and not take place in marine protected areas or sensitive habitats.

Response: This final rule includes extensive mitigation measures in BIAs, including reproductive BIAs that are important for breeding, calving, and/or nursing. In Hawaii, mitigation in the Hawaii Island Marine Mammal Mitigation Area and Hawaii 4-

Islands Marine Mammal Mitigation Area (including an expansion of this mitigation area since publication of the proposed rule as described in the **Changes from the Proposed Rule to the Final Rule** section), as well as the Hawaii Humpback Whale Awareness Messages, are designed to protect marine mammals in sensitive habitats, including reproductive habitat for humpback whales, and to protect small and resident marine mammal populations. In California, the Northern California Large Whale Mitigation Area, Central California Large Whale Mitigation Area, Southern California Blue Whale Mitigation Area, California Large Whale Awareness Messages, California Large Whale Real-time Notification Mitigation Area, and San Nicolas Island Pinniped Haulout Mitigation Area are designed to protect marine mammals in sensitive habitats, including foraging, migratory, and calving habitats for large whales, and from more severe impacts (*e.g.*, auditory injury, vessel strike). Please see the *Geographic Mitigation Areas* section of this final rule for additional detail about the restrictions within these mitigation areas and the benefits they provide to marine mammals.

The Action Proponents have asserted, and NMFS concurs with the assessment, that implementing additional mitigation (*e.g.*, expanded mitigation areas) beyond what is included in the final rule is impracticable due to implications for safety, sustainability, and the Action Proponents' ability to continue meeting their mission requirements.

Comment 36 (ref 22a): The Commission recommended that NMFS include the San Nicolas Island Mitigation Area in the final rule, limit the number of sonar hours combined to no more than 300 hours of mid-frequency (MF)1 hull-mounted surface ship sonar combined for this mitigation area and the Southern California Blue Whale, the Central California Large Whale, and Northern California Large Whale Mitigation Areas from June 1 through November 30, and prohibit explosives (*i.e.*, mine warfare, large-caliber gunnery rounds, torpedoes, bombs, and missiles) from June 1 through November 30. The Commission states that the current core feeding BIA for blue whales (figure K-

19 in the 2024 HCTT Draft EIS/OEIS and figure 2 in Calambokidis *et al.* (2024)) overlaps the San Nicolas Island Mitigation Area that was part of the litigation settlement agreement in 2015 for Conservation Council for Hawaii v. National Marine Fisheries Service, as well as the Phase III HSTT EIS/OEIS and associated rulemaking.

Response: The Action Proponents assert that, due to the inclusion of Point Mugu Sea Range activities in the specified activities, it is impractical to continue mitigation in the former San Nicolas Island Mitigation Area and to extend the temporal restrictions beyond the 5 months already proposed. Doing so would modify military readiness activities in a way that would prevent them from meeting mission objectives and hinder Navy ability to realistically train and test in furtherance of its statutory mandate. See table 5-1 of the HCTT EIS/OEIS for examples. NMFS agrees that the suggested measures are not practicable in light of the military readiness impacts, as explained further below.

Of note, the portion of the blue whale core feeding BIA that overlaps the recommended San Nicolas Island Mitigation Area would be extremely small in comparison to the full BIA. Over 38 percent (38.41) of the core blue whale feeding BIA overlaps the Northern California Large Whale and Central California Large Whale Mitigation Areas, and the mitigation in these areas will reduce impacts that could result in lost feeding opportunities. Over 42 percent (42.35 percent) of the BIA is outside of the HCTT Study Area.

Please see NMFS' response to *Comment 37* and *Comment 38* regarding extension of the Southern California Blue Whale, Central California Large Whale, and Northern California Large Whale Mitigation Areas through November 30.

Comment 37 (ref 22b, 36, 37, 38)*:* A commenter recommended that NMFS extend the seasonality of the Southern California Blue Whale Mitigation Area to April 1 to December 31, as combined scientific evidence from sightings data and passive acoustic detections show that blue whales are present off southern California almost year-round

and at relatively higher densities from April 1 through December 31. The commenter also recommended that NMFS limit all sources of MFAS and require seasonal and/or dynamic vessel speed restrictions within the mitigation area.

In a related comment, the Commission recommended that NMFS extend the timing restrictions from October 31 to November 30 for the Southern California Blue Whale, Central California Large Whale, and Northern California Large Whale Mitigation Areas in the final rule.

Response: Regarding the recommendation to extend the seasonality of the Southern California Blue Whale Mitigation Area to April 1 to December 31 or November 30 as recommended by the commenter and the Commission, respectively, the Action Proponents assert that extending the temporal restrictions beyond the period of June 1 through October 31 included in the proposed rule would be impractical because it would modify military readiness activities in a way that would prevent them from meeting mission objectives and hinder Navy ability to realistically train and test in furtherance of its statutory mandate. See table 5-1 of the HCTT EIS/OEIS for examples. Further, the revised blue whale core feeding area identified by Calambokidis *et al.* (2024) is effective from June through November, and the Southern California Blue Whale Mitigation Area is already effective from June 1 through October 31 (*i.e.*, all but 1 month that the BIA is in effect). Given the practicality issues, NMFS is not requiring the Action Proponents to extend the effective period of this mitigation area. Please see NMFS' response to *Comment 38* for a response to the Commission's recommendation pertaining to the Central California Large Whale and Northern California Large Whale Mitigation Areas.

Regarding the recommendation to limit all sources of MFAS within the mitigation area, the Action Proponents assert that increasing the active sonar restrictions beyond what is already proposed would be impractical because it would modify military readiness activities in a way that would prevent them from meeting mission objectives

and hinder Navy ability to realistically train and test in furtherance of its statutory mandate. See table 5-1 of the HCTT EIS/OEIS for examples. Other training and testing MFAS systems are likely to be used less frequently in the vicinity of the Southern California Blue Whale Mitigation Area than surface ship hull-mounted MFAS for which the mitigation area contains restrictions. Given water depths, the Southern California Blue Whale Mitigation Area is not conducive for large scale anti-submarine warfare exercises, nor is it near areas where other anti-submarine warfare training and testing occurs. However, due to the presence of existing Navy subareas in the vicinity of the southern part of the Southern California Blue Whale Mitigation Area, a limited amount of helicopter dipping MFAS could occur. These designated range areas are required for proximity to airfields in San Diego such as Naval Air Station North Island and for airspace management. However, helicopters only used these areas for a Kilo Dip. A Kilo Dip is a functional check of approximately one to two pings of active sonar to confirm the system is operational before the helicopter heads to more remote offshore training areas. This ensures proper system operation and avoids loss of limited training time, expenditure of fuel, and cumulative engine use in the event of equipment malfunction. The potential effects of dipping sonar have been accounted for in the Navy's analysis. Further, due to lower power settings for dipping sonar, potential impact ranges of dipping sonar are significantly lower than surface ship sonars, and during a Kilo Dip or any other use of MFAS, the Action Proponents will implement the activity-based mitigation measures.

Regarding the recommendation to require seasonal and/or dynamic vessel speed restrictions within the mitigation area, the Action Proponents assert that such restrictions are not practicable based on safety, sustainability, and mission criteria. NMFS has reviewed the analysis of these additional suggested restrictions and the impacts they would have on military readiness and concurs with the Navy's assessment that they are

impracticable (see row 16 of table 5-20 in chapter 5 of the 2025 HCTT EIS/OEIS) Of note, in a review of Navy unpublished data, the multi-year average of U.S. Navy surface ship speeds on the continental shelf off California is between 10-15 knots (kn) (18.5-27.8 km/hr). In addition to the practicality concerns, none of the known vessel strikes by the Action Proponents in the HCTT Study Area have occurred in the Southern California Blue Whale Mitigation Area, suggesting that risk of vessel strike by the Action Proponents in this area is relatively low in comparison to other parts of the Study Area. As such, given the practicality concerns and the limited risk of vessel strike within the mitigation area, this final rule does not require speed restrictions in the Southern California Blue Whale Mitigation Area. However, activity-based mitigation for manned surface vessels requires maneuvering vessels to maintain a specified distance from marine mammals, which may include reducing speed.

Comment 38 (refs 39, 40, 41, 42, 43, 44, 45)*:* A commenter recommended that NMFS extend the seasonality of the Central California Large Whale Mitigation Area to April 1st to December 31st to reflect that aggregations of humpback whales occur off central California through December and that blue whales arrive in the region as early as April. The commenter further recommended that NMFS prohibit use of dipping sonar, restrict other sources of MFAS, prohibit use of low-frequency active sonar (LFAS), prohibit the use of in-water explosives, and require vessel speed restrictions. In a related comment, a commenter recommended that NMFS enhance the mitigation measures in the Northern California Large Whale Mitigation Area to align with those proposed for the Central California Large Whale Mitigation Area.

Response: Regarding the commenter's recommendation to extend the seasonality of the Central California Large Whale and Northern California Large Whale Mitigation Areas to April 1st to December 31 or November 30 as recommended by the commenter and the Commission, respectively, the Action Proponents assert that extending the

temporal restrictions beyond the five months already proposed would be impractical because it would modify military readiness activities in a way that would prevent them from meeting mission objectives and hinder the Action Proponents' abilities to realistically train and test in furtherance of their statutory mandates. See table 5-1 of the 2025 HCTT EIS/OEIS for examples.

Regarding active sonar sources, the Action Proponents anticipate that use of dipping sonar in the Central California Large Whale and Northern California Large Whale Mitigation Areas will be infrequent relative to other portions of the California Study Area, given the distance of the mitigation areas from airfields with helicopters that would use dipping sonar. Further, other than hull-mounted MFAS, for which this mitigation areas already include a restriction, and dipping sonar, the Action Proponents anticipate that use of MFAS in the Central California Large Whale and Northern California Large Whale Mitigation Areas will be infrequent relative to other portions of the California Study Area. Similarly, the Action Proponents anticipate that use of LFAS and explosives in the Central California Large Whale and Northern California Large Whale Mitigation Areas will be infrequent relative to other portions of the California Study Area. As such, restrictions on the already low use of these sources within the mitigation areas would not provide sufficient benefits to marine mammals, and are not required by this final rule. However, this rule includes activity-based mitigation for all active sonar and explosive activities.

Regarding the recommendation to require vessel speed restrictions within the mitigation areas, the Navy asserts that such restrictions are not practicable based on safety, sustainability, and mission criteria. NMFS has reviewed the analysis of these additional suggested restrictions and the impacts they would have on military readiness and concurs with the Navy's assessment that they are impracticable (see row 16 of table 5-20 in chapter 5 of the 2025 HCTT EIS/OEIS). Of note, in a review of Navy

unpublished data, the multi-year average of U.S. Navy surface ship speeds on the continental shelf off California is between 10-15 kn (18.5-27.8 km/hr). Given the practicality concerns, this final rule does not require speed restrictions in the Central California Large Whale and Northern California Large Whale Mitigation Areas. However, activity-based mitigation for manned surface vessels requires maneuvering vessels to maintain a specified distance from marine mammals, which may include reducing speed.

Comment 39 (ref 47, 48)*:* A commenter recommended that within the California Large Whale Awareness Message Mitigation Area, NMFS should require the Navy to issue awareness notifications for gray whales and fin whales during the timeframes when they are most likely to occur in the greatest densities, November through June, and June through November respectively. The commenter also recommended that NMFS require the Navy to use the dynamic species distribution models (SDMs) developed by the SWFSC and the WhaleWatch model predictions to inform their assets on where and when concentrations of whales are most likely to be present based on recent oceanographic conditions.

Response: The Action Proponents must broadcast awareness messages to alert applicable assets (and their Lookouts) transiting and training or testing off the U.S. West Coast to the possible presence of concentrations of large whales, including gray whales, fin whales, and mixed concentrations of blue, humpback, and fin whales that may occur based on predicted oceanographic conditions for a given year (*e.g.*, May-November, April-November) and are intended to be temporally dynamic. The Navy currently releases two West Coast whale awareness messages per year, a fall message for gray and fin whales and a spring message for mixed concentrations of blue, humpback, and fin whales that may occur based on predicted oceanographic conditions for a given year. In this final rule and in response to comments relating to gray whales, the effective end date

of the fall message has been extended from May, as included in the proposed rule, to June 30. The effective start date of the spring message is based upon oceanographic conditions and continues through November when the effective period of the BIAs identified by Calambokidis *et al.* (2024) ends). While the commenter suggests that the awareness messages align directly to the BIAs, for the blue and fin whale message, NMFS and the Action Proponents agree that it is more appropriate to base this message upon oceanographic conditions, as fin whale or blue whale presence in the spring may vary from year-to-year.

Dynamic SDMs and WhaleSafe information inform the details included in the Navy's annual awareness messages. These models are not suitable to the small scale range sub-areas Navy vessels must operate in due to training and testing requirements, schedule deconfliction, and safety. Nor are the models suitable or available to vessels at sea due to satellite transmission bandwidth restrictions (*i.e.*, limited internet access).

Comment 40 (ref 49, 50, 51)*:* A commenter recommended that within the California Large Whale Real-Time Notification Mitigation Area, NMFS require issuance of real-time notifications when one or more large whales are observed within 1 nmi (1.8 km) of a Navy vessel, and extend notifications to U.S. Coast Guard vessels performing or supporting Navy-related activities. The commenter also recommended that within the Mitigation Area, the Navy should be required to deploy unmanned acoustic gliders or fixed hydrophones with real-time acoustic detection capability, and to use both acoustic and visual detections to trigger real-time notifications. Last, the commenter stated that upon receipt of a real-time notification, Navy vessels and Coast Guard vessels engaged in training and testing activities should reduce or maintain vessel speeds at 10 kn (18.5 km/hr) until whales are no longer detected in the area either visually or acoustically.

Response: This final rule includes a modification to the California Large Whale Real-Time Notification Mitigation Area. Rather than notifications being issued following

observation of four or more large whales within 1 nmi (1.8 km), this final rule requires notifications to be issued following observation of three large whales within 1 nmi (1.8 km) of a Navy vessel. Individual large whale sightings within California are particularly common. The Navy reviewed sighting data from NMFS' SWFSC and Navy-funded researchers and determined that a group of four large whales might be indicative of unusual foraging or other life history events. However, following the additional strikes that have occurred since the 2025 HCTT proposed rule (90 FR 32118, July 16, 2025), the Action Proponents are reducing this to three large whales. Strike risk from U.S. Coast Guard vessels is different from Navy vessels. Historic Coast Guard strikes were from smaller vessels mostly outside of the HCTT Study Area with none associated with combined Navy training. However, if Navy vessels are training in coordination with U.S. Coast Guard vessels, bridge-to-bridge radio will be used to disseminate these notifications. Of note, real-time PAM would not detect whales that are not vocalizing, and passive acoustic monitoring would only be indicative that whales are present but not of their location relative to Navy or Coast Guard vessels.

Please see NMFS' response to *Comment 32* regarding the recommendation to use both visual and passive acoustic monitoring platforms to detect whales and trigger awareness notification systems.

The dynamic vessel speed restrictions upon receipt of a real-time notification within the mitigation area are not practicable for the reasons discussed in response to *Comment 50*.

Comment 41 (ref 52)*:* A commenter stated that NMFS should carefully consider prohibiting major training exercises (MTE) or exercise components involving hull-mounted MFAS within the Hawai‘i Island Marine Mammal Mitigation Area. The commenter states that if some major exercises absolutely cannot be avoided, the Navy should consider further reducing their number, and, to the extent practicable, carry out

each exercise in a different portion of the Hawai‘i Island Marine Mammal Mitigation Area (*i.e.*, one exercise in the north, one exercise in the south), to ensure that marine mammal populations with highly discrete site fidelity, as indicated by the designation of child small and resident BIAs, are not exposed to multiple MTEs within a single year.

Response: An MTE, for purposes of this rulemaking, consists of several unit-level activities conducted by several units operating together, commanded and controlled by a single Commander, and typically generating more than 100 hours of active sonar. The multiple units involved in an MTE would often be spread across the Hawaii Range Complex (HRC), and as such, there is rarely a concentration of sonar or other stressors in one area. Further, the individual activities that make up an MTE would not frequently occur within the Hawaii Island Marine Mammal Mitigation Area. The main Hawaii-based MTE, Rim of the Pacific (RIMPAC), occurs only every other year in the summer and outside of humpback whale breeding season. While all areas of HRC could be used for some sort of training during RIMPAC, the majority of sonar and explosive use generally, but not exclusively, occurs outside of the mitigation area. Mitigation within the Hawaii Island Marine Mammal Mitigation Area requires that the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted MFAS or 20 hours of helicopter dipping sonar (an MFAS source) annually within the mitigation area. This includes any combination of MTEs or unit level training. Additionally, explosive use in the Hawaii Island Marine Mammal Mitigation area is prohibited year-round.

Comment 42 (ref 23, 35, 53, 54, 55, 56, 57, 58)*:* A commenter recommended that NMFS extend the boundaries of the Hawaii 4-Islands Marine Mammal Mitigation Area to encompass the child small and resident BIAs for the endangered Main Hawaiian Islands Insular Distinct Population Segment (DPS) of false killer whales, including the northeast Kaiwi Channel. The commenter also recommended that NMFS extend the

prohibition on the use of MF1 surface ship hull-mounted MFAS and LFAS in this area from December 1 through May 31 to align with the effective period of the BIA for humpback whales identified by Kratofil *et al.* (2023). Further, the commenter recommended that year-round, NMFS prohibit the use of dipping sonar and limit all other sources of MFAS. Last, the commenter recommended that NMFS require vessel speed restrictions between December 1 and May 31. In a related comment, the Commission recommended that NMFS include the core small and resident BIA areas off Oahu, Lanai, and Molokai in the Hawaii 4-Islands Mitigation Area, which prohibits use of MF1 hull-mounted surface ship sonar from November 15 to April 15 and in-water explosives year-round.

In a related comment, a commenter stated that the HRC and Temporary Operating Area overlap with essential calving and breeding habitats. The commenter stated that to comply with MMPA intent, operations with high acoustic or explosive output should be prohibited during known sensitive periods for reproduction and nursing.

In a related comment, a commenter stated that the available scientific evidence on the impacts of dipping sonar on deep-dive rates in beaked whales (family Ziphiidae), indicates that management of this acoustic source should be expanded, including to areas representing important habitat for beaked whale species.

Response: The Hawaii 4-Islands Marine Mammal Mitigation Area contains portions of nine updated BIAs (Kratofil *et al.*, 2023), including part of the false killer whale core small and resident BIA. This final rule includes an expansion of the Hawaii 4-Islands Mitigation Area, as recommended by the Commission and the commenter. The expanded area includes an additional portion (1,969 km^2) of the child small and resident BIA for the Main Hawaiian Islands Insular stock of false killer whale, while avoiding restrictions in the Kaiwi Channel between Oahu and Molokai, the Aloha Submarine Transit Lane, and Penguin Bank which are important for Navy's training and testing

activities. This increases the portion of the child BIA overlapping the mitigation area from approximately 40 percent of the BIA as included in the proposed rule to 63 percent. Additionally, this final rule clarifies that the MFAS mitigation in this area and in the Hawaii Island Marine Mammal Mitigation Area includes both MF1 and MF1C surface ship hull-mounted MFAS. MF1C was inadvertently left out of the Action Proponents application and subsequently the proposed rule.

The Action Proponents assert that further expanding the Mitigation Area would result in degraded training and testing realism. As stated in section K.3.3.3 of the HCTT EIS/OEIS, as it relates to anti-submarine warfare, the training value within the 4-Islands Region is much higher compared to other near shore environments within the HRC due to the challenging bathymetry. As such, NMFS is not requiring the Action Proponents to expand the spatial extent of the mitigation area to the full extent recommended by the commenter.

The Action Proponents assert that extending the restrictions on active sonar or explosives, including limits or prohibition of MFAS and LFAS sources, in the Hawaii 4-Islands Marine Mammal Mitigation Area beyond that required by the proposed rule would be impractical because it would modify military readiness activities in a way that would prevent them from meeting mission objectives and inhibit their abilities to meet statutory mandates. Further restrictions on dipping sonar use would be impractical for the same reasons. However, the current geographic extent of the Hawaii Island Marine Mammal Mitigation Area wholly encompasses the most important portion (*i.e.*, "child" portion of a hierarchical BIA) of the Blainville's beaked whale BIA, the vast majority of the most important portion of the goose-beaked whale BIA, and portions of both species' parent BIAs. Within this mitigation area, the Action Proponents must not use more than 20 hours of MF helicopter dipping sonar annually.

Regarding the recommendation to require vessel speed restrictions within the mitigation area from December 1 through May 31, the Navy asserts that such restrictions are not practicable based on safety, sustainability, and mission criteria. NMFS has reviewed the analysis of these additional suggested restrictions and the impacts they would have on military readiness and concurs with the Navy's assessment that they are impracticable (see row 16 of table 5-20 in chapter 5 of the 2025 HCTT EIS/OEIS). Of note, in a review of Navy unpublished data, the multi-year average of U.S. Navy surface ship speeds on the continental shelf off California is between 10-15 kn (18.5-27.8 km/hr). Given the practicality concerns, this final rule does not require speed restrictions in the Southern California Blue Whale Mitigation Area. However, activity-based mitigation for manned surface vessels requires maneuvering vessels to maintain a specified distance from marine mammals, which may include reducing speed.

Comment 43 (ref 62, 63)*:* A commenter described what it characterized as important beaked whale habitat in San Nicolas Basin, Santa Catalina Basin, and the southernmost edge of the California Current, west of Tanner and Cortez Banks. The commenter recommended that the Navy and NMFS convene a group of experts to develop a suite of mitigation measures "that are feasible for the Navy but would still reduce harm to individual beaked whales and the risk of population-level impacts" in the SOCAL Range Complex. The commenter recommended that, until that time, NMFS should require maintenance of the San Nicolas and Santa Barbara Mitigation Areas. The commenter also stated that without meaningful additional mitigation, it does not see how population-level harm would not occur or, ultimately, how a "negligible impact" finding under the MMPA could be reached with respect to the goose-beaked whale population associated with San Clemente Island.

The commenter also recommended considering source-based approaches such as signal modification to mitigate impacts on goose-beaked whales and other frequently exposed populations.

Response: NMFS and the Navy have fully considered potential mitigation for all species of marine mammals throughout the HCTT Study Area, including beaked whales, and NMFS has determined that the mitigation included in this final rule will effect the least practicable adverse impact on the affected species and stocks and their habitat, as required by the MMPA.

Within San Nicolas Basin, there is a documented, recurring number of goose-beaked whales (Falcone *et al.*, 2009; Barlow *et al.*, 2021a, 2021b; Curtis *et al.*, 2021) strongly indicating that the Navy's activities are not having a population-level impact to what may be a resident population of this species. This is supported by repeated visual re-sighting rates of individuals, sightings of calves and, more importantly, reproductive females, and passive acoustic assessments of steady vocalization rates and abundance over at least the most recent 7-year interval (Curtis *et al.*, 2021; Schorr *et al.*, 2024).

As described in response to *Comment 36*, the Action Proponents assert that, due to the inclusion of Point Mugu Sea Range activities in the specified activities, it is impractical to continue mitigation in the former San Nicolas Island Mitigation Area. Doing so would modify military readiness activities in a way that would prevent them from meeting mission objectives and hinder Navy ability to realistically train and test in furtherance of its statutory mandate. See table 5-1 of the HCTT EIS/OEIS for examples. NMFS agrees with this assessment and is not requiring the Navy to continue the former San Nicolas Island Mitigation Area, consistent with the proposed rule.

The Santa Barbara Island Mitigation Area was previously created to minimize impacts to blue whales and gray whales in identified BIAs (Calambokidis *et al.*, 2015), which have since been updated (Calambokidis *et al.*, 2024). Just a portion of the former

Santa Barbara Island Mitigation Area area meets the scientifically accepted minimum depth criteria expected for beaked whale habitat, in Southern California, usually greater than 800 m. The bathymetric area greater than 800 m depth and within the Santa Barbara Island Mitigation Area is approximately 24 square nmi (nmi^2) (26 percent of the total Mitigation Area spatial extent or only 0.02 percent of the total HSTT SOCAL area, which would represent an even smaller percentage of the California Study Area considered in this final rule). Beaked whale monitoring at other locations within SOCAL have shown that even in ocean basins thought to have a goose-beaked whale sub-population, there is still quite a bit of variation in occurrence and movement of beaked whales within a given basin (Schorr *et al.*, 2017, 2018, 2020). The small area around Santa Barbara Island is not known to have resident marine mammals, formally identified BIAs (or watch areas formally identified in Calambokidis *et al.* (2024), though the authors note that some areas, including the San Nicolas Basin, appear to have higher densities of beaked whales, and future consideration as a BIA may be warranted), nor is it identified as a breeding or persistent foraging location for cetaceans. Instead, the same marine mammals that range throughout the offshore Southern California area could pass at some point through the marine waters of Santa Barbara Island. In addition to the limited benefit to beaked whales if this mitigation area were required, restrictions beyond what is already proposed would be impractical because it would modify military readiness activities in a way that would prevent them from meeting mission objectives and hinder Navy ability to realistically train and test in furtherance of its statutory mandate. As such, NMFS is not requiring the Navy to continue the former Santa Barbara Island Mitigation Area, consistent with the proposed rule.

The water space areas mentioned in the comment as "(SHOBA)" off the southern end of San Clemente Island are waters designated as Federal Danger and Safety Zones via formal rule making (Danger Zone—33 CFR 334.950 and Safety Zone—33 CFR

165.1141) because they are adjacent to the shore bombardment impact area that is on land at the southern end of San Clemente Island. Waters designated as "WILSON COVE" on the leeward norther side of San Clemente Island south of Safety Zone Area A are associated with the Wilson Cove anchorages and moorings, where ship calibration tests, sonobuoy lot testing, and special projects take place, are designated as Federal Safety and Restricted Zones via formal rule making (Safety Zone—33 CFR 165.1141 and Restricted Zone—33 CFR 334.920).

The commenter expressed concern that a population of goose-beaked whale is, "subject to regular acoustic disturbance due to the presence of the Shore Bombardment Area," is not correct. The SHOBA is a naval gun impact area located on land at the southern end of San Clemente Island. This area is an instrumented land training range used for a variety of bombardment training and testing activities. The in-water administrative boundary for SHOBA does not delineate the locations where a vessel firing at land targets must be located and does not represent where gunfire rounds are targeted. The water area in Santa Catalina Basin is a controlled safety zone in the very unlikely event a round goes over the island and lands in the water. With the modern advent of better precision munitions, computers, and advanced fire control, that probability is very remote. Navy vessels use the waters south of San Clemente Island (SHOBA West and SHOBA East) from which to fire into land targets on southern San Clemente Island. Therefore, there would not be any underwater acoustic disturbance to goose-beaked whales located within the Santa Catalina Basin from in-water explosives or ship firing. Goose-beaked whales are unlikely to occur in the shallow waters of the Pyramid Cove Mine Training Range where these stressors would occur.

The Navy has been funding goose-beaked whale research and monitoring in SOCAL since 2004. This research includes information related to overall beaked whale population health such as individual re-sighting rates, passive acoustic detections on

occurrence, documentations of mother-calf pairs, satellite tracking, genetics, and starting in 2025, body condition analysis using drone photographs. In addition, numerous opportunistic exposure response studies are ongoing. To date, no documentation of harm to individuals or populations has been observed over 20 years of monitoring. Further, the Navy, in consultation with NMFS, has already begun planning the development of a Potential Consequence of Disturbance (PCOD) model for SOCAL goose-beaked whales based on past and ongoing data collection efforts. Rather than convening a mitigation-focused panel as recommended by the commenter, NMFS and the Navy will consider the outcome of this model and whether model results suggest that additional mitigation measures for beaked whales may be warranted.

In Southern California, the goose-beaked whales that may be impacted by the Action Proponents' training and testing are of the California/Oregon/Washington stock, and NMFS has appropriately made its negligible impact finding for this stock, as described in the **Analysis and Negligible Impact Determination** section of this final rule.

Please see NMFS response to *Comment 30* regarding signal modification. Aside from signal modification, the commenter did not recommend specific source-based mitigation approaches.

Comment 44 (ref 64)*:* A commenter recommended that NMFS require a year-round mitigation area to protect the Cross Seamount, given that it represents important foraging habitat for a rare and potentially evolutionary distinct species of beaked whale. The commenter stated that such a designation would have secondary benefits for a variety of other odontocete species foraging at Cross Seamount seasonally between November and May. The commenter further recommended considering habitat-based management measures for other nearby seamounts given the scientific basis for the generalization of marine mammal-seamount associations, and given evidence that a

number of other seamounts within the HCTT Study Area exhibit levels of productivity capable of supporting commercial fisheries.

Response: Analysis and consideration of Cross Seamount and "other nearby seamounts" for additional geographic mitigation was provided in appendix K (Geographic Mitigation Assessment), section K.7.1 (Hawaii Public Comment Mitigation Area Assessment), including sub-sections K.7.1.1 (General Biological Assessment of Seamounts in the Hawaii Portion of the Study Area) and K.7.1.2 (Cross Seamount) of the 2018 HSTT EIS/OEIS.

As discussed in appendix K (Geographic Mitigation Assessment), section 4.7.1.3 (Mitigation Assessment) of the 2018 HSTT EIS/OEIS, implementing new geographic mitigation measures in addition to ongoing procedural mitigation within the vicinity of Cross Seamount would not be effective at reducing adverse impacts on beaked whales or other marine mammal populations. The Navy has been training and testing in the broad ocean area around Cross Seamount with the same basic systems for over 40 years, and there is no evidence of any adverse impacts to marine species. Additionally, the suggested mitigation would not be practicable to implement. The broad ocean area around Cross Seamount and the seamounts to the north are unique in that there are no similar broad ocean areas in the vicinity of the Hawaiian Islands that are not otherwise encumbered by commercial vessel traffic and commercial air traffic routes. In addition, beaked whales may be more widely distributed than currently believed. Ongoing passive acoustic efforts from NMFS and Navy within the Pacific have documented beaked whale detections at many locations beyond slopes and seamounts to include areas over abyssal plains (Klinck *et al.*, 2015; Griffiths and Barlow, 2016; Rice *et al.*, 2018).

Comment 45 (ref 65)*:* A commenter stated that NMFS should further consider implementing mitigation areas off Oahu, Kauai, and Niihau. The commenter stated that providing mitigation measures for select activities during even a limited season within

some important habitat areas could have value in reducing cumulative disturbance and stress in resident populations.

Response: In the 2025 HCTT EIS/OEIS, the Action Proponents considered the science, the military readiness requirements, and the effectiveness of identified habitat areas off Oahu, Kauai, and Niihau as presented in appendix K (Geographic Mitigation Assessment) section K.3 (Biologically Important Areas within the Hawaii Study Area). This includes the identified BIAs off Oahu (humpback whale, Blainville's beaked whale, false killer whale, short-finned pilot whale, pygmy killer whale, pantropical spotted dolphin, rough-toothed dolphin, bottlenose dolphin, and spinner dolphin), BIAs off Kauai and Niihau (humpback whale, short-finned pilot whale, false killer whale, rough-toothed dolphin, spinner dolphin, and bottlenose dolphin), and BIAs off Lanai and Molokai (humpback whale, Blainville's beaked whale, goose-beaked whale, short-finned pilot whale, false killer whale, pygmy killer whale, pantropical spotted dolphin, rough-toothed dolphin, bottlenose dolphin and spinner dolphin).

There is no evidence to suggest there have been any population-level effects in the waters around Oahu, Kauai, Niihau, Lanai, or Molokai or in the HCTT Study Area resulting from the same training and testing activities that have been ongoing for decades. In the waters around Oahu, Kauai, and Niihau, documented long-term residency by individuals and the existence of multiple small and resident populations precisely where Navy training and testing have been occurring for decades suggests a lack of significant impact to those populations from the continuation of Navy training and testing. Appendix K of the HCTT EIS/OEIS describes the importance of these areas for Navy training and testing and why implementation of additional mitigation areas would be impracticable. As such, NMFS is not requiring the Action Proponents to implement an additional mitigation area in this region. Of note, the Navy's monitoring program for Hawaii is currently exclusively focused on monitoring whale and select dolphin species off Kauai

and Niihau since 2009. In 2025, the Navy will be adding increased effort for rough-toothed dolphins due to the new BIA designation (Kratofil *et al.*, 2023).

Comment 46 (ref 59, 60)*:* A commenter recommended that NMFS extend the reporting period to December 1 through May 1 for the Hawaii Humpback Whale Special Reporting Mitigation Area. The commenter also recommended that NMFS require reporting of other sources of MFAS and LFAS in the mitigation area.

Response: The proposed rule required that the Action Proponents must report the total hours of MF1 and MF1C surface ship hull-mounted MFAS used from November through May in the Hawaii Humpback Whale Special Reporting Mitigation Area in their training and testing activity reports submitted to NMFS. As such, the proposed time period already includes that recommended by the commenter, and no change to the time period is warranted in this final rule. Regarding the reporting of other sources, MF1 surface ship hull-mounted MFAS was chosen as the representative source to report because it is a well-understood source in terms of its effects on marine mammals, extensively used during training and testing activities, and has not changed significantly since the initial Navy training and testing ITAs. For consistency of reporting, retention of MF1 hours as the reporting metric will allow for clear comparison to past documents. NMFS does not find it necessary for the Action Proponents to report other forms of MFAS and LFAS.

Comment 47 (ref 61)*:* A commenter recommended that the Action Proponents begin issuing awareness notification messages from November 1 through May 31, overlapping the effective period of the reproductive BIA for humpback whales (December 1 through May 31), and beginning in November 1 as initially proposed to support the detection of early arriving humpback whales to the HRC.

Response: The Action Proponents have indicated that extending the date range for the Hawaii Humpback Whale Awareness Messages from November 1 through May 31 is

practicable, and as such, NMFS has updated the required date range for these messages in this final rule.

Comment 48 (ref 28)*:* The Commission recommended that NMFS:

• Clearly separate its application of the least practicable adverse impact requirement from its negligible impact determination;

• Adopt a clear decision-making framework that recognizes the species and stock component and the marine mammal habitat component of the least practicable adverse impact provision and always consider whether there are potentially adverse impacts on marine mammal habitat and whether it is practicable to minimize them;

• Rework its evaluation criteria for applying the least practicable adverse impact standard to separate the factors used to determine whether a potential impact on marine mammals or their habitat is adverse and whether possible mitigation measures would be effective;

• Address these concerns by adopting a simple, two-step analysis that more closely tracks the statutory provisions being implemented and, if NMFS is using some other legal standard to implement the least practicable adverse impact requirements, provide a clear and concise description of that standard and explain why it believes it to be "sufficient" to meet the statutory legal requirements; and

• Apply these basic steps and criteria consistently for least practicable adverse impact determinations across incidental take authorizations.

The Commission references previous letters in which it has included its complete rationale for these recommendations.

Response: NMFS has made clear in this and other rules that the agency separates its application of the least practicable adverse impact requirement in the **Mitigation Measures** section from its negligible impact analyses and determinations for each species or stock in the **Analysis and Negligible Impact Determination** section. Further, NMFS

has made this separation clear in practice for years by requiring mitigation measures to reduce impacts to marine mammal species and stocks and their habitat for all projects, even those for which the anticipated take would clearly have a negligible impact, even in the absence of mitigation.

In the **Mitigation Measures** section of this rule, NMFS has explained in detail our interpretation of the least practicable adverse impact standard, the rationale for our interpretation, and how we implement the standard. The method the agency uses addresses all of the necessary components of the standard and produces effective mitigation measures that result in the least practicable adverse impact on both the species or stocks and their habitat. The commenter has failed to explain why NMFS' approach is inadequate or why the commenter's proposed approach would be better. We, therefore, decline to accept the recommendation.

Also in the **Mitigation Measures** section, NMFS has explained in detail our application of the least practicable adverse impact standard. The commenter recommended an alternate way of interpreting and implementing the least practicable adverse impact standard, in which NMFS would consider the effectiveness of a measure in our evaluation of its practicability. The commenter erroneously asserts that NMFS currently considers the effectiveness of a measure in a determination of whether the potential effects of an activity are adverse, but the commenter has misunderstood NMFS' application of the standard—rather, NMFS appropriately considers the effectiveness of a measure in the evaluation of the degree to which a measure will reduce adverse impacts on marine mammal species or stocks and their habitat, as a less effective measure will less successfully reduce these impacts on marine mammals. Further, the commenter has not provided information that shows that their proposed approach would more successfully evaluate mitigation under the least practicable adverse impact standard, and we decline to accept it.

Further, NMFS disagrees with the commenter's assertion that analysis of the rule's mitigation measures under the least practicable adverse impact standard remains unclear or that the suggested shortcomings exist. The commenter provides no rationale as to why the two-step process they describe is better than the process that NMFS uses to evaluate the least practicable adverse impact that is described in the rule, and therefore we decline to accept the recommendation.

Regarding the assertion that the standard shifts on a case-by-case basis, the commenter misunderstands NMFS' process. Neither the least practicable adverse impact standard nor NMFS' process for evaluating it shifts on a case-by-case basis. Rather, as the commenter suggests should be the case, the evaluation itself is case-specific to the proposed activity, the predicted impacts, and the mitigation under consideration.

Regarding the recommendation to apply the recommended steps and criteria for least practicable adverse impact determinations across incidental take authorizations, as outlined above, NMFS disagrees with these recommendations and therefore does not intend to apply them across incidental take authorizations.

Comment 49 (ref 86, 87, 88)*:* A commenter stated that NMFS wholesale endorses the Action Proponents' decision to reject additional mitigation measures considered in the 2024 HCTT Draft EIS/OEIS and provides no independent justification or analysis for its least practicable adverse impact determination. The commenter stated that without incorporating a broader suite of mitigation measures, including, for example, mandatory reduced vessel speeds and updated geographic mitigation areas based on updated science, the ITRs and LOAs violate the MMPA's requirement to incorporate mitigation measures that effectuate the least practicable adverse impact. The commenter further stated that although NMFS acknowledges the existence of the updated BIAs (Calambokidis *et al.*, 2024; Harrison *et al.*, 2023; Kratofil *et al.*, 2023) in its proposed rule, NMFS makes clear that it plans to adopt the Action Proponents' proposed geographic mitigation areas

without any changes, claiming that it is "heavily reliant on the Action Proponents' description of operational practicability."

The commenter additionally stated that NMFS failed to require the following additional mitigation measures proposed in its Draft EIS/OEIS comments:

• Imposing a 10-kn (18.5 km/hr) ship speed limit in whale mitigation areas to reduce the risk of vessel strikes;

• Improving detection of marine mammals using alternative detection methods including thermal and acoustic methods (Verfuss *et al.*, 2018);

• Restricting activities during times of low visibility;

• Capping the maximum level of activities each year;

• Avoiding testing and training exercises in key migration corridors and prime feeding areas;

• Avoiding testing and training exercises during key feeding times;

• Avoiding testing and training exercises in areas where the whale presence in the area is "High" or "Very High," per WhaleSafe;

• Maintaining mitigation for the core feeding areas for Blue Whales in the San Nicolas Island Mitigation Area;

• Prohibiting sonar and explosives in all the whale mitigation areas off California from June through November; and

• Not exempting aircraft from mitigation areas.

Response: NMFS disagrees with much of what the commenters assert. First, we have carefully explained our interpretation of the least practicable adverse impact standard and how it applies to both stocks and individuals in the **Mitigation Measures** section of the proposed rule and this final rule. Further, we have applied the standard correctly in this rule by requiring measures that reduce impacts to individual marine

mammals in a manner that reduces the probability and/or severity of population-level impacts.

When a suggested or recommended mitigation measure that would reduce impacts is not practicable, NMFS has explored variations of that mitigation measure to determine if a practicable form of related mitigation exists. This is clearly illustrated in NMFS' independent mitigation analysis process explained in the Proposed Mitigation Measures section of the proposed rule and the **Mitigation Measures** section of this final rule. First, some types of mitigation required under this rule are area-specific and vary by mitigation area, demonstrating that NMFS has engaged in a site-specific analysis to ensure mitigation is tailored when practicability demands, *i.e.*, some forms of mitigation were practicable in some areas but not others. For instance, while it was not practicable for the Action Proponents to prohibit surface ship hull-mounted MF1 MFAS during training or testing in all mitigation areas, NMFS did include restrictions on its use in the Hawaii 4-Islands Marine Mammal Mitigation Area, Hawaii Island Marine Mammal Mitigation Area, Northern California Large Whale Mitigation Area, Central California Large Whale Mitigation Area, and the Southern California Blue Whale Mitigation Area.

Additionally, while the Navy cannot alleviate all training and testing in the mitigation areas that protect small resident odontocete populations in Hawaii, this final rule includes an expansion of the Hawaii 4-Islands Mitigation Area to include an additional portion of the child small and resident BIA for the Main Hawaiian Islands Insular stock of false killer whale. This increases the portion of the child BIA overlapping the mitigation area from approximately 40 percent of the BIA as included in the proposed rule to 63 percent. Additionally, this final rule clarifies that the MFAS mitigation in this area and in the Hawaii Island Marine Mammal Mitigation Area includes both MF1 and MF1C surface ship hull-mounted MFAS. MF1C was inadvertently left out of the Action Proponents application and subsequently the proposed rule.

NMFS agrees the agency must conduct its own analysis, which it has done here. NMFS has not automatically accepted the Navy's analysis and rationales. Rather, NMFS has appropriately reviewed the Navy's analysis of effectiveness and practicability of its proposed mitigation measures, which by regulation the Navy was required to submit with its application. Based on NMFS' independent review, it has concurred with those aspects of the Navy's analysis with which NMFS agrees. NMFS has described our well-reasoned process for identifying the measures needed to meet the least practicable adverse impact standard in the **Mitigation Measures** section in this rule, and we have followed the approach described there when analyzing potential mitigation for the Action Proponents' activities in the HCTT Study Area.

Regarding restricting activities during times of low visibility, anti-submarine warfare training involving the use of MFAS typically involves the periodic use of active sonar to develop the "tactical picture," or an understanding of the battle space (*e.g.*, area searched or unsearched, presence of false contacts, and an understanding of the water conditions). Developing the tactical picture can take several hours or days, and typically occurs over vast waters with varying environmental and oceanographic conditions. Training during both high visibility (*e.g.*, daylight, favorable weather conditions) and low visibility (*e.g.*, nighttime, inclement weather conditions) is vital because sonar operators must be able to understand the environmental differences between day and night and varying weather conditions and how they affect sound propagation and the detection capabilities of sonar. Temperature layers move up and down in the water column and ambient noise levels can vary significantly between night and day, affecting sound propagation and how sonar systems are operated. Reducing or securing power in low-visibility conditions as a mitigation would affect a commander's ability to develop the tactical picture and would prevent sonar operators from training in realistic conditions. Further, during integrated training multiple vessels and aircraft may participate in an

exercise using different dimensions of warfare simultaneously (*e.g.*, submarine warfare, surface warfare, air warfare). If one of these training elements were adversely impacted (*e.g.*, if sonar training reflecting military operations were not possible), the training value of other integrated elements would also be degraded. Additionally, failure to test such systems in realistic military operational scenarios increases the likelihood these systems could fail during military operations, thus unacceptably placing sailors' lives and the Nation's security at risk. Some systems have a nighttime testing requirement; therefore, these tests cannot occur only in daylight hours. Reducing or securing power in low visibility conditions would decrease the Navy's ability to determine whether systems are operationally effective, suitable, survivable, and safe for their intended use by the fleet even in reduced visibility or difficult weather conditions.

Regarding the recommendation to cap the maximum level of activities each year, the commenters offer no rationale for why a cap is needed and nor do they suggest what an appropriate cap might be. The Action Proponents are responsible under Titles 10 (Navy) and 14 (Coast Guard) of the U.S. Code for conducting the needed amount of testing and training to maintain military readiness, which is what they have proposed and NMFS has analyzed. Further, the MMPA states that NMFS shall issue MMPA authorizations if the necessary findings can be made, as they have been here. Importantly, as described in the *Geographic Mitigation Areas* section, the Navy will limit activities (active sonar, explosive use, *etc.*) to varying degrees in multiple areas that are important to sensitive species or for important behaviors in order to minimize impacts that are more likely to lead to adverse effects on rates of recruitment or survival.

NMFS and the Action Proponents have fully explored the potential to incorporate WhaleSafe into the required mitigation measures. However, the current WhaleSafe operational areas (Santa Barbara Channel and off the coast of San Francisco) do not overlap with the HCTT Study Area. As such, while WhaleSafe can inform whale

occurrence in other areas of California, it is not an appropriate tool for determining mitigation actions in the HCTT Study Area, and NMFS has not required the Navy to halt training or testing activities when WhaleSafe indicates that whale presence in the area is "high" or "very high" as suggested by the commenter. Aircraft are not exempt from mitigation areas. As detailed in section 5.7 of the 2025 HCTT EIS/OEIS, several geographic mitigation areas have proposed requirements which apply to aircraft (*e.g.*, restrictions or prohibitions on explosive use, an annual cap on dipping sonar).

Please see NMFS' response to *Comment 50* regarding vessel speed restrictions, *Comment 31* and *Comment 32* regarding use of thermal detection and passive acoustic monitoring, *Comment 35* regarding avoiding testing and training in key migration corridors and prime feeding areas and times, *Comment 36* regarding the recommended San Nicolas Island Mitigation Area, and *Comment 35*, *Comment 36*, *Comment 37*, and *Comment 38* regarding prohibition of sonar and explosives in whale mitigation areas off California from June through November.

Comment 50 (ref 71): A commenter stated that it urges NMFS to conduct a thorough practicability analysis, as has been demonstrated for the Atlantic Fleet Training and Testing Study Area, and to implement vessel speed mitigation measures in the HCTT Study Area. Additionally, given that the speed of Navy vessels during all aspects of their operations potentially impacts marine mammals, the commenter recommended that NMFS require data collection and reporting on vessel speed as part of the rulemaking process. The commenter states that this will allow for objective evaluation by NMFS of vessel-strike risk, of harassment resulting from vessel activity, and of the potential benefit of additional speed-focused mitigation measures.

Response: The Action Proponents assert that vessel speed restrictions are not practicable given safety, sustainability, and mission criteria. The Navy requires flexibility in use of variable ship speeds for training, testing, operational, safety, and engineering

qualification requirements. Navy ships typically use the lowest speed practical given individual mission needs. NMFS has reviewed the analysis of these additional suggested restrictions and the impacts they would have on military readiness and concurs with the Navy's assessment that they are impracticable (see row 16 of table 5-20 in chapter 5 of the 2025 HCTT EIS/OEIS). Given the practicability concerns, this final rule does not require speed restrictions in the HCTT Study Area generally or in specific mitigation areas. However, activity-based mitigation for manned surface vessels requires maneuvering vessels to maintain a specified distance from marine mammals, which may include reducing speed.

In a review of Navy unpublished data, the multi-year average of U.S. Navy surface vessel speeds on the continental shelf off California is between 10-15 kn (18.5-27.8 km/hr). There has not been a known U.S. Navy vessel strike to whales in Hawaii since the Navy began requesting ITAs under the MMPA in 2009.

Regarding a practicability analysis comparable to AFTT, such an analysis was possible for the AFTT Study Area because of a civilian North Atlantic right whale notification system applicable to only a small area of the AFTT Study Area. Similar systems do not exist in the Pacific.

Regarding reporting of vessel speed, as required through the Notification and Reporting Plan, Action Proponent vessels are required to report extensive information, including vessel speed, pursuant to any marine mammal vessel strikes. Therefore, the data required for vessel strike analysis discussed in the comment is already being collected. Any additional data collection requirement would create an unnecessary burden on the Action Proponents. Adverse impacts from vessel noise are not anticipated to result from the Action Proponents' activities (see the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section in the proposed rule), there is

no anticipated harassment caused by vessel activity, and therefore, no need to collect and report data on vessel speed for this purpose.

Comment 51 (ref 27)*:* The Commission recommended that the NMFS final rule require the Action Proponents to follow established incident reporting procedures and halt any active acoustic, explosive, pile-driving, or air gun activity if a marine mammal is injured or killed during or immediately after the activity and require the Action Proponents to consult with NMFS to review or adapt the mitigation measures, as necessary.

Response: The proposed rule and this final rule include a requirement for the Action Proponents to follow established incident reporting procedures if the specified activity is thought to have resulted in the mortality or serious injury of any marine mammals, as recommended by the Commission as outlined in the Notification and Reporting Plan (note that the Notification and Reporting Plan also requires the Action Proponents to follow established incident reporting protocols for cetacean live strandings). Regarding the Commission's recommendation to require that the Action Proponents halt any active acoustic, explosive, pile driving, or air gun activity if a marine mammal is injured or killed during or immediately after the activity, and require the Action Proponents to consult with NMFS to review or adapt the mitigation measures, as necessary, NMFS agrees with the recommendation to suspend the use of explosives in an event if a marine mammal is injured or killed during or immediately after the activity. Neither NMFS nor the Action Proponents anticipate serious injury or mortality from any activity other than the use of explosives or vessel movement. For all activities involving explosives, the final rule expressly requires that, if a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately (see **Mitigation Measures** section). While similar language is not included for active acoustics, pile driving, and air gun activity, the proposed rule and this final rule

require the Action Proponents to power down or shut down these sources if a marine mammal is observed within the applicable mitigation zone. The Action Proponents will also continue to follow incident reporting procedures as outlined in the Notification and Reporting Plan (including for vessel strike, should it occur) and consult with NMFS to review or adapt the mitigation measures, as necessary, through the adaptive management process.

Monitoring

Comment 52 (ref 74, 75)*:* A commenter stated that long-term passive acoustic monitoring data has proven to be one of the most cost-effective and useful signals of distribution shifts of marine mammals and their prey. The commenter states that a more extensive network of passive acoustic platforms off the U.S. West Coast, designed in a manner that optimized the power of the network to detect large-scale distribution shifts, would be of great benefit for estimating and mitigating the impacts of Navy training and testing (as well as a myriad of other human activities) and recommended that NMFS require that the Navy establish such a network.

The commenter also recommended that NMFS require monitoring that aims to quantify the impact of Navy activities at the individual, and, ultimately, population level. The commenter recommended that NMFS require use of unmanned aerial vehicles for assessing marine mammal behavior before, during, and after Navy operations (*e.g.*, swim speed and direction, group cohesion). The commenter stated that in addition, studies into how these technologies can be used to assess body condition for a broader array of marine mammal species should be supported, as this can provide an important indication of energy budget and health, which can inform the assessment of population-level impacts from Navy activities.

Response: The U.S. Navy is the second largest Federal Agency contributing to marine mammal research behind NMFS. In Fiscal Year 2023, the latest year with data

currently available, the U.S. Navy cumulatively contributed $21.76 million to marine mammal research representing 26 percent of all Federal funding that year. While the Navy uses passive acoustic devices at select areas, it is logistically impracticable to monitor the entire U.S. West Coast. The Navy's at-sea ranges off the West Coast cover over 371,679 nmi^2 (1,274,823 km^2). Furthermore, developing and maintaining an Integrated Ocean Observing System within the U.S. Exclusive Economic Zone (EEZ) has been and remains a mission area of NOAA (*https://ioos.noaa.gov/*). In the Pacific Northwest there is the Northwest Association of Networked Ocean Observing Systems and in Southern California there is Southern California Coastal Ocean Observing System.

The U.S. Navy funds an annual average of over $5,000,000 of marine mammal monitoring across five Pacific at-sea ranges. Monitoring priorities are determined in coordination with NMFS, and focus resources on key top-level goals including an increase in the understanding of how anticipated individual responses, to individual stressors or anticipated combinations of stressors, may impact either the long-term fitness and survival of an individual or the species or stock (*e.g.*, through impacts on annual rates of recruitment or survival) as suggested by the commenter and as described in the Proposed Monitoring section of the proposed rule (90 FR 32118, July 16, 2025). It is fiscally and logistically impractical to monitor every marine mammal species to the degree suggested by the commenter, and further, it is outside the scope of the Action Proponents' responsibilities under the MMPA. NMFS and Navy meet annually to discuss the state of monitoring science and other adaptive management issues and will weigh the commenter's monitoring recommendations against other priority topics. Of note, while the full scope of monitoring recommended by the commenter is impractical and outside the scope of the Action Proponents' responsibilities under the MMPA, as stated above, targeted studies utilizing unmanned aerial vehicles (UAVs) to assess behavioral

responses of marine mammals to sonar have been pursued in the past (*e.g.*, Durban *et al.*, 2022).

Comment 53 (ref 75-2, 32-4)*:* A commenter recommended that NMFS include, as part of its monitoring requirements, application of simpler modeling methods that could provide at least an indication of greater than negligible impacts, even if each of the behavioral and physiological mechanisms are not fully characterized. The commenter states that the modeling approach undertaken by researchers for beaked whales in the California Current offers one such example. Here, a Bayesian hidden-process modeling approach was used to estimate abundance and population trends of beaked whales using sightings data from six ship-based, line-transect, cetacean abundance surveys between 1991 and 2008 (Moore and Barlow, 2013). Model results indicated that goose-beaked whales were experiencing an average rate of decline at 2.9 percent per year. This commenter stated that this type of modeling effort will likely be most useful for species and stocks, like beaked whales, that are known to show site fidelity to survey areas, so that trends in abundance are less likely to be influenced by immigration or emigration. Additionally, the commenter recommended that NMFS require use of other proxy measures of changes in population-level abundance and demographics, in order to develop an early-detection system for populations that may be experiencing a decline as a result of Navy activities. The comparative demographic study of beaked whale populations in the Bahamas, on and off the Atlantic Undersea Test and Evaluation Center range (Kellar *et al.*, 2015), is a cogent example of a study that is long overdue for Southern California, to understand the effect that repeated behavioral disruptions and displacement of foraging activity are having on the region's small beaked whale populations, such as the goose-beaked whale population on SOAR.

Another commenter recommended clear, enforceable adaptive management triggers tied to quantitative monitoring results.

Response: The Navy, in consultation with NMFS, has already begun planning the development of a PCOD model for SOCAL goose-beaked whales based on past and ongoing data collection efforts. This effort integrates past and ongoing data collection on beaked whale population demographics since 2004 (tagging, photo identification, genetics, body condition, response to sound). In addition to the population study in SOCAL, Navy funded researchers are also monitoring a non-exposed beaked whale population off Guadalupe Island, Mexico.

The commenter's recommendation for NMFS to require use of other proxy measures of changes in population-level abundance and demographics, in order to develop an early-detection system for populations that may be experiencing a decline as a result of Navy activities lacks specificity, including potential proxy measures, rendering it impossible to consider its recommendation at a broader level.

It is unclear what the commenter is suggesting regarding clear, enforceable, adaptive management triggers tied to quantitative monitoring results. As described in the **Adaptive Management** section of this final rule, the reporting requirements associated with this final rule are designed to provide NMFS with monitoring data from the previous year to allow NMFS to consider whether any changes to existing mitigation and monitoring requirements are appropriate. The use of adaptive management allows NMFS to consider new information from different sources to determine (with input from the Action Proponents regarding practicability) on an annual or biennial basis if mitigation or monitoring measures should be modified (including additions or deletions). Mitigation measures could be modified if new data suggests that such modifications would have a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring and if the measures are practicable. If the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS would publish a notice of the planned LOAs in the **Federal Register** and solicit public comment.

The following are some of the possible sources of applicable data to be considered through the adaptive management process: (1) results from monitoring and exercise reports, as required by MMPA authorizations; (2) compiled results of Navy-funded research and development studies; (3) results from specific stranding investigations; (4) results from general marine mammal and sound research; and (5) any information which reveals that marine mammals may have been taken in a manner, extent, or number not authorized by these regulations or subsequent LOAs. The results from monitoring reports and other studies may be viewed at *https://www.navymarinespeciesmonitoring.us.*

Negligible Impact Determination

Comment 54 (Ref 30): The Commission recommended that NMFS use the two-tiered approach from NMFS' 2020 Criteria for Determining Negligible Impact under MMPA Section 101(a)(5)(E) (NMFS, 2020), including using single negligible impact threshold (NIT_s) instead of 10 percent of potential biological removal (PBR), for informing its negligible impact determinations that involve M/SI for the final rule and other incidental take authorizations involving M/SI. The Commission asserts that this would provide consistency with NMFS' own policy directive.

Response: As stated in the proposed rule (90 FR 32118, July 16, 2025), on June 17, 2020, NMFS finalized new Criteria for Determining Negligible Impact under MMPA section 101(a)(5)(E). The guidance explicitly notes the differences in the negligible impact determinations required under paragraph (a)(5)(E) of section 101, as compared to paragraphs (a)(5)(A) and (D) of section 101. As stated in the guidance, first, they differ in terms of the types of take being considered and consequently, the effects of the takes on population dynamics. In paragraphs (a)(5)(A) and (D) of section 101, NMFS must determine if the taking by harassment, injury, or mortality (or a combination of these) incidental to specified activities will have a negligible impact. In section 101(a)(5)(E),

NMFS must determine if M/SI incidental to commercial fisheries will have a negligible impact. NMFS considers mortalities and serious injuries to be removals from the population that can be evaluated using well-documented models of population dynamics, whereas harassment and non-serious injury (sub-lethal taking) are not considered to be removals from the population. Second, they differ in whether they apply to all marine mammal stocks or only those stocks or species listed under the ESA: paragraphs (a)(5)(A) and (D) of section 101 apply to all marine mammal stocks (regardless of ESA listing status or MMPA depleted status), while paragraph (a)(5)(E) applies only to stocks designated as depleted because of their listing under the ESA. The guidance further specifies that the procedure in that document is limited to how the agency conducts negligible impact analyses for commercial fisheries under section 101(a)(5)(E) (*i.e.*, it is not intended to be a broad policy directive for M/SI analyses for all activities). As described in the Serious Injury and Mortality section of this final rule, when considering PBR during evaluation of effects of M/SI under section 101(a)(5)(A), we utilize a two-tiered analysis for each stock for which M/SI is proposed for authorization:

Tier 1: Compare the total human-caused average annual M/SI estimate from all sources, including the M/SI proposed for authorization from the specific activity, to PBR. If the total M/SI estimate is less than or equal to PBR, then the specific activity is considered to have a negligible impact on that stock. If the total M/SI estimate (including from the specific activity) exceeds PBR, conduct the Tier 2 analysis.

Tier 2: Evaluate the estimated M/SI from the specified activity relative to the stock's PBR. If the M/SI from the specified activity is less than or equal to 10 percent of PBR and other major sources of human-caused mortality have mitigation in place, then the individual specified activity is considered to have a negligible impact on that stock. If the estimate exceeds 10 percent of PBR, then, absent other mitigating factors, the

specified activity could be considered likely to have a non-negligible impact on that stock.

In this final rule, NMFS has described its method for considering PBR to evaluate the effects of potential mortality in the negligible impact analysis. NMFS has reviewed the 2020 guidance and determined that our consideration of PBR in the evaluation of mortality, as described in the Serious Injury and Mortality section of the proposed rule and in this final rule, remains appropriate for use in the negligible impact analysis for the Action Proponent's activities under section 101(a)(5)(A). As such, NMFS disagrees with Commission's recommendation to use NMFS (2020) to inform its negligible impact determinations that involve M/SI.

Comment 55 (ref 29): The Commission recommended that NMFS work with Navy to use NAEMO to conduct modeling of both multi-day events and multiple single-day events to estimate the number of repeated exposures an individual is expected to incur and to better assess repeated exposures of individuals and population-level consequences, rather than rely on what it called a qualitative assessment. The Commission cited Simmons *et al.* (2025) recommendation of ways that NAEMO and results from NAEMO could be better used to estimate repeated takes and population-level impacts.

Response: NMFS and Navy have had ongoing discussions about how to better assess and characterize the number of repeated takes of individuals from training and testing activities, including whether NAEMO could be used to generate estimates of repeated takes of individuals. A credible assessment of the repeated takes due to the specified activities per the approach suggested in the comment would require treating animats as unique individuals over the course of a year's activity and across a large study area, while incorporating migration patterns and nomadic movement. Such an effort would be computationally intensive and Navy anticipates that it is likely infeasible given

reasonable resources. In contrast, the action analyzed by Zeddies *et al.* (2017) and referenced by the Commission in supporting statements was less complex than the specified activities. Thus, Zeddies *et al.* (2017) could assess repeated takes within spatially and temporally limited areas with undirected animal ingress/egress. NMFS will continue to work with the Navy to better assess and characterize the number of repeated takes of individuals. Of note, Simmons *et al.* (2025), referenced by the Commission, was written after a joint workshop with the Navy and SMRU Consulting. Recommendations from the workshop and associated report are being considered for future modeling improvements.

While NMFS and the Action Proponents' analyses could be further refined, the information in NMFS' analysis is sufficient for assessing whether the authorized take would have a negligible impact on the species or stocks of marine mammals, the information relied upon to make this determination represents the best available science, and it is not necessary to have exact number of times that an animal is estimated to be repeatedly taken in order to make the negligible impact determination. As described in the Preliminary Analysis and Negligible Impact Determination section of the proposed rule (90 FR 32118, July 16, 2025) and this final rule, generally speaking, the higher the number of takes as compared to the population abundance, the more repeated takes of individuals are likely, and the higher the actual percentage of individuals in the population that are likely taken at least once in a year. We look at this comparative metric (number of takes to population abundance) to give us a relative sense of where a larger portion of a species is being taken by the specified activities, where there is a likelihood that the same individuals are being taken across multiple days, and whether the number of days might be higher or more likely sequential. Where the number of instances of take is less than 100 percent of the abundance, and there is no information to specifically suggest that some subset of animals is known to congregate in an area in which activities

are regularly occurring (*e.g.*, a small resident population, takes occurring in a known important area such as a BIA, or a large portion of the takes occurring in a certain region and season), the overall likelihood and number of repeated takes is generally considered low, as it could, on one extreme, mean that every take represents a separate individual in the population being taken on one day (a minimal impact to an individual) or, more likely, that some smaller number of individuals are taken on one day annually and some are taken on a few, not likely sequential, days annually, and of course some are not taken at all.

In the ocean, the use of sonar and other active acoustic sources is often transient and is unlikely to repeatedly expose the same individual animals within a short period, for example within one specific exercise. However, for some individuals of some species, repeated exposures across different activities could occur over the year, especially where events occur in generally the same area with more resident species. In short, for some species, we expect that the total anticipated takes represent exposures of a smaller number of individuals of which some would be exposed multiple times, but based on the nature of the specified activities and the movement patterns of marine mammals, it is unlikely that individuals from most stocks would be taken over more than a few days within a given year. This means that even where repeated takes of individuals are likely to occur, they are more likely to result from non-sequential exposures from different activities, and, even if sequential, individual animals are not predicted to be taken for more than several days in a row, at most. As described elsewhere, the nature of the majority of the exposures would be expected to be of a less severe nature, and based on the numbers, it is likely that any individual exposed multiple times is still only taken on a small percentage of the days of the year. It is more likely that not every individual is taken, or perhaps a smaller subset is taken with a slightly higher average and larger

variability of highs and lows, but still with no reason to think that, for most species or stocks, any individuals would be taken a significant portion of the days of the year.

Comment 56: (ref EarthJustice) A commenter finds fault with NMFS' negligible impact analysis for blue whales and humpback whales. Specifically, the commenter asserted that NMFS' Tier 2 analysis for considering PBR during evaluation of effects of M/SI under MMPA section 101(a)(5)(A) is flawed. The commenter states that NMFS discounts as "negligible" additional impacts to marine mammal stocks that are already experiencing M/SI from other human sources at levels that exceed PBR, and that NMFS attempts to justify its view of relevant impacts by claiming that the task under the statute is to evaluate the impact of the applicant's anticipated take on the species or stock, not the impact of take by other entities. The commenter further states that disregarding all other sources of M/SI and the resulting cumulative impacts on marine mammal stocks subverts the MMPA's purpose to address the risks of "extinction or depletion" to marine mammals stocks from the whole of "man's activities," 16 U.S.C. § 1361(1), and its directive that marine mammal stocks "should not be permitted to diminish below their optimum sustainable population" level, id. § 1361(2).

The commenter also stated that the analysis contradicts NMFS' prior interpretations that "in order to make a negligible impact finding, the proposed incidental take must not prevent a depleted population from increasing toward its [optimum sustainable population; OSP] at a biologically acceptable rate" (54 FR 40338, 40341, September 29, 1989) and that "if a particular stock were known to be within its [OSP] range, then [NMFS] believes a finding of negligible impact can only be made if the permitted activities are not likely to reduce that stock below its [OSP]" (54 FR 40342, September 29, 1989). The commenter states that given that, under the MMPA, a proposed activity may not prevent a marine mammal stock from increasing toward its OSP or reduce the stock below that level, it logically follows that the activity cannot

make a bad situation worse by increasing the cumulative level of unsustainable take "as a result of man's activities." 16 U.S.C. § 1361(1); cf. Nat'l Wildlife Fed'n v. Nat'l Marine Fisheries Serv., 524 F.3d 917, 930 (9th Cir. 2008)

Response: When considering PBR during evaluation of effects of M/SI under MMPA section 101(a)(5)(A), NMFS utilizes a two-tiered analysis for each stock for which M/SI is proposed for authorization, as described in response to *Comment 54*. Additional detail regarding Tier 1 is available in the Preliminary Analysis and Negligible Impact Determination section of the proposed rule and the **Analysis and Negligible Impact Determination** section of this final rule. If the ongoing anthropogenic mortality from other sources already exceeds PBR, then we move to the Tier 2 to consider the M/SI from the specific activities.

For the Tier 2 evaluation, recognizing that the total annual human-caused M/SI exceeds PBR, we consider whether the incremental effects of the proposed authorized M/SI for the specified activity, specifically, would be expected to result in a negligible impact on the affected species or stocks. For the Tier 2 assessment, consideration of other factors (positive or negative), including those described above (*e.g.*, the certainty in the data underlying PBR and the impacts of any harassment authorized for the specified activity), as well as the mitigation in place to reduce M/SI from other activities is especially important to assessing the impacts of the M/SI from the specified activity on the species or stock. PBR is a conservative metric and not sufficiently precise to serve as an absolute predictor of population effects upon which mortality caps would appropriately be based. For example, in some cases stock abundance (which is one of three key inputs into the PBR calculation) is underestimated because marine mammal survey data within the U.S. EEZ are used to calculate the abundance even when the stock range extends well beyond the U.S. EEZ. An underestimate of abundance could result in an underestimate of PBR. Alternatively, we sometimes may not have complete M/SI data

beyond the U.S. EEZ to compare to PBR, which could result in an overestimate of residual PBR. The accuracy and certainty around the data that feed any PBR calculation, such as the abundance estimates, must be carefully considered to evaluate whether the calculated PBR accurately reflects the circumstances of the particular stock.

As referenced above, in some cases the ongoing human-caused mortality from activities other than those being evaluated already exceeds PBR and, therefore, residual PBR is negative. We acknowledge that, in these cases, any additional mortality would result in greater exceedance of PBR. However, NMFS disagrees with the commenter's assertion that NMFS' analysis contradicts NMFS' prior interpretations that "in order to make a negligible impact finding, the proposed incidental take must not prevent a depleted population from increasing toward its [optimum sustainable population; OSP] at a biologically acceptable rate" (54 FR 40338, 40341, September 29, 1989) and that "if a particular stock were known to be within its [OSP] range, then [NMFS] believes a finding of negligible impact can only be made if the permitted activities are not likely to reduce that stock below its [OSP]" (54 FR 40342, September 29, 1989).

PBR is helpful in informing the analysis of the effects of mortality on a species or stock because it is important from a biological perspective to be able to consider how the total mortality in a given year may affect the population. However, section 101(a)(5)(A) of the MMPA indicates that NMFS shall authorize the requested incidental take from a specified activity if we find that "the total of such taking [*i.e.,* from the specified activity] will have a negligible impact on such species or stock." In other words, the task under the statute is to evaluate the impact of the applicant's anticipated take on the species or stock, not the impact of take by other entities. Neither the MMPA nor NMFS' implementing regulations call for consideration of other unrelated activities and their impacts on the species or stock. The commenter finds fault with this interpretation of NMFS' responsibility under the MMPA, characterizing it as a "narrow" view, but does not

provide a different view or justify a more precautionary approach other than by referring generically to the MMPA's overall purpose regarding risks of extinction of depletion to marine mammal stocks.

Accordingly, we may find that the impacts of the taking from the specified activity may (alone) be negligible even when total human-caused mortality from all activities exceeds PBR (in the context of a particular species or stock). Specifically, where the authorized M/SI would be less than or equal to 10 percent of PBR and management measures are being taken to address M/SI from the other contributing activities (*i.e.*, other than the specified activities covered by the incidental take authorization under consideration), the impacts of the authorized M/SI are appropriately considered negligible. In addition, we must also still determine that any impacts on the species or stock from other types of take (*i.e.*, harassment) caused by the applicant do not combine with the impacts from mortality or serious injury addressed here to result in adverse effects on the species or stock through effects on annual rates of recruitment or survival. In summary, the commenter simply points out that total estimated annual M/SI for the two stocks exceeds the estimated PBR value, as NMFS acknowledges and accounts for in its analysis. In context of the considerations discussed herein, *e.g.*, that the PBR value itself is not appropriately considered to be an allowable mortality "cap" and that simple exceedance of the PBR value is not in and of itself evidence of greater than negligible impact, the commenter does not demonstrate that in fact the effects of the specified activity would result in greater than negligible impact.

As noted above, while PBR is useful in informing the evaluation of the effects of M/SI in MMPA section 101(a)(5)(A) determinations, it is one consideration to be assessed in combination with other factors and is not determinative. For example, as explained above, the accuracy and certainty of the data used to calculate PBR for the species or stock must be considered. And we reiterate the considerations discussed above

for why it is not appropriate to consider PBR an absolute cap in the application of this guidance. Accordingly, we use PBR as a trigger for concern while also considering other relevant factors to provide a reasonable and appropriate means of evaluating the effects of potential mortality on rates of recruitment and survival, while acknowledging that it is possible for total human-caused M/SI to exceed PBR (or for the M/SI from the specified activity to exceed 10 percent of PBR in the case where other human-caused mortality is exceeding PBR, as described in the last paragraph) and still make a negligible impact determination under MMPA section 101(a)(5)(A).

Regarding the ESA, NMFS issued a biological and conference opinion on October 17, 2025, concluding that the promulgation of this rule and issuance of subsequent LOAs are not likely to jeopardize the continued existence of threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of designated or proposed critical habitat in the HCTT Study Area.

Comment 57 (ref Earthjustice)*:* A commenter disagreed with NMFS' PBR analysis, in which M/SI resulting from the specified activity is considered "negligible" if it is less than or equal to 10 percent of PBR. The commenter stated that this approach fails to account for the context in which removals of species or stock would occur, citing species or stock abundance, reproductive potential, or the extent to which PBR is already being exceeded by other sources of human-caused M/SI as examples. The commenter provides specific concerns regarding the proposal to authorize take by M/SI of the blue whale (Eastern North Pacific stock) and the humpback whale (Central America/Southern Mexico-California/Oregon/Washington stock) even though other sources of M/SI exceed the estimated PBR value.

Response: As explained in the of the Preliminary Analysis and Negligible Impact Determination section of the proposed rule and the **Analysis and Negligible Impact**

Determination section of this final rule, if M/SI from a specified activity is less than or equal to 10 percent of PBR and other major sources of human-caused mortality have mitigation in place to address the causes of mortality, then the individual specified activity is considered to have a negligible impact on that stock. The commenter is incorrect in stating that this method fails to consider the context in which removals from the species or stock would occur, such as species or stock abundance, reproductive potential, or the extent to which PBR is already being exceeded by other sources of human-caused M/SI as examples. As established by the MMPA, a stock's PBR level is determined by multiplying three fundamental elements: (1) an estimate of the population's minimum abundance; (2) one-half of the estimated or theoretical maximum rate of population growth for the stock, and (3) a recovery factor, with a value between 0.1 to 1, that helps ensure timely recovery. As such, the examples of species/stock abundance and reproductive potential cited by the commenter are explicitly considered in calculation of a stock's PBR. Regarding consideration of the extent to which PBR is already being exceeded by other sources of human-caused M/SI, section 101(a)(5)(A) of the MMPA indicates that NMFS shall authorize the requested incidental take from a specified activity if we find that "the total of such taking [*i.e.*, from the specified activity] will have a negligible impact on such species or stock." In other words, the task under the statute is to evaluate the impact of the applicant's anticipated take on the species or stock, not the impact of take by other entities. Neither the MMPA nor NMFS' implementing regulations call for consideration of other unrelated activities and their impacts on the species or stock.

Given that the negligible impact determination is based on the assessment of take of the activity being analyzed, when total annual mortality from human activities is higher, but the impacts from the specific activity being analyzed are very small, NMFS may still find the incremental impact of the authorized take from a specified activity is

negligible even if total human-caused mortality exceeds PBR. Specifically, for example, if the authorized mortality is less than 10 percent of PBR and management measures are being taken to address serious injuries and mortalities from the other activities causing mortality (*i.e.*, other than the specified activities covered by the incidental take authorization in consideration).

Total annual human-caused M/SI exceeds PBR for both the Eastern North Pacific stock of blue whale and the Central America/Southern Mexico-California-Oregon-Washington stock of humpback whale. As such, NMFS conducted a Tier 2 evaluation to consider whether the incremental effects of the authorized M/SI for the specified activity, specifically, would be expected to result in a negligible impact on the affected species or stocks. Annual M/SI that may be authorized under this rule (representing annualized estimates of 7-year total M/SI for purposes of comparison to PBR) is 0.29 for each of these stocks. For each stock, this is an insignificant incremental addition to total annual M/SI (18.6 and 14.9, respectively) and is in both cases less than 10 percent of the PBR value (4.1 and 3.5, respectively). Further, there are management measures in place to address M/SI from activities other than those the Action Proponents are conducting (as discussed below).

Based on identical simulations as those conducted to identify Recovery Factors for PBR in Wade *et al.* (1998), but where values less than 0.1 were investigated (P. Wade, pers. comm.), we predict that where the mortality from a specified activity does not exceed N_{min} * 1/2 Rmax * 0.013 (where N_{min} is the minimum abundance estimate), the contemplated mortality for the specific activity will not delay the time to recovery by more than 1 percent. For the Eastern North Pacific stock of blue whales, N_{min} * 1/2 Rmax * 0.013 = 0.459. The annual mortality authorized is 0.29 (*i.e.*, less than 0.459). For the Central America/Southern Mexico CA/OR/WA stock of humpback whales, N_{min} * 1/2 Rmax * 0.013 = 0.684. The annual mortality authorized is 0.29 (*i.e.,* less than 0.684).

This means that the mortality authorized in this rule for HCTT activities will not delay the time to recovery to OSP by more than 1 percent for either stock.

The primary source of total M/SI for the Eastern North Pacific stock of blue whale is vessel strike (≥18 per year). For the Central America/Southern Mexico-California-Oregon-Washington stock of humpback whale, the following are the top sources of M/SI: (1) vessel strike (6.45); (2) unidentified fishery interactions (3.52); and (3) California Dungeness Crab pot fishery (2.01). As such, vessel strike is the primary cause for exceedance of PBR for both stocks.

NMFS disagrees with the commenter's assertion that there is not meaningful, effective mitigation for vessel strike risk to these stocks in place, and that the voluntary vessel speed reduction (VSR), discussed below, does nothing to mitigate take near San Francisco. Redfern *et al.* (2013) note that the riskiest area for blue whales is the Santa Barbara Channel, where shipping lanes intersect with common feeding areas, and Berman-Kowalewski *et al.* (2010) state that southern California and off San Francisco is where most observed blue whale vessel strikes have occurred. NOAA annually issues voluntary vessel speed reduction (VSR) requests that are scheduled to be in effect May 1 to December 31 off San Francisco, Monterey, and Southern California within and near Greater Farallones, Cordell Bank, Monterey Bay, Chumash Heritage and Channel Islands national marine sanctuaries and in partnership with the Blue Whales Blue Skies program (note that in 2025, the Southern California VSR was extended in 2025 to cover Chumash Heritage NMS). Vessels transiting the area from May 1 through December 31, 2025 are recommended to exercise caution and voluntarily reduce speed to 10 kn (18.5 km/hr) or less for blue, humpback, and fin whales.

The Channel Islands NMS staff coordinates, collects, and monitors whale sightings in and around the VSR zones and the Channel Islands NMS region. The seasonally established Southern California VSR zone spans from Point Arguello to Dana

Point, including the Traffic Separation Schemes in the Santa Barbara Channel and San Pedro Channel. Channel Island NMS observers collect information from aerial surveys conducted by NOAA, the U.S. Coast Guard, California Department of Fish and Game, and U.S. Navy chartered aircraft. Information on seasonal presence, movement, and general distribution patterns of large whales is shared with mariners, NMFS, U.S. Coast Guard, California Department of Fish and Game, the Santa Barbara Museum of Natural History, the Marine Exchange of Southern California, and whale scientists. Real time and historical whale observation data collected from multiple sources can be viewed on the Point Blue Whale Database.

The VSR is voluntary, and Morten *et al.* (2022), cited by the commenter, note that cooperation with the VSR "has been lower than estimated to be needed to reduce vessel-strike related mortality to levels that do not inhibit reaching and maintaining optimal sustainable populations." However, the Blue Whales Blue Skies program states that enrollment and cooperation rates from participating shipping lines have increased every year since the program began in 2014. The program further estimates that risk of fatal vessel strikes to endangered whales was reduced by approximately 50 percent in 2024. As such, while vessel strike risk is not eliminated by these measures, the risk is significantly reduced by this meaningful mitigation scheme.

Regarding mortality from fishery interactions, as noted by the commenter, the scope of the new West Coast Take Reduction Team has been updated and no longer includes some fisheries initially planned for inclusion. The current preliminary scope of the Team includes two strategic marine mammal stocks (*i.e.*, Central America/Southern Mexico and Mainland Mexico stocks of humpback whales) and the Federal sablefish pot fishery. Additional information is available on NMFS' website at: *https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/west-coast-take-reduction-team*.

The commenter also states in its letter that NMFS makes no mention of M/SI from unidentified fishery interactions, which make up the second-highest cause of M/SI Central America/Southern Mexico- California-Oregon-Washington stock of humpback whale (estimated at 3.52) (fisheries-related mortality is an insignificant incremental addition to total mortality for blue whales which, as noted above, is almost entirely driven by vessel strike). However, as stated above, if M/SI from a specified activity is less than or equal to 10 percent of PBR and other major sources of human-caused mortality have mitigation in place, then the individual specified activity is considered to have a negligible impact on that stock. As such, while there are not currently mitigation measures in place for the fisheries of greatest concern for these humpback whale stocks, as described above, effective efforts to mitigate impacts from vessel strike, the primary threat to this stock and to Eastern North Pacific blue whales, are in place.

As indicated in the **Analysis and Negligible Impact Determination** section of this final rule, we do not expect lethal take from Action Proponents' activities, alone, to adversely affect Eastern North Pacific blue whales or Central America/Southern Mexico-California-Oregon-Washington stock of humpback whales through effects on annual rates of recruitment or survival. Nonetheless, the fact that total human-caused mortality exceeds PBR necessitates close attention to the remainder of the impacts (*i.e.*, harassment) on both stocks from the Action Proponents' activities to ensure that the total authorized takes have a negligible impact on the species or stock. This analysis occurs in the *Group and Species-Specific Analyses* section of this final rule. While the commenter asserted that these takes by harassment can lead to population-level effects, it did not support this assertion except by reiterating broad points that NMFS has already considered in its Preliminary Analysis and Negligible Impact Determination section of the proposed rule and **Analysis and Negligible Impact Determination** section of this final rule.

Changes from the Proposed Rule to the Final Rule

Since publication of the proposed rule, U.S. Navy vessels have incidentally struck two large whales in waters off Southern California, one on July 15, 2025, and one on August 10, 2025. Using the same methodology as discussed in Estimated Take from Vessel Strike by Serious Injury or Mortality section of the proposed rule and recent vessel strike information, the Navy reanalyzed the potential for vessel strikes of large whales and requested an increase in the authorized take from five to seven large whales by M/SI by vessel strike incidental to Navy training and testing activities. The Coast Guard's requested take authorization remained unchanged at two large whales by M/SI by vessel strike incidental to Coast Guard training activities. NMFS concurs with the Action Proponents' assessment and authorizes the take by M/SI by vessel strike of up to seven large whales by the Navy and two large whales by the Coast Guard (nine large whales total) over the 7-year period covered by this final rule upon finding the total take will have a negligible impact on the affected marine mammal species/stock.

Further, since publication of the final rule, the Navy has clarified that rather than 35 missile, rocket, and drone launches and 3 artillery events (38 total) on average per year at PMRF, there will be an estimated 20 missile launches and 3 artillery events (23 total) per year. The drone and rocket launch events referenced in the proposed rule will occur from a launch area farther away from monk seal haul outs, and no take is anticipated from these launches. NMFS has re-estimated the take associated with launches at PMRF, including a change to the take estimation method, as described in the **Estimated Take of Marine Mammals** section of this final rule. NMFS is authorizing 360 takes by Level B harassment of Hawaiian monk seal annually from missile launches and artillery events, an increase from that included in the proposed rule.

This final rule includes an expansion of the Hawaii 4-Islands Mitigation Area to include an additional portion of the child small and resident BIA for the Main Hawaiian

Islands Insular stock of false killer whale, following an updated proposal from the Action Proponents that resulted from ESA section 7 consultation. This increases the portion of the child BIA overlapping the mitigation area from approximately 40 percent of the BIA as included in the proposed rule to 63 percent. Additionally, this final rule clarifies that the MF active sonar mitigation in this area, the Hawaii Island Marine Mammal Mitigation Area, and the Humpback Whale Special Reporting Mitigation Area includes both MF1 and MF1C surface ship hull-mounted MF active sonar. MF1C was inadvertently left out of the Action Proponents application and subsequently the proposed rule.

The Action Proponents have indicated that extending the date ranges for the Hawaii Humpback Whale Awareness Messages from November 1 through May 31 and the California Large Whale Awareness Message Mitigation Area from November through June, as recommended by commenters, is practicable, and as such, NMFS has updated the required date ranges for these messages in this final rule.

The Action Proponents have also proposed a modification to the California Large Whale Real-Time Notification Mitigation Area requirements. In the proposed rule, an aggregation of large whales was considered to be four large whales within 1 nmi (1.9 km)). This final rule considers an aggregation of large whales to be three large whales within 1 nmi (1.9 km). Additionally, the following information will be provided by the Navy in the Annual HCTT Training and Testing Reports: date, time and general location of the whales when the aggregation was first sighted, and the total number of whales in the aggregation. If the whales are identified by species, that information will be provided as well.

Regarding activity-based mitigation, this final rule clarifies that the Navy must implement soft start techniques for impact pile driving. Of note, the Navy continues to consider soft-start procedures as part of their standard operating procedures, and as such, they are not listed as a mitigation measure in the 2025 HCTT EIS/OEIS.

This final rule includes a requirement for cetacean live stranding or near-shore atypical milling events. These requirements have previously been included in the Notification and Reporting Plan only. In the event of a cetacean live stranding (or near-shore atypical milling) event within the HCTT Study Area or within 50 km (27 nmi) of the boundary of the HCTT Study Area, where the NMFS Marine Mammal Stranding Network is engaged in herding or other interventions to return animals to the water, NMFS Office of Protected Resources (OPR) will advise the Action Proponents of the need to implement shutdown procedures for all active acoustic sources or explosive devices within 50 km of the stranding. Following this initial shutdown, NMFS will communicate with the Action Proponents to determine whether circumstances support modification of the shutdown zone. The Action Proponents may decline to implement all or part of the shutdown if the holder of the LOA, or his/her designee, determines that it is necessary for national security. Shutdown procedures for live stranding or milling cetaceans include the following:

• If at any time, the marine mammal(s) die or are euthanized, or if herding/intervention efforts are stopped, NMFS will immediately advise that the shutdown around the animals' location is no longer needed;

• Otherwise, shutdown procedures will remain in effect until NMFS determines and advises that all live animals involved have left the area (either of their own volition or following an intervention); and

• If further observations of the marine mammals indicate the potential for re-stranding, additional coordination will be required to determine what measures are necessary to minimize that likelihood (*e.g.*, extending the shutdown or moving operations farther away) and to implement those measures as appropriate.

Last, this final rule includes a new reporting requirement that states that Navy personnel must confirm that foreign military use of sonar and explosives, when such

militaries are participating in a U.S. Navy-led exercise or event, combined with the Action Proponents' use of sonar and explosives, would not cause exceedance of the analyzed levels within each NAEMO modeled sonar and explosive bin used for estimating predicted impacts.

The regulations include an addition stating that the annual HCTT training and testing reports must summarize activities and observations of the San Nicolas Island target and missile launch activities for the monitoring period. This final rule also includes minor, clarifying edits in the regulatory text.

Last, this final rule clarifies that the HCTT Study Area also includes Navy pierside locations in Hawaii and Southern California, Pearl Harbor, San Diego Bay, and the transit corridor on the high seas where training and testing may occur.

Description of Marine Mammals and Their Habitat in the Area of Specified Activities

Marine mammal species and their associated stocks that have the potential to occur in the HCTT Study Area are presented in table 1 along with each stock's ESA and MMPA status, abundance estimate and associated coefficient of variation (CV) value, N_{min}, PBR, annual M/SI, and potential occurrence in the HCTT Study Area. The Action Proponents anticipate take of 40 species (79 stocks) by Level A and Level B harassment incidental to military readiness activities from the use of sonar and other transducers, in-water detonations, air guns, missile and target launch noise, pile driving/extraction, and vessel movement in the HCTT Study Area.

The HCTT proposed rule included additional information about the species in this rule, marine mammal species for which take is not authorized, marine mammal species which could occur in the area but are not managed by NMFS, marine mammal hearing, and National Marine Sanctuaries, all of which remains valid and applicable but has not been reprinted in this final rule. NMFS hereby refers to the information and analysis

provided in the proposed rule (90 FR 32118, July 16, 2025) which continue to apply to this final rule.

Information on the status, distribution, abundance, population trends, habitat, and ecology of marine mammals in the HCTT Study Area may be found in chapter 4 of the Action Proponents' application. NMFS reviewed this information and found it to be accurate and complete. Additional information on the general biology and ecology of marine mammals is included in the 2025 HCTT EIS/OEIS. Table 1 incorporates the best available science, including data from the 2023 Pacific and Alaska Marine Mammal Stock Assessment Reports (Carretta *et al.*, 2024; Young *et al.*, 2024) (see *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessments)*, and 2024 draft SARs, as well as monitoring data from the Navy's marine mammal research efforts. NMFS has also reviewed new scientific literature since publication of the proposed rule and determined that none of these nor any other new information available changes our determination of which species have the potential to be affected by the Action Proponents' activities or the information pertinent to status, distribution, abundance, population trends, habitat, or ecology of the species in this final rulemaking.

Table 1 -- Marine Mammal Occurrence within the HCTT Study Area [1]

Common name	Scientific name	Stock	ESA/MMPA status; Strategic (Y/N) [2]	Stock abundance (CV, N_{min}, most recent abundance survey) [3]	PBR	Annual M/SI [4]
Order Artiodactyla – Cetacea – Mysticeti (baleen whales)						
Family Eschrichtiidae						
Gray whale	*Eschrichtius robustus*	Eastern North Pacific [5]	-, -, N	25,960 (0.05, 25,849, 2016)	801	131
Gray whale	*Eschrichtius robustus*	Western North Pacific	E, D, Y	290 (N/A, 271, 2016)	0.12	UNK
Family Balaenopteridae (rorquals)						
Blue whale	*Balaenoptera musculus*	Central North Pacific	E, D, Y	133 (1.09, 63, 2010)	0.1	0
Blue whale	*Balaenoptera musculus*	Eastern North Pacific	E, D, Y	1,898 (0.085, 1,767, 2018)	4.1	≥18.6
Bryde's whale	*Balaenoptera edeni*	Eastern Tropical Pacific	-, -, N	UNK (UNK, UNK, N/A)	UND	UNK
Bryde's whale	*Balaenoptera edeni*	Hawaii	-, -, N	791 (0.29, 623, 2020)	6.2	0
Fin whale	*Balaenoptera physalus*	Hawaii	E, D, Y	203 (0.99, 101, 2017)	0.2	0
Fin whale	*Balaenoptera physalus velifera*	California/Oregon/Washington	E, D, Y	11,065 (0.405, 7,970, 2018)	80	≥43.4
Humpback whale	*Megaptera novaeangliae*	Central America/Southern Mexico - California-Oregon-Washington [6]	E, D, Y	1,496 (0.171, 1,284, 2021)	3.5	14.9
Humpback whale	*Megaptera novaeangliae*	Mainland Mexico - California-Oregon-Washington [6]	T, D, Y	3,477 (0.101, 3,185, 2018)	43	22
Humpback whale	*Megaptera novaeangliae*	Hawaii	-, -, N	11,278 (0.56, 7,265, 2020)	127	27.09
Minke whale	*Balaenoptera acutorostrata*	Hawaii	-, -, N	438 (1.05, 212, 2017)	2.1	0
Minke whale	*Balaenoptera acutorostrata*	California/Oregon/Washington	-, -, N	915 (0.792, 509, 2018)	4.1	≥0.19
Sei whale	*Balaenoptera borealis*	Hawaii	E, D, Y	391 (0.9, 204, 2010)	0.4	0.2
Sei whale	*Balaenoptera borealis*	Eastern North Pacific	E, D, Y	864 (0.40, 625, 2014)	1.25	0
Odontoceti (toothed whales, dolphins, and porpoises)						
Family Physeteridae						

Sperm whale	*Physeter macrocephalus*	Hawaii	E, D, Y	5,707 (0.23, 4,486, 2017)	18	0
Sperm whale	*Physeter macrocephalus*	California/Oregon/Washington	E, D, Y	2,606 (0.135, 2,011, 2018)	4	0.52
Family Kogiidae						
Dwarf sperm whale	*Kogia sima*	Hawaii	-, -, N	UNK (UNK, UNK, 2017)	UND	0
Dwarf sperm whale	*Kogia sima*	California/Oregon/Washington	-, -, N	UNK (UNK, UNK, 2014)	UND	0
Pygmy sperm whale	*Kogia breviceps*	Hawaii	-, -, N	42,083 (0.64, 25,695, 2017)	257	0
Pygmy sperm whale	*Kogia breviceps*	California/Oregon/Washington	-, -, N	4,111 (1.12, 1,924, 2014)	19.2	0
Family Ziphiidae (beaked whales)						
Baird's beaked whale	*Berardius bairdii*	California/Oregon/Washington	-, -, N	1,363 (0.53, 894, 2018)	8.9	≥0.2
Blainville's beaked whale	*Mesoplodon densirostris*	Hawaii	-, -, N	1,132 (0.99, 564, 2017)	5.6	0
Goose-beaked whale	*Ziphius cavirostris*	Hawaii	-, -, N	4,431 (0.41, 3,180, 2017)	32	0
Goose-beaked whale	*Ziphius cavirostris*	California/Oregon/Washington	-, -, N	5,454 (0.27, 4,214, 2016)	42	<0.1
Longman's beaked whale	*Indopacetus pacificus*	Hawaii	-, -, N	2,550 (0.67, 1,527, 2017)	15	0
Mesoplodont beaked whale	*Mesoplodon spp.* [7]	California/Oregon/Washington	-, -, N	3,044 (0.54, 1,967, 2014)	20	0.1
Family Delphinidae						
False killer whale	*Pseudorca crassidens*	Main Hawaiian Islands Insular	E, D, Y	138 (0.08, 129, 2015)	0.3	0.1
False killer whale	*Pseudorca crassidens*	Northwest Hawaiian Islands	-, -, N	477 (1.71, 178, 2017)	1.43	0.16
False killer whale	*Pseudorca crassidens*	Hawaii Pelagic	-, -, Y	5,528 (0.35, 4,152, 2017)	36	47
False killer whale	*Pseudorca crassidens*	Baja California Peninsula Mexico [8]	N/A	2.962 (0.71, N/A, N/A)	N/A	N/A
Killer whale	*Orcinus orca*	Hawaii	-, -, N	161 (1.06, 78, 2017)	0.8	0
Killer whale	*Orcinus orca*	Eastern North Pacific Offshore	-, -, N	300 (0.1, 276, 2012)	2.8	0
Killer whale	*Orcinus orca*	Eastern North Pacific Southern Resident	E, D, Y	75 (N/A, 75, 2023)	0.13	0
Killer whale	*Orcinus orca*	West Coast Transient	-, -, N	349 (N/A, 349, 2018)	3.5	0.4

Melon-headed whale	*Peponocephala electra*	Hawaiian Islands	-, -, N	40,647 (0.74, 23,301 2017)	233	0
Melon-headed whale	*Peponocephala electra*	Kohala Resident (Hawaii)	-, -, N	UNK (UNK, UNK, 2017)	UND	0
Pygmy killer whale	*Feresa attenuata*	Hawaii	-, -, N	10,328 (0.75, 5,885, 2017)	59	0
Pygmy killer whale	*Feresa attenuata*	California - Baja California Peninsula Mexico [8]	N/A	229 (1.11, N/A, N/A)	N/A	N/A
Short-finned pilot whale	*Globicephala macrorhynchus*	Hawaii	-, -, N	19,242 (0.23, 15,894, 2020)	159	0.2
Short-finned pilot whale	*Globicephala macrorhynchus*	California/Oregon/Washington	-, -, N	836 (0.79, 466, 2014)	4.5	1.2
Bottlenose dolphin	*Tursiops truncatus*	Maui Nui	-, -, N	64 (0.15, 56, 2018)	0.6	UNK
Bottlenose dolphin	*Tursiops truncatus*	Hawaii Island	-, -, N	136 (0.43, 96, 2018)	1	>0.2
Bottlenose dolphin	*Tursiops truncatus*	Hawaii Pelagic	-, -, N	24,669 (0.57, 15,783, 2020)	158	0
Bottlenose dolphin	*Tursiops truncatus*	Kaua‘i/Ni‘ihau	-, -, N	112 (0.24, 92, 2018)	0.9	UNK
Bottlenose dolphin	*Tursiops truncatus*	O‘ahu	-, -, N	112 (0.17, 97, 2017)	1	UNK
Bottlenose dolphin	*Tursiops truncatus*	California Coastal	-, -, N	453 (0.06, 346, 2011)	2.7	≥2.0
Bottlenose dolphin	*Tursiops truncatus*	California/Oregon/Washington Offshore	-, -, N	3,477 (0.696, 2,048, 2018)	19.7	≥0.82
Fraser’s dolphin	*Lagenodelphis hosei*	Hawaii	-, -, N	40,960 (0.7, 24,068, 2017)	241	0
Long-beaked common dolphin	*Delphinus delphis bairdii*	California	-, -, N	83,379 (0.216, 69,636, 2018)	668	≥29.7
Northern right whale dolphin	*Lissodelphis borealis*	California/Oregon/Washington	-, -, N	29,285 (0.72, 17,024, 2018)	163	≥6.6
Pacific white-sided dolphin	*Lagenorhynchus obliquidens*	California/Oregon/Washington	-, -, N	34,999 (0.222, 29,090, 2018)	279	7
Pantropical spotted dolphin	*Stenella attenuata*	Maui Nui	-, -, N	UNK (UNK, UNK, N/A)	UND	UNK
Pantropical spotted dolphin	*Stenella attenuata*	Hawaii Island	-, -, N	UNK (UNK, UNK, N/A)	UND	UNK
Pantropical spotted dolphin	*Stenella attenuata*	Hawaii Pelagic	-, -, N	67,313 (0.27, 53,839, 2020)	538	0
Pantropical spotted dolphin	*Stenella attenuata*	O‘ahu	-, -, N	UNK (UNK, UNK, N/A)	UND	UNK

Pantropical spotted dolphin	*Stenella attenuata*	Baja California Peninsula Mexico [8]	N/A	105,416 (0.46, N/A, N/A)	N/A	N/A
Risso's dolphin	*Grampus griseus*	Hawaii	-, -, N	6,979 (0.29, 5,283, 2020)	53	0
Risso's dolphin	*Grampus griseus*	California/Oregon/Washington	-, -, N	6,336 (0.32, 4,817, 2014)	46	≥3.7
Rough-toothed dolphin	*Steno bredanensis*	Hawaii	-, -, N	83,915 (0.49, 56,782, 2017)	511	3.2
Short-beaked common dolphin	*Delphinus delphis*	California/Oregon/Washington	-, -, N	1,056,308 (0.21, 888,971, 2018)	8,889	≥30.5
Spinner dolphin	*Stenella longirostris*	Hawaii Pelagic	-, -, N	UNK (UNK, UNK, 2010)	UND	0
Spinner dolphin	*Stenella longirostris*	Hawaii Island	-, -, N	665 (0.09, 617, 2012)	6.2	≥1.0
Spinner dolphin	*Stenella longirostris*	Kaua'i/Ni'ihau	-, -, N	N/A (N/A, N/A, 2005)	UND	UNK
Spinner dolphin	*Stenella longirostris*	Midway Atoll/Kure	-, -, N	UNK (UNK, UNK, 2010)	UND	UNK
Spinner dolphin	*Stenella longirostris*	O'ahu/4 Islands Region	-, -, N	N/A (N/A, N/A, 2007)	UND	≥0.4
Spinner dolphin	*Stenella longirostris*	Pearl and Hermes	-, -, N	UNK (UNK, UNK, N/A)	UND	UNK
Striped dolphin	*Stenella coeruleoalba*	Hawaii Pelagic	-, -, N	64,343 (0.28, 51,055, 2020)	511	0
Striped dolphin	*Stenella coeruleoalba*	California/Oregon/Washington	-, -, N	29,988 (0.3, 23,448, 2018)	225	≥4
Family Phocoenidae (porpoises)						
Dall's porpoise	*Phocoenoides dalli*	California/Oregon/Washington	-, -, N	16,498 (0.61, 10,286, 2018)	99	≥0.66
Harbor porpoise	*Phocoena phocoena*	Monterey Bay	-, -, N	3,760 (0.561, 2,421, 2013)	35	≥0.2
Harbor porpoise	*Phocoena phocoena*	Morro Bay	-, -, N	4,191 (0.56, 2,698, 2012)	65	0
Harbor porpoise	*Phocoena phocoena*	Northern California/Southern Oregon	-, -, N	15,303 (0.575, 9,759, 2022)	195	0
Harbor porpoise	*Phocoena phocoena*	San Francisco/Russian River	-, -, N	7,777 (0.62, 4,811, 2017)	73	≥0.4
Order Carnivora – Pinnipedia						
Family Otariidae (eared seals and sea lions)						
California sea lion	*Zalophus californianus*	U.S.	-, -, N	257,606 (N/A, 233,515, 2014)	14,011	>321
Guadalupe fur seal	*Arctocephalus townsendi*	Mexico	T, D, Y	68,850 (N/A, 57,199, 2013)	1,959	≥10.0

Northern fur seal	*Callorhinus ursinus*	Eastern Pacific	-, D, Y	612,765 (0.2, 518,651, 2022)	11,151	296
Northern fur seal	*Callorhinus ursinus*	California	-, -, N	19,634 (N/A, 8,788, 2022)	527	≥1.2
Steller sea lion	*Eumetopias jubatus*	Eastern	-, -, N	36,308 (N/A, 36,308, 2022)	2,178	93
Family Phocidae (earless seals)						
Harbor seal	*Phoca vitulina*	California	-, -, N	30,968 (N/A, 27,348, 2012)	1,641	43
Hawaiian monk seal	*Neomonachus schauinslandi*	Hawaii	E, D, Y	1,605 (0.05, 1,508, 2022)	5	≥4.8
Northern elephant seal	*Mirounga angustirostris*	California Breeding	-, -, N	194,907 (N/A, 88,794, 2023)	5,328	11

Note: N/A = Not Applicable, UND = Undetermined, UNK = Unknown. Unless otherwise noted, abundance estimates are from the final 2022 Pacific stock assessment report (Carretta *et al.*, 2024; Carretta *et al.*, 2023b), the draft 2023 Pacific stock assessment report (Carretta *et al.*, 2024), or the Alaska stock assessment reports (Young *et al.*, 2024).

[1] Information on the classification of marine mammal species can be found on the web page for The Society for Marine Mammalogy's Committee on Taxonomy (*https://marinemammalscience.org/science-and-publications/list-marine-mammal-species-subspecies/*; Committee on Taxonomy (2022)).

[2] Endangered Species Act (ESA) status: Endangered (E), Threatened (T)/MMPA status: Depleted (D). A dash (-) indicates that the species is not listed under the ESA or designated as depleted under the MMPA. Under the MMPA, a strategic stock is one for which the level of direct human-caused mortality exceeds PBR or one which is determined to be declining and likely to be listed under the ESA within the foreseeable future. Any species or stock listed under the ESA is automatically designated under the MMPA as depleted and as a strategic stock.

[3] NMFS marine mammal stock assessment reports online at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/marine-mammal-stock-assessment-reports-region*. CV is coefficient of variation; N_{min} is the minimum estimate of stock abundance.

[4] These values, found in NMFS' SARs, represent annual levels of human-caused mortality plus serious injury from all sources combined (*e.g.*, commercial fisheries, vessel strike). Annual M/SI often cannot be determined precisely and is in some cases presented as a minimum value or range. A CV associated with estimated mortality due to commercial fisheries is presented in some cases.

[5] The Pacific 2023 SAR indicates that the stock trend is increasing. However, recent (2024-2025) surveys conducted by NMFS' Southwest Fisheries Science Center indicated that the estimated total abundance of gray whales during the 2024-2025 southbound migration was 12,950 (Eguchi *et al.*, 2025).

[6] Humpback whales in the Central America / Southern Mexico - California-Oregon-Washington Stock make up the endangered Central America DPS, and humpback whales in the Mainland Mexico - California-Oregon-Washington Stock are part of the threatened Mexico DPS, along with whales from the Mexico-North Pacific Stock, which do not occur in the Study Area.

[7] Mesoplodont beaked whales are analyzed as a group due to insufficient data available to estimate species-specific densities.

[8] The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Below, we consider additional information about the marine mammals in the area of the specified activities that informs our analysis, such as identifying known areas of important habitat or behaviors, or where UMEs have been designated.

Critical Habitat

Currently, the humpback whale (Central America and Mexico DPSs), killer whale (Eastern North Pacific Southern Resident DPS), false killer whale (Main Hawaiian Islands Insular DPS), and Hawaiian monk seal have ESA-designated critical habitat in the HCTT Study Area.

Humpback Whale

On April 21, 2021, NMFS designated critical habitat for the endangered Western North Pacific DPS, the endangered Central America DPS, and the threatened Mexico DPS of humpback whales (86 FR 21082). Areas proposed as critical habitat include specific marine areas located off the coasts of California, Oregon, Washington, and Alaska. Designated critical habitat for the Central America DPS overlaps the NOCAL Range Complex (Units 15, 16, and 17), as well as PMSR and the northern portion of the SOCAL Range Complex (Units 17 and 18). These areas are essential for humpback whale foraging and migration. One of the proposed critical habitat areas, critical habitat Unit 19, would have also overlapped with the SOCAL range in the HSTT Study Area but was excluded after consideration of potential national security and economic impacts of designation.

NMFS, in the final rule designating critical habitat for humpback whales, identified prey species, primarily euphausiids and small pelagic schooling fishes of sufficient quality, abundance, and accessibility within humpback whale feeding areas to support feeding and population growth, as an essential habitat feature. NMFS, through a critical habitat review team (CHRT), also considered inclusion of migratory corridors and passage features, as well as sound and the soundscape, as essential habitat features.

NMFS did not include either in the final critical habitat; however, as the CHRT concluded that the best available science did not allow for identification of any consistently used migratory corridors or definition of any physical, essential migratory or passage conditions for whales transiting between or within habitats of the three DPSs. Regardless of whether critical habitat is designated for a particular area, NMFS has considered all applicable information regarding marine mammals and their habitat in the analysis supporting these regulations.

Killer Whale

NMFS designated critical habitat for the Southern Resident killer whale DPS on November 29, 2006 (71 FR 69054) in inland waters of Washington State, and on August 2, 2021, revised the designation by designating six additional coastal critical habitat areas along the U.S. West Coast (86 FR 41668). The HCTT Study Area overlaps two of the three continuous sections off the California coast: the North Central CA Coast Area and the Monterey Bay Area. Based on the natural history of the Southern Resident killer whales and their habitat needs, NMFS identified physical or biological features essential to the conservation of the Southern Resident killer whale DPS: (1) water quality to support growth and development; (2) prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development, as well as overall population growth; and (3) passage conditions to allow for migration, resting, and foraging.

False Killer Whale (Main Hawaiian Island Insular DPS)

Critical habitat for the ESA-listed Main Hawaiian Islands insular false killer whale DPS was finalized in July 2018 (83 FR 35062, July 24, 2018) designating waters from the 45 m depth contour to the 3,200 m depth contour around the main Hawaiian Islands from Ni'ihau east to Hawaii. This designation does not include most bays, harbors, or coastal in-water structures. NMFS excluded 14 areas. The total area

designated was approximately 45,504 km^2 (13,267 nmi^2) of marine habitat. Critical habitat for the main Hawaiian Islands insular DPS of false killer whale entirely overlaps the HRC.

Main Hawaiian Islands insular false killer whales are island-associated whales that rely entirely on the productive submerged habitat of the main Hawaiian Islands to support all of their life-history stages. Island-associated marine habitat for Main Hawaiian Islands insular false killer whale is the only essential feature of the critical habitat. The following characteristics of this habitat support insular false killer whales' ability to travel, forage, communicate, and move freely around and among the waters surrounding the main Hawaiian Islands: (1) adequate space for movement and use within shelf and slope habitat; (2) prey species of sufficient quantity, quality, and availability to support individual growth, reproduction, and development, as well as overall population growth; (3) waters free of pollutants of a type and amount harmful to Main Hawaiian Islands insular false killer whales; and (4) sound levels that would not significantly impair false killer whales' use or occupancy.

Hawaiian Monk Seal

Critical habitat for Hawaiian monk seals was designated in 1986 (51 FR 16047, April 30, 1986) and later revised in 1988 (53 FR 18988, May 26, 1988) and in 2015 (80 FR 50925, August 21, 2015). In the Northwestern Hawaiian Islands Hawaiian monk seal critical habitat includes all beach areas, sand spits and islets, including all beach crest vegetation to its deepest extent inland as well as the seafloor and marine habitat 10 m in height above the seafloor from the shoreline out to the 200 m depth contour around Kure Atoll (Hōlanikū), Midway Atoll (Kuaihelani), Pearl and Hermes Reef (Manawai), Lisianski Island (Kapou), Laysan Island (Kamole), Maro Reef (Kamokuokamohoali‘i), Gardner Pinnacles (‘Ōnūnui), French Frigate Shoals (Lalo), Necker Island (Mokumanamana) and Nihoa Island. In the main Hawaiian Islands, Hawaiian monk seal

critical habitat includes the seafloor and marine habitat to 10 m above the seafloor from the 200 m depth contour through the shoreline and extending into terrestrial habitat 5 m inland from the shoreline between identified boundary points around Kaula Island (includes marine habitat only), Niʻihau (includes marine habitat from 10 m to 200 m in depth), Kauaʻi, Oʻahu, Maui Nui (including Kahoʻolawe, Lānaʻi, Maui, and Molokaʻi), and Hawaiʻi Island. A portion of the critical habitat overlaps the HRC.

The essential features of Hawaiian monk seal critical habitat are: (1) terrestrial areas and adjacent shallow, sheltered aquatic areas with characteristics preferred by monk seals for pupping and nursing; (2) marine areas from 0 to 200 m in depth that support adequate prey quality and quantity for juvenile and adult monk seal foraging; and (3) significant areas used by monk seals for hauling out, resting or molting.

Biologically Important Areas

Ferguson *et al*. (2015) identified BIAs within U.S. waters of the West Coast (Calambokidis *et al*., 2015) and in Hawaii (Baird *et al*., 2015), which represent areas and times in which cetaceans are known to concentrate in areas of known importance for activities related to reproduction, feeding, and migration, or areas where small and resident populations are known to occur. Unlike ESA critical habitat, these areas are not formally designated pursuant to any statute or law but are a compilation of the best available science intended to inform impact and mitigation analyses. An interactive map of the BIAs is available here: *https://oceannoise.noaa.gov/biologically-important-areas*. In some cases, additional, or newer, information regarding known feeding, breeding, or migratory areas is available and has been used to update these BIAs (as cited below), and a summary of all of the BIAs is included below.

The West Coast and Hawaii BIAs were updated in 2024 (Calambokidis *et al.*) and 2023 (Kratofil *et al.*), respectively (referred to as BIA II herein). Calambokidis *et al.* (2024) and Kratofil *et al.* (2023) use a new scoring system described here and in Harrison

et al. (2023). Experts identified an overall Importance Score for each BIA that considers: (1) "Intensity" - the intensity and characteristics underlying an area's identification as a BIA; and (2) "Data Support" - the quantity, quality, and type of information, and associated uncertainties, upon which the BIA delineation and scoring depends. Importance Scores range from 1 to 3, with a higher score representing an area of higher intensity and data support. Each BIA identified in BIA II is also scored for boundary uncertainty and spatiotemporal variability (dynamic, ephemeral, or static). Additionally, BIA II includes hierarchical BIAs for some species and stocks where a higher intensity score is appropriate for a smaller core area(s) (child BIA) within a larger BIA unit (parent BIA).

The Hawaii Study Area overlaps BIAs for small and resident populations of the following species: spinner dolphin, short-finned pilot whale, rough-toothed dolphin, pygmy killer whale, pantropical spotted dolphin, melon-headed whale, false killer whale, dwarf sperm whale, goose-beaked whale, common bottlenose dolphin, and Blainville's beaked whale. Further, the Hawaii Study Area overlaps updated BIAs for humpback whale reproduction (Kratofil *et al.*, 2023). The California Study Area overlaps feeding BIAs for blue whale, fin whale, and humpback whale in SOCAL. Additionally, it overlaps a reproductive BIA as well as northbound and southbound migratory BIAs for gray whale (Calambokidis *et al.*, 2024). Table 2 describes each BIA that overlaps the HCTT Study Area and the scores for the above criteria.

Table 2 -- BIAs Overlapping the HCTT Study Area

Species	BIA Type	Parent/Child/Non-hierarchical	BIA Name	Effective Months	BIA Area (km^2)	Figure in Action Proponents' LOA Application	Importance Score	Intensity Score	Data Support Score	Boundary Certainty	Spatiotemporal Variability	Transboundary Across
Hawaii Study Area (Kratofil *et al.*, 2023)												
Humpback whale	Reproductive	Parent	Main Hawaiian Islands - Parent	December through May	23,041	B.1-11	2	2	2	2	Static	None
Humpback whale	Reproductive	Child	Main Hawaiian Islands - Child	December through May	6,676	B.1-11	3	3	3	3	Static	None
False killer whale	Small and Resident Population	Parent	Main Hawaiian Islands Insular Stock - Parent	Year-round	94,217	B.1-7	1	1	3	3	Static	None
False killer whale	Small and Resident Population	Child	Main Hawaiian Islands Insular Stock - Child	Year-round	7,775	B.1-7	3	3	3	3	Static	None
False killer whale	Small and Resident Population	Non-hierarchical	Northwestern Hawaiian Islands Insular Stock	Year-round	138,001	B.1-7	1	1	2	2	Static	None
Dwarf sperm whale	Small and Resident Population	Parent	Hawaii Island - Parent	Year-round	1,341	B.1-14	3	3	2	2	Static	None
Dwarf sperm whale	Small and Resident Population	Child	Hawaii Island - Child	Year-round	457	B.1-14	3	3	2	2	Static	None
Pygmy killer whale	Small and Resident Population	Non-hierarchical	O‘ahu-Maui Nui	Year-round	7,416	B.1-15	3	3	2	2	Static	None
Pygmy killer whale	Small and Resident Population	Non-hierarchical	Hawaii Island	Year-round	5,201	B.1-15	2	2	2	2	Static	None
Short-finned pilot whale	Small and Resident Population	Parent	Main Hawaiian Islands - Parent	Year-round	51,280	B.1-16	1	1	3	3	Static	None
Short-finned	Small and Resident Population	Child	Main Hawaiian Islands - Child (Western	Year-round	4,040	B.1-16	3	3	3	3	Static	None

pilot whale			Community Core Range)									
Short-finned pilot whale	Small and Resident Population	Child	Main Hawaiian Islands - Child (Central Community Core Range)	Year-round	2,427	B.1-16	3	3	3	3	Static	None
Short-finned pilot whale	Small and Resident Population	Child	Main Hawaiian Islands - Child (Eastern Community Core Range)	Year-round	2,461	B.1-16	3	3	3	3	Static	None
Common bottlenose dolphin	Small and Resident Population	Parent	Kaua‘i/Ni‘ihau-O‘ahu-Maui Nui	Year-round	36,634	B.1-18	1	1	3	2	Static	None
Common bottlenose dolphin	Small and Resident Population	Child	Kaua‘i/Ni‘ihau-O‘ahu-Maui Nui-Kaua‘i/Ni‘ihau)	Year-round	2,772	B.1-18	3	3	3	3	Static	None
Common bottlenose dolphin	Small and Resident Population	Child	Kaua‘i/Ni‘ihau-O‘ahu-Maui Nui - O‘ahu	Year-round	8,486	B.1-18	3	3	2	2	Static	None
Common bottlenose dolphin	Small and Resident Population	Child	Kaua‘i/Ni‘ihau-O‘ahu-Maui Nui - Maui Nui	Year-round	10,622	B.1-18	2	2	2	2	Static	None
Common bottlenose dolphin	Small and Resident Population	Non-hierarchical	Hawaii Island	Year-round	8,299	B.1-18	2	2	3	3	Static	None
Pantropical spotted dolphin	Small and Resident Population	Parent	O‘ahu-Maui Nui-Hawaii Island - Parent	Year-round	57,711	B.1-19	1	1	2	2	Static	None
Pantropical spotted dolphin	Small and Resident Population	Child	O‘ahu-Maui Nui-Hawaii Island - Child (O‘ahu)	Year-round	12,952	B.1-19	1	1	2	2	Static	None
Pantropical spotted dolphin	Small and Resident Population	Child	O‘ahu-Maui Nui-Hawaii Island - Child (Maui Nui)	Year-round	6,743	B.1-19	1	1	2	2	Static	None
Pantropical spotted dolphin	Small and Resident Population	Child	O‘ahu-Maui Nui-Hawaii Island - Hawaii Island-Child (Hawaii Island)	Year-round	10,768	B.1-19	1	1	2	2	Static	None

Rough-toothed dolphin	Small and Resident Population	Non-hierarchical	Maui Nui-Hawaii Island	Year-round	15,112	B.1-21	1	1	2	2	Static	None
Rough-toothed dolphin	Small and Resident Population	Parent	Kauaʻi/Niʻihau-Oʻahu - Parent	Year-round	24,233	B.1-21	1	1	2	2	Static	None
Rough-toothed dolphin	Small and Resident Population	Child	Kauaʻi/Niʻihau-Oʻahu - Child (Kauaʻi/Niʻihau)	Year-round	1,149	B.1-21	2	2	2	2	Static	None
Melon-headed whale	Small and Resident Population	Non-hierarchical	Kohala Residents - Hawaii Island	Year-round	3,816	B.1-21	2	2	3	3	Static	None
Spinner dolphin	Small and Resident Population	Non-hierarchical	Manawai (Pearl and Hermes Reef)	Year-round	2,094	B.1-20	1	2	1	2	Static	None
Spinner dolphin	Small and Resident Population	Non-hierarchical	Kuaihelani/Hōlanikū (Midway/Kure Atolls)	Year-round	4,841	B.1-20	1	2	1	2	Static	None
Spinner dolphin	Small and Resident Population	Non-hierarchical	Kauaʻi and Niʻihau	Year-round	7,233	B.1-20	1	1	2	3	Static	None
Spinner dolphin	Small and Resident Population	Non-hierarchical	Oʻahu and Maui Nui	Year-round	14,651	B.1-20	1	1	2	3	Static	None
Spinner dolphin	Small and Resident Population	Non-hierarchical	Hawaii Island	Year-round	9,477	B.1-20	1	1	3	3	Static	None
Goose-beaked whale	Small and Resident Population	Parent	Hawaii Island	Year-round	37,157	B.1-23	2	2	3	2	Static	None
Goose-beaked whale	Small and Resident Population	Child	Hawaii Island	Year-round	5,400	B.1-23	3	3	3	3	Static	None
Blainville's beaked whale	Small and Resident Population	Parent	Oʻahu-Maui Nui-Hawaii Island - Parent	Year-round	78,714	B.1-24	1	1	3	2	Static	None
Blainville's beaked whale	Small and Resident Population	Child	Oʻahu-Maui Nui-Hawaii Island - Child (Hawaii Island)	Year-round	4,214	B.1-24	3	3	3	3	Static	None
California Study Area (Calambokidis *et al.*, 2024)												

Blue whale	Feeding	Parent	Blue whale West Coast - Parent	June through November	173,433	B.1-1	2	2	3	3	Static	None
Blue whale	Feeding	Child	Blue whale West Coast - Core	June through November	54,349	B.1-1	3	3	3	3	Static	None
Fin whale	Feeding	Parent	Fin whale West Coast - Parent	June through November	315,072	B.1-2	1	1	2	2	Static	None
Fin whale	Feeding	Child	Fin whale West Coast - Core	June through November	155,508	B.1-2	2	2	2	2	Static	None
Humpback whale	Feeding	Parent	Humpback whale West Coast - Parent	March through November	140,303	B.1-5	2	2	3	3	Static	None
Humpback whale	Feeding	Child	Humpback whale West Coast - Core	March through November	38,052	B.1-5	3	3	3	3	Static	None
Gray whale	Migratory	Parent	Gray Whale Migratory Route-Southbound and Northbound	January through June, November through December	167,066	B.1-13	1	1	2	2	Static	GOA
Gray whale	Migratory	Child	Southbound	November - February	70,110	B.1-13	2	2	3	3	Static	None
Gray whale	Migratory	Child	Northbound Phase A	January - May	65,047	B.1-13	2	2	3	3	Static	None
Gray whale	Migratory	Child	Northbound Phase B	March - May	51,947	B.1-13	3	3	3	3	Static	None
Gray whale	Reproductive	Non-hierarchical	Gray whale - Cow and Calf Migrants	March - May	51,947	B.1-13	3	3	3	3	Static	None

Harbor porpoise	Small and Resident Population	Non-hierarchical	Monterey Bay	Year-round	1,911	B.1-22	2	2	3	3	Static	None
Harbor porpoise	Small and Resident Population	Non-hierarchical	Morro Bay	Year-round	3,030	B.1-22	1	1	3	3	Static	None

Unusual Mortality Events

A UME is defined under section 410(9) of the MMPA as a stranding that is unexpected; involves a significant die-off of any marine mammal population; and demands immediate response. From 1991 to the present, there have been 17 formally recognized UMEs affecting marine mammals in California and Hawaii and involving species under NMFS' jurisdiction; however, there are currently none that are active.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

We provided a detailed discussion of the potential effects of the specified activities on marine mammals and their habitat in our proposed rulemaking (90 FR 32118, July 16, 2025). NMFS hereby refers to the information and analysis provided in the proposed rule which continue to apply to this final rule. In the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section of the proposed rule, NMFS provided a description of the ways marine mammals may be affected by these activities in the form of, among other things, serious injury or mortality, physical trauma, sensory impairment (auditory injury, temporary threshold shift, and acoustic masking), physiological responses (particularly stress responses), behavioral disturbance, or habitat effects. All of this information remains valid and applicable. Therefore, we do not reprint the information here, but refer the reader to that document.

NMFS has also reviewed new relevant information from the scientific literature since publication of the proposed rule. Summaries of the new key scientific literature reviewed since publication of the proposed rule are presented below.

Curé *et al.* (2025) examined the effects of MFAS received level and source distance on the behavioral responses of 14 tagged male sperm whales off northern Norway. Behavioral responses were scored using the severity scale from Southall *et al.* (2021), with probability and severity of behavioral responses (*e.g.*, changes in vocal and dive behaviors, avoidance, cessation of feeding or resting, locomotion or orientation

changes) increasing with higher received levels (maximum sound exposure level) and closer source proximities. From observations, modeling indicates that beyond 14 km (7.6 nmi) no significant behavioral responses are predicted regardless of received level.

Wensveen *et al.* (2025), using the same animals from Curé *et al.* (2025), concluded that source proximity (close: vessels transmitting MFAS starting at 7.4 km (4 nmi) while approaching focal whale vs. distant: vessels transmitting MFAS starting 14.8 km (8 nmi) while approaching focal whale) influenced sperm whale behavioral responses by resulting in decreased foraging time with increased received levels and decreased source proximity, as well as short-term sensitization with subsequent exposure sessions. Specifically, sperm whales were found to increase time in a non-foraging behavioral state or produced a decrease in buzzes (indicative of reduced prey capture) when foraging with MFAS exposure.

Henderson *et al.* (2025) examined the potential behavioral effects of Navy Submarine Command Courses (SCC) involving MFAS (*i.e.*, hull-mounted, sonobuoys, helicopter-dipping) off the PMRF on three satellite-tagged Blainville's beaked whales (there was a fourth tagged individual but it did not remain on the range during MFAS exposure). Behavioral responses showed individual variation, but short-term changes in dive behavior and horizontal movements were detected. However, only temporary horizontal avoidance was observed, with animals remaining near PMRF (within 10s of kilometers) throughout the SCC and in two situations returning to PMRF after the SCC was completed. Received levels were up to 150 dB, with sources closest points of approach (CPAs) at 18 km (9.7 nmi).

Previous marine mammal TTS studies have followed the trend that susceptibility to noise-induced hearing loss reflects baseline hearing thresholds by frequency (*i.e.*, audiogram; where frequencies with lower baseline thresholds (lowest point in audiogram) being more susceptible to threshold shifts from noise than frequencies with higher

baseline thresholds [at edges of hearing range]). Kastelein *et al.* (2025a) examined this trend using three species (harbor porpoise, California sea lion, and harbor seal) with similar baseline hearing thresholds (59-61 dB) at 8 kHz. Despite similar baseline thresholds at 8 kHz, TTS onset (6 dB threshold shift) varied among the species: 169 dB cumulative SEL for harbor porpoise, 176 dB cumulative SEL for California sea lion, and 182 dB cumulative SEL for harbor seal. Thus, despite similar baseline thresholds at 8 kHz, susceptibility varies among species and confirms it is not appropriate to extrapolate data between species.

Kastelein *et al.* (2025b) examined TTS in two harbor seals exposed to one-sixth octave band noise centered 8 kHz. In this study, TTS onset (6 dB threshold shift) occurred at approximately 181 dB cumulative SEL, which is 6 dB higher than what is predicted with the current Navy Phase IV criteria (*i.e.*, current Navy Phase IV criteria is considered more protective). Furthermore, the equal energy hypothesis is supported based on the noise exposure scenarios (*e.g.*, frequency, duration, sound pressure levels) used in this study.

Mulsow *et al.* (2025) evaluated TTS in four bottlenose dolphins exposed to simulated tactical continuous active sonar (CAS) centered at 2.8 kHz and 28 kHz for 1.7 minutes up to 60 minutes. TTS onset for exposure to the 28 kHz CAS ranged from 180 to 190 dB cumulative SEL, while for the 2.8 kHz CAS ranged from 198 to 202 dB cumulative SEL. The TTS onset for HF cetaceans and non-impulsive sounds is 181 dB SEL_{24h}, so this study indicates only a slightly lower TTS onset threshold than that applied in the analysis herein for 28 kHz. Additionally, the equal energy hypothesis is supported based on the noise exposure scenarios (*e.g.*, frequency, duration, sound pressure levels) used in this study.

Kastelein *et al*. (2025c) evaluated TTS in two California sea lions exposed to one-sixth octave band noise centered at 40 kHz for up to 60 minutes. TTS onset was

estimated to occur at 169 dB cumulative SEL, which is much lower than that applied in the analysis herein for non-impulsive sounds (*i.e.*, 179 dB SEL_{24h}). This is the first time TTS was examined in otariid pinnipeds for noise exposure at 40 kHz. Previous data examining 32 kHz one-sixth octave band noise exposure found a TTS onset of 179 dB cumulative SEL. Thus, the results from the 40 kHz study were unexpected, and the precise explanation for these results remains unclear. Results from this study indicate that otariid pinnipeds may be more susceptible to noise-induced hearing loss from 40 kHz underwater noise than applied criteria predict. Nevertheless, most underwater noise sources are predominantly low frequency. Thus, there are likely only limited sources that produce higher frequencies (*e.g.*, some types of scientific or tactical sonar, acoustic deterrent devices).

Ruser *et al.* (2025) represents the first assessment of grey seal (phocid pinnipeds) hearing behaviorally (n=2). This species hearing was very similar to measurements from other phocids, but with best hearing at 4 kHz being lower than previously measured in a phocid pinniped. Of note, one individual's (seal Hg_1) thresholds were near ambient noise levels at frequencies measured below 1 kHz. Seal Hg_1's thresholds were also 6 to 13 dB lower than Hg_2 from this study. Seal Hg-2's measured thresholds aligned more with those previously measured in other phocid pinnipeds (see figure 1 in Ruser *et al.* (2025) for comparisons). The authors caution "Since the results [from Hg_1] are unusually low, confirmation of the hearing thresholds would be highly desirable." Finally, each hearing group's composite audiogram is created based on the median to reduce the influence of outliers (*i.e.*, the lowest threshold from any individual does not determine the composite audiogram).

Sills *et al*. (2025) measured low-frequency (<100 Hz) underwater hearing thresholds in one California sea lion (otariid) and two bearded seals (phocid). Sills *et al*. (2025) tested 40 Hz and found that both species can detect this frequency. The data were

consistent with data previously collected from bearded seals (Sills *et al.*, 2020). The California sea lion data from this study indicated a slope change at the base of the audiogram that may have resulted from a shift in the sensory modality from acoustic detection to detecting particle velocity.

Dunlop *et al.* (2025) estimates masked hearing thresholds for humpback whales at four frequencies between 250 Hz and 16 kHz (*i.e.*, 250 Hz, 1 kHz, 4 kHz, and 16 kHz) using behavioral observation audiometry (BOA)[1]. These data and critical ratios were used to determine Minimum Response Levels (MRLs)[2] and serve as a surrogate for determining the shape of this species' masked audiogram, indicating humpback whale hearing extends to at least 16 kHz. This is consistent with the applied LF hearing criteria.

Having considered the new information, along with information provided in public comments on the proposed rule, we have determined that there is no new information that substantively affects our analysis of potential impacts on marine mammals and their habitat that appeared in the proposed rule, all of which remains applicable and valid for our assessment of the effects of the Action Proponents' activities during the 7-year period of this rule.

Estimated Take of Marine Mammals

This section indicates the number of takes NMFS is authorizing, which is based on the amount of take NMFS anticipates is reasonably likely to occur. NMFS coordinated closely with the Action Proponents in the development of their incidental take application and agrees that the methods the Action Proponents have put forth described herein to

[1] BOA is a technique commonly used in human infants but was first used done on a marine mammal (walrus) by Kastelein *et al*. 1993.

[2] MRLs are the lowest level of sound to which a subject is responsive during behavioral observation audiometry (BOA). Note: An MRL is not equivalent to an audiometric threshold obtained through behavioral audiometry methods (Norrix 2015). MRLs are instead observed responses to a stimulus and can be affected by the state of attention, context, and prior experience with a signal, as well as the background noise levels (Dunlop *et al*. 2025).

estimate take (including the model, thresholds, and density estimates), and the resulting numbers are based on the best available science and appropriate for authorization.

The 2025 HCTT EIS/OEIS considered all military readiness activities planned to occur in the HCTT Study Area that have the potential to result in the MMPA defined take of marine mammals. The Action Proponents determined that the four stressors below could result in the incidental taking of marine mammals. NMFS has reviewed the Action Proponents' data and analysis and determined that it is complete and accurate and agrees that the following stressors have the potential to result in takes by harassment of marine mammals from the specified activities:

• Acoustics (sonars and other transducers, air guns, pile driving/extraction);

• Explosives (explosive shock wave and sound, assumed to encompass the risk due to fragmentation);

• Land-based launch noise from missile and target launches at San Nicolas Island and weapons firing and launch noise at PMRF; and

• Vessel strike.

Acoustic and explosive sources and land-based launch noise are likely to result in incidental takes of marine mammals by harassment. Vessel strikes have the potential to result in incidental take from injury, serious injury, and/or mortality.

For this military readiness activity, section 3(18)(B) of the MMPA (16 U.S.C. 1362(18)(B)) defines "harassment" as: (1) any act that injures or has the significant potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (2) any act that disturbs or is likely to disturb a marine mammal or marine mammal stock in the wild by causing disruption of natural behavioral patterns, including, but not limited to, migration, surfacing, nursing, breeding, feeding, or sheltering, to a point where the behavioral patterns are abandoned or significantly altered (Level B harassment).

Authorized takes are primarily in the form of Level B harassment, as use of the acoustic (*e.g.*, active sonar, pile driving, and seismic air guns) and explosive sources and missile launches is most likely to result in disruption of natural behavioral patterns to a point where they are abandoned or significantly altered (as defined specifically at the beginning of this section, but referred to generally as behavioral disturbance) for marine mammals, either via direct behavioral disturbance or TTS. There is also the potential for Level A harassment, in the form of auditory injury arising from exposure to sound sources utilized in military readiness activities. Lastly, no more than 7 serious injuries or mortalities total (over the 7-year period) of large whales could potentially occur through vessel strikes, and 40 serious injuries or mortalities (over the 7-year period) from explosive use. Although we analyze the impacts of these potential serious injuries or mortalities that are authorized, the required mitigation and monitoring measures are expected to minimize the likelihood (*i.e.*, further lower the already low probability) that vessel strike (and the associated serious injury or mortality) would occur, as well as the severity of other takes (including serious injury or mortality from use of explosives).

Generally speaking, for acoustic impacts, NMFS estimates the amount and type of harassment by considering: (1) acoustic thresholds above which NMFS believes the best available science indicates marine mammals would experience behavioral disturbance or incur some degree of temporary or permanent hearing impairment; (2) the area or volume of water that would be ensonified above these levels in a day or event; (3) the density or occurrence of marine mammals within these ensonified areas; and (4) the number of days of activities or events.

We provided a detailed discussion of the acoustic thresholds, acoustic effects modeling and estimation, range to effects for stressors, and marine mammal density information in our proposed rulemaking (90 FR 32118, July 16, 2025). NMFS hereby refers to the information and analysis provided in the proposed rule which continue to

apply to this final rule. In the Estimated Take of Marine Mammals section of the proposed rule, we identified the subset of potential effects that would be expected to rise to the level of takes both annually and over the 7-year period covered by the rule, then identified the maximum number of takes we believe could occur (mortality) or are reasonably expected to occur (harassment) based on the methods described. All of this information remains valid and applicable. Therefore, we do not repeat the information here, but refer the reader to the proposed rule.

Estimated Take from Acoustic Stressors

The quantitative analysis process used for the 2025 HCTT EIS/OEIS and the application to estimate potential exposures to marine mammals resulting from acoustic and explosive stressors is detailed in the Acoustic Impacts Technical Report.

Regarding how avoidance of loud sources is considered in the take estimation, NAEMO does not simulate horizontal animat movement during an event. However, NAEMO approximates marine mammal avoidance of high sound levels due to exposure to sonars in a one-dimensional calculation that scales how far an animat would be from a sound source based on sensitivity to disturbance, swim speed, and avoidance duration. This process reduces the SEL, defined as the accumulation for a given animat, by reducing the received SPL of individual exposures based on a spherical spreading calculation from sources on each unique platform in an event. The onset of avoidance was based on the behavioral response functions. Avoidance speeds and durations were informed by a review of available exposure and baseline data. This method captures a more accurate representation of avoidance by using the received sound levels, distance to platform, and species-specific criteria to calculate potential avoidance for each animat than the approach used in Phase III. However, this avoidance method may underestimate avoidance of long-duration sources with lower sound levels because it triggers avoidance calculations based on the highest modeled SPL received level exceeding p(0.5) on the

BRF, rather than on cumulative exposure. This is because initiation of the avoidance calculation is based on the highest modeled SPL received level over p(0.5) on the BRF. Please see section 4.4.2.2 of the Acoustic Impacts Technical Report.

Regarding the consideration of mitigation effectiveness in the take estimation, during military readiness activities, there is typically at least one, if not numerous, support personnel involved in the activity (*e.g.*, range support personnel aboard a torpedo retrieval boat or support aircraft). In addition to the Lookouts posted for the purpose of mitigation, these additional personnel observe and disseminate marine species sighting information amongst the units participating in the activity whenever possible as they conduct their primary mission responsibilities. However, unlike in previous phases of HCTT, this quantitative analysis does not reduce model-estimated impacts to account for activity-based mitigation. While the activity-based mitigation is not quantitatively included in the take estimates (which, of note, would result in a reduction in the number of takes), table A-6 of appendix A of the application indicates the percentage of the instances of take where an animal's closest point of approach was within a mitigation zone and, therefore, AUD INJ could potentially be mitigated. Note that these percentages do not account for other factors, such as the sightability of a given species or viewing conditions.

Unlike activity-based mitigation, in some cases, implementation of the geographic mitigation areas is reflected in the quantitative analysis. The extent to which the mitigation areas reduce impacts on the affected species is addressed in the **Analysis and Negligible Impact Determination** section.

For additional information on the quantitative analysis process, refer to the Acoustic Impacts Technical Report and sections 6 and 11 of the application.

As a general matter, NMFS does not prescribe the methods for estimating take for any applicant, but we review and ensure that applicants use the best available science,

and methodologies that are logical and technically sound. Applicants may use different methods of calculating take (especially when using models) and still get to a result that is representative of the best available science and that allows for a rigorous and accurate evaluation of the effects on the affected populations. There are multiple pieces of the Navy's take estimation methods (*e.g.*, propagation models, animat movement models, and behavioral thresholds). NMFS evaluates the acceptability of these pieces as they evolve and are used in different rules and impact analyses. Some of the pieces of the Action Proponents' take estimation process have been used in Navy incidental take rules since 2009 and undergone multiple public comment processes; all of them have undergone extensive internal Navy review, and all of them have undergone comprehensive review by NMFS, which has sometimes resulted in modifications to methods or models.

The Navy uses rigorous review processes (verification, validation, and accreditation processes; peer and public review) to ensure the data and methodology it uses represent the best available science. For instance, NAEMO is the result of a NMFS-led Center for Independent Experts review of the components used in earlier models. The acoustic propagation component of NAEMO (titled CASS/GRAB) is accredited by the Oceanographic and Atmospheric Master Library (OAML), and many of the environmental variables used in NAEMO come from approved OAML databases and are based on in-situ data collection. The animal density components of NAEMO are base products of the NMSDD, which includes animal density components that have been validated and reviewed by a variety of scientists from NMFS Science Centers and academic institutions. Several components of the model, for example, habitat-based density model results for species off Hawaii and California have been published in several peer-reviewed journals (Becker *et al.*, 2020; Becker *et al.*, 2021; Becker *et al.*, 2022a; Becker *et al.*, 2022b). Additionally, NAEMO simulation components underwent

quality assurance and quality control (commonly referred to as QA/QC) review and validation for model parts such as the scenario builder, acoustic builder, scenario simulator, *etc.*, conducted by qualified statisticians and modelers to ensure accuracy. Other models and methodologies have gone through similar review processes.

In summary, we believe the Action Proponents' methods, including the method for incorporating avoidance, are the most appropriate methods for predicting AUD INJ, non-auditory injury, TTS, and behavioral disturbance. But even with the consideration of avoidance, given some of the more conservative components of the methodology (*e.g.*, the thresholds do not consider auditory threshold shift recovery between pulses), we would describe the application of these methods as identifying the maximum number of instances in which marine mammals would be reasonably expected to be taken through AUD INJ, non-auditory injury, TTS, or behavioral disturbance.

Based on the methods discussed in the previous sections and NAEMO, the Action Proponents provided their take estimate and request for authorization of takes incidental to the use of acoustic and explosive sources for military readiness activities annually (based on the maximum number of activities that could occur per 12-month period) and over the 7-year period covered by the application. The following species/stocks present in the HCTT Study Area were modeled by the Navy and estimated to have zero takes of any type from any activity source: killer whale (Eastern North Pacific Southern Resident stock) and spinner dolphin (Midway Atoll/Kure stock and Pearl and Hermes stock). NMFS has reviewed the Action Proponents' data, methodology, and analysis and determined that it is complete and accurate. NMFS agrees that the estimates for incidental takes by harassment from all sources requested for authorization are the maximum number of instances in which marine mammals are reasonably expected to be taken and that the takes by mortality requested for authorization are for the maximum number of

instances mortality or serious injury could occur, as in the case of ship shock trials and vessel strikes.

Table 3, table 4, table 5, and table 6 summarize the maximum annual and 7-year total amount and type of Level A harassment and Level B harassment that NMFS concurs is reasonably expected to occur by species and stock for Navy training activities, Navy testing activities, Coast Guard training activities, and Army training activities, respectively.

Table 3 -- Incidental Take Estimate by Stock due to Acoustic and Explosive Sources during Navy Training Activities

Species	Stock	Maximum annual Level B harassment	Maximum annual Level A harassment	Maximum annual mortality	7-year total Level B harassment	7-year total Level A harassment	7-year total mortality
Gray Whale	Eastern North Pacific	4,918	98	0	32,444	645	0
Gray Whale	Western North Pacific	48	1	0	305	2	0
Blue Whale	Central North Pacific	67	0	0	389	0	0
Blue Whale	Eastern North Pacific	2,716	17	0	14,681	84	0
Bryde's Whale	Eastern Tropical Pacific	179	2	0	1,041	5	0
Bryde's Whale	Hawaii	306	2	0	1,809	10	0
Fin Whale	Hawaii	59	0	0	334	0	0
Fin Whale	California/Oregon/Washington	7,409	28	0	37,629	144	0
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	1,042	14	0	5,361	68	0
Humpback Whale	Mainland Mexico - California/Oregon/Washington	2,401	34	0	12,414	171	0
Humpback Whale	Hawaii	2,244	18	0	14,250	113	0
Minke Whale	Hawaii	229	2	0	1,330	12	0
Minke Whale	California/Oregon/Washington	1,686	24	0	8,980	144	0
Sei Whale	Hawaii	200	1	0	1,146	2	0
Sei Whale	Eastern North Pacific	195	1	0	1,028	7	0
Sperm Whale	Hawaii	1,296	1	0	7,829	1	0
Sperm Whale	California/Oregon/Washington	2,897	2	0	15,447	4	0
Dwarf Sperm Whale	Hawaii	36,298	501	0	215,688	3,065	0
Dwarf Sperm Whale	California/Oregon/Washington	4,329	50	0	22,647	271	0
Pygmy Sperm Whale	Hawaii	36,722	518	0	217,948	3,153	0
Pygmy Sperm Whale	California/Oregon/Washington	4,240	66	0	22,246	371	0
Baird's Beaked Whale	California/Oregon/Washington	7,290	0	0	39,692	0	0

Blainville's Beaked Whale	Hawaii	5,812	0	0	36,916	0	0
Goose-Beaked Whale	Hawaii	23,258	0	0	147,787	0	0
Goose-Beaked Whale	California/Oregon/Washington	110,853	1	0	638,374	2	0
Longman's Beaked Whale	Hawaii	14,051	1	0	89,592	4	0
Mesoplodont Beaked Whale	California/Oregon/Washington	64,655	1	0	371,374	2	0
False Killer Whale	Main Hawaiian Islands Insular	122	0	0	752	0	0
False Killer Whale	Northwest Hawaiian Islands	151	0	0	959	0	0
False Killer Whale	Hawaii Pelagic	1,371	0	0	8,293	0	0
False Killer Whale	Baja California Peninsula Mexico	2,127	1	0	11,552	1	0
Killer Whale	Hawaii	103	0	0	610	0	0
Killer Whale	Eastern North Pacific Offshore	545	3	0	3,310	21	0
Killer Whale	West Coast Transient	46	0	0	204	0	0
Melon-Headed Whale	Hawaiian Islands	26,120	9	0	155,607	53	0
Melon-Headed Whale	Kohala Resident (Hawaii)	23	0	0	130	0	0
Pygmy Killer Whale	Hawaii	7,428	2	0	44,514	7	0
Pygmy Killer Whale	California - Baja California Peninsula Mexico	477	0	0	2,705	0	0
Short-Finned Pilot Whale	Hawaii	13,851	3	0	85,991	18	0
Short-Finned Pilot Whale	California/Oregon/Washington	1,995	9	1	11,567	54	4
Bottlenose Dolphin	Maui Nui	189	0	0	1,301	0	0
Bottlenose Dolphin	Hawaii Island	6	0	0	25	0	0

Bottlenose Dolphin	Hawaii Pelagic	37,546	18	1	252,429	123	2
Bottlenose Dolphin	Kauaʻi/Niʻihau	1,179	0	0	7,728	0	0
Bottlenose Dolphin	Oʻahu	6,789	5	1	47,410	29	1
Bottlenose Dolphin	California Coastal	516	7	0	3,521	42	0
Bottlenose Dolphin	California/Oregon/Washington Offshore	16,938	13	0	94,638	74	0
Fraser's Dolphin	Hawaii	30,371	5	0	184,274	26	0
Long-Beaked Common Dolphin	California	102,352	113	3	583,062	722	15
Northern Right Whale Dolphin	California/Oregon/Washington	35,313	15	0	170,387	64	0
Pacific White-Sided Dolphin	California/Oregon/Washington	41,928	33	1	209,903	188	1
Pantropical Spotted Dolphin	Maui Nui	830	2	0	5,549	10	0
Pantropical Spotted Dolphin	Hawaii Island	4,974	5	0	29,501	23	0
Pantropical Spotted Dolphin	Hawaii Pelagic	36,298	13	0	219,400	67	0
Pantropical Spotted Dolphin	Oʻahu	5,618	5	0	39,051	21	0
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	82,440	43	1	448,311	224	1
Risso's Dolphin	Hawaii	5,380	1	0	32,054	1	0
Risso's Dolphin	California/Oregon/Washington	25,085	15	0	140,377	98	0
Rough-Toothed Dolphin	Hawaii	80,173	27	1	497,078	157	1
Short-Beaked Common Dolphin	California/Oregon/Washington	1,428,183	694	13	7,867,127	4,036	91
Spinner Dolphin	Hawaii Pelagic	3,781	1	0	22,583	3	0
Spinner Dolphin	Hawaii Island	97	1	0	562	1	0

Spinner Dolphin	Kauaʻi/Niʻihau	3,528	1	0	23,147	5	0
Spinner Dolphin	Oʻahu/4 Islands Region	991	1	0	6,922	2	0
Striped Dolphin	Hawaii Pelagic	31,260	8	0	186,357	43	0
Striped Dolphin	California/Oregon/Washington	110,641	37	1	600,412	193	1
Dall's Porpoise	California/Oregon/Washington	43,844	708	0	218,178	3,727	0
Harbor Porpoise	Monterey Bay	1,314	0	0	5,627	0	0
Harbor Porpoise	Morro Bay	3,883	11	0	23,051	71	0
Harbor Porpoise	Northern California/Southern Oregon	357	0	0	1,576	0	0
Harbor Porpoise	San Francisco/Russian River	6,920	24	0	30,248	164	0
California Sea Lion	U.S.	876,054	532	4	4,997,524	3,406	22
Guadalupe Fur Seal	Mexico	295,304	37	1	1,598,780	194	1
Northern Fur Seal	Eastern Pacific	29,250	3	0	134,187	10	0
Northern Fur Seal	California	19,649	3	0	90,918	9	0
Steller Sea Lion	Eastern	524	3	0	2,470	13	0
Harbor Seal	California	16,662	243	1	98,994	1,536	7
Hawaiian Monk Seal	Hawaii	893	4	0	6,080	18	0
Northern Elephant Seal	California Breeding	68,627	49	0	351,382	284	0

Note: The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 4 -- Incidental Take Estimate by Stock due to Acoustic and Explosive Source during Navy Testing Activities

Species	Stock	Maximum annual Level B harassment	Maximum annual Level A harassment	Maximum annual mortality	7-year total Level B harassment	7-year total Level A harassment	7-year total mortality
Gray Whale	Eastern North Pacific	11,777	69	0	54,745	365	0
Gray Whale	Western North Pacific	120	1	0	545	3	0

Blue Whale	Central North Pacific	24	1	0	134	2	0
Blue Whale	Eastern North Pacific	1,836	10	0	10,002	66	0
Bryde's Whale	Eastern Tropical Pacific	142	3	0	828	9	0
Bryde's Whale	Hawaii	99	1	0	531	1	0
Fin Whale	Hawaii	25	1	0	145	1	0
Fin Whale	California/Oregon/Washington	6,030	27	0	30,497	156	0
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	839	5	0	4,492	28	0
Humpback Whale	Mainland Mexico - California/Oregon/Washington	2,033	10	0	10,859	49	0
Humpback Whale	Hawaii	779	6	0	4,627	38	0
Minke Whale	Hawaii	64	1	0	351	1	0
Minke Whale	California/Oregon/Washington	1,300	8	0	7,088	49	0
Sei Whale	Hawaii	52	1	0	287	3	0
Sei Whale	Eastern North Pacific	106	2	0	579	2	0
Sperm Whale	Hawaii	346	0	0	1,745	0	0
Sperm Whale	California/Oregon/Washington	966	1	0	4,963	1	0
Dwarf Sperm Whale	Hawaii	8,443	399	0	43,341	1,941	0
Dwarf Sperm Whale	California/Oregon/Washington	1,283	43	0	7,101	245	0
Pygmy Sperm Whale	Hawaii	8,603	402	0	44,150	1,966	0
Pygmy Sperm Whale	California/Oregon/Washington	1,325	41	0	7,289	238	0
Baird's Beaked Whale	California/Oregon/Washington	2,830	0	0	16,079	0	0
Blainville's Beaked Whale	Hawaii	1,704	0	0	8,917	0	0
Goose-Beaked Whale	Hawaii	6,956	0	0	36,245	0	0
Goose-Beaked Whale	California/Oregon/Washington	55,310	1	0	296,069	2	0

Longman's Beaked Whale	Hawaii	4,118	0	0	21,544	0	0
Mesoplodont Beaked Whale	California/Oregon/Washington	27,768	1	0	146,662	4	0
False Killer Whale	Main Hawaiian Islands Insular	43	0	0	230	0	0
False Killer Whale	Northwest Hawaiian Islands	38	0	0	197	0	0
False Killer Whale	Hawaii Pelagic	287	1	0	1,489	1	0
False Killer Whale	Baja California Peninsula Mexico	393	0	0	2,226	0	0
Killer Whale	Hawaii	22	0	0	113	0	0
Killer Whale	Eastern North Pacific Offshore	477	1	0	2,772	2	0
Killer Whale	West Coast Transient	8	0	0	52	0	0
Melon-Headed Whale	Hawaiian Islands	5,110	3	0	26,599	14	0
Melon-Headed Whale	Kohala Resident (Hawaii)	31	0	0	195	0	0
Pygmy Killer Whale	Hawaii	1,410	1	0	7,152	1	0
Pygmy Killer Whale	California - Baja California Peninsula Mexico	315	0	0	1,635	0	0
Short-Finned Pilot Whale	Hawaii	3,367	2	0	18,188	5	0
Short-Finned Pilot Whale	California/Oregon/Washington	2,274	2	0	12,896	2	0
Bottlenose Dolphin	Maui Nui	137	0	0	850	0	0
Bottlenose Dolphin	Hawaii Island	3	0	0	19	0	0
Bottlenose Dolphin	Hawaii Pelagic	5,731	6	0	34,450	39	0
Bottlenose Dolphin	Kauaʻi/Niʻihau	281	0	0	1,586	0	0
Bottlenose Dolphin	Oʻahu	443	1	0	2,965	1	0

Bottlenose Dolphin	California Coastal	832	0	0	5,228	0	0
Bottlenose Dolphin	California/Oregon/Washington Offshore	10,999	2	0	62,160	9	0
Fraser's Dolphin	Hawaii	5,086	1	0	26,111	2	0
Long-Beaked Common Dolphin	California	193,599	39	1	1,215,256	230	2
Northern Right Whale Dolphin	California/Oregon/Washington	9,950	6	1	51,898	32	1
Pacific White-Sided Dolphin	California/Oregon/Washington	27,035	9	1	149,417	54	1
Pantropical Spotted Dolphin	Maui Nui	1,542	2	0	9,642	8	0
Pantropical Spotted Dolphin	Hawaii Island	1,026	2	0	5,919	2	0
Pantropical Spotted Dolphin	Hawaii Pelagic	7,862	4	0	41,161	12	0
Pantropical Spotted Dolphin	O‘ahu	807	1	0	5,142	2	0
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	14,695	4	1	83,941	15	1
Risso's Dolphin	Hawaii	1,143	2	0	5,746	3	0
Risso's Dolphin	California/Oregon/Washington	18,560	6	0	99,161	27	0
Rough-Toothed Dolphin	Hawaii	16,289	7	1	87,872	37	1
Short-Beaked Common Dolphin	California/Oregon/Washington	731,713	182	5	3,869,698	1,037	16
Spinner Dolphin	Hawaii Pelagic	739	1	0	3,791	1	0
Spinner Dolphin	Hawaii Island	13	0	0	82	0	0
Spinner Dolphin	Kaua‘i/Ni‘ihau	918	1	0	5,187	1	0
Spinner Dolphin	O‘ahu/4 Islands Region	210	0	0	1,283	0	0
Striped Dolphin	Hawaii Pelagic	6,270	2	0	31,482	7	0
Striped Dolphin	California/Oregon/Washington	21,982	7	0	118,342	38	0
Dall's Porpoise	California/Oregon/Washington	15,363	528	0	84,387	3,056	0

Harbor Porpoise	Monterey Bay	865	0	0	5,307	0	0
Harbor Porpoise	Morro Bay	490	77	0	3,265	519	0
Harbor Porpoise	Northern California/Southern Oregon	124	0	0	763	0	0
Harbor Porpoise	San Francisco/Russian River	3,038	2	0	18,641	5	0
California Sea Lion	U.S.	997,758	191	1	5,449,070	1,166	5
Guadalupe Fur Seal	Mexico	48,392	17	0	275,065	106	0
Northern Fur Seal	Eastern Pacific	3,311	9	0	20,183	45	0
Northern Fur Seal	California	1,894	7	0	11,495	38	0
Steller Sea Lion	Eastern	471	0	0	2,854	0	0
Harbor Seal	California	54,180	18	0	287,858	106	0
Hawaiian Monk Seal	Hawaii	139	2	0	802	7	0
Northern Elephant Seal	California Breeding	48,052	61	0	262,329	360	0

Note: The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 5 -- Incidental Take Estimate by Stock due to Acoustic and Explosive Sources during Coast Guard Training Activities

Species	Stock	Maximum annual Level B harassment	Maximum annual Level A harassment	Maximum annual mortality	7-year total Level B harassment	7-year total Level A harassment	7-year total mortality
Gray Whale	Eastern North Pacific	16	0	0	103	0	0
Gray Whale	Western North Pacific	1	0	0	2	0	0
Blue Whale	Central North Pacific	1	0	0	1	0	0
Blue Whale	Eastern North Pacific	19	0	0	125	0	0
Bryde's Whale	Eastern Tropical Pacific	1	0	0	5	0	0
Bryde's Whale	Hawaii	2	0	0	13	0	0
Fin Whale	Hawaii	2	0	0	8	0	0

Fin Whale	California/Oregon/Washington	62	0	0	432	0	0
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	7	0	0	45	0	0
Humpback Whale	Mainland Mexico - California/Oregon/Washington	15	0	0	97	0	0
Humpback Whale	Hawaii	7	0	0	46	0	0
Minke Whale	Hawaii	2	0	0	14	0	0
Minke Whale	California/Oregon/Washington	7	0	0	48	0	0
Sei Whale	Hawaii	1	0	0	4	0	0
Sei Whale	Eastern North Pacific	1	0	0	4	0	0
Sperm Whale	Hawaii	7	0	0	45	0	0
Sperm Whale	California/Oregon/Washington	28	0	0	196	0	0
Dwarf Sperm Whale	Hawaii	386	3	0	2,695	13	0
Dwarf Sperm Whale	California/Oregon/Washington	52	1	0	345	1	0
Pygmy Sperm Whale	Hawaii	354	1	0	2,469	1	0
Pygmy Sperm Whale	California/Oregon/Washington	50	0	0	333	0	0
Baird’s Beaked Whale	California/Oregon/Washington	54	0	0	378	0	0
Blainville’s Beaked Whale	Hawaii	25	0	0	170	0	0
Goose-Beaked Whale	Hawaii	143	0	0	1,001	0	0
Goose-Beaked Whale	California/Oregon/Washington	653	0	0	4,569	0	0
Longman’s Beaked Whale	Hawaii	145	0	0	1,013	0	0
Mesoplodont Beaked Whale	California/Oregon/Washington	416	0	0	2,902	0	0
False Killer Whale	Main Hawaiian Islands Insular	4	0	0	27	0	0
False Killer Whale	Northwest Hawaiian Islands	2	0	0	9	0	0

False Killer Whale	Hawaii Pelagic	12	0	0	83	0	0
False Killer Whale	Baja California Peninsula Mexico	17	1	0	110	1	0
Killer Whale	Hawaii	2	0	0	10	0	0
Killer Whale	Eastern North Pacific Offshore	1	0	0	7	0	0
Killer Whale	West Coast Transient	1	0	0	5	0	0
Melon-Headed Whale	Hawaiian Islands	224	0	0	1,559	0	0
Pygmy Killer Whale	Hawaii	56	0	0	390	0	0
Pygmy Killer Whale	California - Baja California Peninsula Mexico	3	0	0	18	0	0
Short-Finned Pilot Whale	Hawaii	83	0	0	578	0	0
Short-Finned Pilot Whale	California/Oregon/Washington	10	0	0	69	0	0
Bottlenose Dolphin	Hawaii Pelagic	33	0	0	226	0	0
Bottlenose Dolphin	California Coastal	2	0	0	12	0	0
Bottlenose Dolphin	California/Oregon/Washington Offshore	121	0	0	830	0	0
Fraser’s Dolphin	Hawaii	18	0	0	114	0	0
Long-Beaked Common Dolphin	California	927	0	0	6,475	0	0
Northern Right Whale Dolphin	California/Oregon/Washington	251	0	0	1,754	0	0
Pacific White-Sided Dolphin	California/Oregon/Washington	247	0	0	1,729	0	0
Pantropical Spotted Dolphin	Hawaii Island	24	0	0	164	0	0
Pantropical Spotted Dolphin	Hawaii Pelagic	227	0	0	1,580	0	0
Pantropical Spotted Dolphin	O‘ahu	1	0	0	7	0	0

Pantropical Spotted Dolphin	Baja California Peninsula Mexico	491	0	0	3,429	0	0
Risso's Dolphin	Hawaii	35	0	0	240	0	0
Risso's Dolphin	California/Oregon/Washington	188	0	0	1,309	0	0
Rough-Toothed Dolphin	Hawaii	406	0	0	2,838	0	0
Short-Beaked Common Dolphin	California/Oregon/Washington	9,658	1	0	67,598	2	0
Spinner Dolphin	Hawaii Pelagic	24	0	0	165	0	0
Striped Dolphin	Hawaii Pelagic	249	0	0	1,738	0	0
Striped Dolphin	California/Oregon/Washington	776	0	0	5,420	0	0
Dall's Porpoise	California/Oregon/Washington	412	1	0	2,867	3	0
Harbor Porpoise	San Francisco/Russian River	2	0	0	11	0	0
California Sea Lion	U.S.	14,937	0	0	104,545	0	0
Guadalupe Fur Seal	Mexico	3,857	0	0	26,989	0	0
Northern Fur Seal	Eastern Pacific	634	0	0	4,426	0	0
Northern Fur Seal	California	555	0	0	3,885	0	0
Steller Sea Lion	Eastern	4	0	0	22	0	0
Harbor Seal	California	141	0	0	977	0	0
Hawaiian Monk Seal	Hawaii	1	0	0	5	0	0
Northern Elephant Seal	California Breeding	1,795	1	0	12,549	1	0

Note: The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 6 -- Incidental Take Estimate by Stock due to Explosive Sources during Army Training Activities

Species	Stock	Maximum annual Level B harassment	Maximum annual Level A harassment	Maximum annual mortality	7-year total Level B harassment	7-year total Level A harassment	7-year total mortality

Bryde's Whale	Hawaii	2	0	0	3	0	0
Humpback Whale	Hawaii	4	0	0	22	0	0
Minke Whale	Hawaii	1	0	0	3	0	0
Dwarf Sperm Whale	Hawaii	97	12	0	677	84	0
Pygmy Sperm Whale	Hawaii	108	15	0	755	101	0
Blainville's Beaked Whale	Hawaii	1	0	0	1	0	0
Goose-Beaked Whale	Hawaii	2	0	0	6	0	0
Longman's Beaked Whale	Hawaii	2	0	0	3	0	0
Melon-Headed Whale	Hawaiian Islands	2	1	0	8	1	0
Melon-Headed Whale	Kohala Resident (Hawaii)	2	0	0	7	0	0
Pygmy Killer Whale	Hawaii	1	0	0	3	0	0
Short-Finned Pilot Whale	Hawaii	3	2	0	15	3	0
Bottlenose Dolphin	Hawaii Pelagic	3	1	0	14	1	0
Fraser's Dolphin	Hawaii	5	2	0	27	6	0
Pantropical Spotted Dolphin	Maui Nui	1	0	0	1	0	0
Pantropical Spotted Dolphin	Hawaii Pelagic	3	2	0	14	2	0
Risso's Dolphin	Hawaii	0	1	0	0	1	0
Rough-Toothed Dolphin	Hawaii	5	2	0	31	2	0
Striped Dolphin	Hawaii Pelagic	3	2	0	17	2	0
Hawaiian Monk Seal	Hawaii	1	0	0	3	0	0

Note: The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Estimated Take from Sonar and Other Transducers

Table 7, table 8, and table 9 provide estimated effects from sonar and other transducers, including the comparative amounts of TTS and behavioral disturbance for each species and stock annually, noting that if a modeled marine mammal was "taken" through exposure to both TTS and behavioral disturbance in the model, it was recorded as a TTS. Of note, a higher proportion of the takes by Level B harassment of mysticetes include the potential for TTS (as compared to other taxa and prior rules) due to a combination of the fact that mysticetes are relatively less sensitive to behavioral disturbance and the number of auditory impacts from sonar (both TTS and AUD INJ) have increased for some species since the Phase III analysis (84 FR 70712, December 23, 2019) largely due to changes in how avoidance was modeled; for some stocks, changes in densities in areas that overlap activities have also contributed to increased or decreased impacts compared to those modeled in Phase III.

Compared to the prior analysis, the Action Proponents propose to use more hours of hull-mounted surface ship sonar, and these activities are newly analyzed in the NOCAL range complex and in PMSR. Compared to the prior analysis, this analysis considers increased use of MF1 (regular duty cycle) and MF1C (continuous duty cycle) associated with Navy training activities and decreased use of MF1 and MF1C associated with Navy testing activities. This analysis also considers the training and testing usage of these sonars across an expanded study area. For the maximum analyzed year of training and testing activities under this proposed action, MF1 has increased 20 percent and MF1C has increased 50 percent in the expanded California Study Area (which now includes PMSR and NOCAL). In the Hawaii Study Area MF1 and MF1C is planned to increase greater than 10 percent and 60 percent respectively when compared to the prior HSTT analysis.

Additionally, the updated high-frequency (HF) cetacean criteria reflect greater susceptibility to auditory effects at low and mid-frequencies than previously analyzed. Consequently, the predicted auditory effects due to sources under 10 kHz, including but not limited to MF1 hull-mounted sonar and other anti-submarine warfare sonars, are substantially higher for this auditory group than in prior analyses of the same activities. Thus, for activities with sonars, some modeled exposures that would previously have been categorized as significant behavioral responses may now instead be counted as auditory effects (TTS and AUD INJ). Similarly, the updated HF cetacean criteria reflect greater susceptibility to auditory effects at low and mid-frequencies in impulsive sounds. For VHF cetaceans, susceptibility to auditory effects has not changed substantially since the prior analysis.

Table 7 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Sonar and Other Active Transducers During Navy Training Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ
Gray Whale	Eastern North Pacific	1,903	2,390	65	12,356	16,019	428
Gray Whale	Western North Pacific	18	28	1	119	182	2
Blue Whale	Central North Pacific	10	56	0	63	325	0
Blue Whale	Eastern North Pacific	646	1,924	16	3,810	9,921	80
Bryde's Whale	Eastern Tropical Pacific	48	80	1	295	414	1
Bryde's Whale	Hawaii	41	263	2	259	1,543	10
Fin Whale	Hawaii	12	46	0	73	260	0
Fin Whale	California/Oregon/Washington	1,727	5,470	22	9,743	26,506	108
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	166	831	13	989	4,076	65
Humpback Whale	Mainland Mexico - California/Oregon/Washington	375	1,906	31	2,245	9,370	153
Humpback Whale	Hawaii	780	1,358	11	5,134	8,414	70
Minke Whale	Hawaii	27	200	2	171	1,154	12
Minke Whale	California/Oregon/Washington	334	1,242	15	2,035	6,234	81
Sei Whale	Hawaii	25	173	1	162	978	2
Sei Whale	Eastern North Pacific	38	151	1	223	765	7
Sperm Whale	Hawaii	939	354	0	5,806	2,008	0
Sperm Whale	California/Oregon/Washington	2,133	758	1	11,738	3,677	1
Dwarf Sperm Whale	Hawaii	8,114	27,505	329	53,404	157,962	1,955
Dwarf Sperm Whale	California/Oregon/Washington	936	3,346	37	5,472	16,881	188
Pygmy Sperm Whale	Hawaii	8,131	27,918	350	53,462	160,158	2,068
Pygmy Sperm Whale	California/Oregon/Washington	964	3,216	43	5,629	16,228	218

Baird's Beaked Whale	California/Oregon/Washington	7,234	55	-	39,426	262	-
Blainville's Beaked Whale	Hawaii	5,780	31	-	36,734	180	-
Goose-Beaked Whale	Hawaii	23,137	118	-	147,104	668	-
Goose-Beaked Whale	California/Oregon/Washington	110,330	504	-	635,735	2,514	-
Longman's Beaked Whale	Hawaii	13,966	83	-	89,112	475	-
Mesoplodont Beaked Whale	California/Oregon/Washington	64,298	350	0	369,597	1,732	0
False Killer Whale	Main Hawaiian Islands Insular	68	54	-	436	316	-
False Killer Whale	Northwest Hawaiian Islands	96	55	-	616	343	-
False Killer Whale	Hawaii Pelagic	731	638	0	4,647	3,641	0
False Killer Whale	Baja California Peninsula Mexico*	1,361	765	1	7,599	3,949	1
Killer Whale	Hawaii	41	62	-	256	354	-
Killer Whale	Eastern North Pacific Offshore	422	110	0	2,682	543	0
Killer Whale	West Coast Transient	19	27	-	87	117	-
Melon-Headed Whale	Hawaiian Islands	12,560	13,553	8	79,341	76,222	48
Melon-Headed Whale	Kohala Resident (Hawaii)	15	8	-	85	45	-
Pygmy Killer Whale	Hawaii	3,666	3,758	1	23,256	21,234	4
Pygmy Killer Whale	California - Baja California Peninsula Mexico*	357	118	-	2,103	600	-
Short-Finned Pilot Whale	Hawaii	8,905	4,931	2	57,475	28,419	11
Short-Finned Pilot Whale	California/Oregon/Washington	1,436	547	1	8,777	2,716	1
Bottlenose Dolphin	Maui Nui	186	2	-	1,285	12	-
Bottlenose Dolphin	Hawaii Island	2	3	-	8	16	-
Bottlenose Dolphin	Hawaii Pelagic	32,258	5,040	3	220,679	30,047	20

Bottlenose Dolphin	Kaua‘i/Ni‘ihau	945	233	-	6,098	1,629	-
Bottlenose Dolphin	O‘ahu	6,672	67	0	46,638	430	0
Bottlenose Dolphin	California Coastal	484	8	-	3,308	51	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	11,368	5,492	3	65,775	28,363	14
Fraser’s Dolphin	Hawaii	16,259	14,089	1	103,900	80,236	7
Long-Beaked Common Dolphin	California	70,884	30,889	20	423,266	156,179	107
Northern Right Whale Dolphin	California/Oregon/Washington	15,672	19,635	13	81,148	89,202	60
Pacific White-Sided Dolphin	California/Oregon/Washington	22,095	19,683	14	119,888	89,082	68
Pantropical Spotted Dolphin	Maui Nui	811	14	-	5,444	75	-
Pantropical Spotted Dolphin	Hawaii Island	2,086	2,879	2	13,121	16,318	8
Pantropical Spotted Dolphin	Hawaii Pelagic	18,458	17,816	9	118,066	101,178	50
Pantropical Spotted Dolphin	O‘ahu	5,489	97	1	38,207	626	2
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	48,096	34,318	37	270,474	177,669	189
Risso’s Dolphin	Hawaii	2,781	2,595	1	17,461	14,575	1
Risso’s Dolphin	California/Oregon/Washington	17,117	7,907	3	99,536	40,443	19
Rough-Toothed Dolphin	Hawaii	45,968	34,070	18	301,367	194,804	102
Short-Beaked Common Dolphin	California/Oregon/Washington	876,990	548,702	389	5,081,159	2,770,024	2,023
Spinner Dolphin	Hawaii Pelagic	1,679	2,100	1	10,633	11,946	3
Spinner Dolphin	Hawaii Island	46	49	-	273	280	-
Spinner Dolphin	Kaua‘i/Ni‘ihau	2,660	866	1	17,090	6,046	5
Spinner Dolphin	O‘ahu/4 Islands Region	971	13	-	6,790	86	-
Striped Dolphin	Hawaii Pelagic	14,566	16,678	6	92,249	94,018	36

Striped Dolphin	California/Oregon/Washington	63,661	46,945	32	359,520	240,671	160
Dall's Porpoise	California/Oregon/Washington	6,430	36,826	522	37,679	176,737	2,512
Harbor Porpoise	Monterey Bay	1,314	0	-	5,627	0	-
Harbor Porpoise	Morro Bay	3,824	46	0	22,754	221	0
Harbor Porpoise	Northern California/Southern Oregon	357	0	-	1,576	0	-
Harbor Porpoise	San Francisco/Russian River	6,869	29	0	29,968	127	0
California Sea Lion	U.S.	662,716	186,625	115	3,903,717	911,677	653
Guadalupe Fur Seal	Mexico	217,808	77,386	32	1,213,525	384,582	162
Northern Fur Seal	Eastern Pacific	19,371	9,876	2	90,896	43,276	9
Northern Fur Seal	California	13,512	6,134	2	63,833	27,073	8
Steller Sea Lion	Eastern	389	122	1	1,870	519	1
Harbor Seal	California	10,510	1,457	3	61,064	8,093	13
Hawaiian Monk Seal	Hawaii	590	123	0	4,076	764	0
Northern Elephant Seal	California Breeding	28,461	39,790	17	160,245	188,696	82

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 8 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Sonar and Other Active Transducers During Navy Testing Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ
Gray Whale	Eastern North Pacific	4,876	6,722	64	28,937	24,742	335
Gray Whale	Western North Pacific	50	67	1	302	233	3
Blue Whale	Central North Pacific	5	19	1	27	107	2

Blue Whale	Eastern North Pacific	696	1,094	8	4,028	5,743	52
Bryde's Whale	Eastern Tropical Pacific	47	89	2	275	517	8
Bryde's Whale	Hawaii	22	75	1	112	412	1
Fin Whale	Hawaii	5	19	1	29	114	1
Fin Whale	California/Oregon/Washington	1,741	4,144	21	10,107	19,655	117
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	343	472	4	2,076	2,269	23
Humpback Whale	Mainland Mexico - California/Oregon/Washington	818	1,155	8	4,947	5,553	43
Humpback Whale	Hawaii	348	358	4	2,045	2,082	27
Minke Whale	Hawaii	12	50	1	64	283	1
Minke Whale	California/Oregon/Washington	563	718	7	3,412	3,555	43
Sei Whale	Hawaii	11	41	1	57	230	3
Sei Whale	Eastern North Pacific	37	65	1	215	345	1
Sperm Whale	Hawaii	288	56	0	1,452	291	0
Sperm Whale	California/Oregon/Washington	834	129	-	4,350	594	-
Dwarf Sperm Whale	Hawaii	2,189	6,048	371	10,769	31,271	1,805
Dwarf Sperm Whale	California/Oregon/Washington	519	709	26	2,796	3,966	149
Pygmy Sperm Whale	Hawaii	2,243	6,137	373	10,987	31,760	1,821
Pygmy Sperm Whale	California/Oregon/Washington	525	743	23	2,819	4,116	129
Baird's Beaked Whale	California/Oregon/Washington	2,823	5	-	16,049	23	-
Blainville's Beaked Whale	Hawaii	1,702	2	-	8,904	13	-
Goose-Beaked Whale	Hawaii	6,945	8	-	36,195	44	-
Goose-Beaked Whale	California/Oregon/Washington	55,207	92	-	295,610	393	-
Longman's Beaked Whale	Hawaii	4,106	12	-	21,483	61	-

Mesoplodont Beaked Whale	California/Oregon/Washington	27,697	62	-	146,347	259	-
False Killer Whale	Main Hawaiian Islands Insular	32	9	-	171	53	-
False Killer Whale	Northwest Hawaiian Islands	30	8	-	150	47	-
False Killer Whale	Hawaii Pelagic	192	95	1	987	502	1
False Killer Whale	Baja California Peninsula Mexico*	332	60	0	1,831	392	0
Killer Whale	Hawaii	14	8	-	71	42	-
Killer Whale	Eastern North Pacific Offshore	399	75	0	2,318	440	0
Killer Whale	West Coast Transient	7	1	-	45	7	-
Melon-Headed Whale	Hawaiian Islands	3,396	1,711	2	17,285	9,306	13
Melon-Headed Whale	Kohala Resident (Hawaii)	25	6	-	161	34	-
Pygmy Killer Whale	Hawaii	928	481	1	4,641	2,510	1
Pygmy Killer Whale	California - Baja California Peninsula Mexico*	260	53	-	1,376	257	-
Short-Finned Pilot Whale	Hawaii	2,625	734	1	14,186	3,955	2
Short-Finned Pilot Whale	California/Oregon/Washington	1,899	371	1	10,796	2,075	1
Bottlenose Dolphin	Maui Nui	121	12	0	751	72	0
Bottlenose Dolphin	Hawaii Island	3	-	-	19	-	-
Bottlenose Dolphin	Hawaii Pelagic	4,805	842	1	28,873	4,998	7
Bottlenose Dolphin	Kaua‘i/Ni‘ihau	276	5	-	1,559	27	-
Bottlenose Dolphin	O‘ahu	407	35	1	2,727	237	1
Bottlenose Dolphin	California Coastal	811	20	-	5,123	103	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	9,699	1,286	1	55,144	6,926	3
Fraser’s Dolphin	Hawaii	3,562	1,524	1	18,148	7,963	2

Long-Beaked Common Dolphin	California	181,795	11,646	6	1,156,935	57,311	31
Northern Right Whale Dolphin	California/Oregon/Washington	7,934	1,997	2	43,020	8,762	9
Pacific White-Sided Dolphin	California/Oregon/Washington	23,127	3,851	2	132,034	17,006	13
Pantropical Spotted Dolphin	Maui Nui	1,358	157	1	8,514	943	1
Pantropical Spotted Dolphin	Hawaii Island	789	234	1	4,524	1,389	1
Pantropical Spotted Dolphin	Hawaii Pelagic	5,521	2,324	2	28,528	12,527	9
Pantropical Spotted Dolphin	Oʻahu	748	58	1	4,749	392	2
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	12,181	2,468	2	67,222	16,411	10
Risso's Dolphin	Hawaii	745	396	1	3,652	2,091	2
Risso's Dolphin	California/Oregon/Washington	15,852	2,686	1	86,994	12,028	5
Rough-Toothed Dolphin	Hawaii	11,455	4,768	3	62,028	25,394	15
Short-Beaked Common Dolphin	California/Oregon/Washington	611,376	119,400	58	3,312,917	550,748	324
Spinner Dolphin	Hawaii Pelagic	473	265	1	2,345	1,445	1
Spinner Dolphin	Hawaii Island	13	0	-	82	0	-
Spinner Dolphin	Kauaʻi/Niʻihau	901	16	-	5,096	90	-
Spinner Dolphin	Oʻahu/4 Islands Region	180	28	0	1,120	155	0
Striped Dolphin	Hawaii Pelagic	3,793	2,473	1	18,660	12,807	6
Striped Dolphin	California/Oregon/Washington	16,581	5,362	2	88,084	29,998	12
Dall's Porpoise	California/Oregon/Washington	6,191	8,086	222	34,212	43,404	1,300
Harbor Porpoise	Monterey Bay	865	-	-	5,307	-	-
Harbor Porpoise	Morro Bay	254	3	1	1,660	19	1
Harbor Porpoise	Northern California/Southern Oregon	124	-	-	763	-	-
Harbor Porpoise	San Francisco/Russian River	3,023	6	0	18,554	36	0

California Sea Lion	U.S.	928,540	67,321	16	5,191,344	245,578	71
Guadalupe Fur Seal	Mexico	44,414	3,814	3	249,924	24,054	21
Northern Fur Seal	Eastern Pacific	3,080	183	1	18,776	1,111	1
Northern Fur Seal	California	1,769	87	0	10,740	521	0
Steller Sea Lion	Eastern	439	31	-	2,678	174	-
Harbor Seal	California	38,391	15,461	3	204,018	81,833	14
Hawaiian Monk Seal	Hawaii	75	43	1	406	257	1
Northern Elephant Seal	California Breeding	34,434	13,065	5	203,952	54,851	27

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 9 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Sonar and Other Active Transducers During Coast Guard Training Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ
Gray Whale	Eastern North Pacific	15	-	-	102	-	-
Gray Whale	Western North Pacific	1	-	-	2	-	-
Blue Whale	Central North Pacific	1	-	-	1	-	-
Blue Whale	Eastern North Pacific	18	-	-	124	-	-
Bryde's Whale	Eastern Tropical Pacific	1	-	-	5	-	-
Bryde's Whale	Hawaii	2	-	-	13	-	-
Fin Whale	Hawaii	2	-	-	8	-	-
Fin Whale	California/Oregon/Washington	62	-	-	432	-	-
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	7	-	-	45	-	-

Humpback Whale	Mainland Mexico - California/Oregon/Washington	14	-	-	96	-	-
Humpback Whale	Hawaii	7	-	-	46	-	-
Minke Whale	Hawaii	2	-	-	14	-	-
Minke Whale	California/Oregon/Washington	7	-	-	48	-	-
Sei Whale	Hawaii	1	-	-	4	-	-
Sei Whale	Eastern North Pacific	1	-	-	4	-	-
Sperm Whale	Hawaii	7	-	-	45	-	-
Sperm Whale	California/Oregon/Washington	28	-	-	196	-	-
Dwarf Sperm Whale	Hawaii	159	225	2	1,109	1,575	12
Dwarf Sperm Whale	California/Oregon/Washington	16	34	-	108	235	-
Pygmy Sperm Whale	Hawaii	160	192	-	1,117	1,342	-
Pygmy Sperm Whale	California/Oregon/Washington	17	31	-	116	215	-
Baird’s Beaked Whale	California/Oregon/Washington	54	-	-	378	-	-
Blainville’s Beaked Whale	Hawaii	25	-	-	170	-	-
Goose-Beaked Whale	Hawaii	143	-	-	1,001	-	-
Goose-Beaked Whale	California/Oregon/Washington	653	-	-	4,569	-	-
Longman’s Beaked Whale	Hawaii	145	-	-	1,013	-	-
Mesoplodont Beaked Whale	California/Oregon/Washington	415	-	-	2,901	-	-
False Killer Whale	Main Hawaiian Islands Insular	4	-	-	27	-	-
False Killer Whale	Northwest Hawaiian Islands	2	-	-	9	-	-
False Killer Whale	Hawaii Pelagic	12	-	-	83	-	-
False Killer Whale	Baja California Peninsula Mexico*	16	-	-	109	-	-
Killer Whale	Hawaii	2	-	-	10	-	-

Killer Whale	Eastern North Pacific Offshore	1	-	-	7	-	-
Killer Whale	West Coast Transient	1	-	-	5	-	-
Melon-Headed Whale	Hawaiian Islands	223	-	-	1,558	-	-
Pygmy Killer Whale	Hawaii	56	-	-	390	-	-
Pygmy Killer Whale	California - Baja California Peninsula Mexico*	3	-	-	18	-	-
Short-Finned Pilot Whale	Hawaii	83	-	-	578	-	-
Short-Finned Pilot Whale	California/Oregon/Washington	10	-	-	69	-	-
Bottlenose Dolphin	Hawaii Pelagic	33	-	-	226	-	-
Bottlenose Dolphin	California Coastal	2	-	-	12	-	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	119	-	-	828	-	-
Fraser’s Dolphin	Hawaii	17	-	-	113	-	-
Long-Beaked Common Dolphin	California	924	1	-	6,467	6	-
Northern Right Whale Dolphin	California/Oregon/Washington	249	2	-	1,742	12	-
Pacific White-Sided Dolphin	California/Oregon/Washington	246	1	-	1,722	7	-
Pantropical Spotted Dolphin	Hawaii Island	24	-	-	164	-	-
Pantropical Spotted Dolphin	Hawaii Pelagic	226	-	-	1,579	-	-
Pantropical Spotted Dolphin	O‘ahu	1	-	-	7	-	-
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	490	-	-	3,428	-	-
Risso’s Dolphin	Hawaii	35	-	-	240	-	-
Risso’s Dolphin	California/Oregon/Washington	187	-	-	1,308	-	-
Rough-Toothed Dolphin	Hawaii	406	-	-	2,838	-	-

Short-Beaked Common Dolphin	California/Oregon/Washington	9,634	19	-	67,436	131	-
Spinner Dolphin	Hawaii Pelagic	24	-	-	165	-	-
Striped Dolphin	Hawaii Pelagic	247	2	-	1,726	12	-
Striped Dolphin	California/Oregon/Washington	775	-	-	5,419	-	-
Dall's Porpoise	California/Oregon/Washington	169	239		1,178	1,669	-
Harbor Porpoise	San Francisco/Russian River	2	-	-	11	-	-
California Sea Lion	U.S.	14,931	2	-	104,514	13	-
Guadalupe Fur Seal	Mexico	3,852	4	-	26,963	24	-
Northern Fur Seal	Eastern Pacific	633	-	-	4,425	-	-
Northern Fur Seal	California	555	-	-	3,885	-	-
Steller Sea Lion	Eastern	4	-	-	22	-	-
Harbor Seal	California	140	-	-	976	-	-
Hawaiian Monk Seal	Hawaii	1	-	-	5	-	-
Northern Elephant Seal	California Breeding	1,790	1	-	12,529	1	-

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Estimated Take from Air Guns and Pile Driving

Table 10 provides estimated effects from air guns, including the comparative amounts of TTS and behavioral disturbance for each species and stock annually, noting that if a modeled marine mammal was “taken” through exposure to both TTS and behavioral disturbance in the model, it was recorded as a TTS.

Table 10 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Air Guns during Navy Training and Testing Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ
Gray Whale	Eastern North Pacific	0	-	-	0	-	-
Blue Whale	Eastern North Pacific	0	-	-	0	-	-
Fin Whale	California/Oregon/Washington	0	0	-	0	0	-
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	0	-	-	0	-	-
Humpback Whale	Mainland Mexico - California/Oregon/Washington	0	0	-	0	0	-
Humpback Whale	Hawaii	1	-	-	1	-	-
Minke Whale	California/Oregon/Washington	0	-	-	0	-	-
Sperm Whale	Hawaii	1	-	-	1	-	-
Dwarf Sperm Whale	Hawaii	8	5	1	50	34	1
Dwarf Sperm Whale	California/Oregon/Washington	1	1	-	4	3	-
Pygmy Sperm Whale	Hawaii	6	6	1	34	37	3
Pygmy Sperm Whale	California/Oregon/Washington	1	1	-	3	6	-
Goose-Beaked Whale	Hawaii	1	-	-	1	-	-
Mesoplodont Beaked Whale	California/Oregon/Washington	0	-	-	0	-	-
Melon-Headed Whale	Hawaiian Islands	1	-	-	2	-	-
Pygmy Killer Whale	California - Baja California Peninsula Mexico	1	-	-	1	-	-
Short-Finned Pilot Whale	Hawaii	1	-	-	1	-	-
Bottlenose Dolphin	Hawaii Pelagic	1	-	-	3	-	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	1	-	-	2	-	-

Long-Beaked Common Dolphin	California	3	-	-	13	-	-
Northern Right Whale Dolphin	California/Oregon/Washington	1	-	-	2	-	-
Pacific White-Sided Dolphin	California/Oregon/Washington	1	-	-	5	-	-
Pantropical Spotted Dolphin	Hawaii Island	1	-	-	1	-	-
Pantropical Spotted Dolphin	Hawaii Pelagic	1	-	-	1	-	-
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	2	-	-	9	-	-
Risso's Dolphin	California/Oregon/Washington	1	-	-	6	-	-
Rough-Toothed Dolphin	Hawaii	1	-	-	1	-	-
Short-Beaked Common Dolphin	California/Oregon/Washington	17	-	-	85	-	-
Striped Dolphin	Hawaii Pelagic	-	1	-	-	1	-
Striped Dolphin	California/Oregon/Washington	1	-	-	5	-	-
Dall's Porpoise	California/Oregon/Washington	9	8	1	58	48	4
Harbor Porpoise	San Francisco/Russian River	1	2	1	6	12	1
California Sea Lion	U.S.	8	1	-	33	1	-
Guadalupe Fur Seal	Mexico	1	-	-	5	-	-
Northern Fur Seal	Eastern Pacific	1	-	-	2	-	-
Northern Fur Seal	California	1	-	-	1	-	-
Northern Elephant Seal	California Breeding	1	-	-	3	-	-

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

Table 11 provides the estimated effects from pile driving and extraction, including the comparative amounts of TTS and behavioral disturbance for each species and stock annually, noting that if a modeled marine mammal was “taken” through exposure to both TTS and behavioral disturbance in the model, it was recorded as a TTS.

Table 11 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Pile Driving during Navy Training Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ
California Sea Lion	U.S.	16,992	1,891	61	118,938	13,237	423
Harbor Seal	California	952	183	20	6,664	1,281	138

Estimated Take from Target and Missile Launch Activities

Table 12 provides the estimated effects from target and missile launch activities at San Nicolas Island (SNI) and PMRF, including the amounts of behavioral disturbance for each species and stock annually. Pinnipeds hauled out on the shoreline of SNI have been observed to behaviorally react to the sound of launches of targets and missiles from launch pads on the island (Naval Air Warfare Center Weapons Division, 2018; U.S. Department of the Navy, 2020b, 2022b, 2023). The estimate of the number of behavioral effects that would be expected due to in-air noise from launches was based on observations of pinnipeds over three monitoring seasons (2015 to 2017) divided by the number of launch events over that same time period. The Navy determined that the numbers presented in table 12 (see table 5-6 of the application) represent the number of pinnipeds expected to be hauled out at SNI based on surveys over the 5-year period from 2014 to 2019 (U.S. Department of the Navy, 2020a) and the average number of effects observed per launch event (U.S. Department of the Navy, 2020b, 2022b, 2023) (of note, the estimated behavioral effects presented in table 12 are the same as those authorized in the July 2022 PMSR LOA (87 FR 40888, July 8, 2022)).

For California sea lions, take estimates at SNI were derived from three monitoring seasons (2015 to 2017) where an average of 274.44 instances of take of sea lions by Level B harassment occurred per launch event. Therefore, 275 sea lions was multiplied by 40 launch events, for a take estimate of 11,000 instances of take by Level B harassment of California sea lions annually (table 12). Of note, the Navy has not conducted more than 25 launch events in a given year since 2001. For harbor seals, a total of 12 takes were derived from the 2016 and 2017 monitoring seasons and multiplied by 40 launch events for a total of 480 instances of take by Level B harassment annually (table 12). For northern elephant seals, take estimates were derived from three monitoring seasons (2015 to 2017) where an average of 0.61 instances of take of northern elephant

seals by Level B harassment occurred per launch event. Therefore, 1 northern elephant seal was multiplied by 40 launch events for a take estimate of 40 instances of take by Level B harassment of northern elephant seals annually (table 12). Generally, northern elephant seals do not react to launch events other than simple alerting responses such as raising their heads or temporarily going from sleeping to being awake; however, to account for the rare instances where they have reacted, the Navy considered that some northern elephant seals could be taken during launch events.

At PMRF from 2020 to 2023, an annual average of 215 monk seals have been counted hauled out on the beach (unpublished Navy data). The maximum number of seals observed during a single observation was five and the minimum was zero; on most observations no hauled out seals were observed. This final rule includes an updated estimate of behavioral effects on hauled out monk seals based upon a revised estimate of missile, rocket and drone launches, and artillery events provided by the Navy. Rather than the 35 missile, rocket, drone launches; and 3 artillery events estimated in the proposed rule, the Navy anticipates 20 missile launches and 3 artillery events (23 total). Each missile launch could occur over up to 3 days (60 days total), and each artillery event could equate to 4 days of firing (12 days total). As such, to estimate take of monk seals from missile launches and artillery events, NMFS multiplied 5 monk seals by 72 days of activity for a total of 360 takes per year. The rocket and drone launches referenced in the proposed rule will occur from a launch area outside of the area where these activities would be anticipated to harass Hawaiian monk seals. As such, no take from rocket and drone launches is anticipated or authorized in this final rule. Of note, monk seal in-air hearing is less sensitive than hearing in other phocid seals (Ruscher *et al.*, 2021; Ruscher *et al.*, 2025), suggesting that monk seals may be less likely to respond to in-air noise.

Neither TTS nor auditory injury is anticipated from missile and launch activities, as marine mammals are not anticipated to be exposed to noise from these activities that

exceed the TTS or auditory injury thresholds (see the 2025 HCTT EIS/OEIS appendix E.1, In-Air Acoustic Effects on Pinnipeds from Weapons Firing Noise).

Table 12 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from In-Air Acoustic Stressors from Missile, Aerial Target, and Air Vehicle Launches and Artillery Firing

Species	Stock	Maximum annual behavioral	Maximum 7-year behavioral
California sea lion	U.S.	11,000	77,000
Harbor seal	California	480	3,360
Hawaiian monk seal	Hawaii	360	2,520
Northern elephant seal	California	40	280

Note: California sea lion, harbor seal, and northern elephant seal are expected at San Nicolas Island only. Hawaiian monk seal is expected at the Pacific Missile Range Facility only.

Estimated Take from Explosives

Table 13 provides estimated effects from explosives during Navy training activities and table 14 provides estimated effects from explosives including small ship shock trials from Navy testing activities. Table 15 provides estimated effects from small ship shock trials over a maximum year (one event) of Navy testing activities, which is a subset of the information included in table 14. Table 16 provides estimated effects from explosives during Coast Guard training activities, and table 17 provides estimated effects from explosives during Army training activities.

Table 13 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Explosives during Navy Training Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum annual non-auditory injury	Maximum annual mortality	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ	Maximum 7-year non-auditory injury	Maximum 7-year mortality
Gray Whale	Eastern North Pacific	234	391	33	0	-	1,491	2,578	217	0	-
Gray Whale	Western North Pacific	1	1	0	-	-	2	2	0	-	-
Blue Whale	Central North Pacific	1			-	-	1	-	-	-	-
Blue Whale	Eastern North Pacific	65	81	1	-	-	415	535	4	-	-
Bryde's Whale	Eastern Tropical Pacific	12	39	1	-	-	73	259	4	-	-
Bryde's Whale	Hawaii	1	1	0	-	-	5	2	0	-	-
Fin Whale	Hawaii	1	0	0	-	-	1	0	0	-	-
Fin Whale	California/Oregon/Washington	98	114	5	1	-	633	747	35	1	-
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	18	27	1	-	-	115	181	3	-	-
Humpback Whale	Mainland Mexico - California/Oregon/Washington	35	85	3	-	-	225	574	18	-	-
Humpback Whale	Hawaii	48	58	7	-	-	312	390	43	-	-
Minke Whale	Hawaii	1	1		-	-	4	1	-	-	-
Minke Whale	California/Oregon/Washington	29	81	9	-	-	182	529	63	-	-
Sei Whale	Hawaii	1	1	0	-	-	4	2	0	-	-
Sei Whale	Eastern North Pacific	5	1	0	-	-	34	6	0	-	-
Sperm Whale	Hawaii	2	1	1	-	-	9	6	1	-	-
Sperm Whale	California/Oregon/Washington	2	4	1	-	-	8	24	3	-	-

Dwarf Sperm Whale	Hawaii	272	407	171	1	0	1,692	2,630	1,109	1	0
Dwarf Sperm Whale	California/Oregon/Washington	12	35	13	-	-	75	219	83	-	-
Pygmy Sperm Whale	Hawaii	259	414	167	1	0	1,617	2,711	1,084	1	0
Pygmy Sperm Whale	California/Oregon/Washington	19	41	23	0	-	117	272	153	0	-
Baird's Beaked Whale	California/Oregon/Washington		1		-	-	-	4	-	-	-
Blainville's Beaked Whale	Hawaii	1			-	-	2	-	-	-	-
Goose-Beaked Whale	Hawaii	2	1	0	-	-	11	4	0	-	-
Goose-Beaked Whale	California/Oregon/Washington	6	13	1	-	-	36	89	2	-	-
Longman's Beaked Whale	Hawaii	1	1	1	-	-	2	3	4	-	-
Mesoplodont Beaked Whale	California/Oregon/Washington	2	5	1	-	-	11	34	2	-	-
False Killer Whale	Main Hawaiian Islands Insular		0		-	-	-	0	-	-	-
False Killer Whale	Hawaii Pelagic	1	1		-	-	2	3	-	-	-
False Killer Whale	Baja California Peninsula Mexico	0	1		-	-	0	4	-	-	-
Killer Whale	Hawaii		0	0	-	-	-	0	0	-	-
Killer Whale	Eastern North Pacific Offshore	6	7	3	-	-	38	47	21	-	-

Melon-Headed Whale	Hawaiian Islands	4	3	1	0	0	24	20	5	0	0
Pygmy Killer Whale	Hawaii	2	2	1	0	-	11	13	3	0	-
Pygmy Killer Whale	California - Baja California Peninsula Mexico	1	1		-	-	1	1	-	-	-
Short-Finned Pilot Whale	Hawaii	6	9	1	0	0	40	57	7	0	0
Short-Finned Pilot Whale	California/Oregon/Washington	6	6	6	2	1	35	39	41	12	4
Bottlenose Dolphin	Maui Nui	0	1		-	-	0	4	-	-	-
Bottlenose Dolphin	Hawaii Island	0	1		-	-	0	1	-	-	-
Bottlenose Dolphin	Hawaii Pelagic	134	114	14	1	1	920	783	96	7	2
Bottlenose Dolphin	Kauaʻi/Niʻihau		1	0	0	-		1	0	0	-
Bottlenose Dolphin	Oʻahu	29	21	4	1	1	200	142	26	3	1
Bottlenose Dolphin	California Coastal	9	15	6	1	-	59	103	41	1	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	38	40	9	1	0	240	260	57	3	0
Fraser’s Dolphin	Hawaii	13	10	3	1	-	74	64	18	1	-
Long-Beaked Common Dolphin	California	273	306	75	18	3	1,641	1,976	498	117	15
Northern Right Whale Dolphin	California/Oregon/Washington	2	4	1	1	0	13	24	1	3	0
Pacific White-Sided Dolphin	California/Oregon/Washington	77	73	16	3	1	463	470	101	19	1

Pantropical Spotted Dolphin	Maui Nui	3	2	2	0	-	18	12	10	0	-
Pantropical Spotted Dolphin	Hawaii Island	1	8	2	1	-	7	55	13	2	-
Pantropical Spotted Dolphin	Hawaii Pelagic	11	13	3	1	0	69	87	15	2	0
Pantropical Spotted Dolphin	O‘ahu	17	15	3	1	-	118	100	18	1	-
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	15	11	5	1	1	93	75	29	6	1
Risso’s Dolphin	Hawaii	2	2	0	0	-	9	9	0	0	-
Risso’s Dolphin	California/Oregon/Washington	23	38	9	3	-	146	252	62	17	-
Rough-Toothed Dolphin	Hawaii	72	63	6	3	1	481	426	38	17	1
Short-Beaked Common Dolphin	California/Oregon/Washington	1,413	1,078	255	50	13	8,979	6,965	1,684	329	91
Spinner Dolphin	Hawaii Pelagic	1	1	0	0	-	2	2	0	0	-
Spinner Dolphin	Hawaii Island	1	1	1	0	-	7	2	1	0	-
Spinner Dolphin	Kaua‘i/Ni’ihau	0	2	0	0	0	0	11	0	0	0
Spinner Dolphin	O’ahu/4 Islands Region	4	3	1	0	0	27	19	2	0	0
Striped Dolphin	Hawaii Pelagic	11	5	1	1	-	59	31	4	3	-
Striped Dolphin	California/Oregon/Washington	12	23	4	1	1	73	148	27	6	1
Dall’s Porpoise	California/Oregon/Washington	155	433	185	1	-	975	2,787	1,214	1	-

Harbor Porpoise	Morro Bay		13	11	0	-		76	71	0	-
Harbor Porpoise	San Francisco/Russian River		22	24	-	-		153	164	-	-
California Sea Lion	U.S.	3,254	4,576	313	43	4	20,202	29,753	2,048	282	22
Guadalupe Fur Seal	Mexico	50	60	4	1	1	312	361	25	7	1
Northern Fur Seal	Eastern Pacific	1	2	1	0	-	1	14	1	0	-
Northern Fur Seal	California	1	2	1	0	-	1	11	1	0	-
Steller Sea Lion	Eastern	5	8	2	-	-	31	50	12	-	-
Harbor Seal	California	1,510	2,050	214	6	1	9,224	12,668	1,343	42	7
Hawaiian Monk Seal	Hawaii	14	21	3	1	0	89	136	17	1	0
Northern Elephant Seal	California Breeding	147	229	31	1	-	936	1,505	201	1	-

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.
The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 14 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Explosives during Navy Testing Activities (includes Small Ship Shock Trials)

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum annual non-auditory injury	Maximum annual mortality	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ	Maximum 7-year non-auditory injury	Maximum 7-year mortality
Gray Whale	Eastern North Pacific	123	56	5	0	-	713	353	30	0	-
Gray Whale	Western North Pacific	2	1	0	-	-	9	1	0	-	-
Blue Whale	Eastern North Pacific	21	25	2	-	-	135	96	14	-	-

Bryde's Whale	Eastern Tropical Pacific	3	3	1	-	-	16	20	1	-	-
Bryde's Whale	Hawaii	1	1	0	-	-	1	6	0	-	-
Fin Whale	Hawaii	1	0	-	-	-	2	0	-	-	-
Fin Whale	California/Oregon/Washington	76	69	6	0	-	451	284	39	0	-
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	13	11	1	-	-	80	67	5	-	-
Humpback Whale	Mainland Mexico - California/Oregon/Washington	31	29	1	1	-	187	172	5	1	-
Humpback Whale	Hawaii	40	32	2	-	-	275	224	11	-	-
Minke Whale	Hawaii	1	1	0	-	-	3	1	0	-	-
Minke Whale	California/Oregon/Washington	9	10	1	-	0	58	63	6	-	0
Sei Whale	Hawaii	0	0	-	-	-	0	0	-	-	-
Sei Whale	Eastern North Pacific	2	2	1	-	-	11	8	1	-	-
Sperm Whale	Hawaii	0	1	-	-	-	0	1	-	-	-
Sperm Whale	California/Oregon/Washington	2	1	1	-	-	12	7	1	-	-
Dwarf Sperm Whale	Hawaii	86	107	27	0	0	548	669	135	0	0
Dwarf Sperm Whale	California/Oregon/Washington	20	33	17	-	0	127	205	96	-	0
Pygmy Sperm Whale	Hawaii	97	114	28	0	-	614	718	142	0	-
Pygmy Sperm Whale	California/Oregon/Washington	22	33	18	-	-	145	200	109	-	-

Baird's Beaked Whale	California/Oregon/Washington	1	1	0	-	-	5	2	0	-	-
Blainville's Beaked Whale	Hawaii	0	-	-	-	-	0	-	-	-	-
Goose-Beaked Whale	Hawaii	1	1	0	-	-	4	1	0	-	-
Goose-Beaked Whale	California/Oregon/Washington	8	3	1	0	-	50	16	2	0	-
Longman's Beaked Whale	Hawaii	0	0	-	-	-	0	0	-	-	-
Mesoplodont Beaked Whale	California/Oregon/Washington	6	3	1	0	0	35	21	4	0	0
False Killer Whale	Main Hawaiian Islands Insular	1	1	-	-	-	3	3	-	-	-
False Killer Whale	Hawaii Pelagic	0	0	0	-	-	0	0	0	-	-
False Killer Whale	Baja California Peninsula Mexico*	0	1	0	0	-	0	3	0	0	-
Killer Whale	Eastern North Pacific Offshore	2	1	1	0	-	8	6	2	0	-
Melon-Headed Whale	Hawaiian Islands	1	1	1	0	-	4	2	1	0	-
Pygmy Killer Whale	Hawaii	1	0	0	0	-	1	0	0	0	-
Pygmy Killer Whale	California - Baja California Peninsula Mexico*	-	1	0	0	-	-	1	0	0	-
Short-Finned Pilot Whale	Hawaii	4	3	1	-	-	26	20	3	-	-
Short-Finned Pilot Whale	California/Oregon/Washington	2	2	1	-	-	14	11	1	-	-
Bottlenose Dolphin	Maui Nui	2	2	-	-	-	13	14	-	-	-

Bottlenose Dolphin	Hawaii Pelagic	51	32	4	1	-	354	222	27	5	-
Bottlenose Dolphin	Kauaʻi/Niʻihau	0	0	0	-	-	0	0	0	-	-
Bottlenose Dolphin	O'ahu	-	1	0	0	-	-	1	0	0	-
Bottlenose Dolphin	California Coastal	-	1	0	0	-	-	2	0	0	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	6	7	1	0	-	40	48	6	0	-
Fraser's Dolphin	Hawaii	0	0	0	-	-	0	0	0	-	-
Long-Beaked Common Dolphin	California	72	83	27	6	1	472	525	168	31	2
Northern Right Whale Dolphin	California/Oregon/Washington	9	9	3	1	1	59	55	20	3	1
Pacific White-Sided Dolphin	California/Oregon/Washington	25	31	6	1	1	168	204	36	5	1
Pantropical Spotted Dolphin	Maui Nui	19	8	1	0	-	131	54	7	0	-
Pantropical Spotted Dolphin	Hawaii Island	1	1	1	-	-	3	2	1	-	-
Pantropical Spotted Dolphin	Hawaii Pelagic	12	4	1	1	0	78	27	2	1	0
Pantropical Spotted Dolphin	O’ahu	-	1	0	-	-	-	1	0	-	-
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	25	19	1	1	1	171	128	4	1	1
Risso’s Dolphin	Hawaii	1	1	1	-	-	2	1	1	-	-
Risso’s Dolphin	California/Oregon/Washington	11	10	4	1	0	71	62	21	1	0

Rough-Toothed Dolphin	Hawaii	42	23	3	1	1	289	160	19	3	1
Short-Beaked Common Dolphin	California/Oregon/Washington	428	492	103	21	5	2,819	3,129	601	112	16
Spinner Dolphin	Hawaii Pelagic	0	1	0	0	-	0	1	0	0	-
Spinner Dolphin	Hawaii Island	0	-	-	-	-	0	-	-	-	-
Spinner Dolphin	Kauaʻi/Niʻihau	0	1	1	-	-	0	1	1	-	-
Spinner Dolphin	Oʻahu/4 Islands Region	1	1	-	-	-	5	3	-	-	-
Striped Dolphin	Hawaii Pelagic	2	1	1	0	-	9	5	1	0	-
Striped Dolphin	California/Oregon/Washington	16	22	4	1	0	108	147	23	3	0
Dall's Porpoise	California/Oregon/Washington	438	631	304	1	0	2,808	3,857	1,748	4	0
Harbor Porpoise	Monterey Bay	0	-	-	-	-	0	-	-	-	-
Harbor Porpoise	Morro Bay	74	159	75	1	0	495	1,091	516	2	0
Harbor Porpoise	San Francisco/Russian River	3	3	1	-	-	15	18	4	-	-
California Sea Lion	U.S.	842	1,046	161	14	1	5,409	6,705	1,008	87	5
Guadalupe Fur Seal	Mexico	73	90	12	2	0	483	599	76	9	0
Northern Fur Seal	Eastern Pacific	19	28	7	1	0	117	177	42	2	0
Northern Fur Seal	California	15	22	6	1	0	93	140	35	3	0
Steller Sea Lion	Eastern	0	1	0	-	-	0	2	0	-	-
Harbor Seal	California	170	158	14	1	0	1,030	977	90	2	0
Hawaiian Monk Seal	Hawaii	10	11	1	-	-	65	74	6	-	-

Northern Elephant Seal	California Breeding	220	332	55	1	0	1,427	2,096	332	1	0

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 15 -- Annual Estimated Take of Marine Mammal Stocks from Small Ship Shock Trials Over a Maximum Year of Navy Testing (One Event)

Species	Stock	Maximum annual TTS	Maximum annual AUD INJ	Maximum annual non-auditory injury	Maximum annual mortality
Blue Whale	Eastern North Pacific	12	-	-	-
Fin Whale	California/Oregon/Washington	24	0	-	-
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	1	0	-	-
Humpback Whale	Mainland Mexico - California/Oregon/Washington	2	0	0	-
Minke Whale	California/Oregon/Washington	1	0	-	-
Sei Whale	Eastern North Pacific	0	-	-	-
Sperm Whale	California/Oregon/Washington	0	0	-	-
Dwarf Sperm Whale	California/Oregon/Washington	2	2	-	-
Pygmy Sperm Whale	California/Oregon/Washington	2	2	-	-
Baird's Beaked Whale	California/Oregon/Washington	0	0	-	-
Goose-Beaked Whale	California/Oregon/Washington	1	0	0	-
Mesoplodont Beaked Whale	California/Oregon/Washington	0	0	0	0
Short-Finned Pilot Whale	California/Oregon/Washington	0	-	-	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	0	0	0	-

Long-Beaked Common Dolphin	California	4	1	1	1
Northern Right Whale Dolphin	California/Oregon/Washington	0	0	0	0
Pacific White-Sided Dolphin	California/Oregon/Washington	1	-	0	0
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	1	0	0	0
Risso's Dolphin	California/Oregon/Washington	1	0	0	0
Short-Beaked Common Dolphin	California/Oregon/Washington	17	5	3	3
Striped Dolphin	California/Oregon/Washington	0	0	0	-
Dall's Porpoise	California/Oregon/Washington	39	34	-	0
California Sea Lion	U.S.	6	1	0	0
Guadalupe Fur Seal	Mexico	0	-	-	-
Northern Elephant Seal	California Breeding	6	4	0	0

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. The estimated takes in this table are included in table 14 and not additional to table 14.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 16 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Explosives during Coast Guard Training Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum annual non-auditory injury	Maximum annual mortality	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ	Maximum 7-year non-auditory injury	Maximum 7-year mortality
Gray Whale	Eastern North Pacific	0	1	-	-	-	0	1	-	-	-
Blue Whale	Eastern North Pacific	1	-	-	-	-	1	-	-	-	-
Fin Whale	California/Oregon/Washington	0	0	0	-	-	0	0	0	-	-
Humpback Whale	Central America/Southern Mexico -	0	0	-	-	-	0	0	-	-	-

	California/Oregon/Washington										
Humpback Whale	Mainland Mexico - California/Oregon/Washington	1	0	-	-	-	1	0	-	-	-
Minke Whale	California/Oregon/Washington	0	0	-	-	-	0	0	-	-	-
Sei Whale	Hawaii	-	0	-	-	-	-	0	-	-	-
Sperm Whale	California/Oregon/Washington	0	-	-	-	-	0	-	-	-	-
Dwarf Sperm Whale	Hawaii	1	1	1	-	-	6	5	1	-	-
Dwarf Sperm Whale	California/Oregon/Washington	1	1	1	-	-	1	1	1	-	-
Pygmy Sperm Whale	Hawaii	1	1	1	-	-	7	3	1	-	-
Pygmy Sperm Whale	California/Oregon/Washington	1	1	0	-	-	1	1	0	-	-
Goose-Beaked Whale	California/Oregon/Washington	0	-	-	-	-	0	-	-	-	-
Mesoplodont Beaked Whale	California/Oregon/Washington	1	-	0	-	-	1	-	0	-	-
False Killer Whale	Baja California Peninsula Mexico*	1	-	1	-	-	1	-	1	-	-
Melon-Headed Whale	Hawaiian Islands	1	-	-	-	-	1	-	-	-	-
Bottlenose Dolphin	California/Oregon/Washington Offshore	1	1	-	-	-	1	1	-	-	-
Fraser’s Dolphin	Hawaii	1	0	-	-	-	1	0	-	-	-
Long-Beaked Common Dolphin	California	1	1	0	-	-	1	1	0	-	-

Northern Right Whale Dolphin	California/Oregon/Washington	0	0	-	-	-	0	0	-	-	-
Pacific White-Sided Dolphin	California/Oregon/Washington	0	0	-	-	-	0	0	-	-	-
Pantropical Spotted Dolphin	Hawaii Island	0	0	-	-	-	0	0	-	-	-
Pantropical Spotted Dolphin	Hawaii Pelagic	-	1	-	-	-	-	1	-	-	-
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	-	1	-	-	-	-	1	-	-	-
Risso's Dolphin	California/Oregon/Washington	0	1	-	-	-	0	1	-	-	-
Rough-Toothed Dolphin	Hawaii	0	-	-	-	-	0	-	-	-	-
Short-Beaked Common Dolphin	California/Oregon/Washington	3	2	1	-	-	17	14	2	-	-
Striped Dolphin	Hawaii Pelagic	-	0	0	-	-	-	0	0	-	-
Striped Dolphin	California/Oregon/Washington	-	1	-	-	-	-	1	-	-	-
Dall's Porpoise	California/Oregon/Washington	2	2	1	-	-	11	9	3	-	-
Harbor Porpoise	San Francisco/Russian River	0	0	0	-	-	0	0	0	-	
California Sea Lion	U.S.	2	2	0	0	-	10	8	0	0	-
Guadalupe Fur Seal	Mexico	1	-	-	-	-	2	-	-	-	-
Northern Fur Seal	Eastern Pacific	0	1	-	-	-	0	1	-	-	-
Northern Fur Seal	California	0	0	-	-	-	0	0	-	-	-

Harbor Seal	California	1	0	-	-	-	1	0	-	-	-
Northern Elephant Seal	California Breeding	2	2	1	-	-	8	11	1	-	-

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 17 -- Annual and 7-Year Estimated Take of Marine Mammal Stocks from Explosives during Army Training Activities

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum annual non-auditory injury	Maximum annual mortality	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ	Maximum 7-year non-auditory injury	Maximum 7-year mortality
Bryde's Whale	Hawaii	1	1	-	-	-	2	1	-	-	-
Humpback Whale	Hawaii	3	1	-	-	-	15	7	-	-	-
Minke Whale	Hawaii	1	-	-	-	-	3	-	-	-	-
Dwarf Sperm Whale	Hawaii	51	46	12	-	-	355	322	84	-	-
Pygmy Sperm Whale	Hawaii	57	51	15	-	-	399	356	101	-	-
Blainville's Beaked Whale	Hawaii	-	1	-	-	-	-	1	-	-	-
Goose-Beaked Whale	Hawaii	1	1	0	-	-	3	3	0	-	-
Longman's Beaked Whale	Hawaii	1	1	-	-	-	2	1	-	-	-
Melon-Headed Whale	Hawaiian Islands	1	1	1	-	-	5	3	1	-	-

Melon-Headed Whale	Kohala Resident (Hawaii)	1	1	-	-	-	4	3	-	-	-
Pygmy Killer Whale	Hawaii	1	-	-	-	-	3	-	-	-	-
Short-Finned Pilot Whale	Hawaii	2	1	1	1	-	9	6	2	1	-
Bottlenose Dolphin	Hawaii Pelagic	2	1	1	0	-	10	4	1	0	-
Fraser's Dolphin	Hawaii	2	3	1	1	-	12	15	5	1	-
Pantropical Spotted Dolphin	Maui Nui	-	1	-	-	-	-	1	-	-	-
Pantropical Spotted Dolphin	Hawaii Pelagic	2	1	1	1	0	8	6	1	1	0
Risso's Dolphin	Hawaii	-	-	1	0	-	-	-	1	0	-
Rough-Toothed Dolphin	Hawaii	3	2	1	1	-	17	14	1	1	-
Striped Dolphin	Hawaii Pelagic	1	2	1	1	-	7	10	1	1	-
Hawaiian Monk Seal	Hawaii	1	-	-	-	-	3	-	-	-	-

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Estimated Take from Vessel Strike by Serious Injury or Mortality

Vessel strikes from commercial, recreational, and military vessels are known to affect large whales and have resulted in serious injury and fatalities to cetaceans (Abramson *et al.*, 2011; Berman-Kowalewski *et al.*, 2010a; Calambokidis, 2012; Douglas *et al.*, 2008; Laggner, 2009; Lammers *et al.*, 2003; Van der Hoop *et al.*, 2013; Van der Hoop *et al.*, 2012). Records of vessel strikes of large whales date back to the early 17th century, and the worldwide number of vessel strikes of large whales appears to have increased steadily during recent decades (Laist *et al.*, 2001; Ritter, 2012).

Numerous studies of interactions between surface vessels and marine mammals have demonstrated that free-ranging marine mammals often, but not always (*e.g.*, McKenna *et al.*, 2015), engage in avoidance behavior when surface vessels move toward them. It is not clear whether these responses are caused by the physical presence of a surface vessel, the underwater noise generated by the vessel, or an interaction between the two (Amaral and Carlson, 2005; Au and Green, 2000; Bain *et al.*, 2006; Bauer, 1986; Bejder *et al.*, 1999; Bejder and Lusseau, 2008; Bejder *et al.*, 2009; Bryant *et al.*, 1984; Corkeron, 1995; Erbe, 2002; Félix, 2001; Goodwin and Cotton, 2004; Greig *et al.*, 2020; Guilpin *et al.*, 2020; Keen *et al.*, 2019; Lemon *et al.*, 2006; Lusseau, 2003; Lusseau, 2006; Magalhaes *et al.*, 2002; Nowacek *et al.*, 2001; Redfern *et al.*, 2020; Richter *et al.*, 2003; Scheidat *et al.*, 2004; Simmonds, 2005; Szesciorka *et al.*, 2019; Watkins, 1986; Williams *et al.*, 2002; Wursig *et al.*, 1998). Several authors suggest that the noise generated during motion is probably an important factor (Blane and Jaakson, 1994; Evans *et al.*, 1992; Evans *et al.*, 1994). These studies suggest that the behavioral responses of marine mammals to surface vessels are similar to their behavioral responses to predators. Avoidance behavior is expected to be even stronger in the subset of instances during which the Action Proponents are conducting military readiness activities using active sonar or explosives.

The marine mammals most vulnerable to vessel strikes are those that spend extended periods of time at the surface in order to restore oxygen levels within their tissues after deep dives (*e.g.*, sperm whales). In addition, some baleen whales seem generally unresponsive to vessel sound, making them more susceptible to vessel strikes (Nowacek *et al.*, 2004). These species are primarily large, slow moving whales. There are 8 species (17 stocks) of large whales that are known to occur within the HCTT Study Area (table 1): gray whale, blue whale, Bryde's whale, fin whale, humpback whale, minke whale, sei whale, and sperm whale.

Some researchers have suggested that the relative risk of a vessel strike can be assessed as a function of animal density and the magnitude of vessel traffic (*e.g.*, Fonnesbeck *et al.*, 2008; Vanderlaan *et al.*, 2008). Differences among vessel types also influence the probability of a vessel strike. The ability of any vessel to detect a marine mammal and avoid a collision depends on a variety of factors, including environmental conditions, vessel design, size, speed, and ability and number of personnel observing, as well as the behavior of the animal. Vessel speed, size, and mass are all important factors in determining if injury or death of a marine mammal is likely due to a vessel strike. For large vessels, speed and angle of approach can influence the severity of a strike. Large whales also do not have to be at the water's surface to be struck. Silber *et al.* (2010) found that when a whale is below the surface (about one to two times the vessel draft), under certain circumstances (vessel speed and location of the whale relative to the ship's centerline), there is likely to be a pronounced propeller suction effect. This suction effect may draw the whale into the hull of the ship, increasing the probability of propeller strikes.

There are some key differences between the operation of military and non-military vessels which make the likelihood of a military vessel striking a whale lower than some other vessels (*e.g.*, commercial merchant vessels). Key differences include:

• Military vessels have personnel assigned to stand watch at all times, day and night, when moving through the water (*i.e.*, when the vessel is underway). Watch personnel undertake extensive training and are certified to stand watch only after demonstrating competency in all necessary skills. While on watch, personnel employ visual search and reporting procedures in accordance with the U.S. Navy Lookout Training Handbook, the Coast Guard's Shipboard Lookout Manual, or civilian equivalent.

• The bridges of many military vessels are positioned closer to the bow, offering better visibility ahead of the vessel (compared to a commercial merchant vessel);

• Military readiness activities often involve aircraft (which can serve as part of the Lookout team), that can more readily detect cetaceans in the vicinity of a vessel or ahead of a vessel's present course, often before crew on the vessel would be able to detect them;

• Military vessels are generally more maneuverable than commercial merchant vessels, and are therefore capable of changing course more quickly in the event cetaceans are spotted in the vessel's path. Of note, from 2019 to August 31, 2025, Navy vessels maneuvered 140 times, and from 2009 to August 31, 2025, Navy vessels maneuvered 374 times;

• Military vessels operate at the slowest speed practical consistent with operational requirements. While minimum speed is intended as a fuel conservation measure particular to a certain ship class, secondary benefits include a better ability to detect and avoid objects in the water, including marine mammals;

• Military ships often operate within a defined area for a period of time, in contrast to point-to-point commercial shipping over greater distances;

• The crew size on military vessels is generally larger than merchant vessels, allowing for stationing more trained Lookouts on the bridge. At all times when the Action Proponents' vessels are underway, trained Lookouts and bridge navigation teams

are used to detect objects on the surface of the water ahead of the ship, including cetaceans. Some events may have additional personnel (beyond the minimum number of required Lookouts) who are already standing watch in or on the platform conducting the event or additional participating platforms and would have eyes on the water for all or part of an event. These additional personnel serve as members of the Lookout team; and

• When submerged, submarines are generally slow moving (to avoid detection); as a result, marine mammals at depth with a submarine are likely able to avoid collision with the submarine. When a submarine is transiting on the surface, the Navy posts Lookouts serving the same function as they do on surface vessels.

Vessel strike to marine mammals is not associated with any specific military readiness activity. Rather, vessel strike is a limited and sporadic, but possible, accidental result of military vessel movement within the HCTT Study Area or while in transit.

There were two recorded U.S. Navy vessel strikes of large whales in the HSTT (now HCTT) Study Area in 2009. There were no known strikes from June 2009 until May 2021, a period of approximately 12 years. Of note, between 2009 and 2024, the Navy documented 384 U.S. Navy vessel movements in HSTT to avoid marine mammals during MTEs. Since 2021 there have been seven strikes of large whales in SOCAL attributed to naval vessels: Five by the U.S. Navy and two by the Royal Australian Navy. Two of these strikes occurred once the proposed rule was made publicly available for inspection and open comment (90 FR 32118, July 16, 2025). The facts surrounding each vessel strike are summarized as follows:

On August 10, 2025, a San Antonio-class amphibious transport dock ship (661 ft (201.5 m) long) struck an unknown species of whale in Pacific Ocean waters approximately 13 nmi (24 km) west of San Clemente Island. The vessel was involved with other units in a training exercise in the SOCAL Range Complex and was traveling south at 18 kn (33.3 km/h). Bridge watchstanders and lookouts on the vessel spotted a

whale 100 yards (yd; 91.4 m) ahead of the vessel, and the vessel responded by reducing speed and turning to the right with a full right rudder. The aft lookout reported blood in the water, and the vessel turned around to verify the report. Crew observed a whale blow and blood in the water. The vessel remained in the area for another 20 minutes and personnel observed a whale traveling northeast, maintaining a minimum distance of 500 yd (457.2 m) from the whale as required by the mitigation measures. Crew reported two more blows with an 8-minute dive interval between each blow. The weather was clear at the time of the strike with a Beaufort sea state of 2. Although the species of whale was not identified at the time of the strike, 4 days later, on August 14, Navy biologists found a blue whale carcass washed ashore on San Clemente Island. While the stranding location and timing are close to the location and timing of the Navy strike, with a significant large whale population off Southern California, based on the available information at this time, we cannot confirm with any degree of certainty that the blue whale carcass found on August 14 was the same whale struck by the Navy vessel on August 10.

On July 15, 2025, an Arleigh Burke class destroyer (511 ft (155.8 m) long) struck an unknown species of large whale in Pacific Ocean waters approximately 57 nmi (105.6 km) west/southwest of San Clemente Island. The vessel was transiting from SOCAL to PMSR after conducting a training activity and was traveling north/northwest at 22 kn (40.7 km/h) at the time of the strike. Personnel heard a thud and banging sound on the starboard hull. The vessel slowed and topside personnel discovered a whale lodged on the hull. The vessel came to a complete stop and backed up to dislodge the carcass which immediately sank, approximately 5-8 minutes after the strike had occurred. Navy personnel estimated that the whale was approximately 20 to 25 ft (6.1 to 7.6 m) long, but low light prevented observation of other identifying features. The strike occurred at night (10:12 PM local time), and visibility was poor (4-5 nmi (7.4-9.3 km)) with cloud cover, slight precipitation, and wind. No whales had been observed that day prior to the strike.

Further, the U.S. Navy struck a large whale in Pacific Ocean waters off Southern California in May 2023. Based on available photos and video, NMFS and the Navy have determined this whale was either a fin whale or sei whale. The U.S. Navy struck two unidentified large whales during the months of June and July 2021, and prior to that, on May 7, 2021, the Royal Australian Navy HMAS Sydney, a 147.5 m (161.3 yd) Hobart Class Destroyer, struck and killed two fin whales (a mother and her calf) while operating within SOCAL. Please see the *Authorized Take From Vessel Strikes and Explosives by Serious Injury or Mortality* section of the 2025 HSTT final rule (90 FR 4944, January 16, 2025) for detailed descriptions of the naval vessel strikes that occurred in 2021 and 2023.

In March 2024 a dead fin whale was discovered off of Pier 10 in Naval Station San Diego within the Navy's security barrier. The security barrier, which consists of a series of connected floating sections, is intended to discourage unauthorized boat entry to the piers. The necropsy indicated that vessel strike was the most likely cause of death. Given the location the whale was discovered, this could have been the result of a military vessel strike. However, the Navy reviewed its vessel activity during that time frame and available observations of those vessels coming and going to port, as well as at port, and determined it was unlikely that the whale was carried into port by a Navy vessel. Based on this and other information from the Navy's investigation, we cannot determine whether this whale was struck by a Navy vessel during HSTT activities or was struck by a commercial or other vessel and drifted into the Navy pier area.

On September 12, 2025, a U.S. Navy lookout reported a whale carcass adjacent to the port quarter of a transiting U.S. Navy vessel in the PMSR. There were no observations of whales or other indicators prior to the discovery, and sailors onboard did not feel a shudder or other physical indicator of strike. While one lookout reported blood in the water surrounding the carcass, other lookouts could not corroborate the sighting. Some time after the potential observation, a piece of machinery within the Navy vessel's

engine room spaces was abnormally vibrating. Given the conflicting account, we cannot conclusively determine that a whale carcass was discovered, nor can we determine whether the Navy vessel struck a whale.

There has been one recorded Coast Guard vessel strike of a large whale (humpback) in the HCTT Study Area since 2009. The strike occurred in 2020 off Maui, HI. There have been no known strikes within the California portion of the HCTT Study Area. However, there were two Coast Guard strikes outside of and inshore of the California portion of the HCTT Study Area, a humpback whale in 2023 and a gray whale in 2024. The vessels involved in the 2023 and 2024 strikes were moving at slow speed less than 6 kn (11.1 km/hr) and no obvious injury to the whales were observed after the strikes.

In light of the key differences between the operation of military and non-military vessels discussed above, it is unlikely that a military vessel would strike any type of marine mammal without detecting it. Specifically, Lookouts posted on or near the ship's bow can visually detect a strike in the absence of other indications that a strike has occurred. The Action Proponents' internal procedures and mitigation requirements include reporting of any vessel strikes of marine mammals, and the Action Proponents' discipline, extensive training (not only for detecting marine mammals, but for detecting and reporting any potential navigational obstruction), and strict chain of command give NMFS a high level of confidence that all strikes are reported. Accordingly, NMFS is confident that the Navy and Coast Guard's reported strikes are accurate and appropriate for use in the analysis.

Neither NMFS nor the Action Proponents anticipate vessel strike of dolphins, small whales (not including large whale calves), porpoises, or pinnipeds from the specified activity. For as long as records have been kept, neither the Navy nor the Coast Guard have any record of any small whales or pinnipeds being struck by a vessel as a

result of military readiness activities. Over the same time period, NMFS, the Navy, and the Coast Guard have only one record of a dolphin being struck by a vessel as a result of Navy or Coast Guard activities. The dolphin was accidentally struck by a Navy small boat in fall 2021 in Saint Andrew's Pass, Florida. Except for the single reported strike of a dolphin in 2021, NMFS has never received any reports from other LOA or IHA holders indicating that these species have been struck by vessels. Further, the majority of the Action Proponents' activities involving faster-moving vessels (that could be considered more likely to hit a marine mammal) are located in offshore areas where smaller delphinid, porpoise, and pinniped densities are lower.

In order to account for the accidental nature of vessel strike to large whales in general, and the potential risk from vessel movement within the HCTT Study Area within the 7-year period of this proposed authorization, the Action Proponents requested incidental takes based on probabilities derived from a Poisson distribution. A Poisson distribution is often used to describe random occurrences when the probability of an occurrence is small. Count data, such as cetacean sighting data, or in this case strike data, are often described as a Poisson or over-dispersed Poisson distribution. The Poisson distribution was calculated using vessel strike data from 2009 through August 31, 2025 in the HCTT Study Area, historical at-sea days in the HCTT Study Area for the Navy and the Coast Guard (described in detail in section 6 of the application), and estimated potential at-sea days for both Action Proponents during the 7-year period from 2025 to 2032 covered by the requested regulations. The analysis incorporates data beginning in 2009, as that year was the start of the Navy's Marine Species Awareness Training and adoption of additional mitigation measures to address vessel strike, which will remain in place along with additional and modified mitigation measures during the 7 years of this rulemaking. The analysis for the period of 2025 to 2032 is described in detail below and in section 6.3.2 (Probability of Vessel Strike of Large Whale Species) of the application.

Between 2009 and August 31, 2025, there were a total of 36,306 Navy at-sea days for Navy manned vessels greater than 118 m (387 ft, or Littoral Combat Ship size and above) in the HCTT Study Area, an average 2,178 days at-sea per year. This estimate is based on positional tracking data records from the Navy's Authoritative Maritime Services database for the years 2016-2023. The Navy used the average of the 2016-2023 annual values as a surrogate for annual at-sea days for each year between 2009 and 2015. Given variation in vessel traffic from year to year, the Navy anticipates the annual average from this period is a sufficient prediction of future at-sea days for manned surface ships for the period of this final rule (2025-2032) (*i.e.*, 2,178 days per year). In addition, this vessel strike analysis considers the potential for larger sized unmanned surface vessels (USVs) (longer than 61 m (200 ft)) to strike a large whale, as these vessels will be used for military readiness activities during the effective period of this final rule. While there have been no known vessel strikes from USVs, this analysis incorporates an estimated 728 at-sea days for large USVs, for a predicted total of 2,906 annual at-sea days from large manned vessels and large USVs from 2025 to 2032 (20,345 at-sea days over the 7-year period).

Between 2009 and August 31, 2025, there were a total of 4,351 Coast Guard at-sea days for vessels larger than 100 m (328 ft) in the HCTT Study Area, an average of 262 days per year. To account for limitations in data availability particular to Coast Guard vessel size classes, future new vessel or repositioning home port assignments, in consideration of documented strikes from Coast Guard medium sized vessels <100 m (<328 ft), and out of an abundance of caution, in the proposed rule, the Coast Guard predicted that there could be up to 60 additional at-sea days per year for the 2026-2032 period, for a predicted total of 322 annual at-sea days for vessels that may strike a large whale from 2025 to 2032 (2,254 at-sea days over the 7-year period). However, since publication of the proposed rule, the Coast Guard has increased that estimate to 100

additional at-sea days per year given new policies since the application was submitted. Therefore, this final rule predicts a total of 362 annual at-sea days for vessels that may strike a large whale from 2025 to 2032 (2,534 at-sea days over the 7-year period)

As described above, during the same 2009 through August 31, 2025 period, there were seven Navy vessel strikes of large whales and one Coast Guard vessel strike of a large whale.

To calculate a vessel strike rate for each Action Proponent for the period of 2009 through August 31, 2025, the Action Proponents used the respective number of past vessel strikes of large whales and the respective number of at-sea days. Navy at-sea days (for vessels greater than 65 ft (19.8 m)) from 2009 through August 31, 2025 was estimated to be 36,306 days. Dividing the seven known Navy strikes during that period by the at-sea days (*i.e.*, 7 strikes/36,306 at-sea days) results in a strike rate of 0.000193 strikes per at-sea day. Coast Guard at-sea days from 2009 through August 31, 2025 was estimated to be 4,351 days. Dividing the one known Coast Guard strike during that period by the at-sea days (*i.e.*, 1 strike/4,351 at-sea days) results in a strike rate of 0.000230 strikes per day.

As described above, the Action Proponents estimated that 20,345 Navy and 2,534 Coast Guard at-sea days would occur over the 7-year period associated with the requested authorization. Given a strike rate of 0.000193 Navy strikes per at-sea day, and 0.000230 Coast Guard strikes per at-sea day, the predicted number of vessel strikes over a 7-year period would be 3.92 strikes by the Navy and 0.58 strikes by the Coast Guard.

Using this predicted number of strikes, the Poisson distribution predicted the probabilities of a specific number of strikes (n = 0, 1, 2, *etc.*) from 2025 through 2032 for each Action Proponent. The probability analysis concluded that there is a 98 percent chance that a Navy vessel would strike at least one whale over the 7-year period, and a

90, 75, 55, 36, 20, or 10 percent chance that more than one, two, three, four, five, or six whales, respectively, would be struck by the Navy over the 7-year period.

The probability analysis concluded that there is a 44 percent chance that a Coast Guard vessel would strike at least one whale over the 7-year period, and a 12 or 2 percent chance that more than one or two whales, respectively, would be struck by the Coast Guard over the 7-year period.

Based on this analysis, the Navy requested authorization to take seven large whales by serious injury or mortality by vessel strike incidental to Navy training and testing activities (increased from five takes requested in the proposed rule to seven takes based on the updated analysis and taking into consideration of the July and August 2025 vessel strikes), and the Coast Guard requested authorization to take two large whales by serious injury or mortality by vessel strike incidental to Coast Guard training activities (consistent with the proposed rule). NMFS concurs that take by serious injury or mortality by vessel strike of up to seven large whales by the Navy and two large whales by the Coast Guard (nine large whales total) could occur over the 7-year regulations and, based on the information provided earlier in this section, NMFS concurs with the Action Proponents' assessment and recognizes the potential for incidental take by vessel strike of large whales only (*i.e.*, no dolphins, small whales (not including large whale calves), porpoises, or pinnipeds) from military readiness activities over the course of the 7-year regulations.

While the Poisson distribution allows the Action Proponents and NMFS to determine the likelihood of vessel strike of all large whales, it does not indicate the likelihood of each strike occurring to a particular species or stock. As described above, the Action Proponents have not always been able to identify the species of large whale struck during previous known vessel strikes. However, based on the information available, the Navy requested authorization for take by serious injury or mortality by

vessel strike of seven whales, and NMFS and Navy determined the appropriate breakdown among large whale stocks as described below. The Coast Guard requested authorization for take by serious injury or mortality by vessel strike of two whales, and of those two, no more than the following numbers from these stocks: one blue whale (Eastern North Pacific stock), two fin whales (CA/OR/WA stock), two gray whales (Eastern Pacific stock), and two humpback whales (one each of the Mainland Mexico - CA/OR/WA stock and Central North Pacific stock).

After concurring that take of up to nine large whales could occur (seven takes by Navy, two by Coast Guard), and in consideration of the Action Proponents' request, NMFS considered which species could be among the seven large whales struck. NMFS conducted an analysis that considered several factors, in addition to the overlap of Navy activities with stock distribution: (1) the relative likelihood of striking one stock versus another based on available strike data from all vessel types as denoted in the SARs; and (2) whether each Action Proponent has ever struck an individual from a particular species or stock in the HCTT Study Area, and if so, how many times.

To address number (1) above, for SOCAL, NMFS compiled information from the 2023 SARs (Carretta *et al.*, 2024; Young *et al*., 2024) on detected annual rates of large whale M/SI from vessel strike (table 18). Of note, these data include the strike of two fin whales by the Royal Australian Navy in 2021, but do not include U.S. Navy strikes in 2021, 2023 because the species struck is not known. Nor do these data include the 2025 U.S. Navy strikes. The M/SI in the 2023 SAR considers modeled takes (accounting for undetected vessel strike mortality) for some, but not most species and stocks (*i.e.*, M/SI for humpback whale includes modeled takes from Rockwood *et al.* (2017)). Using known strike data for all species and stocks allows NMFS to consider similar metrics for this comparative analysis. (Note we rely on the M/SI estimates from the 2023 SAR in our negligible impact analysis.) We also consider modeled takes of species from Rockwood

et al. (2017) in table 18). The annual rates of large whale serious injury or mortality from vessel strike reported in the SARs help inform the relative susceptibility of large whale species to vessel strike in HCTT Study Area as recorded systematically over the 5-year period used for the SARs. We summed the annual rates of serious injury or mortality from vessel strikes as reported in the SARs (excluding strikes that the SAR indicates occurred outside of the Study Area (*e.g.*, in Alaska)) and then divided each species' annual rate by this sum to get the percentage of total annual strikes for each species/stock (table 18).

Table 18 -- Summary of Factors Considered in Determining the Number of Individuals in Each Stock Potentially Struck by a Vessel

Species	Stock	Total Known U.S. Navy or Coast Guard Strikes in HCTT Study Area	Rockwood et al. (2017) modeled vessel strikes [a]	Annual rate of M/SI from vessel strike [b]	Percentage of Total Annual Strikes	Navy Percent Likelihood of 1 Strike Over 7 Years	Navy Percent Likelihood of 2 Strikes Over 7 Years	Navy Percent Likelihood of 3 Strikes Over 7 Years	Coast Guard Percent Likelihood of 1 Strike Over 7 Years [c]	Coast Guard Percent Likelihood of 2 Strikes Over 7 Years [c]	Coast Guard Percent Likelihood of 3 Strikes Over 7 Years [c]
Blue whale	Eastern North Pacific	Navy 2004	18	0.6	6.06%	5.94%	0.35%	0.02%	2.67%	0.07%	0.00%
Fin whale	California/Oregon/Washington	Navy 2009; Navy 2009; Navy 2023 (fin or sei)	43	1.6	16.16%	15.84%	2.51%	0.40%	7.11%	0.51%	0.04%
Humpback whale	Mainland Mexico - California-Oregon-Washington	Coast Guard 2016 (northern California) [d]	22	2.6	26.26%	25.74%	6.62%	1.70%	11.56%	1.34%	0.15%
Humpback whale	Central America/Southern Mexico - California-Oregon-Washington										
Sperm whale	Hawaii	Navy 2007	--	0.0	0.00%	UNK	UNK	UNK	UNK	UNK	UNK
Gray whale	Eastern North Pacific	Navy 1993; Navy 1998; Navy 1998	--	1.8	18.18%	17.82%	3.17%	0.57%	8.00%	0.64%	0.05%
Humpback whale	Hawaii	Navy 1998; Navy 2003; Coast Guard 2020	--	3.3	33.33%	32.67%	10.67%	3.49%	14.67%	2.15%	0.32%
Sei whale	Eastern North Pacific	Navy 2023 (fin or sei)	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sei whale	Hawaii	--	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Sperm whale	California/Oregon/Washington	--	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Bryde's whale	Eastern Tropical Pacific	--	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Bryde's whale	Hawaii	--	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Minke whale	Hawaii	--	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Minke whale	California/Oregon /Washington	--	--	0.0	0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

[a] Rockwood *et al.* (2017) modeled likely annual vessel strikes off the West Coast for these three species only.

[b] Values are from the most recent stock assessment report (Carretta *et al.*, 2024).

[c] NMFS inadvertently omitted Coast Guard percent likelihood of 1, 2, and 3 strikes in the proposed rule.

[d] The strike by the Coast Guard in 2016 was in San Francisco Bay, CA, outside the boundary of the HCTT Study Area.

To inform the likelihood of a single Action Proponent striking a particular species of large whale, we multiplied the percent of total annual strikes for a given species in table 18 by the total percent likelihood of a single Action Proponent striking at least one whale (*i.e.*, 98 and 44 percent for the Navy and Coast Guard, respectively, as described by the probability analysis above). We also calculated the percent likelihood of a single Action Proponent striking a particular species of large whale two or three times by squaring or cubing, respectively, the value estimated for the probability of striking a particular species of whale once (*i.e.*, to calculate the probability of an event occurring twice, multiply the probability of the first event by the second). The results of these calculations are reflected in the last six columns of table 18. We note that these probabilities vary from year to year as the average annual mortality changes depending on the specific range of time considered; however, over the years and through updated data in the SARs, stocks tend to consistently maintain a relatively higher or relatively lower likelihood of being struck.

The percent likelihoods calculated (as described above) are then considered in combination with the information indicating the known species that the Navy or Coast Guard has struck in the HCTT Study Area since 1991 (since they started tracking consistently; table 18). We note that for the lethal take of species specifically denoted in table 18, 53 percent of those struck by the Navy (10 of 19 in the Pacific) remained unidentified (including the May 2023 strike, which as stated above, NMFS and the Navy have determined was of either a fin whale or sei whale and the August 2025 strike), and 20 percent of those struck by the Coast Guard (1 of 5 in the Pacific) remained unidentified. However, given the information on known stocks struck, the analysis below remains appropriate. We also note that Rockwood *et al.* (2017) modeled the likelihood of vessel strike of blue whales, fin whales, and humpback whales on the U.S. West Coast (discussed in more detail in the *Serious Injury or Mortality* section of the **Analysis and**

Negligible Impact Determination section), and those numbers help inform the relative likelihood that the Navy or Coast Guard could strike those stocks.

Accordingly, stocks that have no record of ever having been struck by any vessel are considered to have a zero percent likelihood of being struck by the Navy or Coast Guard in the 7-year period of the final rule. Marine mammal stocks that have never been struck by the Navy or Coast Guard, have rarely been struck by other vessels, and have a low percent likelihood based on the historical vessel strike calculation are also considered to have a zero percent likelihood to be struck by the Navy or Coast Guard during the 7-year rule. We note that while vessel strike records have not differentiated between Eastern North Pacific and Western North Pacific gray whales, given their small population size and the comparative rarity with which individuals from the Western North Pacific stock are detected off the U.S. West Coast, it is highly unlikely that they would be encountered, much less struck. This rules out all but eight stocks. This leaves the following stocks for further analysis: blue whale (Eastern North Pacific stock), fin whale (CA/OR/WA stock), gray whale (Eastern North Pacific stock), humpback whale (Mainland Mexico - CA/OR/WA, Central America/Southern Mexico - CA/OR/WA, and Hawaii stocks), sei whale (Eastern North Pacific stock), and sperm whale (Hawaii stock).

Based on available photos and video of the whale struck by the U.S. Navy in Southern California in 2023, NMFS and the Navy have determined this whale was either a fin whale or sei whale. While the species of the two whales struck by the U.S. Navy in 2021 are unknown, given the following factors, NMFS expects these strikes may have been CA/OR/WA fin whales or Eastern North Pacific gray whales, or some combination of these two stocks. These species have the highest annual rates of M/SI from vessel collision in California (1.6, 1.8, respectively, as noted above). Additionally, gray whales and fin whales have the most recorded vessel strike incidents by military vessels in California and are the only stocks known to have been hit more than one time by naval or

Coast Guard vessels in the California portion of the study area (three gray whale strikes by the U.S. Navy (1993, 1998), two or three fin whale strikes by the U.S. Navy (2009, potentially 2023), and two fin whale strikes by the Royal Australian Navy (2021)). Further, accounting for undocumented vessel strikes, Rockwood *et al.* (2021) estimated that in their study area off Southern California from 2012 to 2018, on average 8.9 blue, 4.6 humpback, and 9.7 fin whales were killed by civilian vessel strikes from June to November each year. In addition, they estimated that, on average, 5.7 humpback whales were killed by civilian vessel strikes from January to April per year (Rockwood *et al.*, 2021). For fin whales in particular, model-predicted densities of large whales in the Southern California Bight from May to July 2021 (the time period during which the 2021 strikes of two unidentified whales by the U.S. Navy occurred) estimated fin whale abundance as being nearly an order of magnitude higher than either blue or humpback whale abundance during this time period (Becker *et al.*, 2020b; Zickel *et al.*, 2021). Ship-whale encounter models for the U.S. West Coast EEZ also indicated that vessel strike mortality estimates for fin whales were significantly higher than for blue whales and humpback whales (Rockwood *et al.*, 2017). The comparatively higher modeled vessel strike rates for fin whales result from both the larger population as well as the more offshore distribution that overlaps significantly with several major shipping routes for a much greater spatial extent (Rockwood *et al.*, 2017). Based on 1,243 visual boat-based sightings of 2,638 fin whales from 1991 to 2011, Calambokidis *et al.* (2015) found fin whale concentration areas included the San Clemente Basin where the 2021 Navy vessel strikes occurred. Tanner and Cortes Banks area and the shelf edge west of SNI were also reported as fin whale concentration areas. There are two different populations of fin whales that occur in the Southern California Bight: a seasonal population, and a population that occurs year-round with offshore/inshore movements (Campbell *et al.*, 2015; Falcone *et al.*, 2022). This would likely make fin whales more susceptible to vessel

strike year-round, as compared to other large whale species that may occur seasonally within SOCAL. Therefore, we find that, of the seven total takes by serious injury or mortality by vessel strike of large whales authorized for the Navy over the course of the 7-year rule, up to five of those takes could be of the CA/OR/WA stock of fin whale and up to two could be of the Eastern North Pacific stock of gray whale given that the two strikes of unidentified large whales in 2021 could have been of either stock. Further, we expect that, of the seven total takes by serious injury or mortality by vessel strike of large whales authorized for the Navy, up to two of those takes could occur in Hawaii, and therefore be of individuals of the Hawaii stock of humpback whale. NMFS expects that, of the two total takes by serious injury or mortality by vessel strike of large whales authorized for the Coast Guard, one of those takes could be of the CA/OR/WA stock of fin whale, Eastern North Pacific stock of gray whale, or Hawaii stock of humpback whale (Coast Guard struck a humpback whale in Hawaii in 2020).

For U.S. Navy vessel strikes in California, based on the information summarized in table 18 and the fact that there is the potential for up to seven large whales to be struck by the Navy over the 7-year rule, one individual from the Eastern North Pacific stock of blue whale, Mainland Mexico - CA/OR/WA and Central America/Southern Mexico - CA/OR/WA stocks of humpback whale, or Eastern North Pacific stock of sei whale could be among the seven whales struck. The total strikes of Eastern North Pacific blue whales and the percent likelihood of striking one based on the historic strike calculation above can both be considered moderate compared to other stocks, and the Navy struck a blue whale in 2004 (based on the historic strike calculation, the likelihood of striking two blue whales is well below one percent (table 18)). Therefore, we consider it reasonably likely that the Navy could strike one individual over the course of the 7-year final rule. The total strikes of Eastern North Pacific sei whales are low (0) compared to other stocks, but NMFS and the Navy think it is possible that the Navy may have struck a sei whale in

SOCAL in 2023. Therefore, we consider it reasonably likely that the Navy could strike a sei whale over the period of the rule. The Navy has not struck a humpback whale in the California portion of the HCTT Study Area. However, in 2016 a U.S. Coast Guard vessel struck a humpback whale heading out of San Francisco Bay, and as a species, humpbacks have a high number of total strikes and percent likelihood of being struck. The likelihood of Central America/Southern Mexico - CA/OR/WA (Central America DPS) or Mainland Mexico - CA/OR/WA (Mexico DPS) humpback whales being struck by any vessel type is moderate to high relative to other stocks, and NMFS anticipates that the Navy could strike one individual humpback whale from the Mainland Mexico - CA/OR/WA stock (Mexico DPS) and/or one individual from the Central America/Southern Mexico - CA/OR/WA (Central America DPS) over the 7-year duration of the rule.

For Coast Guard vessel strikes in California, NMFS anticipates that the Coast Guard may potentially strike the same species as listed above for the Navy. Based on the information summarized in table 18 and the fact that there is the potential for up to two large whales to be struck by the Coast Guard over the 7-year rule, one individual from the Eastern North Pacific stock of blue whale, CA/OR/WA stock of fin whale, Mainland Mexico - CA/OR/WA and Central America/Southern Mexico - CA/OR/WA stocks of humpback whale, Eastern North Pacific stock of gray whale, or Eastern North Pacific stock of sei whale could be among the two whales struck. While, as noted above, NMFS anticipates that the U.S. Navy is more likely to strike a fin whale than some other stocks, NMFS does not anticipate that the same is true for the Coast Guard, as its vessel traffic is not concentrated in the area where previous known Navy vessel strikes of fin whales have occurred. Given the lower potential total number of vessel strikes by the Coast Guard, NMFS does not anticipate that the Coast Guard is likely to strike more than one of any given species.

For Hawaii stocks, given that all known vessel strikes between 2015 and 2021 were of humpback whales, we anticipate that any vessel strike of a large whale in Hawaii would likely be of the Hawaii stock of humpback whale. Given that this stock has the highest percentage of total annual strikes (33.3 percent) and a 10.7 percent chance of being struck by Navy vessels twice over the effective period of the rule, NMFS is authorizing two lethal takes of Hawaii humpback whales for the Navy and one for the Coast Guard. NMFS also anticipates that the Navy may strike up to one Hawaii sperm whale given the 2007 sperm whale strike. Given the already lower likelihood of striking the Hawaii stock of sperm whales, the relatively lower vessel activity in the Hawaii portion of the HCTT Study Area, and the relatively lower Coast Guard vessel traffic compared to Navy vessel traffic, NMFS neither anticipates, nor authorizes, a Coast Guard strike of this stock.

As described above, the Navy's analysis suggests and NMFS' analysis concurs that the likelihood of vessel strikes to the stocks below is discountable due to the stocks' relatively low occurrence in the HCTT Study Area, particularly in core HCTT training and testing subareas, and the fact that the stocks have not been struck by the Navy and are rarely, if ever, recorded struck by other vessels. Therefore, NMFS is not authorizing lethal take for the following stocks: Blue whale (Central North Pacific stock), Bryde's whale (Eastern Tropical Pacific stock and Hawaii stock), fin whale (Hawaii stock), gray whale (Western North Pacific stock), minke whale (CA/OR/WA stock and Hawaii stock), sei whale (Hawaii stock), and sperm whale (CA/OR/WA stock).

Also of note, while information on past vessel strikes by the Action Proponents can serve as a reasonable indicator of future vessel strike risk, future conditions may differ from the past in ways that could influence the likelihood of a large whale vessel strike occurring. In general, the magnitude of vessel strike risk may be increasing over time as many whale populations are gradually recovering from centuries of commercial

whaling (Redfern *et al.*, 2020). Increased vessel strike risk off California in recent decades has been associated with increases in the abundance of fin and humpback whale populations in the North Pacific (Redfern *et al.*, 2020). It has also been suggested that the blue whale population in the Eastern North Pacific, inclusive of the California portion of the HCTT Study Area, is at carrying capacity and recovered to pre-whaling levels (Monnahan *et al.*, 2014). In addition, the magnitude of risk may also be affected by shifts in whale distributions over time in response to environmental factors including climate change, marine heatwaves, and associated changes in prey distribution.

Historically, military vessel strikes of large whales within the HCTT Study Area have been rare events with only 10 such strikes occurring over the past 16 years, 7 U.S. Navy strikes, 1 Coast Guard strike, and 2 Royal Australian Navy strikes. However, the fact that two of these strikes occurred within a 2-month period (July-August) in 2025, four of these strikes occurred within a 3-month period (May-July) in 2021, and two occurred within a 4-month period (February-May) in 2009, suggests that military vessel strikes in California can be both highly episodic and clustered. Particularly in consideration of the 2025 and 2023 U.S. Navy strikes, these strikes could also represent an early indicator of an increased military vessel strike risk within SOCAL based on the factors discussed above. Results from a survey of whale watching vessel operators and crew in Southern California, combined with remote sensing data in the area, suggest that the number of large whales may have been greater in May through July of 2021 compared with previous years in certain high military vessel traffic and "core" use HCTT areas off southern California, particularly farther offshore as well as closer to shore off San Diego Bay (Zickel *et al.*, 2021).

In conclusion, while take by vessel strike across any given year is sporadic, based on the information and analysis above, including consideration of the 2021, 2023, and 2025 strikes by the U.S. Navy, NMFS anticipates no more than nine takes of large whales

by M/SI could occur over the 7-year period of the rule (no more than seven by Navy, no more than two by Coast Guard). Of those nine whales over the 7-years, no more than six may come from the CA/OR/WA stock of fin whale. No more than three may come from the following stocks: gray whale (Eastern North Pacific stock) and humpback whale (Hawaii stock). No more than two may come from the following stocks: blue whale (Eastern North Pacific stock), sei whale (Eastern North Pacific), and humpback whale (Mainland Mexico - CA/OR/WA and Central America/Southern Mexico - CA/OR/WA stocks (Mexico and Central America DPSs, respectively)). No more than one may come from the Hawaii stock of sperm whale. Note that these species and stock conclusions vary slightly from those initially requested by the Navy and Coast Guard. Accordingly, NMFS has evaluated under the negligible impact standard the M/SI of 0.14, 0.29, 0.43, or 0.86 whales annually from each of these species or stocks (*i.e.*, one, two, three, or six takes, respectively, divided by 7 years to get the annual number), along with the expected incidental takes by harassment.

Summary of Requested Take from Military Readiness Activities

Table 19 and table 20 summarize the authorized take by Level B harassment, Level A harassment, or mortality and by effect type, respectively.

Table 19 -- Total Annual and 7-year Incidental Take Authorized by Stock During all Activities by Level B Harassment, Level A Harassment, or Mortality

Species	Stock	Maximum annual Level B harassment	Maximum annual Level A harassment	Maximum annual mortality	7-year total Level B harassment	7-year total Level A harassment	7-year total mortality
Gray Whale	Eastern North Pacific	16,711	167	0.43	87,292	1,010	3
Gray Whale	Western North Pacific	169	2	0	852	5	0
Blue Whale	Central North Pacific	92	1	0	524	2	0
Blue Whale	Eastern North Pacific	4,571	27	0.29	24,808	150	2
Bryde's Whale	Eastern Tropical Pacific	322	5	0	1,874	14	0
Bryde's Whale	Hawaii	409	3	0	2,356	11	0
Fin Whale	Hawaii	86	1	0	487	1	0
Fin Whale	California/Oregon/Washington	13,501	55	0.86	68,558	300	6
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	1,888	19	0.29	9,898	96	2
Humpback Whale	Mainland Mexico - California/Oregon/Washington	4,449	44	0.29	23,370	220	2
Humpback Whale	Hawaii	3,034	24	0.43	18,945	151	3
Minke Whale	Hawaii	296	3	0	1,698	13	0
Minke Whale	California/Oregon/Washington	2,993	32	0	16,116	193	0
Sei Whale	Hawaii	253	2	0	1,437	5	0
Sei Whale	Eastern North Pacific	302	3	0.29	1,611	9	2
Sperm Whale	Hawaii	1,649	1	0.14	9,619	1	1
Sperm Whale	California/Oregon/Washington	3,891	3	0	20,606	5	0
Dwarf Sperm Whale	Hawaii	45,224	915	0	262,401	5,103	0
Dwarf Sperm Whale	California/Oregon/Washington	5,664	94	0	30,093	517	0
Pygmy Sperm Whale	Hawaii	45,787	936	0	265,322	5,221	0
Pygmy Sperm Whale	California/Oregon/Washington	5,615	107	0	29,868	609	0

Baird's Beaked Whale	California/Oregon/Washington	10,174	0	0	56,149	0	0
Blainville's Beaked Whale	Hawaii	7,542	0	0	46,004	0	0
Goose-Beaked Whale	Hawaii	30,359	0	0	185,039	0	0
Goose-Beaked Whale	California/Oregon/Washington	166,816	2	0	939,012	4	0
Longman's Beaked Whale	Hawaii	18,316	1	0	112,152	4	0
Mesoplodont Beaked Whale	California/Oregon/Washington	92,839	2	0	520,938	6	0
False Killer Whale	Main Hawaiian Islands Insular	169	0	0	1,009	0	0
False Killer Whale	Northwest Hawaiian Islands	191	0	0	1,165	0	0
False Killer Whale	Hawaii Pelagic	1,670	1	0	9,865	1	0
False Killer Whale	Baja California Peninsula Mexico	2,537	2	0	13,888	2	0
Killer Whale	Hawaii	127	0	0	733	0	0
Killer Whale	Eastern North Pacific Offshore	1,023	4	0	6,089	23	0
Killer Whale	West Coast Transient	55	0	0	261	0	0
Melon-Headed Whale	Hawaiian Islands	31,456	13	0	183,773	68	0
Melon-Headed Whale	Kohala Resident (Hawaii)	56	0	0	332	0	0
Pygmy Killer Whale	Hawaii	8,895	3	0	52,059	8	0
Pygmy Killer Whale	California - Baja California Peninsula Mexico	795	0	0	4,358	0	0
Short-Finned Pilot Whale	Hawaii	17,304	7	0	104,772	26	0
Short-Finned Pilot Whale	California/Oregon/Washington	4,279	11	0.57	24,532	56	4
Bottlenose Dolphin	Maui Nui	326	0	0	2,151	0	0

Bottlenose Dolphin	Hawaii Island	9	0	0	44	0	0
Bottlenose Dolphin	Hawaii Pelagic	43,313	25	0.29	287,119	163	2
Bottlenose Dolphin	Kauaʻi/Niʻihau	1,460	0	0	9,314	0	0
Bottlenose Dolphin	Oʻahu	7,232	6	0.14	50,375	30	1
Bottlenose Dolphin	California Coastal	1,350	7	0	8,761	42	0
Bottlenose Dolphin	California/Oregon/Washington Offshore	28,058	15	0	157,628	83	0
Fraser's Dolphin	Hawaii	35,480	8	0	210,526	34	0
Long-Beaked Common Dolphin	California	296,878	152	2.43	1,804,793	952	17
Northern Right Whale Dolphin	California/Oregon/Washington	45,514	21	0.14	224,039	96	1
Pacific White-Sided Dolphin	California/Oregon/Washington	69,210	42	0.29	361,049	242	2
Pantropical Spotted Dolphin	Maui Nui	2,373	4	0	15,192	18	0
Pantropical Spotted Dolphin	Hawaii Island	6,024	7	0	35,584	25	0
Pantropical Spotted Dolphin	Hawaii Pelagic	44,390	19	0	262,155	81	0
Pantropical Spotted Dolphin	Oʻahu	6,426	6	0	44,200	23	0
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	97,626	47	0.29	535,681	239	2
Risso's Dolphin	Hawaii	6,558	4	0	38,040	5	0
Risso's Dolphin	California/Oregon/Washington	43,833	21	0	240,847	125	0
Rough-Toothed Dolphin	Hawaii	96,873	36	0.29	587,819	196	2
Short-Beaked Common Dolphin	California/Oregon/Washington	2,169,554	877	15.29	11,804,423	5,075	107
Spinner Dolphin	Hawaii Pelagic	4,544	2	0	26,539	4	0

Spinner Dolphin	Hawaii Island	110	1	0	644	1	0
Spinner Dolphin	Kauaʻi/Niʻihau	4,446	2	0	28,334	6	0
Spinner Dolphin	Oʻahu/4 Islands Region	1,201	1	0	8,205	2	0
Striped Dolphin	Hawaii Pelagic	37,782	12	0	219,594	52	0
Striped Dolphin	California/Oregon/Washington	133,399	44	0.14	724,174	231	1
Dall's Porpoise	California/Oregon/Washington	59,619	1,237	0	305,432	6,786	0
Harbor Porpoise	Monterey Bay	2,179	0	0	10,934	0	0
Harbor Porpoise	Morro Bay	4,373	88	0	26,316	590	0
Harbor Porpoise	Northern California/Southern Oregon	481	0	0	2,339	0	0
Harbor Porpoise	San Francisco/Russian River	9,960	26	0	48,900	169	0
California Sea Lion	U.S.	1,899,749	723	3.86	10,628,139	4,572	27
Guadalupe Fur Seal	Mexico	347,553	54	0.14	1,900,834	300	1
Northern Fur Seal	Eastern Pacific	33,195	12	0	158,796	55	0
Northern Fur Seal	California	22,098	10	0	106,298	47	0
Steller Sea Lion	Eastern	999	3	0	5,346	13	0
Harbor Seal	California	71,463	261	1.00	391,189	1,642	7
Hawaiian Monk Seal	Hawaii	1,249	6	0	8,395	25	0
Northern Elephant Seal	California Breeding	118,514	111	0	626,540	645	0

Note: The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Table 20 -- Total Annual and 7-year Incidental Take Authorized by Stock during all Activities by Effect Type

Species	Stock	Maximum annual behavioral	Maximum annual TTS	Maximum annual AUD INJ	Maximum annual non-auditory injury	Maximum annual mortality	Maximum 7-year behavioral	Maximum 7-year TTS	Maximum 7-year AUD INJ	Maximum 7-year non-auditory injury	Maximum 7-year mortality

Gray Whale	Eastern North Pacific	7,151	9,560	167	0	0.43	43,599	43,693	1,010	0	3
Gray Whale	Western North Pacific	72	97	2	0	0	434	418	5	0	0
Blue Whale	Central North Pacific	17	75	1	0	0	92	432	2	0	0
Blue Whale	Eastern North Pacific	1,447	3,124	27	0	0.29	8,513	16,295	150	0	2
Bryde's Whale	Eastern Tropical Pacific	111	211	5	0	0	664	1,210	14	0	0
Bryde's Whale	Hawaii	68	341	3	0	0	392	1,964	11	0	0
Fin Whale	Hawaii	21	65	1	0	0	113	374	1	0	0
Fin Whale	California/Oregon/Washington	3,704	9,797	54	1	0.86	21,366	47,192	299	1	6
Humpback Whale	Central America/Southern Mexico - California/Oregon/Washington	547	1,341	19	0	0.29	3,305	6,593	96	0	2
Humpback Whale	Mainland Mexico - California/Oregon/Washington	1,274	3,175	43	1	0.29	7,701	15,669	219	1	2
Humpback Whale	Hawaii	1227	1,807	24	0	0.43	7,828	11,117	151	0	3
Minke Whale	Hawaii	44	252	3	0	0	259	1,439	13	0	0
Minke Whale	California/Oregon/Washington	942	2,051	32	0	0	5,735	10,381	193	0	0
Sei Whale	Hawaii	38	215	2	0	0	227	1,210	5	0	0
Sei Whale	Eastern North Pacific	83	219	3	0	0.29	487	1,124	9	0	2
Sperm Whale	Hawaii	1237	412	1	0	0.14	7,313	2,306	1	0	1
Sperm Whale	California/Oregon/Washington	2,999	892	3	0	0	16,304	4,302	5	0	0
Dwarf Sperm Whale	Hawaii	10,880	34,344	914	1	0	67,933	194,468	5,102	1	0
Dwarf Sperm Whale	California/Oregon/Washington	1,505	4,159	94	0	0	8,583	21,510	517	0	0
Pygmy Sperm Whale	Hawaii	10,954	34,833	935	1	0	68,237	197,085	5,220	1	0

Pygmy Sperm Whale	California/Oregon/Washington	1549	4,066	107	0	0	8,830	21,038	609	0	0
Baird's Beaked Whale	California/Oregon/Washington	10,112	62	0	0	0	55,858	291	0	0	0
Blainville's Beaked Whale	Hawaii	7,508	34	0	0	0	45,810	194	0	0	0
Goose-Beaked Whale	Hawaii	30230	129	0	0	0	184,319	720	0	0	0
Goose-Beaked Whale	California/Oregon/Washington	166,204	612	2	0	0	936,000	3,012	4	0	0
Longman's Beaked Whale	Hawaii	18,219	97	1	0	0	111,612	540	4	0	0
Mesoplodont Beaked Whale	California/Oregon/Washington	92,419	420	2	0	0	518,892	2,046	6	0	0
False Killer Whale	Main Hawaiian Islands Insular	105	64	0	0	0	637	372	0	0	0
False Killer Whale	Northwest Hawaiian Islands	128	63	0	0	0	775	390	0	0	0
False Killer Whale	Hawaii Pelagic	936	734	1	0	0	5,719	4,146	1	0	0
False Killer Whale	Baja California Peninsula Mexico*	1,710	827	2	0	0	9,540	4,348	2	0	0
Killer Whale	Hawaii	57	70	0	0	0	337	396	0	0	0
Killer Whale	Eastern North Pacific Offshore	830	193	4	0	0	5,053	1,036	23	0	0
Killer Whale	West Coast Transient	27	28	0	0	0	137	124	0	0	0
Melon-Headed Whale	Hawaiian Islands	16187	15,269	13	0	0	98,220	85,553	68	0	0
Melon-Headed Whale	Kohala Resident (Hawaii)	41	15	0	0	0	250	82	0	0	0
Pygmy Killer Whale	Hawaii	4,654	4,241	3	0	0	28,302	23,757	8	0	0

Pygmy Killer Whale	California - Baja California Peninsula Mexico*	622	173	0	0	0	3,499	859	0	0	0
Short-Finned Pilot Whale	Hawaii	11626	5,678	6	1	0	72,315	32,457	25	1	0
Short-Finned Pilot Whale	California/Oregon/Washington	3,353	926	9	2	0.57	19,691	4,841	44	12	4
Bottlenose Dolphin	Maui Nui	309	17	0	0	0	2,049	102	0	0	0
Bottlenose Dolphin	Hawaii Island	5	4	0	0	0	27	17	0	0	0
Bottlenose Dolphin	Hawaii Pelagic	37284	6,029	23	2	0.29	251,065	36,054	151	12	2
Bottlenose Dolphin	Kauaʻi/Niʻihau	1,221	239	0	0	0	7,657	1,657	0	0	0
Bottlenose Dolphin	Oʻahu	7,108	124	5	1	0.14	49,565	810	27	3	1
Bottlenose Dolphin	California Coastal	1,306	44	6	1	0	8,502	259	41	1	0
Bottlenose Dolphin	California/Oregon/Washington Offshore	21232	6,826	14	1	0	122,030	35,598	80	3	0
Fraser’s Dolphin	Hawaii	19,854	15,626	6	2	0	122,248	88,278	32	2	0
Long-Beaked Common Dolphin	California	253,952	42,926	128	24	2.43	1,588,795	215,998	804	148	17
Northern Right Whale Dolphin	California/Oregon/Washington	23867	21,647	19	2	0.14	125,984	98,055	90	6	1
Pacific White-Sided Dolphin	California/Oregon/Washington	45,571	23,639	38	4	0.29	254,280	106,769	218	24	2
Pantropical Spotted Dolphin	Maui Nui	2,191	182	4	0	0	14,107	1,085	18	0	0
Pantropical Spotted Dolphin	Hawaii Island	2902	3,122	6	1	0	17,820	17,764	23	2	0
Pantropical Spotted Dolphin	Hawaii Pelagic	24231	20,159	16	3	0	148,329	113,826	77	4	0

Pantropical Spotted Dolphin	O‘ahu	6,255	171	5	1	0	43,081	1,119	22	1	0
Pantropical Spotted Dolphin	Baja California Peninsula Mexico*	60,809	36,817	45	2	0.29	341,397	194,284	232	7	2
Risso’s Dolphin	Hawaii	3,564	2,994	4	0	0	21,364	16,676	5	0	0
Risso’s Dolphin	California/Oregon/Washington	33,191	10,642	17	4	0	188,061	52,786	107	18	0
Rough-Toothed Dolphin	Hawaii	57947	38,926	31	5	0.29	367,021	220,798	175	21	2
Short-Beaked Common Dolphin	California/Oregon/Washington	1,499,861	669,693	806	71	15.29	8,473,412	3,331,011	4,634	441	107
Spinner Dolphin	Hawaii Pelagic	2,177	2,367	2	0	0	13,145	13,394	4	0	0
Spinner Dolphin	Hawaii Island	60	50	1	0	0	362	282	1	0	0
Spinner Dolphin	Kaua‘i/Ni‘ihau	3,561	885	2	0	0	22,186	6,148	6	0	0
Spinner Dolphin	O‘ahu/4 Islands Region	1,156	45	1	0	0	7,942	263	2	0	0
Striped Dolphin	Hawaii Pelagic	18,620	19162	10	2	0	112,710	106,884	48	4	0
Striped Dolphin	California/Oregon/Washington	81,046	52,353	42	2	0.14	453,209	270,965	222	9	1
Dall’s Porpoise	California/Oregon/Washington	13,394	46,225	1,235	2	0	76,921	228,511	6,781	5	0
Harbor Porpoise	Monterey Bay	2,179	0	0	0	0	10,934	0	0	0	0
Harbor Porpoise	Morro Bay	4,152	221	87	1	0	24,909	1,407	588	2	0
Harbor Porpoise	Northern California/Southern Oregon	481	0	0	0	0	2,339	0	0	0	0
Harbor Porpoise	San Francisco/Russian River	9,898	62	26	0	0	48,554	346	169	0	0
California Sea Lion	U.S.	1,638,285	261464	666	57	3.86	9,421,167	1,206,972	4,203	369	27

Guadalupe Fur Seal	Mexico	266199	81,354	51	3	0.14	1,491,214	409,620	284	16	1
Northern Fur Seal	Eastern Pacific	23105	10,090	11	1	0	114,217	44,579	53	2	0
Northern Fur Seal	California	15853	6,245	9	1	0	78,553	27,745	44	3	0
Steller Sea Lion	Eastern	837	162	3	0	0	4,601	745	13	0	0
Harbor Seal	California	52,154	19,309	254	7	1.00	286,337	104,852	1,598	44	7
Hawaiian Monk Seal	Hawaii	1,051	198	5	1	0	7,164	1,231	24	1	0
Northern Elephant Seal	California Breeding	65,095	53,419	109	2	0	379,380	247,160	643	2	0

Note: Zero (0) impacts indicate a total less than 0.5 and a dash (-) is a true zero. In some cases where the estimated take within a cell is equal to 1, that value has been rounded up from a value that is less than 0.5 to avoid underestimating potential impacts to a species or stock based on the 7-year rounding rules discussed in section 2.4 of appendix E (Explosive and Acoustic Analysis Report) of the 2025 HCTT EIS/OEIS.

* The Baja California Peninsula Mexico and California - Baja California Peninsula Mexico populations of false killer whale, pantropical spotted dolphin, and pygmy killer whales are not recognized stocks in NMFS Pacific stock assessment report (Carretta *et al.*, 2024), but separate density estimates were derived to support the Navy's analysis.

Mitigation Measures

Under section 101(a)(5)(A) of the MMPA, NMFS must set forth the permissible methods of taking pursuant to the activity, and other means of effecting the least practicable adverse impact on the species or stocks and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stocks for subsistence uses ("least practicable adverse impact"). NMFS does not have a regulatory definition for least practicable adverse impact. The 2004 NDAA amended the MMPA as it relates to military readiness activities and the ITA process such that a determination of "least practicable adverse impact" shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity. For additional discussion of NMFS' interpretation of the least practicable adverse impact standard, see the **Mitigation Measures** section of the Gulf of Alaska Study Area final rule (88 FR 604, January 4, 2023).

The mitigation measures described in the following section were proposed by the Action Proponents in their adequate and complete application or are the result of subsequent coordination between NMFS and the Action Proponent. Pursuant to the 2004 NDAA, NMFS coordinated with the Action Proponents, and the Action Proponents have agreed that all of the mitigation measures are practicable. NMFS has fully reviewed the specified activities and the mitigation measures included in the application to determine if the mitigation measures will result in the least practicable adverse impact on marine mammals and their habitat, as required by the MMPA, and has determined the measures are appropriate. NMFS describes these below as mitigation requirements and has included them in the final regulations.

As noted in the **Changes from the Proposed to Final Rule** section, NMFS has added new mitigation requirements and clarified a few others in this final rule. These

changes are described in detail in the sections below. Besides these changes, the required measures remain the same as those described in the proposed rule.

Implementation of Least Practicable Adverse Impact Standard

Here, we discuss how we determine whether a measure or set of measures meets the "least practicable adverse impact" standard. Our separate analysis of whether the take anticipated to result from the Action Proponents' activities meets the "negligible impact" standard appears in the **Analysis and Negligible Impact Determination** section below.

Our evaluation of potential mitigation measures includes consideration of two primary factors: (1) the manner in which, and the degree to which, implementation of the potential measure(s) is expected to reduce adverse impacts to marine mammal species or stocks, their habitat, or their availability for subsistence uses (where relevant). This analysis considers such things as the nature of the potential adverse impact (*e.g.*, likelihood, scope, and range), the likelihood that the measure will be effective if implemented, and the likelihood of successful implementation; and (2) the practicability of the measure(s) for applicant implementation. Practicability of implementation may consider such things as cost, impact on activities, and, in the case of a military readiness activity, specifically considers personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

While the language of the least practicable adverse impact standard calls for minimizing impacts to affected species or stocks, we recognize that the reduction of impacts to those species or stocks accrues through the application of mitigation measures that limit impacts to individual animals. Accordingly, NMFS' analysis focuses on measures that are designed to avoid or minimize impacts on individual marine mammals that are more likely to increase the probability or severity of population-level effects.

While direct evidence of impacts to species or stocks from a specified activity is rarely available, and additional study is still needed to understand how specific

disturbance events affect the fitness of individuals of certain species, there have been improvements in understanding the process by which disturbance effects are translated to the population. With recent scientific advancements (both marine mammal energetic research and the development of energetic frameworks), the relative likelihood or degree of impacts on species or stocks may often be inferred given a detailed understanding of the activity, the environment, and the affected species or stocks—and the best available science has been used here. This same information is used in the development of mitigation measures and helps us understand how mitigation measures contribute to lessening effects (or the risk thereof) to species or stocks. We also acknowledge that there is always the potential that new information, or a new recommendation, could become available in the future and necessitate reevaluation of mitigation measures (which may be addressed through adaptive management) to see if further reductions of population impacts are possible and practicable.

In the evaluation of specific measures, the details of the specified activity will necessarily inform each of the two primary factors discussed above (expected reduction of impacts and practicability) and are carefully considered to determine the types of mitigation that are appropriate under the least practicable adverse impact standard. Analysis of how a potential mitigation measure may reduce adverse impacts on a marine mammal stock or species, consideration of personnel safety, practicality of implementation, and consideration of the impact on effectiveness of military readiness activities are not issues that can be meaningfully evaluated through a yes/no lens. The manner in which, and the degree to which, implementation of a measure is expected to reduce impacts, as well as its practicability in terms of these considerations, can vary widely. For example, a time/area restriction could be of very high value for decreasing population-level impacts (*e.g.*, avoiding disturbance of feeding females in an area of established biological importance) or it could be of lower value (*e.g.*, decreased

disturbance in an area of high productivity but of less biological importance). Regarding practicability, a measure might involve restrictions in an area or time that impede the Navy's ability to certify a strike group (higher impact on mission effectiveness), or it could mean delaying a small in-port training event by 30 minutes to avoid exposure of a marine mammal to injurious levels of sound (lower impact). A responsible evaluation of "least practicable adverse impact" will consider the factors along these realistic scales. Accordingly, the greater the likelihood that a measure will contribute to reducing the probability or severity of adverse impacts to the species or stock or its habitat, the greater the weight that measure is given when considered in combination with practicability to determine the appropriateness of the mitigation measure, and vice versa. We discuss consideration of these factors in greater detail below.

1. Reduction of adverse impacts to marine mammal species or stocks and their habitat. The emphasis given to a measure's ability to reduce the impacts on a species or stock considers the degree, likelihood, and context of the anticipated reduction of impacts to individuals (and how many individuals) as well as the status of the species or stock.

The ultimate impact on any individual from a disturbance event (which informs the likelihood of adverse species- or stock-level effects) is dependent on the circumstances and associated contextual factors, such as duration of exposure to stressors. Though any proposed mitigation needs to be evaluated in the context of the specific activity and the species or stocks affected, measures with the following types of effects have greater value in reducing the likelihood or severity of adverse species- or stock-level impacts: avoiding or minimizing injury or mortality; limiting interruption of known feeding, breeding, mother/young, or resting behaviors; minimizing the abandonment of important habitat (temporally and spatially); minimizing the number of individuals subjected to these types of disruptions; and limiting degradation of habitat. Mitigating these types of effects is intended to reduce the likelihood that the activity will

result in energetic or other types of impacts that are more likely to result in reduced reproductive success or survivorship. It is also important to consider the degree of impacts that are expected in the absence of mitigation in order to assess the added value of any potential measures. Finally, because the least practicable adverse impact standard gives NMFS discretion to weigh a variety of factors when determining appropriate mitigation measures and because the focus of the standard is on reducing impacts at the species or stock level, the least practicable adverse impact standard does not compel mitigation for every kind of take, or every individual taken, if that mitigation is unlikely to meaningfully contribute to the reduction of adverse impacts on the species or stock and its habitat, even when practicable for implementation by the applicant.

The status of the species or stock is also relevant in evaluating the appropriateness of potential mitigation measures in the context of least practicable adverse impact. The following are examples of factors that may (either alone, or in combination) result in greater emphasis on the importance of a mitigation measure in reducing impacts on a species or stock: the stock is known to be decreasing or status is unknown, but believed to be declining; the known annual mortality (from any source) is approaching or exceeding the PBR level, as defined in section 3(20) of the MMPA (16 U.S.C. 1362); the affected species or stock is a small, resident population; or the stock is involved in a UME or has other known vulnerabilities, such as recovering from an oil spill.

Habitat mitigation, particularly as it relates to rookeries, mating grounds, and areas of similar significance, is also relevant to achieving the standard and can include measures such as reducing impacts of the activity on known prey utilized in the activity area or reducing impacts on physical habitat. As with species- or stock-related mitigation, the emphasis given to a measure's ability to reduce impacts on a species or stock's habitat considers the degree, likelihood, and context of the anticipated reduction of impacts to

habitat. Because habitat value is informed by marine mammal presence and use, in some cases there may be overlap in measures for the species or stock and for use of habitat. We consider available information indicating the likelihood of any measure to accomplish its objective. If evidence shows that a measure has not typically been effective nor successful, then either that measure should be modified or the potential value of the measure to reduce effects should be lowered.

2. Practicability. Factors considered may include cost, impact on activities, and, in the case of a military readiness activity, will include personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity (see MMPA section 101(a)(5)(A)(ii)).

Assessment of Mitigation Measures for the HCTT Study Area

NMFS has fully reviewed the specified activities and the mitigation measures included in the application and the 2025 HCTT EIS/OEIS to determine if the mitigation measures would result in the least practicable adverse impact on marine mammals and their habitat. NMFS worked with the Action Proponents in the development of their initially proposed measures, which are informed by years of implementation and monitoring. A complete discussion of the Action Proponents' evaluation process used to develop, assess, and select mitigation measures, which was informed by input from NMFS, can be found in chapter 5 (Mitigation) and appendix K (Geographic Mitigation Assessment) of the 2025 HCTT EIS/OEIS. The process described in chapter 5 (Mitigation) and appendix K (Geographic Mitigation Assessment) of the 2025 HCTT EIS/OEIS robustly supported NMFS' independent evaluation of whether the mitigation measures would meet the least practicable adverse impact standard. The Action Proponents are required to implement the mitigation measures identified in this final rule for the full 7 years to avoid or reduce potential impacts from acoustic, explosive, and physical disturbance and strike stressors on marine mammals.

As a general matter, where an applicant proposes measures that are likely to reduce impacts to marine mammals, the fact that they are included in the application indicates the measures are practicable, and it is not necessary for NMFS to conduct a detailed analysis of the measures the applicant proposed (rather, they are simply included). However, it is still necessary for NMFS to consider whether there are additional practicable measures that would meaningfully reduce the probability or severity of impacts that could affect reproductive success or survivorship.

Since publication of the proposed rule, and in consideration of public comments received, additional mitigation requirements have been added that will further reduce the likelihood and/or severity of adverse impacts on marine mammal species and their habitat. Pursuant to the 2004 NDAA, NMFS coordinated with the Action Proponents, and the Action Proponents have agreed the additional mitigation measures are practicable for implementation, as previously described in the **Changes from the Proposed Rule to the Final Rule** section. Below we describe the added measures that the Action Proponents will implement and explain the manner in which they are expected to reduce the likelihood or severity of adverse impacts on marine mammals and their habitats.

The Action Proponents have agreed to mitigation measures that would reduce the probability and/or severity of impacts expected to result from acute exposure to acoustic sources or explosives, vessel strike, and impacts to marine mammal habitat. Specifically, the Action Proponents will use a combination of delayed starts, powerdowns, and shutdowns to avoid mortality or serious injury, minimize the likelihood or severity of AUD INJ or non-auditory injury, and reduce instances of TTS or more severe behavioral disturbance caused by acoustic sources or explosives. The Action Proponents will also implement multiple time/area restrictions that would reduce take of marine mammals in areas where or at times when they are known to engage in important behaviors, such as calving, where the disruption of those behaviors would have a higher probability of

resulting in impacts on reproduction or survival of individuals that could lead to population-level impacts.

The Action Proponents assessed the practicability of the proposed measures in the context of personnel safety, practicality of implementation, and their impacts on the Action Proponents' ability to meet their Congressionally mandated requirements and found that the measures are supportable. As described in more detail below, NMFS has independently evaluated the measures the Action Proponents proposed in the manner described earlier in this section (*i.e.*, in consideration of their ability to reduce adverse impacts on marine mammal species and their habitat and their practicability for implementation). We have determined that the measures would significantly reduce impacts on the affected marine mammal species and stocks and their habitat and, further, be practicable for implementation by the Action Proponents. We have determined that the mitigation measures ensure that the Action Proponents' activities would have the least practicable adverse impact on the species or stocks and their habitat.

The Action Proponents also evaluated numerous measures in the 2025 HCTT EIS/OEIS that were not included in the application, and NMFS independently reviewed and concurs with the Action Proponents' analysis that their inclusion was not appropriate under the least practicable adverse impact standard based on our assessment. The Action Proponents considered these additional potential mitigation measures in the context of the potential benefits to marine mammals and whether they are practical or impractical.

Section 5.9 (Measures Considered but Eliminated) of chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS, includes an analysis of an array of different types of mitigation that have been recommended over the years by non-governmental organizations or the public, through scoping or public comment on environmental compliance documents. These recommendations generally fall into three categories, discussed below: (1)

reduction of activity; (2) activity-based operational measures; and (3) time/area limitations.

As described in section 5.9 (Measures Considered but Eliminated) of the 2025 HCTT EIS/OEIS, the Action Proponents considered reducing the overall amount of training, reducing explosive use, modifying sound sources, completely replacing live training with computer simulation, and including time of day restrictions. Many of these mitigation measures could potentially reduce the number of marine mammals taken via direct reduction of the activities or amount of sound energy put in the water. However, as described in chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS, the Action Proponents need to train in the conditions in which they fight—and these types of modifications fundamentally change the activity in a manner that would not support the purpose and need for the training (*i.e.*, are entirely impracticable) and therefore are not considered further. NMFS finds the Action Proponents' explanation of why adoption of these recommendations would unacceptably undermine the purpose of the training persuasive. After independent review, NMFS finds the Action Proponents' judgment on the impacts of these potential mitigation measures to personnel safety, practicality of implementation, and the effectiveness of training persuasive, and for these reasons, NMFS finds that these measures do not meet the least practicable adverse impact standard because they are not practicable.

In chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS, the Action Proponents evaluated additional potential activity-based mitigation measures, including increased mitigation zones, ramp-up measures, additional passive acoustic and visual monitoring, and decreased vessel speeds. Some of these measures have the potential to incrementally reduce take to some degree in certain circumstances, though the degree to which this would occur is typically low or uncertain. However, as described in the Action Proponents' analysis, the measures would have significant direct negative effects on

mission effectiveness and are considered impracticable. NMFS independently reviewed the Action Proponents' evaluation and concurs with this assessment, which supports NMFS' findings that the impracticability of this additional mitigation would greatly outweigh any potential minor reduction in marine mammal impacts that might result; therefore, these additional mitigation measures are not warranted.

Last, chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS also describes a comprehensive analysis of potential geographic mitigation that includes consideration of both a biological assessment of how the potential time/area limitation would benefit the species and its habitat (*e.g.*, is a key area of biological importance or would result in avoidance or reduction of impacts) in the context of the stressors of concern in the specific area and an operational assessment of the practicability of implementation (*e.g.*, including an assessment of the specific importance of an area for training, considering proximity to training ranges and emergency landing fields and other issues). In some cases, potential benefits to marine mammals were non-existent, while in others the consequences on mission effectiveness were too great.

NMFS has reviewed the Action Proponents' analysis in chapter 5 (Mitigation) and appendix A (Activity Descriptions) of the 2025 HCTT EIS/OEIS, which consider the same factors that NMFS considers to satisfy the least practicable adverse impact standard, and concurs with the analysis and conclusions. Therefore, NMFS is not requiring any of the measures that the Action Proponents ruled out in the 2025 HCTT EIS/OEIS. Below are the mitigation measures that NMFS has determined would ensure the least practicable adverse impact on all affected species and their habitat, including the specific considerations for military readiness activities. Table 21 describes the information designed to aid Lookouts and other applicable personnel with their observation, environmental compliance, and reporting responsibilities. The following sections describe the mitigation measures that would be implemented in association with

the activities analyzed in this document.[3] The mitigation measures are organized into two categories: (1) activity-based mitigation; and (2) geographic mitigation areas.

In the event of a cetacean live stranding (or near-shore atypical milling) event within the HCTT Study Area or within 50 km (27 nmi) of the boundary of the HCTT Study Area, where the NMFS Marine Mammal Stranding Network is engaged in herding or other interventions to return animals to the water, NMFS OPR will advise the Action Proponents of the need to implement shutdown procedures for all active acoustic sources or explosive devices within 50 km (27 nmi) of the stranding. Following this initial shutdown, NMFS will communicate with the Action Proponents to determine whether circumstances support modification of the shutdown zone. The Action Proponents may decline to implement all or part of the shutdown if the holder of the LOA, or his/her designee, determines that it is necessary for national security. Shutdown procedures for live stranding or milling cetaceans include the following:

---

[3] Of note, according to the U.S. Navy, consistent with customary international law, when a foreign military vessel participates in a U.S. Navy exercise within the U.S. territorial sea (*i.e.*, 0 to 12 nmi (0 to 22.2 km) from shore), the U.S. Navy will request that the foreign vessel follow the U.S. Navy's mitigation measures for that particular event. When a foreign military vessel participates in a U.S. Navy exercise beyond the U.S. territorial sea but within the U.S. EEZ, the U.S. Navy will encourage the foreign vessel to follow the U.S. Navy's mitigation measures for that particular event (Navy, 2022a, 2022b). In either scenario (*i.e.*, both within and beyond the territorial sea), U.S. Navy personnel will provide the foreign vessels participating in the exercise with a description of the mitigation measures to follow.

• If at any time, the marine mammal(s) die or are euthanized, or if herding/intervention efforts are stopped, NMFS will immediately advise that the shutdown around the animals' location is no longer needed;

• Otherwise, shutdown procedures will remain in effect until NMFS determines and advises that all live animals involved have left the area (either of their own volition or following an intervention); and

• If further observations of the marine mammals indicate the potential for re-stranding, additional coordination will be required to determine what measures are necessary to minimize that likelihood (*e.g.*, extending the shutdown or moving operations farther away) and to implement those measures as appropriate.

Table 21 -- Environmental Awareness and Education

Stressor or Activity: All training and testing activities, as applicable.
Requirements: Navy personnel (including civilian personnel) involved in mitigation and training or testing activity reporting under the specified activities must complete one or more modules of the U.S. Navy Afloat Environmental Compliance Training Series, as identified in their career path training plan. Modules include: ● Introduction to Afloat Environmental Compliance Training Series. The introductory module provides information on environmental laws (*e.g.*, ESA, MMPA) and the corresponding responsibilities that are relevant to military readiness activities. The material explains why environmental compliance is important in supporting the Action Proponents' commitment to environmental stewardship. ● Marine Species Awareness Training. All bridge watch personnel, Commanding Officers, Executive Officers, maritime patrol aircraft aircrews, anti-submarine warfare and mine warfare rotary-wing aircrews, Lookouts, and equivalent civilian personnel must successfully complete the Marine Species Awareness Training prior to standing watch or serving as a Lookout. The Marine Species Awareness Training provides information on sighting cues, visual observation tools and techniques, and sighting notification procedures. Navy biologists developed Marine Species Awareness Training to improve the effectiveness of visual observations for biological resources, focusing on marine mammals and sea turtles, and including floating vegetation, jellyfish aggregations, and flocks of seabirds. ● Protective Measures Assessment Protocol. This module provides the necessary instruction for accessing mitigation requirements during the event planning phase using the Protective Measures Assessment Protocol (PMAP) software tool. ● Sonar Positional Reporting System and Marine Mammal Incident Reporting. This module provides instruction on the procedures and activity reporting requirements for the Sonar Positional Reporting System and marine mammal incident reporting.

Activity-Based Mitigation

Activity-based mitigation is mitigation that the Action Proponents will implement whenever and wherever an applicable military readiness activity takes place within the HCTT Study Area. Previously referred to as "Procedural Mitigation," the primary

objective of activity-based mitigation is to reduce overlap of marine mammals with stressors that have the potential to cause injury or mortality in real time. Activity-based mitigations are fundamentally consistent across stressor activity, although specific variations account for differences in platform configuration, event characteristics, and stressor types. The Action Proponents customize mitigation for each applicable activity category or stressor. Activity-based mitigation generally involves: (1) the use of one or more trained Lookouts to diligently observe for marine mammals and other specific biological resources (*e.g.*, indicator species like floating vegetation, jelly aggregations, large schools of fish, and flocks of seabirds) within a mitigation zone; (2) requirements for Lookouts to immediately communicate sightings of marine mammals and other specific biological resources to the appropriate watch station for information dissemination; and (3) requirements for the watch station to implement mitigation (*e.g.*, halt an activity) until certain recommencement conditions have been met. The remainder of the mitigation measures are activity-based mitigation measures (table 20 through table 39) organized by stressor type and activity category and include acoustic stressors (*i.e.*, active sonar, air guns, pile driving, weapons firing noise), explosive stressors (*i.e.*, bombs, gunnery, underwater demolition, mine counter-measure and neutralization activities, missiles and rockets, sonobuoys and research-based sub-surface explosives, torpedoes, ship shock trials, and sinking exercises), and physical disturbance and strike stressors (*i.e.*, aerial-deployed mines and non-explosive bombs, non-explosive gunnery, non-explosive torpedoes missiles and rockets, vessel movement, towed in-water devices, and net deployment).

The Action Proponents must implement the mitigation measures described in table 20 through table 39, as appropriate, in response to an applicable sighting within, or entering into, the relevant mitigation zone for acoustic stressors, explosives, and non-explosive munitions. Each table describes the activities that the requirements apply to, the

required mitigation zones in which the Action Proponents must take a mitigation action, the required number of Lookouts and observation platform, the required mitigation actions that the Action Proponents must take before, during, and/or after an activity, and a required wait period prior to commencing or recommencing an activity after a delay, power down, or shutdown of an activity.

The Action Proponents proposed wait periods because events cannot be delayed or ceased indefinitely for the purpose of mitigation due to impacts on safety, sustainability, and the ability to meet mission requirements. Wait periods are designed to allow animals the maximum amount of time practical to resurface (*i.e.*, become available to be observed) before activities resume. The Action Proponents factored in an assumption that mitigation may need to be implemented more than once when developing wait period durations. Wait periods are 10 minutes, 15 minutes, or 30 minutes depending on the fuel constraints of the platform and feasibility of implementation. NMFS concurs with these proposed wait periods.

If an applicable species (identified in relevant mitigation table) is observed within a required mitigation zone prior to the initial start of the activity, the Action Proponents must: (1) relocate the event to a location where applicable species are not observed; or (2) delay the initial start of the event (or stressor use) until one of the "Mitigation Zone All-Clear Conditions" (defined below) has been met. If an applicable stressor is observed within a required mitigation zone during the event (*i.e.*, during use of the indicated source) the Action Proponents must take the action described in the "Mitigation Zones" section of the table until one of the Mitigation Zone All-Clear Conditions has been met.

For all activities, an activity may not commence or recommence until one of the following "Mitigation Zone All-Clear Conditions" have been met: (1) a Lookout observes the applicable species exiting the mitigation zone; (2) a Lookout concludes that the animal has exited the mitigation zone based on its observed course, speed, and

movement relative to the mitigation zone; (3) a Lookout affirms the mitigation zone has been clear from additional sightings for a designated "wait period"; or (4) for mobile events, the stressor has transited a distance equal to double the mitigation zone size beyond the location of the last sighting.

Activity-Based Mitigation for Active Acoustic Stressors

Mitigation measures for acoustic stressors are provided below and include active acoustic sources (table 20), pile driving and extraction (table 21), and weapons firing noise (table 22). For this action, the following ranges apply to the use of small, medium, and large caliber: small is up to and including 50 caliber machine gun rounds; medium is greater than 50 caliber and less than 57 millimeter (mm; 2.24 inch); and large is 57 mm (2.24 inch) and larger. Small caliber items are solid projectiles (*i.e.*, bullets). Medium caliber items are 30-57 mm (1.18-2.24 inch) and can have both inert non-explosive rounds and high explosive rounds. Large caliber items are greater than or equal to 57 mm (2.24 inch) and can have both inert non-explosive rounds and high explosive rounds. Activity-based mitigation for acoustic stressors does not apply to:

• Sources not operated under positive control (*e.g.*, moored oceanographic sources);

• Sources used for safety of navigation (*e.g.*, fathometers);

• Sources used or deployed by aircraft operating at high altitudes;

• Sources used, deployed, or towed by unmanned platforms except when escort vessels are already participating in the event and have positive control over the source;

• Sources used by submerged submarines (*e.g.*, sonar (since they cannot conduct visual observation));

• De minimis sources (*e.g.*, those >200 kHz);

• Unattended sources, including those used for acoustic and oceanographic research; and

• Vessel-based, unmanned vehicle-based, or towed in-water sources when marine mammals (*e.g.*, dolphins) are determined to be intentionally swimming at the bow or alongside or directly behind the vessel, vehicle, or device (*e.g.*, to bow-ride or wake-ride).

Table 22 -- Mitigation for Active Acoustic Sources

Stressor or Activity: Active acoustic sources with power down and shut down capabilities: ● Low-frequency active sonar ≥200 dB ● Mid-frequency active sonar sources that are hull mounted on a surface ship (including surfaced submarines) ● Broadband and other active acoustic sources >200 dB
● Mitigation Zones ○ Within 1,000 yd (914.4 m) from a marine mammal, Action Proponent personnel must power down active acoustic sources by 6 dB total ○ Within 500 yd (457.2 m) from a marine mammal, Action Proponent personnel must power down active acoustic sources by 10 dB total ○ Within 200 yd (182.9 m) from a marine mammal, Action Proponent personnel must shut down active acoustic sources ● Mitigation Requirements ○ One Lookout in/on one of the following: ■ Aircraft ■ Pierside, moored, or anchored vessel ■ Underway vessel with space/crew restrictions (including small boats) ■ Underway vessel already participating in the event that is escorting (and has positive control over sources used, deployed, or towed by) an unmanned platform ○ Two Lookouts on an underway vessel without space/crew restrictions ○ Lookouts would use information from passive acoustic detections to inform visual observations when passive acoustic devices are already being used in the event ● Mitigation Requirement Timing ○ Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of using active acoustic sources (*e.g.*, while maneuvering on station). ○ Action Proponent personnel must observe the applicable mitigation zone for marine mammals during use of active acoustic sources. ● Wait Period ○ 10 or 30 minutes (depending on fuel constraints of the platform)
Stressor or Activity: Active acoustic sources with shut down (but not power down) capabilities: ● Low-frequency active sonar <200 dB ● Mid-frequency active sonar sources that are not hull mounted on a surface ship (*e.g.*, dipping sonar, towed arrays) ● High-frequency active sonar ● Air guns ● Broadband and other active acoustic sources <200 dB
● Mitigation Zones o At 200 yd (182.9 m) from a marine mammal, Action Proponent personnel must shut down active acoustic sources ● Mitigation Requirements o One Lookout in/on one of the following: ▪ Aircraft ▪ Pierside, moored, or anchored vessel ▪ Underway vessel with space/crew restrictions (including small boats) ▪ Underway vessel already participating in the event that is escorting (and has positive control over sources used, deployed, or towed by) an unmanned platform o Two Lookouts on an underway vessel without space/crew restrictions

- Lookouts would use information from passive acoustic detections to inform visual observations when passive acoustic devices are already being used in the event
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of using active acoustic sources (*e.g.*, while maneuvering on station).
  - Action Proponent personnel must observe the mitigation zone for marine mammals during use of active acoustic sources.
- Wait Period
  - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 23 -- Mitigation for Pile Driving and Extraction

Stressor or Activity: Vibratory and impact pile driving and extraction

- Mitigation Zone
  - 5 yd (4.6 m) from piles being driven or extracted (cease pile driving or extraction)
- Mitigation Requirements
  - One Lookout on one of the following:
    - Shore
    - Pier
    - Small boat
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation for 15 minutes prior to the initial start of pile driving or pile extraction.
  - Action proponent personnel must use soft start standard operating procedures when impact pile driving. Soft start requires the Action Proponent to conduct three sets of strikes (three strikes per set) at reduced hammer energy with a 30-second waiting period between each set. A soft start must be implemented at the start of each day's impact pile driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer. [1]
  - Action Proponent personnel must observe the mitigation zone for marine mammals during pile driving or extraction.
- Wait Period
  - 15 minutes

[1] This measure is new to this final rule. Soft-start procedures are used to provide additional protection to marine mammals by providing warning and/or giving marine mammals a chance to leave the area prior to the hammer operating at full capacity (of note, Navy continues to consider soft-start procedures as part of their standard operating procedures, and as such, they are not listed as a mitigation measure in the 2025 HCTT EIS/OEIS).

Table 24 -- Mitigation for Weapons Firing Noise

Stressor or Activity: Explosive and non-explosive large-caliber gunnery firing noise (surface-to-surface and surface-to-air)

- Mitigation Zone
  - 30 degrees on either side of the firing line out to 70 yd (64 m) from the gun muzzle (cease fire)
- Mitigation Requirements
  - One Lookout on a vessel
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of large-caliber gun firing (*e.g.*, during target deployment).
  - Action Proponent personnel must observe the mitigation zone for marine mammals during large-caliber gun firing.
- Wait Period
  - 30 minutes

Activity-Based Mitigation for Explosive Stressors

Mitigation measures for explosive stressors are provided below and include explosive bombs (table 23), explosive gunnery (table 24), explosive underwater demolition multiple charge – mat weave and obstacle loading (table 25), explosive mine countermeasure and neutralization without divers (table 26), explosive mine neutralization with divers (table 27), explosive missiles and rockets (table 28), explosive sonobuoys and research-based sub-surface explosives (table 29), explosive torpedoes (table 30), ship shock trials (table 31), and SINKEX (table 32). After the event, the Action Proponents must observe the area for marine mammals. Post-event observations are intended to aid incident reporting requirements for marine mammals. Practicality and the duration of post-event observations will be determined on site by fuel restrictions and mission-essential follow-on commitments. For example, it is more challenging to remain on-site for extended periods of time for some activities due to factors such as range from the target or altitude of an aircraft. For all activities involving explosives, if a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately. Activity-based mitigation for explosive stressors does not apply to explosives:

- Deployed by aircraft operating at high altitudes;
- Deployed by submerged submarines, except for explosive torpedoes;
- Deployed against aerial targets;
- During vessel- or shore-launched missile or rocket events;
- Used at or below the de minimis threshold; and
- Deployed by unmanned platforms except when escort vessels are already participating in the event and have positive control over the explosive.

Table 25 -- Mitigation for Explosive Bombs

Stressor or Activity: Any Net Explosive Weight (NEW)

- Mitigation Zone
  - 2,500 yd (2,286 m) from the intended target (cease fire)
- Mitigation Requirements
  - One Lookout in an aircraft
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of bomb delivery (*e.g.*, when arriving on station).
  - Action Proponent personnel must observe the applicable mitigation zone for marine mammals during bomb delivery.
  - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  - After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.
- Wait Period
  - 10 minutes

Table 26 -- Mitigation for Explosive Gunnery

Stressor or Activity: Air-to-surface medium-caliber, surface-to-surface medium-caliber, surface-to-surface large-caliber

- Mitigation Zones
  - Air-to-surface medium-caliber:
    - 200 yd (182.9 m) from the intended impact location (cease fire)
  - Surface-to-surface medium-caliber:
    - 600 yd (548.6 m) from the intended impact location (cease fire)
  - Surface-to-surface large-caliber:
    - 1,000 yd (914.4 m) from the intended impact location (cease fire)
- Mitigation Requirements
  - One Lookout on a vessel or in an aircraft
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of gun firing (*e.g.*, while maneuvering on station).
  - Action Proponent personnel must observe the applicable mitigation zone for marine mammals during gunnery fire.
  - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  - After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.
- Wait Period
  - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 27 -- Mitigation for Explosive Underwater Demolition Multiple Charge – Mat Weave and Obstacle Loading

Stressor or Activity: Any NEW

- Mitigation Zones
  - 700 yd (640 m) from the detonation site (cease fire)
- Mitigation Requirements

- Two Lookouts: one on a small boat and one on shore from an elevated platform

- Mitigation Requirement Timing
  - The Lookout positioned on a small boat must observe the mitigation zone for marine mammals and floating vegetation for 30 minutes prior to the first detonation.
  - The Lookout positioned onshore must use binoculars to observe for marine mammals for 10 minutes prior to the first detonation.
  - Action Proponent personnel must observe the mitigation zone for marine mammals during detonations.
  - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  - After the event, when practical, Action Proponent personnel must observe the detonation vicinity for 30 minutes for marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

- Wait Period
  - 10 minutes (determined by the shore observer)

Table 28 -- Mitigation for Explosive Mine Countermeasure and Neutralization (No Divers)

Stressor or Activity: 0.1-5 lb (0.05-2.3 kg) NEW, >5 lb (2.3 kg) NEW

• Mitigation Zones
  ○ 0.1-5 lb (0.05-2.3 kg) NEW:
  ▪ 600 yd (548.6 m) from the detonation site (cease fire)
  ○ >5 lb (2.3 kg) NEW:
  ▪ 2,100 yd (1,920.2 m) from the detonation site (cease fire)
• Mitigation Requirements
  ○ 0.1-5 lb (0.05-2.3 kg) NEW:
  ▪ One Lookout on a vessel or in an aircraft
  ○ >5 lb (2.3 kg) NEW:
  ▪ Two Lookouts: one on a small boat and one in an aircraft
• Mitigation Requirement Timing
  ○ Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of detonations (*e.g.*, while maneuvering on station; typically, 10 or 30 minutes depending on fuel constraints).
  ○ Action Proponent personnel must observe the applicable mitigation zone for marine mammals, concentrations of seabirds, and individual foraging seabirds (in the water and not on shore) during detonations or fuse initiation.
  ○ If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  ○ After the event, when practical, Action Proponent personnel must observe the detonation vicinity for 10 or 30 minutes (depending on fuel constraints) for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.
• Wait Period
  ○ 10 or 30 minutes (depending on fuel constraints of the platform)

Table 29 -- Mitigation for Explosive Mine Neutralization (With Divers)

Stressor or Activity: 0.1-20 lb (0.05-9.1 kg) NEW (positive control), 0.1-29 lb (0.05-13.2 kg) NEW (time-delay), >20-60 lb (9.1-27.2 kg) NEW (positive control)

• Mitigation Zones
  ○ 0.1-20 lb (0.05-9.1 kg) NEW (positive control)
  ▪ 500 yd (457.2 m) from the detonation site (cease fire)

- 0.1-29 lb (0.05-13.2 kg) NEW (time-delay), >20-60 lb (9.1-27.2 kg) NEW (positive control)
    - 1,000 yd (914.4 m) from the detonation site (cease fire)

- Mitigation Requirements
    - 0.1-20 lb (0.05-9.1 kg) NEW (positive control)
        - Lookouts in two small boats (one Lookout per boat), or one small boat and one rotary-wing aircraft (with one Lookout each), and one Lookout on shore for shallow-water events during 0.1-20 lb (0.05-9.1 kg) NEW (positive control) use.
    - 0.1-29 lb (0.05-13.2 kg) NEW (time-delay), >20-60 lb (9.1-27.2 kg) NEW (positive control)
        - Four Lookouts in two small boats (two Lookouts per boat), and one additional Lookout in an aircraft if used in the event

- Mitigation Requirement Timing
    - Time-delay devices must be set not to exceed 10 minutes
    - Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of detonations or fuse initiation for positive control events (*e.g.*, while maneuvering on station) or for 30 minutes prior for time-delay events.
    - Action Proponent personnel must observe the applicable mitigation zone for marine mammals, concentrations of seabirds, and individual foraging seabirds (in the water and not on shore) during detonations or fuse initiation.
    - When practical based on mission, safety, and environmental conditions:
        - Boats must observe from the mitigation zone radius mid-point
        - When two boats are used, boats must observe from opposite sides of the mine location
        - Platforms must travel a circular pattern around the mine location
        - Boats must have one Lookout observe inward toward the mine location and one Lookout observe outward toward the mitigation zone perimeter
        - Divers must be part of the Lookout Team
    - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
    - After the event, when practical, Action Proponent personnel must observe the detonation vicinity for 30 minutes for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

- Wait Period
    - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 30 -- Mitigation for Explosive Missiles and Rockets

Stressor or Activity: 0.6-20 lb (0.3-9.1 kg) NEW (air-to-surface), >20-500 lb (9.1-226.8 kg) NEW (air-to-surface)
● Mitigation Zones ○ 0.6-20 lb (0.3-9.1 kg) NEW (air-to-surface) ▪ 900 yd (823 m) from the intended impact location (cease fire) ○ >20-500 lb (9.1-226.8 kg) NEW (air-to-surface) ▪ 2,000 yd (1,828.8 m) from the intended impact location (cease fire) ● Mitigation Requirements ○ One Lookout in an aircraft ● Mitigation Requirement Timing ○ Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of missile or rocket delivery (*e.g.*, during a fly-over of the mitigation zone). ○ Action Proponent personnel must observe the applicable mitigation zone for marine mammals during missile or rocket delivery.

- If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
- After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

- Wait Period
  - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 31 -- Mitigation for Explosive Sonobuoys and Research-based Sub-surface Explosives

Stressor or Activity: Any NEW of sonobuoys, 0.1-5 lb (0.05-2.3 kg) NEW for other types of sub-surface explosives used in research applications

- Mitigation Zone
  - 600 yd (548.6 m) from the device or detonation sites (cease fire)
- Mitigation Requirements
  - One Lookout on a small boat or in an aircraft
  - Conduct passive acoustic monitoring for marine mammals; use information from detections to assist visual observations
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of detonations (*e.g.*, during sonobuoy deployment, which typically lasts 20-30 minutes).
  - Action Proponent personnel must observe the mitigation zone for marine mammals during detonations.
  - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  - After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.
- Wait Period
  - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 32 -- Mitigation for Explosive Torpedoes

Stressor or Activity: Any NEW

- Mitigation Zone
  - 2,100 yd (1,920.2 m) from the intended impact location (cease fire)
- Mitigation Requirements
  - One Lookout in an aircraft
  - Conduct passive acoustic monitoring for marine mammals; use information from detections to assist visual observations
- Mitigation Requirement Timing
  - Action Proponent personnel must observe the mitigation zone for marine mammals, floating vegetation, and jellyfish aggregations immediately prior to the initial start of detonations (*e.g.*, during target deployment).
  - Action Proponent personnel must observe the mitigation zone for marine mammals during torpedo launches.
  - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  - After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine

mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

- Wait Period
  - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 33 -- Mitigation for Ship Shock Trials

Stressor or Activity: Any NEW

- Mitigation Zone
  - 3.5 nmi (6.5 km) from the target ship hull (cease fire)
- Mitigation Requirements
  - On the day of the event, 10 observers (Lookouts and third-party observers combined), spread between aircraft or multiple vessels as specified in the event-specific mitigation plan
- Mitigation Requirement Timing
  - Action Proponent personnel must develop a detailed, event-specific monitoring and mitigation plan in the year prior to the event and provide it to NMFS for review.
  - Beginning at first light on days of detonation, until the moment of detonation (as allowed by safety measures) Action Proponent personnel must observe the mitigation zone for marine mammals, floating vegetation, jellyfish aggregations, large schools of fish, and flocks of seabirds.
  - If any dead or injured marine mammals are observed after an individual detonation, Action Proponent personnel must follow established incident reporting procedures and halt any remaining detonations until Action Proponent personnel consults with NMFS and review or adapt the event-specific mitigation plan, if necessary.
  - During the 2 days following the event (minimum) and up to 7 days following the event (maximum), and as specified in the event-specific mitigation plan, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals.
- Wait Period
  - 30 minutes

Table 34 -- Mitigation for Sinking Exercises (SINKEX)

Stressor or Activity: Any NEW

- Mitigation Zone
  - 2.5 nmi (4.6 km) from the target ship hull (cease fire)
- Mitigation Requirements
  - Two Lookouts: one on a vessel and one in an aircraft
  - Conduct passive acoustic monitoring for marine mammals; use information from detections to assist visual observations.
- Mitigation Requirement Timing
  - During aerial observations for 90 minutes prior to the initial start of weapon firing, Action Proponent personnel must observe the mitigation zone for marine mammals, floating vegetation, and jellyfish aggregations.
  - From the vessel during weapon firing, and from the aircraft and vessel immediately after planned or unplanned breaks in weapon firing of more than 2 hours, Action Proponent personnel must observe the mitigation zone for marine mammals.
  - If a marine mammal is visibly injured or killed as a result of detonation, explosives use in the event shall be suspended immediately and established incident reporting procedures shall be followed.
  - Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals for 2 hours after sinking the vessel or until sunset, whichever comes first. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.
- Wait Period
  - 30 minutes

Activity-Based Mitigation for Non-Explosive Ordnance

Mitigation measures for non-explosive ordnance are provided below and include aerial-deployed mines and non-explosive bombs (table 33), non-explosive gunnery (table 34), and non-explosive missiles and rockets (table 35). Explosive aerial-deployed mines do not detonate upon contact with the water surface and are therefore considered non-explosive when mitigating the potential for a mine shape to strike a marine mammal at the water surface. Activity-based mitigation for non-explosive ordnance does not apply to non-explosive ordnance:

• Deployed by aircraft operating at high altitudes;

• Deployed against aerial targets and land-based targets;

• Deployed during vessel- or shore-launched missile or rocket events; and

• Deployed by unmanned platforms except when escort vessels are already participating in the event and have positive control over ordnance deployment.

Table 35 -- Mitigation for Non-Explosive Aerial-Deployed Mines and Bombs

Stressor or Activity: Non-explosive aerial-deployed mines and non-explosive bombs

● Mitigation Zone
  o 1,000 yd (914.4 m) from the intended target (cease fire)
● Mitigation Requirements
  o One Lookout in an aircraft
● Mitigation Requirement Timing
  o Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of mine or bomb delivery (*e.g.*, when arriving on station).
  o Action Proponent personnel must observe the mitigation zone for marine mammals during mine or bomb delivery.
● Wait Period
  o 10 minutes

Table 36 -- Mitigation for Non-explosive Gunnery

Stressor or Activity: Non-explosive surface-to-surface large-caliber ordnance, non-explosive surface-to-surface and air-to-surface medium-caliber ordnance, non-explosive surface-to-surface and air-to-surface small-caliber ordnance

● Mitigation Zone
  o 200 yd (182.9 m) from the intended impact location (cease fire)
● Mitigation Requirements
  o One Lookout on a vessel or in an aircraft

- Mitigation Requirement Timing
  - Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the start of gun firing (*e.g.*, while maneuvering on station).
  - Action Proponent personnel must observe the mitigation zone for marine mammals during gunnery firing.
- Wait Period
  - 10 or 30 minutes (depending on fuel constraints of the platform)

Table 37 -- Mitigation for Non-explosive Missiles and Rockets

Stressor or Activity: Non-explosives (air-to-surface)
● Mitigation Zone o 900 yd (823 m) from the intended impact location (cease fire) ● Mitigation Requirements o One Lookout in an aircraft ● Mitigation Requirement Timing o Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the start of missile or rocket delivery (*e.g.*, during a fly-over of the mitigation zone). o Action Proponent personnel must observe the mitigation zone for marine mammals during missile or rocket delivery. ● Wait Period o 10 or 30 minutes (depending on fuel constraints of the platform)

Activity-Based Mitigation for Physical Disturbance and Strike Stressors

Mitigation measures for physical disturbance and strike stressors are provided below and include crewed surface vessels (table 36), unmanned vehicles (table 37), towed in-water devices (table 38), and net deployment (table 39). Activity-based mitigation for physical disturbance and strike stressors will not be implemented:

• By submerged submarines;

• By unmanned vehicles except when escort vessels are already participating in the event and have positive control over the unmanned vehicle movements;

• When marine mammals (*e.g.*, dolphins) are determined to be intentionally swimming at the bow, alongside the vessel or vehicle, or directly behind the vessel or vehicle (*e.g.*, to bow-ride or wake-ride);

• When pinnipeds are hauled out on man-made navigational structures, port structures, and vessels;

• By manned surface vessels and towed in-water devices actively participating in cable laying during Modernization & Sustainment of Ranges activities; or

• When impractical based on mission requirements (*e.g.*, during certain aspects of amphibious exercises).

Table 38 -- Mitigation for Manned Surface Vessels

Stressor or Activity: Manned surface vessels, including surfaced submarines
● Mitigation Zones o Underway manned surface vessels must maneuver themselves (which may include reducing speed) to maintain the following distances as mission and circumstances allow: ▪ 500 yd (457.2 m) from whales ▪ 200 yd (182.9 m) from other marine mammals ● Mitigation Requirements o One or more Lookouts on manned underway surface vessels in accordance with the most recent navigation safety instruction. ● Mitigation Requirement Timing o Action Proponent personnel must observe the mitigation zone for marine mammals immediately prior to manned surface vessels getting underway and while underway.

Table 39 -- Mitigation for Unmanned Vehicles

Stressor or Activity: Unmanned Surface Vehicles and Unmanned Underwater Vehicles already being escorted (and operated under positive control) by a manned surface support vessel
● Mitigation Zones o A surface support vessel that is already participating in the event, and has positive control over the unmanned vehicle, must maneuver the unmanned vehicle (which may include reducing its speed) to ensure it maintains the following distances as mission and circumstances allow: ▪ 500 yd (457.2 m) from whales ▪ 200 yd (182.9 m) from other marine mammals ● Mitigation Requirements o One Lookout on a surface support vessel that is already participating in the event, and has positive control over the unmanned vehicle. ● Mitigation Requirement Timing o Action Proponent personnel must observe the mitigation zone for marine mammals immediately prior to unmanned vehicles getting underway and while underway.

Table 40 -- Mitigation for Towed In-water Devices

Stressor or Activity: In-water devices towed by an aircraft, a manned surface vessel, or an Unmanned Surface Vehicle or Unmanned Underwater Vehicle already being escorted (and operated under positive control) by a manned surface vessel
● Mitigation Zone o Manned towing platforms, or surface support vessels already participating in the event that have positive control over an unmanned vehicle that is towing an in-water device, must maneuver itself or the unmanned vehicle (which may include reducing speed) to ensure towed in-water devices maintain the following distances as mission and circumstances allow: ▪ 250 yd (228.6 m) from marine mammals ● Mitigation Requirements

○ One Lookout on the manned towing vessel or aircraft, or on a surface support vessel that is already participating in the event and has positive control over an unmanned vehicle that is towing an in-water device. ● Mitigation Requirement Timing ○ Action Proponent personnel must observe the mitigation zone for marine mammals immediately prior to and while in-water devices are being towed.

Table 41 -- Mitigation for Net Deployment

Stressor or Activity: Nets deployed for testing of an Unmanned Underwater Vehicle
● Mitigation Zone ○ If a marine mammal is sighted within 500 yd of the deployment location, the support vessel must: ▪ Delay deployment of nets until the mitigation zone has been clear for 15 minutes ▪ Recover nets if they are deployed ● Mitigation Requirements ○ One Lookout on the support vessel ● Mitigation Requirement Timing ○ Action Proponent personnel must observe the mitigation zone for marine mammals for 15 minutes prior to the deployment of nets and while the nets are deployed. ○ Nets must be deployed during daylight hours only.

Geographic Mitigation Areas

In addition to activity-based mitigation, the Action Proponents will implement mitigation measures within mitigation areas to avoid or minimize potential impacts on marine mammals (see figures 11-1 and 11-2 of the application). A full technical analysis of the mitigation areas that the Action Proponents considered for marine mammals is provided in appendix K (Geographic Mitigation Assessment) of the 2025 HCTT EIS/OEIS. The Action Proponents took into account public comments received on the 2024 HCTT Draft EIS/OEIS, 2017 HSTT Draft EIS/OEIS, the best available science, and the practicability of implementing additional mitigation measures and has enhanced its mitigation areas and mitigation measures beyond those that were included in the 2018-2025 regulations to further reduce impacts to marine mammals.

Information on the mitigation measures that the Action Proponents propose to implement within mitigation areas are provided in table 40 through table 49. The mitigation applies year-round unless specified otherwise in the tables.

NMFS conducted an independent analysis of the mitigation areas that the Action Proponent proposed, which are described below. NMFS' analysis indicates the measures in these geographic mitigation areas are both practicable and will reduce the likelihood, magnitude, or severity of adverse impacts to marine mammals or their habitat in the manner described in the Action Proponents' analysis and this rule. NMFS is heavily reliant on the Action Proponents' description of operational practicability, since the Action Proponents are best equipped to describe the degree to which a given mitigation measure affects personnel safety or mission effectiveness, and is practical to implement. The Action Proponents consider the required measures in this rule to be practicable, and NMFS concurs. We further discuss the manner in which the geographic mitigation areas will reduce the likelihood, magnitude, or severity of adverse impacts to marine mammal species or their habitat in the **Analysis and Negligible Impact Determination** section.

Geographic Mitigation Areas in Hawaii

Table 42 details geographic mitigation related to the use of active sonar and explosives off Hawaii Island.

Table 42 -- Hawaii Island Marine Mammal Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
Acoustic	The Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar or 20 hours of helicopter dipping sonar (a mid-frequency active sonar source) annually within the mitigation area.	Mitigation in this area is designed to reduce exposure of numerous small and resident marine mammal populations (including Blainville's beaked whales, bottlenose dolphins, goose-beaked whales, dwarf sperm whales, false killer whales, melon-headed whales, pantropical spotted dolphins, pygmy killer whales, rough-toothed dolphins, short-finned pilot whales, and spinner dolphins), humpback whales within important seasonal reproductive habitat, and Hawaiian monk seals within critical habitat, to levels of sound that have the potential to cause injurious or behavioral impacts.
Explosives	The Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) within the mitigation area.	Mitigation in this area is designed to prevent exposure of the species listed above to explosives that have the potential to cause injury, mortality, or behavioral disturbance.

Table 43 details geographic mitigation related to the use of active sonar and explosives off Molokaʻi, Maui, Lānaʻi, and Kaho'olawe Islands.

Table 43 -- Hawaii 4-Islands Marine Mammal Mitigation Area[1]

Category	Mitigation Requirements	Mitigation Benefits
Acoustic	From November 15-April 15, the Action Proponents must not use MF1 or MF1C surface ship hull-mounted mid-frequency active sonar within the mitigation area.	Mitigation in this area is designed to minimize exposure of humpback whales in high-density seasonal reproductive habitats (*e.g.*, north of Maui and Molokaʻi) and Main Hawaiian Islands insular false killer whales in high seasonal occurrence areas to levels of sound that have the potential to cause injurious or behavioral impacts.
Explosives	The Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) within the mitigation area (year-round).	Mitigation in this area is designed to prevent exposure of humpback whales in high-density seasonal reproductive habitats (*e.g.*, north of Maui and Molokaʻi), Main Hawaiian Islands insular false killer whales in high seasonal occurrence areas, and numerous small and resident marine mammal populations that occur year-round (including bottlenose dolphins, pantropical spotted dolphins, and spinner dolphins, and Hawaiian monk seals) to explosives that have the potential to cause injury, mortality, or behavioral disturbance.

[1] This final rule includes an expansion of the Hawaii 4-Islands Mitigation Area to include an additional portion of the child small and resident BIA for the Main Hawaiian Islands Insular stock of false killer whale, following an updated proposal from the Action Proponents that resulted from ESA section 7 consultation. This increases the portion of the child BIA overlapping the mitigation area from approximately 40 percent of the BIA as included in the proposed rule to 63 percent.

Table 44 details special reporting requirements related to the use of active sonar off O'ahu, Molokaʻi, and Hawaii Island.

Table 44 -- Hawaii Humpback Whale Special Reporting Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
Acoustic	The Action Proponents must report the total hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar used from November 1 through May 31 in the mitigation area in their training and testing activity reports submitted to NMFS.	Special reporting requirements are designed to aid NMFS' and the Action Proponents' analysis of potential impacts in the mitigation area, which contains the Hawaiian Islands Humpback Whale National Marine Sanctuary plus a 5-km (2.7 nmi) sanctuary buffer (excluding the PMRF).

Table 45 details awareness notification message requirements for the Hawaii Range Complex.

Table 45 -- Hawaii Humpback Whale Awareness Messages

Category	Mitigation Requirements	Mitigation Benefits
Acoustic, Explosives, Physical disturbance and strike	The Action Proponents must broadcast awareness messages to alert applicable assets (and their Lookouts) transiting and training or testing in the Hawaii Range Complex to the possible presence of concentrations of humpback whales from November 1 through May 31. Lookouts must use that knowledge to help inform their visual observations during military readiness activities that involve vessel movements, active sonar, in-water explosives (including underwater explosives and explosives deployed against surface targets), or the deployment of non-explosive ordnance against surface targets in the mitigation area.	Mitigation in this area is designed to minimize potential humpback whale vessel interactions and exposure to acoustic, explosive, and physical disturbance and strike stressors that have the potential to cause mortality, injury, or behavioral disturbance during the reproductive season. The Hawaii Humpback Whale Awareness Messages apply to the entire Hawaii Range Complex; therefore, the mitigation described in table 42, table 43, and table 44 is in addition to the requirements described for this overlapping area.

Geographic Mitigation Areas in California

Table 46 details geographic mitigation related to the use of active sonar off the coast of northern California.

Table 46 -- Northern California Large Whale Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
Acoustic	From June 1-October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar (excluding normal maintenance and systems checks) total during training and testing within the combination of this mitigation area, the Central California Large Whale Mitigation Area, and the Southern California Blue Whale Mitigation Area.	Mitigation in this area is designed to reduce exposure of blue whales, fin whales, gray whales, and humpback whales in important seasonal foraging, migratory, and calving habitats to levels of sound that have the potential to cause injurious or behavioral impacts.

Table 47 details geographic mitigation related to the use of active sonar off the coast of Central California.

Table 47 -- Central California Large Whale Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
Acoustic	From June 1-October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C	Mitigation in this area is designed to reduce exposure of blue whales, fin whales, gray whales, and humpback whales in important

	surface ship hull-mounted mid-frequency active sonar (excluding normal maintenance and systems checks) total during training and testing within the combination of this mitigation area, the Northern California Large Whale Mitigation Area, and the Southern California Blue Whale Mitigation Area.	seasonal foraging, migratory, and calving habitats to levels of sound that have the potential to cause injurious or behavioral impacts.

Table 48 details geographic mitigation related to the use of active sonar and explosives off the coast of Southern California.

Table 48 -- Southern California Blue Whale Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
Acoustic	From June 1-October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar (excluding normal maintenance and systems checks) total during training and testing within the combination of this mitigation area, the Northern California Large Whale Mitigation Area, and the Central California Large Whale Mitigation Area.	Mitigation in this area is designed to reduce exposure of blue whales within important seasonal foraging habitats to levels of sound that have the potential to cause injurious or behavioral impacts.
Explosives	From June 1-October 31, the Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) during large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch (7 centimeter) rockets) training and testing.	Mitigation in this area is designed to reduce exposure of blue whales within important seasonal foraging habitats to explosives that have the potential to cause injury, mortality, or behavioral disturbance.

Table 47 details awareness notification message requirements for the U.S. West Coast.

Table 49 -- California Large Whale Awareness Messages

Category	Mitigation Requirements	Mitigation Benefits
Acoustic, Explosives, Physical disturbance and strike	The Action Proponents must broadcast awareness messages to alert applicable assets (and their Lookouts) transiting and training or testing off the U.S. West Coast to the possible presence of concentrations of large whales, including gray whales (November-June), fin whales (November-May), and mixed concentrations of blue, humpback, and fin whales that may occur based on predicted oceanographic	Mitigation in this area is designed to minimize potential blue whale, gray whale, and fin whale vessel interactions and exposure to acoustic stressors, explosives, and physical disturbance and strike stressors that have the potential to cause mortality, injury, or behavioral disturbance during the foraging and migration seasons, and to resident whales.

	conditions for a given year (*e.g.*, May-November, April-November). Awareness messages may provide the following types of information which could vary annually: - While blue whales tend to be more transitory, some fin whales are year-round residents that can be expected in nearshore waters within 10 nmi (18.5 km) of the California mainland and offshore operating areas at any time. - Fin whales occur in groups of one to three individuals, 90 percent of the time, and in groups of four or more individuals, 10 percent of the time. - Unique to fin whales offshore southern California (including the Santa Barbara Channel and PMSR area), there could be multiple individuals and/or separate groups scattered within a relatively small area (1-2 nmi; 1.9-2.7 km) due to foraging or social interactions. - When a large whale is observed, this may be an indicator that additional marine mammals are present and nearby, and the vessel should take this into consideration when transiting. - Lookouts must use that knowledge to help inform their visual observations during military readiness activities that involve vessel movements, active sonar, in-water explosives (including underwater explosives and explosives deployed against surface targets), or the deployment of non-explosive ordnance against surface targets in the mitigation area.	

Table 50 details real-time notification requirements for a designated area within the SOCAL Range Complex.

Table 50 -- California Large Whale Real-Time Notification Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
Physical disturbance and strike	For each instance an aggregation of large whales (three or more whales within 1 nm (1.9 km)) is sighted in the area between 32 and 33 degrees North and 117.2 and 119.5 degrees West, Action Proponent surface vessels must report the sightings to other Action Proponent vessels in the	The real-time notification area encompasses the locations of recent (i.e., 2021 through 2025) military vessel strikes, and historic strikes where precise latitude and longitude were known. Timely information regarding an aggregation of whales in a particular location may result in an increased awareness of vessel strike risk by Lookouts and vessel operators.

	vicinity. Reported sightings will be made as soon as operationally and safely feasible. The three whales that make up a defined "aggregation" do not all need to be from the same species, and the aggregation could consist either of a single group of three (or more) whales, or any combination of smaller groups totaling three (*e.g.*, a group of two whales and a solitary whale) within the 1 nmi (1.9 km) zone. Lookouts must use the information from the real-time notifications to inform their visual observations of applicable mitigation zones. If Lookouts observe a large whale aggregation within 1 nmi (1.9 km) of the event vicinity within the area between 32 and 33 degrees North and 117.2 and 119.5 degrees West, the vessel's crew will ensure the notification gets promulgated to other Navy vessels in the area.	

Table 51 details geographic mitigation related to in-air vehicle launch noise and associated monitoring for pinniped haulout locations on San Nicolas Island, California.

Table 51 -- San Nicolas Island Pinniped Haulout Mitigation Area

Category	Mitigation Requirements	Mitigation Benefits
In-air vehicle launch noise	Navy personnel must not enter pinniped haulout or rookery areas. Personnel may be adjacent to pinniped haulouts and rookery prior to and following a launch for monitoring purposes. Missiles and targets must not cross over pinniped haulout areas at altitudes less than 305 m (1,000 ft), except in emergencies or for real-time security incidents. For unmanned aircraft systems (UAS), the following minimum altitudes will be maintained over pinniped haulout areas and rookeries: Class 0-2 UAS will maintain a minimum altitude of 92 m (300 ft); Class 3 UAS will maintain a minimum altitude of 153 m (500 ft); Class 4 or 5 UAS will not be flown below 305 m (1,000 ft). The Navy may not conduct more than 40 launch events annually.	Mitigation is designed to minimize in-air launch noise and physical disturbance to pinnipeds hauled out on beaches, as well as to continue assessing baseline pinniped distribution/abundance and potential changes in pinniped use of these beaches after launch events.

	The Navy may not conduct more than 10 launch events at night annually. Launch events must be scheduled to avoid the peak pinniped pupping seasons (from January through July) to the maximum extent practicable. The Navy must implement a monitoring plan using video and acoustic monitoring of up to three pinniped haulout areas and rookeries during launch events that include missiles or targets that have not been previously monitored for at least three launch events. The Navy will review the launch procedure and monitoring methods, in cooperation with NMFS, if any incidents of injury or mortality of a pinniped are discovered during post-launch surveys, or if surveys indicate possible effects to the distribution, size, or productivity of the affected pinniped populations as a result of the specified activities. If necessary, appropriate changes will be made through modification to the Authorization prior to conducting the next launch of the same vehicle.	

Mitigation Conclusions

NMFS has carefully evaluated the Action Proponents' proposed mitigation measures—many of which were developed with NMFS' input during the previous phases of HCTT (formerly HSTT) authorizations but several of which are new since implementation of the 2018 to 2025 regulations—and considered a broad range of other measures (*i.e.*, the measures considered but eliminated in the 2025 HCTT EIS/OEIS, which reflect many of the comments that have arisen from public input or through discussion with NMFS in past years) in the context of ensuring that NMFS prescribes the means of effecting the least practicable adverse impact on the affected marine mammal species and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another: (1) the manner in which, and the degree to which, the successful implementation of the mitigation measures is expected to reduce the likelihood and/or magnitude of adverse impacts to marine mammal species and their

habitat; (2) the proven or likely efficacy of the measures; and (3) the practicability of the measures for applicant implementation, including consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

Based on our evaluation of the Action Proponents' proposed measures, as well as other measures considered by the Action Proponents and NMFS (see section 5.9 (Measures Considered but Eliminated) of chapter 5 (Mitigation) of the 2025 HCTT EIS/OEIS), NMFS has determined that these mitigation measures are appropriate means of effecting the least practicable adverse impact on marine mammal species and their habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and considering specifically personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity. Additionally, an adaptive management component helps further ensure that mitigation is regularly assessed and provides a mechanism to improve the mitigation, based on the factors above, through modification as appropriate. Thus, NMFS concludes that the mitigation measures outlined in this final rule satisfy the statutory standard and that any adverse impacts that remain cannot be practicably further mitigated.

Monitoring

Section 101(a)(5)(A) of the MMPA states that in order to authorize incidental take for an activity, NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. The MMPA implementing regulations at 50 CFR 216.104(a)(13) indicate that requests for ITAs must include the suggested means of accomplishing the necessary monitoring and reporting that will result in increased knowledge of the species and of the level of taking or impacts on populations of marine mammals that are expected to be present.

We provided a detailed discussion of monitoring in our proposed rulemaking (90 FR 32118, July 16, 2025). In the Proposed Monitoring section of the proposed rule, NMFS provided a description of the Navy Marine Species Research and Monitoring Strategic Framework, and past and current Navy monitoring in the HCTT Study Area. All of this information remains valid and applicable and is not repeated here.

The Navy's marine species monitoring program supports several monitoring projects in the HCTT Study Area at any given time. Additional details on the scientific objectives for each project can be found at: *https://www.navymarinespeciesmonitoring.us/regions/pacific/current-projects.* Future monitoring efforts by the Action Proponents in the HCTT Study Area are anticipated to continue along the same objectives: establish the baseline habitat uses and movement patterns; establish the baseline behavior (foraging, dive patterns, *etc.*); and evaluate potential exposure and behavioral responses of marine mammals exposed to training and testing activities.

Adaptive Management

The regulations governing the take of marine mammals incidental to military readiness activities in the HCTT Study Area contain an adaptive management component. Our understanding of the effects of military readiness activities (*e.g.*, acoustic and explosive stressors) on marine mammals continues to evolve, which makes the inclusion of an adaptive management component both valuable and necessary within the context of 7-year regulations.

The reporting requirements associated with this final rule are designed to provide NMFS with monitoring data from the previous year to allow NMFS to consider whether any changes to existing mitigation and monitoring requirements are appropriate. The use of adaptive management allows NMFS to consider new information from different sources to determine (with input from the Action Proponents regarding practicability) on

an annual or biennial basis if mitigation or monitoring measures should be modified (including additions or deletions). Mitigation measures could be modified if new data suggests that such modifications would have a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring and if the measures are practicable. If the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS would publish a notice of the planned LOAs in the **Federal Register** and solicit public comment.

The following are some of the possible sources of applicable data to be considered through the adaptive management process: (1) results from monitoring and exercise reports, as required by MMPA authorizations; (2) compiled results of Navy-funded research and development studies; (3) results from specific stranding investigations; (4) results from general marine mammal and sound research; and (5) any information which reveals that marine mammals may have been taken in a manner, extent, or number not authorized by these regulations or subsequent LOAs. The results from monitoring reports and other studies may be viewed at: *https://www.navymarinespeciesmonitoring.us.*

Reporting

In order to issue an ITA for an activity, section 101(a)(5)(A) of the MMPA states that NMFS must set forth requirements pertaining to the monitoring and reporting of such taking. Effective reporting is critical both to compliance as well as ensuring that the most value is obtained from the required monitoring. Reports from individual monitoring events, results of analyses, publications, and periodic progress reports for specific monitoring projects will be posted to the Navy's Marine Species Monitoring web portal: *https://www.navymarinespeciesmonitoring.us.*

We provided a detailed discussion of reporting in our proposed rulemaking (90 FR 32118, July 16, 2025). In the Proposed Reporting section of the proposed rule, NMFS

provided descriptions of: special reporting for geographic mitigation areas; the Notification and Reporting Plan for injured, live stranded, or dead marine mammals; annual HCTT Study Area marine species monitoring report; annual HCTT training and testing reports; and other reporting and coordination. All of this information remains valid and applicable and is not repeated here.

In addition to the reporting requirements included in the proposed rule, this final rule requires that in the Annual HCTT Training and Testing Reports Navy personnel must confirm that foreign military use of sonar and explosives, when such militaries are participating in a U.S. Navy-led exercise or event, combined with the Action Proponents' use of sonar and explosives, would not cause exceedance of the analyzed levels within each NAEMO modeled sonar and explosive bin used for estimating predicted impacts. Further, it requires that, for the California Large Whale Real-Time Notification Mitigation Area, the following information will be provided by the Navy in the Annual HCTT Training and Testing Reports: Date, time and general location of the whales when the aggregation was first sighted, and the total number of whales in the aggregation. If the whales are identified by species, that information will be provided as well.

Analysis and Negligible Impact Determination

General Negligible Impact Analysis

Introduction

NMFS has defined negligible impact as an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival (50 CFR 216.103). A negligible impact finding is based on the lack of likely adverse effects on annual rates of recruitment or survival (*i.e.*, population-level effects). An estimate of the number of takes alone is not enough information on which to base an impact determination. In addition to considering estimates of the number of marine mammals

that might be taken by Level A harassment or Level B harassment (as presented in table 19), NMFS considers other factors, such as the likely nature of any responses (*e.g.*, intensity, duration) and the context of any responses (*e.g.*, critical reproductive time or location, migration), as well as effects on habitat and the likely effectiveness of the mitigation. We also assess the number, intensity, and context of estimated takes by evaluating this information relative to population status. Consistent with the 1989 preamble for NMFS' implementing regulations (54 FR 40338, September 29, 1989), the impacts from other past and ongoing anthropogenic activities are incorporated into this analysis via their impacts on the environmental baseline (*e.g.*, as reflected in the regulatory status of the species, population size and growth rate where known, other ongoing sources of human-caused mortality, and ambient noise levels).

In the **Estimated Take of Marine Mammals** section, we identified the subset of potential effects that would be expected to qualify as take under the MMPA both annually and over the 7-year period covered by this rule, and then identified the maximum number of takes we believe could occur (mortality) or are reasonably expected to occur (harassment) based on the methods described. The impact that any given take will have is dependent on many case-specific factors that need to be considered in the negligible impact analysis (*e.g.*, the context of behavioral exposures such as duration or intensity of a disturbance, the health of impacted animals, the status of a species that incurs fitness-level impacts to individuals). For this rule we evaluated the likely impacts of the enumerated maximum number of harassment takes that are authorized and reasonably expected to occur, in the context of the specific circumstances surrounding these predicted takes. We also include a specific assessment of serious injury or mortality (M/SI) takes that could occur, as well as consideration of the traits and statuses of the affected species and stocks. Last, we collectively evaluated this information, as well as other more taxa-specific information and mitigation measure effectiveness, in group-

specific assessments that support our negligible impact conclusions for each stock or species. Because all of the Action Proponents' specified activities would occur within the ranges of the marine mammal stocks identified in the rule, all negligible impact analyses and determinations are at the stock level (*i.e.*, additional species-level determinations are not needed).

Harassment

The specified activities reflect representative levels of military readiness activities. The **Description of the Proposed Activity** section describes annual activities. There may be some flexibility in the exact number of hours, items, or detonations that may vary from year to year, but take totals would not exceed the maximum annual totals and 7-year totals indicated in table 19. We base our analysis and negligible impact determination on the maximum number of takes that would be reasonably expected to occur annually and are authorized, although, as stated before, the number of takes is only one part of the analysis, which includes extensive qualitative consideration of other contextual factors that influence the degree of impact of the takes on the affected individuals. To avoid repetition, we provide some general analysis immediately below that applies to all the species listed in table 19, given that some of the anticipated effects of the Action Proponents' military readiness activities on marine mammals are expected to be relatively similar in nature. Below that, we provide additional information specific to mysticetes, odontocetes, and pinnipeds and, finally, break our analysis into species (and/or stocks), or groups of species (and the associated stocks) where relevant similarities exist, to provide more specific information related to the anticipated effects on individuals of a specific stock or where there is information about the status or structure of any species that would lead to a differing assessment of the effects on the species or stock. Organizing our analysis by grouping species or stocks that share common traits or that will respond similarly to effects of the Action Proponents'

activities and then providing species- or stock-specific information allows us to avoid duplication while assuring that we have analyzed the effects of the specified activities on each affected species or stock.

The Action Proponents' harassment take request is based on one model for pile driving, a second model for land-based missile and target launches, and a third model (NAEMO) for all other acoustic stressors, which NMFS reviewed and concurs does appropriately estimate the maximum amount of harassment that is reasonably likely to occur. As described in more detail above, NAEMO calculates: (1) sound energy propagation from sonar and other transducers, air guns, and explosives during military readiness activities; (2) the sound or impulse received by animat dosimeters representing marine mammals distributed in the area around the modeled activity; and (3) whether the sound or impulse energy received by a marine mammal exceeds the thresholds for effects. Assumptions in the Navy models intentionally err on the side of overestimation when there are unknowns. The effects of the specified activities are modeled as though they would occur regardless of proximity to marine mammals, meaning that no activity-based mitigation is considered (*e.g.*, no power down or shut down). However, the modeling does quantitatively consider the possibility that marine mammals would avoid continued or repeated sound exposures to some degree, based on a species' sensitivity to behavioral disturbance. NMFS provided input to, independently reviewed, and concurred with the Action Proponents on this process. The Action Proponents' analysis, which is described in detail in section 6 of the application, was used to quantify harassment takes for this rule.

The Action Proponents and NMFS anticipate more severe effects from takes resulting from exposure to higher received levels (though this is in no way a strictly linear relationship for behavioral effects throughout species, individuals, or circumstances) and less severe effects from takes resulting from exposure to lower

received levels. However, there is also growing evidence of the importance of distance in predicting marine mammal behavioral response to sound (*i.e.*, sounds of a similar level emanating from a more distant source have been shown to be less likely to elicit a response of equal magnitude (DeRuiter, 2012)). The estimated number of takes by Level A harassment and Level B harassment does not equate to the number of individual animals the Action Proponents expect to harass (which is lower), but rather to the instances of take (*i.e.*, exposures above the Level A harassment and Level B harassment threshold) that are anticipated to occur over the 7-year period. These instances may represent either brief exposures (seconds or minutes) or, in some cases, longer durations of exposure within a day. In some cases, an animal that incurs a single take by AUD INJ or TTS may also experience a direct behavioral harassment from the same exposure. Some individuals may experience multiple instances of take (meaning over multiple days) over the course of the year, which means that the number of individuals taken is smaller than the total estimated takes. Generally speaking, the higher the number of takes as compared to the population abundance, the more repeated takes of individuals are likely, and the higher the actual percentage of individuals in the population that are likely taken at least once in a year. We look at this comparative metric (number of takes to population abundance) to give us a relative sense of where a larger portion of a species is being taken by the specified activities, where there is a likelihood that the same individuals are being taken across multiple days, and whether the number of days might be higher or more likely sequential. Where the number of instances of take is less than 100 percent of the abundance, and there is no information to specifically suggest that some subset of animals is known to congregate in an area in which activities are regularly occurring (*e.g.*, a small resident population, takes occurring in a known important area such as a BIA, or a large portion of the takes occurring in a certain region and season), the overall likelihood and number of repeated takes is generally considered low, as it

could, on one extreme, mean that every take represents a separate individual in the population being taken on one day (a minimal impact to an individual) or, more likely, that some smaller number of individuals are taken on one day annually and some are taken on a few, not likely sequential, days annually, and of course some are not taken at all.

In the ocean, the use of sonar and other active acoustic sources is often transient and is unlikely to repeatedly expose the same individual animals within a short period, for example within one specific exercise. However, for some individuals of some species, repeated exposures across different activities could occur over the year, especially where events occur in generally the same area with more resident species. In short, for some species, we expect that the total anticipated takes represent exposures of a smaller number of individuals of which some would be exposed multiple times, but, based on the nature of the specified activities and the movement patterns of marine mammals, it is unlikely that individuals from most stocks would be taken over more than a few days within a given year. This means that even where repeated takes of individuals are likely to occur, they are more likely to result from non-sequential exposures from different activities, and, even if sequential, individual animals are not predicted to be taken for more than several days in a row, at most. As described elsewhere, the nature of the majority of the exposures would be expected to be of a less severe nature, and based on the numbers, it is likely that any individual exposed multiple times is still taken on only a small percentage of the days of the year. It is more likely that not every individual is taken, or perhaps a smaller subset is taken with a slightly higher average and larger variability of highs and lows, but still with no reason to think that, for most species or stocks, any individuals would be taken a significant portion of the days of the year.

Behavioral Response

The estimates calculated using the BRF do not differentiate between the different types of behavioral responses that qualify as Level B harassment. As described in the application, the Action Proponents identified (with NMFS' input) that moderate behavioral responses, as characterized in Southall *et al.* (2021), would be considered a take. The behavioral responses predicted by the BRFs are assumed to be moderate severity exposures (*e.g.*, altered migration paths or dive profiles, interrupted nursing, breeding or feeding, or avoidance) that may last for the duration of an exposure. The Action Proponents then compiled the available data indicating at what received levels and distances those responses have occurred and used the indicated literature to build biphasic behavioral response curves and cut-off conditions that are used to predict how many instances of Level B behavioral harassment occur in a day (see the Criteria and Thresholds Technical Report). Take estimates alone do not provide information regarding the potential fitness or other biological consequences of the responses on the affected individuals. We, therefore, consider the available activity-specific, environmental, and species-specific information to determine the likely nature of the modeled behavioral responses and the potential fitness consequences for affected individuals.

Use of sonar and other transducers would typically be transient and temporary. The majority of acoustic effects to individual animals from sonar and other active sound sources during military readiness activities will be primarily from anti-submarine warfare events. It is important to note although anti-submarine warfare is one of the warfare areas of focus during MTEs, there are significant periods when active anti-submarine warfare sonars are not in use. Nevertheless, behavioral responses are assumed more likely to be significant during MTEs than during other anti-submarine warfare activities due to the duration (*i.e.*, multiple days), scale (*i.e.*, multiple sonar platforms), and use of high-power hull-mounted sonar in the MTEs. In other words, in the range of potential behavioral

effects that might be expected as part of a response that qualifies as an instance of Level B behavioral harassment (which by nature of the way it is modeled/counted, occurs within 1 day), the less severe end might include exposure to comparatively lower levels of a sound, at a detectably greater distance from the animal, for a few or several minutes, and that could result in a behavioral response such as avoiding an area that an animal would otherwise have chosen to move through or feed in for some amount of time or breaking off one or a few feeding bouts. More severe effects could occur when the animal gets close enough to the source to receive a comparatively higher level, is exposed continuously to one source for a longer time, or is exposed intermittently to different sources throughout a day. Such effects might result in an animal having a more severe flight response and leaving a larger area for a day or more or potentially losing feeding opportunities for a day. However, such severe behavioral effects are expected to occur infrequently.

To help assess this, for sonar (LFAS/MFAS/high-frequency active sonar (HFAS)) used in the HCTT Study Area, the Action Proponents provided information estimating the instances of take by Level B harassment by behavioral disturbance under each BRF that would occur within 6-dB increments (discussed below in the *Group and Species-Specific Analyses* section), and by distance in 5-km bins in section 2.3.3 of appendix A of the application. As mentioned above, all else being equal, an animal's exposure to a higher received level is more likely to result in a behavioral response that is more likely to lead to adverse effects, which could more likely accumulate to impacts on reproductive success or survivorship of the animal, but other contextual factors (*e.g.*, distance, duration of exposure, and behavioral state of the animals) are also important (Di Clemente *et al.*, 2018; Ellison *et al.*, 2012; Moore and Barlow, 2013; Southall *et al.*, 2019; Wensveen *et al.*, 2017, *etc.*). The majority of takes by Level B harassment are expected to be in the form of comparatively milder responses (*i.e.*, lower-level exposures that still qualify as

take under the MMPA, but would likely be less severe along the continuum of responses that qualify as take) of a generally shorter duration. We anticipate more severe effects from takes when animals are exposed to higher received levels of sound or at closer proximity to the source. Because species belonging to taxa that share common characteristics are likely to respond and be affected in similar ways, these discussions are presented within each species group below in the *Group and Species-Specific Analyses* section. As discussed in the Behavioral Responses section of the proposed rulemaking (90 FR 32118, July 16, 2025), behavioral response is likely highly variable between species, individuals within a species, and context of the exposure. Specifically, given a range of behavioral responses that may be classified as Level B harassment, to the degree that higher received levels of sound are expected to result in more severe behavioral responses, only a smaller percentage of the anticipated Level B harassment from the specified activities might result in more severe responses (see the *Group and Species-Specific Analyses* section below for more detailed information).

Physiological Stress Response

Some of the lower level physiological stress responses (*e.g.*, orientation or startle response, change in respiration, change in heart rate) discussed in the Potential Effects of Underwater Sound on Marine Mammals section of the proposed rulemaking (90 FR 32118, July 16, 2025), would likely co-occur with the predicted harassments, although these responses are more difficult to detect and fewer data exist relating these responses to specific received levels of sound. Takes by Level B harassment, then, may have a stress-related physiological component as well; however, we would not expect the Action Proponents' generally short-term, intermittent, and (typically in the case of sonar) transitory activities to create conditions of long-term continuous noise leading to long-term physiological stress responses in marine mammals that could affect reproduction or survival.

Diel Cycle

Many animals perform vital functions, such as feeding, resting, traveling, and socializing on a diel cycle (*i.e.*, 24-hour cycle). Behavioral responses to noise exposure, when taking place in a biologically important context, such as disruption of critical life functions, displacement, or avoidance of important habitat, are more likely to be significant if they last more than one diel cycle or recur on subsequent days (Southall *et al.*, 2007). Henderson *et al.* (2016) found that ongoing smaller scale events had little to no impact on foraging dives for Blainville's beaked whale, while multi-day training events may decrease foraging behavior for Blainville's beaked whale (Manzano-Roth *et al.*, 2016). Consequently, a behavioral response lasting less than 1 day and not recurring on subsequent days is not considered severe unless it could directly affect reproduction or survival (Southall *et al.*, 2007). Note that there is a difference between multiple-day substantive behavioral responses and multiple-day anthropogenic activities. For example, just because an at-sea exercise lasts for multiple days does not necessarily mean that individual animals are either exposed to those exercises for multiple days or, further, exposed in a manner resulting in a sustained multiple day substantive behavioral response. Large multi-day Navy exercises, such as anti-submarine warfare activities, typically include vessels moving faster than while in transit (typically 10-15 kn (18.5-27.8 km/hr) or higher) and generally cover large areas that are relatively far from HFASshore (typically more than 3 nmi (5.6 km) from shore) and in waters greater than 600 ft (182.9 m) deep. Marine mammals are moving as well, which would make it unlikely that the same animal could remain in the immediate vicinity of the ship for the entire duration of the exercise. Further, the Action Proponents do not necessarily operate active sonar the entire time during an exercise. While it is certainly possible that these sorts of exercises could overlap with individual marine mammals multiple days in a row at levels above those anticipated to result in a take, because of the factors mentioned

above, it is considered unlikely for the majority of takes. However, it is also worth noting that the Action Proponents conduct many different types of noise-producing activities over the course of the year and it is likely that some marine mammals will be exposed to more than one activity and taken on multiple days, even if they are not sequential.

Durations of Navy activities utilizing tactical sonar sources and explosives vary and are fully described in chapter 2 of the 2025 HCTT EIS/OEIS. Sonar used during anti-submarine warfare would impart the greatest amount of acoustic energy of any category of sonar and other transducers analyzed in the application and include hull-mounted, towed, line array, sonobuoy, helicopter dipping, and torpedo sonars. Most anti-submarine warfare sonars are MFAS (1-10 kHz); however, some sources may use higher or lower frequencies. Anti-submarine warfare training and testing activities using hull-mounted sonar proposed for the HCTT Study Area generally last for only a few hours. However, anti-submarine warfare testing activities range from several hours, to a single or more than 1 day but less than 10 days, to more than 10 days for large integrated anti-submarine warfare MTEs (see table 2, table 3, and table 7 of the proposed rule; 90 FR 32118, July 16, 2025). For these multi-day exercises there will typically be extended intervals of non-activity in between active sonar periods. Because of the need to train in a large variety of situations, the Navy conducts anti-submarine warfare activities in varying locations. Given the average length and dynamic nature of anti-submarine warfare activities (times of sonar use) and typical vessel speed, combined with the fact that the majority of the cetaceans would not likely remain in proximity to the sound source, it is unlikely that an animal would be exposed to LFAS/MFAS/HFAS at levels or durations likely to result in a substantive response that would then be carried on for more than 1 day or on successive days.

Most planned explosive events are instantaneous or scheduled to occur over a short duration (less than 2 hours) and the explosive component of these activities lasts

only for minutes. Although explosive activities may sometimes be conducted in the same general areas repeatedly, because of their short duration and the fact that they are in the open ocean and animals can easily move away, it is similarly unlikely that animals would be exposed for long, continuous amounts of time, or demonstrate sustained behavioral responses. Although SINKEXs may last for up to 48 hours (4-8 hours typically, possibly 1-2 days), they are almost always completed in a single day and only a maximum of one event is planned annually for SOCAL and 2-3 annually in Hawaii (see table 3 of the proposed rule; 90 FR 32118, July 16, 2025). They are stationary and conducted in deep, open water (where fewer marine mammals would typically be expected to be randomly encountered), and they have rigorous monitoring (see table 34) and shutdown procedures all of which make it unlikely that individuals would be exposed to the exercise for extended periods or on consecutive days, though some individuals may be exposed on multiple days.

Assessing the Number of Individuals Taken and the Likelihood of Repeated Takes

As described previously, Navy modeling uses the best available science to predict the instances of exposure above certain acoustic thresholds, which are equated, as appropriate, to harassment takes. As further noted, for active acoustics it is more challenging to parse out the number of individuals taken by Level B harassment and the number of times those individuals are taken from this larger number of instances, though factors such as movement ecology (*e.g.*, is the species resident and more likely to remain in closer proximity to ongoing activities, versus nomadic or migratory; Keen *et al.*, 2021) or whether there are known BIAs where animals are known to congregate can help inform this. One method that NMFS uses to help better understand the overall scope of the impacts is to compare these total instances of take against the abundance of that species (or stock if applicable). For example, if there are 100 harassment takes in a population of 100, one can assume either that every individual was exposed above

acoustic thresholds once per year, or that some smaller number were exposed a few times per year, and a few were not exposed at all. Where the instances of take exceed 100 percent of the population, multiple takes of some individuals are predicted and expected to occur within a year. Generally speaking, the higher the number of takes as compared to the population abundance, the more multiple takes of individuals are likely, and the higher the actual percentage of individuals in the population that are likely taken at least once in a year. We look at this comparative metric to give us a relative sense of where larger portions of the species are being taken by the Action Proponents' activities and where there is a higher likelihood that the same individuals are being taken across multiple days and where that number of days might be higher. It also provides a relative picture of the scale of impacts to each species.

In the ocean, unlike a modeling simulation with static animals, the transient nature of sonar use makes it unlikely to repeatedly expose the same individual animals within a short period, for example, within one specific exercise. However, some repeated exposures across different activities could occur over the year with more resident species. In short, we expect the total anticipated takes represent exposures of a smaller number of individuals of which some could be exposed multiple times, but, based on the nature of the Action Proponents' activities and the movement patterns of marine mammals, it is unlikely that any particular subset would be taken over more than several sequential days (with a few possible exceptions discussed in the species-specific conclusions). In other cases, such as activities that overlap habitat of small and resident populations, repeated exposures of the same individuals may be more likely given the likelihood that a smaller number of animals would routinely use the affected habitat.

When calculating the proportion of a population taken (*e.g.*, the number of takes divided by population abundance), which can also be helpful in estimating the number of days over which some individuals may be taken, it is important to choose an appropriate

population estimate against which to make the comparison. Herein, NMFS considers two potential abundance estimates, the SARs and the NMSDD abundance estimates. The SARs, where available, provide the official population estimate for a given species or stock in U.S. waters in a given year. These estimates are typically generated from the most recent shipboard and/or aerial surveys conducted, and in some cases, the estimates show substantial year-to-year variability. When the stock is known to range well outside of U.S. EEZ boundaries, population estimates based on surveys conducted only within the U.S. EEZ are known to be underestimates. The NMSDD-derived abundance estimates are abundances for within the boundaries described for the density database for the California and Hawaii Study Areas only and, therefore, differ from some SAR abundance estimates. For the California Study Area, the NMSDD abundances are based on the extent of the west coast density models, which include areas off the Baja California peninsula of Mexico to the south but are truncated to the north and west of the California portion of the Study Area as shown in the revised Density Technical Report. For some species, the NMSDD abundances are based on density models that extend up to the northern extent of the west coast U.S. EEZ, beyond the HCTT Study Area. These are noted in the table. In some instances, even this larger extent does not cover the full range of a species or stock. For the Hawaii Study Area, the NMSDD abundances are based on a buffer around the Hawaiian island chain. Thus, island-associated species are encompassed, but abundances of wider-ranging species may be underestimated.

The SAR and NMSDD abundance estimates can differ substantially because these estimates may be based on different methods and data sources. For example, the SARs consider data only from the past 8 year period, whereas the NMSDD considers a longer data history. Further, the SARs estimate the number of animals in a population but not spatial densities. NMSDD uses predictive density models to estimate species presence, even where sighting data is limited or lacking altogether. Each density model is limited to

the variables and assumptions considered by the original data source provider. NMFS considered these factors and others described in the revised Density Technical Report when comparing the estimated takes to current population abundances for each species or stock.

In consideration of the factors described above, to estimate repeated impacts across large areas relative to species geographic distributions, comparing the impacts predicted in NAEMO to abundances predicted using the NMSDD models is usually preferable. By comparing estimated take to the NMSDD abundance estimates, impacts and abundance estimates are based on the same underlying assumptions about a species' presence. NMFS has compared the estimated take to the NMSDD abundance estimates herein for all stocks, with the exception of stocks where the abundance information fits into one of the following scenarios, in which case NMFS concluded that comparison to the SAR abundance estimate is more appropriate: (1) a species' or stocks' range extends beyond the U.S. EEZ and the SAR abundance estimate is greater than the NMSDD abundance. For highly migratory species (*e.g.*, large whales) or those whose geographic distribution extends beyond the boundaries of the HCTT Study Area (*e.g.*, Alaska stocks), comparisons to the SAR are appropriate. Many of the stocks present in the HCTT Study Area have ranges significantly larger than the HCTT Study Area, and that abundance is captured by the SAR. Therefore: (1) comparing the estimated takes to an abundance, in this case the SAR abundance, which represents the total population, may be more appropriate than modeled abundances for only the HCTT Study Area; and (2) when the current minimum population estimate in the SAR is greater than the NMSDD abundance, regardless of whether the stock range extends beyond the EEZ. The NMSDD and SAR abundance estimates are both included in table 54, table 56, table 58, table 60, table 62, and table 64, and each table indicates which stock abundance estimate was selected for comparison to the take estimate for each species or stock.

Temporary Threshold Shift

NMFS and the Navy have estimated that all species of marine mammals may incur some level of TTS from active sonar. As mentioned previously, in general, TTS can last from a few minutes to days, be of varying degree, and occur across various frequency bandwidths, all of which determine the severity of the impacts on the affected individual, which can range from minor to more severe. Table 3 through table 17 indicate the number of takes by TTS that may be incurred by different species from exposure to active sonar, air guns, pile driving, and explosives. The TTS incurred by an animal is primarily characterized by three characteristics:

1. Frequency—Available data suggest that most TTS occurs in the frequency range of the source up to one octave higher than the source (with the maximum TTS at 1/2 octave above) (Finneran, 2015; Southall *et al.*, 2019). The Navy's MF anti-submarine warfare sources, which are the highest power and most numerous sources and the ones that cause the most take by TTS, utilize the 1-10 kHz frequency band, which suggests that if TTS were to be induced by any of these MF sources it would be in a frequency band somewhere between approximately 1 and 20 kHz, which is in the range of communication calls for many odontocetes, but below the range of the echolocation signals used for foraging. There are fewer hours of HF source use and the sounds would attenuate more quickly, plus they have lower source levels, but if an animal were to incur TTS from these sources, it would cover a higher frequency range (sources are between 10 and 100 kHz, which means that TTS could range up to the highest frequencies audible to VHF cetaceans, approaching 200 kHz), which could overlap with the range in which some odontocetes communicate or echolocate. There are fewer LF sources and the majority are used in the more readily mitigated testing environment, and TTS from LF sources would most likely occur below 2 kHz, which is in the range where many mysticetes communicate and also where other auditory cues are located (*e.g.*, waves,

snapping shrimp, fish prey). Also of note, the majority of sonar sources from which TTS may be incurred occupy a narrow frequency band, which means that the TTS incurred would also be across a narrower band (*i.e.*, not affecting the majority of an animal's hearing range).

2. Degree of the shift (*i.e.*, by how many dB the sensitivity of the hearing is reduced)—Generally, both the degree of TTS and the duration of TTS will be greater if the marine mammal is exposed to a higher level of energy (which would occur when the peak SPL is higher or the duration is longer). The threshold for the onset of TTS was discussed in the Hearing Loss and Auditory Injury section of the proposed rulemaking (90 FR 32118, July 16, 2025). An animal would have to approach closer to the source or remain in the vicinity of the sound source appreciably longer to increase the received SEL, which would be difficult considering the Lookouts and the nominal speed of an active sonar vessel (10-15 kn (18.5-27.8 km/hr)) and the relative motion between the sonar vessel and the animal. In the TTS studies discussed in the **Potential Effects of Specified Activities on Marine Mammals and Their Habitat** section, some using exposures of almost 1 hour in duration or up to 217 SEL, most of the TTS induced was 15 dB or less, though Finneran *et al.* (2007) induced 43 dB of TTS with a 64-second exposure to a 20 kHz source measured via auditory steady-state response (auditory evoked potential measurement). The SQS-53 (MFAS) hull-mounted sonar (MF1) nominally emits a short (1-second) ping typically every 50 seconds, incurring those levels of TTS due to this source is highly unlikely. Sources with higher duty cycles, such as MF1C (high duty cycle hull-mounted sonar) produce longer ranges to effects and contribute to auditory effects from this action. Since most hull-mounted sonar, such as the SQS-53, engaged in anti-submarine warfare training would be moving at between 10 and 15 kn (18.5 to 27.8 km/hr) and nominally pinging every 50 seconds, the vessel will have traveled a minimum distance of approximately 843.2 ft (257 m) during the time

between those pings. For a Navy vessel moving at a nominal 10 kn (18.5 km/hr), it is unlikely a marine mammal would track with the ship and could maintain speed parallel to the ship to receive adequate energy over successive pings to suffer TTS. In general, there is a higher potential for TTS associated with sources with higher duty cycles, like continuous hull-mounted sonars, compared to those sources that are intermittent or have lower duty cycles (Kastelein *et al.*, 2015). Though high duty cycle or continuous hull-mounted sonars make up a small percentage of the Navy's overall MFAS activities.

In short, given the anticipated duration and levels of sound exposure, we would not expect marine mammals to incur more than relatively low levels of TTS in most cases for sonar exposure. To add context to this degree of TTS, individual marine mammals may regularly experience variations of 6 dB differences in hearing sensitivity in their lifetime (Finneran *et al.*, 2000; Finneran *et al.*, 2002; Schlundt *et al.*, 2000).

3. Duration of TTS (recovery time)—As discussed in the **Potential Effects of Specified Activities on Marine Mammals and Their Habitat** section of the proposed rulemaking (90 FR 32118, July 16, 2025), in TTS laboratory studies using exposures of up to an hour in duration or up to 217 dB SEL, most individuals recovered within 1 day (or less, often in minutes) (Kastelein, 2020b). One study resulted in a recovery that took 4 days (Finneran *et al.*, 2015; Southall *et al.*, 2019). However, there is evidence that repeated exposures resulting in TTS could potentially lead to residual threshold shifts that persist for longer durations and can result in PTS (Reichmuth *et al.*, 2019).

Compared to laboratory studies, marine mammals are likely to experience lower SELs from sonar used in the HCTT Study Area due to movement of the source and animals, and because of the lower duty cycles typical of higher power sources (though some of the Navy MF1C sources have higher duty cycles). Therefore, TTS resulting from MFAS would likely be of lesser magnitude and duration compared to laboratory studies. Also, for the same reasons discussed above in the Diel Cycle section, and because of the

short distance between the source and animals needed to reach high SELs, it is unlikely that animals would be exposed to the levels necessary to induce TTS in subsequent time periods such that hearing recovery is impeded. Additionally, though the frequency range of TTS that marine mammals might incur would overlap with some of the frequency ranges of their vocalization types, the frequency range of TTS from MFAS would not usually span the entire frequency range of one vocalization type, much less span all types of vocalizations or other critical auditory cues.

As a general point, the majority of the TTS takes are the result of exposure to hull-mounted MFAS, with fewer from explosives (broad-band lower frequency sources), and even fewer from LFAS or HFAS sources (narrower band). As described above, we expect the majority of these takes to be in the form of mild, short-term (minutes to hours), narrower band (affecting only a portion of the animal's hearing range) TTS. This means that for one to several times per year, for several minutes, maybe a few hours, or at most in limited circumstances a few days, a taken individual will have diminished hearing sensitivity (more than natural variation, but nowhere near total deafness). More often than not, such an exposure would occur within a narrower mid- to higher frequency band that may overlap part (but not all) of a communication, echolocation, or predator range, but sometimes across a lower or broader bandwidth. The significance of TTS is also related to the auditory cues that are germane within the time period that the animal incurs the TTS. For example, if an odontocete has TTS at echolocation frequencies, but incurs it at night when it is resting and not feeding, it may not be as impactful. In short, the expected results of any one of these limited number of mild TTS occurrences could be that: (1) it does not overlap signals that are pertinent to that animal in the given time period; (2) it overlaps parts of signals that are important to the animal, but not in a manner that impairs interpretation; or (3) it reduces detectability of an important signal to a small degree for a short amount of time—in which case the animal may be aware and be able to compensate

(but there may be slight energetic cost), or the animal may have some reduced opportunities (*e.g.*, to detect prey) or reduced capabilities to react with maximum effectiveness (*e.g.*, to detect a predator or navigate optimally). However, it is unlikely that individuals would experience repeated or high degree TTS overlapping in frequency and time with signals critical for behaviors that would impact overall fitness.

Auditory Masking or Communication Impairment

The ultimate potential impacts of masking on an individual (if it were to occur) are similar to those discussed for TTS, but an important difference is that masking occurs only during the time of the signal, versus TTS, which continues beyond the duration of the signal. Fundamentally, masking is referred to as a chronic effect because one of the key harmful components of masking is its duration—the fact that an animal would have reduced ability to hear or interpret critical cues becomes much more likely to cause a problem the longer it occurs. Also inherent in the concept of masking is the fact that the potential for the effect is present only during the times that the animal and the source are in close enough proximity for the effect to occur (and further, this time period would need to coincide with a time that the animal was utilizing sounds at the masked frequency). As our analysis has indicated, because of the relative movement of vessels and the sound sources primarily involved in this rule, we do not expect the exposures with the potential for masking to be of a long duration.

Masking is fundamentally more of a concern at lower frequencies, because low frequency signals propagate significantly farther than higher frequencies and because they are more likely to overlap both the narrower LF calls of mysticetes, as well as many non-communication cues such as fish and invertebrate prey, and geologic sounds that inform navigation. Masking is also more of a concern from continuous sources (versus intermittent sonar signals) where there is no quiet time between pulses and detection and interpretation of auditory signals is likely more challenging. For these reasons, dense

aggregations of, and long exposure to, continuous LF activity are much more of a concern for masking, whereas comparatively short-term exposure to the predominantly intermittent pulses of often narrow frequency range MFAS or HFAS, or explosions are not expected to result in a meaningful amount of masking. While the Action Proponents occasionally use LF and more continuous sources, it is not in the contemporaneous aggregate amounts that would be expected to accrue to degrees that would have the potential to affect reproductive success or survival. Additional detail is provided below.

Standard hull-mounted MFAS typically pings every 50 seconds. Some hull-mounted anti-submarine sonars can also be used in an object detection mode known as "Kingfisher" mode (*e.g.*, used on vessels when transiting to and from port) where pulse length is shorter but pings are much closer together in both time and space since the vessel goes slower when operating in this mode, and during which an increased likelihood of masking in the vicinity of vessel could be expected. For the majority of other sources, the pulse length is significantly shorter than hull-mounted active sonar, on the order of several microseconds to tens of milliseconds. Some of the vocalizations that many marine mammals make are less than 1 second long; so, for example, with hull-mounted sonar, there would be a 1 in 50 chance (only if the source was in close enough proximity for the sound to exceed the signal that is being detected) that a single vocalization might be masked by a ping. However, when vocalizations (or series of vocalizations) are longer than the 1 second pulse of hull-mounted sonar, or when the pulses are only several microseconds long, the majority of most animals' vocalizations would not be masked.

Most anti-submarine warfare sonars and countermeasures use MF frequencies and a few use LF and HF frequencies. Most of these sonar signals are limited in the temporal, frequency, and spatial domains. The duration of most individual sounds is short, lasting up to a few seconds each. A few systems operate with higher duty cycles or nearly

continuously, but they typically use lower power, which means that an animal would have to be closer, or in the vicinity for a longer time, to be masked to the same degree as by a higher level source. Nevertheless, masking could occasionally occur at closer ranges to these high-duty cycle and continuous active sonar systems, but as described previously, it would be expected to be of a short duration. While data are lacking on behavioral responses of marine mammals to continuously active sonars, mysticete species are known to habituate to novel and continuous sounds (Nowacek *et al.*, 2004), suggesting that they are likely to have similar responses to high-duty cycle sonars. Furthermore, most of these systems are hull-mounted on surface ships with the ships moving at least 10 kn (18.5 km/hr), and it is unlikely that the ship and the marine mammal would continue to move in the same direction and the marine mammal subjected to the same exposure due to that movement. Most anti-submarine warfare activities are geographically dispersed and last for only a few hours, often with intermittent sonar use even within this period. Most anti-submarine warfare sonars also have a narrow frequency band (typically less than one-third octave). These factors reduce the likelihood of sources causing significant masking. HF signals (above 10 kHz) attenuate more rapidly in the water due to absorption than do lower frequency signals, thus producing only a very small zone of potential masking. If masking or communication impairment were to occur briefly, it would more likely be in the frequency range of MFAS (the more powerful source), which overlaps with some odontocete vocalizations (but few mysticete vocalizations); however, it would likely not mask the entirety of any particular vocalization, communication series, or other critical auditory cue, because the signal length, frequency, and duty cycle of the MFAS/HFAS signal does not perfectly resemble the characteristics of any single marine mammal species' vocalizations.

Other sources used in the Action Proponents' training and testing that are not explicitly addressed above, many of either higher frequencies (meaning that the sounds generated attenuate even closer to the source) or used less frequently, would be expected to contribute to masking over far smaller areas and/or times. For the reasons described here, any limited masking that could potentially occur would be minor and short-term.

In conclusion, masking is more likely to occur in the presence of broadband, relatively continuous noise sources such as from vessels; however, the duration of temporal and spatial overlap with any individual animal and the spatially separated sources that the Action Proponents use are not expected to result in more than short-term, low impact masking that will not affect reproduction or survival.

Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives

Table 3 through table 17 indicate the number of takes of each species by Level A harassment in the form of auditory injury resulting from exposure to active sonar and/or explosives estimated to occur, and table 19 indicates the totals across all activities. The number of takes estimated to result from auditory injury annually from sonar, air guns, and explosives for each species/stock from all activities combined ranges from 0 to 1,235 (the 1,235 is for the CA/OR/WA stock of Dall's porpoise). Thirty-two stocks have the potential to incur non-auditory injury from explosives, and the number of individuals from any given stock from all activities combined ranges from 1 to 71 (the 71 is for the CA/OR/WA stock of short-beaked common dolphin). As described previously, the Navy's model likely overestimates the number of injurious takes to some degree. Nonetheless, these Level A harassment take numbers represent the maximum number of instances in which marine mammals would be reasonably expected to incur auditory and/or non-auditory injury, and we have analyzed them accordingly.

If a marine mammal is able to approach a surface vessel within the distance necessary to incur auditory injury in spite of the mitigation measures, the likely speed of the vessel (nominally 10-15 kn (18.5-27.8 km/hr)) and relative motion of the vessel would make it very difficult for the animal to remain in range long enough to accumulate enough energy to result in more than a mild case of auditory injury. As discussed previously in relation to TTS, the likely consequences to the health of an individual that incurs auditory injury can range from mild to more serious and is dependent upon the degree of auditory injury and the frequency band associated with auditory injury. The majority of any auditory injury incurred as a result of exposure to Navy sources would be expected to be in the 2-20 kHz range (resulting from the most powerful hull-mounted sonar) and could overlap a small portion of the communication frequency range of many odontocetes, whereas other marine mammal groups have communication calls at lower frequencies. Because of the broadband nature of explosives, auditory injury incurred from exposure to explosives would occur over a lower, but wider, frequency range. Permanent loss of some degree of hearing is a normal occurrence for older animals, and many animals are able to compensate for the shift, both in old age or at younger ages as the result of stressor exposure. While a small loss of hearing sensitivity may include some degree of energetic costs for compensating or may mean some small loss of opportunities or detection capabilities, at the expected scale it would be unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival.

The Action Proponents implement mitigation measures (described in the **Mitigation Measures** section) during explosive activities, including delaying detonations when a marine mammal is observed in the mitigation zone. Nearly all explosive events will occur during daylight hours thereby improving the sightability of marine mammals and mitigation effectiveness. Observing for marine mammals during the explosive

activities will include visual and passive acoustic detection methods (the latter when they are available and part of the activity) before the activity begins, in order to cover the mitigation zones that can range from 200 yd (183 m) to 2,500 yd (2,286 m) depending on the source (*e.g.*, explosive sonobuoy, explosive torpedo, explosive bombs), and 2.5 nmi (4.6 km) for sinking exercises (see table 25 through table 34).

The type and amount of take by Level A harassment are indicated for all species and species groups in table 54, table 56, table 58, table 60, table 62, and table 64. Generally speaking, non-auditory injuries from explosives could range from minor lung injuries (the most sensitive organ and first to be affected) that consist of some short-term reduction of health and fitness immediately following the injury that heals quickly and will not have any discernible long-term effects, up to more impactful permanent injuries across multiple organs that may cause health problems and negatively impact reproductive success (*i.e.*, increase the time between pregnancies or even render reproduction unlikely) but fall just short of a "serious injury" by virtue of the fact that the animal is not expected to die. Nonetheless, due to the Navy's mitigation and detection capabilities, we would not expect marine mammals to typically be exposed to a more severe blast located closer to the source—so the impacts likely would be less severe. In addition, most non-auditory injuries and mortalities or serious injuries are predicted for stocks with medium to large group sizes, mostly delphinids, which increases sightability. It is still difficult to evaluate how these injuries may or may not impact an animal's fitness; however, these effects are seen only in limited numbers (single digits for all but three stocks) and mostly in species of moderate, high, and very high abundances. In short, it is unlikely that any, much less all, of the limited number of injuries accrued to any one stock would result in reduced reproductive success of any individuals. Even if a few injuries did result in reduced reproductive success of individuals, the status of the affected stocks are such that it would not be expected to adversely impact rates of

reproduction (and auditory injury of the low severity anticipated here is not expected to affect the survival of any individual marine mammals).

Serious Injury and Mortality

NMFS is authorizing a very limited number of serious injuries or mortalities that could occur in the event of a vessel strike or as a result of marine mammal exposure to explosive detonations. We note here that the takes from potential vessel strikes or explosive exposures enumerated below could result in non-serious injury, but their worst potential outcome (*i.e.*, mortality) is analyzed for the purposes of the negligible impact determination.

The MMPA requires that PBR be estimated in SARs and that it be used in applications related to the management of take incidental to commercial fisheries (*i.e.*, the take reduction planning process described in section 118 of the MMPA and the determination of whether a stock is "strategic" as defined in section 3). While nothing in the statute requires the application of PBR outside the management of commercial fisheries interactions with marine mammals, NMFS recognizes that as a quantitative metric, PBR may be useful as a consideration when evaluating the impacts of other human-caused activities on marine mammal stocks. Outside the commercial fishing context, and in consideration of all known human-caused mortality, PBR can help inform the potential effects of M/SI requested to be authorized under section 101(a)(5)(A) of the MMPA. As noted by NMFS and the U.S. Fish and Wildlife Service in our implementing regulations for the 1986 amendments to the MMPA (54 FR 40341, September 29, 1989), the Services consider many factors, when available, in making a negligible impact determination, including, but not limited to: (1) the status of the species or stock relative to optimum sustainable population (OSP) (if known); (2) whether the recruitment rate for the species or stock is increasing, decreasing, stable, or unknown; (3) the size and distribution of the population; and (4) existing impacts and environmental conditions. In

this multi-factor analysis, PBR can be a useful indicator for when, and to what extent, the agency should take an especially close look at the circumstances associated with the potential mortality, along with any other factors that could influence annual rates of recruitment or survival.

Below we describe how PBR is considered in NMFS M/SI analysis. Please see the 2020 Northwest Training and Testing Final Rule (85 FR 72312, November 12, 2020) for a background discussion of PBR and how it was adopted for use authorizing incidental take under MMPA section 101(a)(5)(A) for specified activities such as the Action Proponents' training and testing in the HCTT Study Area.

When considering PBR during evaluation of effects of M/SI under MMPA section 101(a)(5)(A), we utilize a two-tiered analysis for each stock for which M/SI is proposed for authorization:

Tier 1: Compare the total human-caused average annual M/SI estimate from all sources, including the M/SI proposed for authorization from the specific activity, to PBR. If the total M/SI estimate is less than or equal to PBR, then the specific activity is considered to have a negligible impact on that stock. If the total M/SI estimate (including from the specific activity) exceeds PBR, conduct the Tier 2 analysis.

Tier 2: Evaluate the estimated M/SI from the specified activity relative to the stock's PBR. If the M/SI from the specified activity is less than or equal to 10 percent of PBR and other major sources of human-caused mortality have mitigation in place, then the individual specified activity is considered to have a negligible impact on that stock. If the estimate exceeds 10 percent of PBR, then, absent other mitigating factors, the specified activity could be considered likely to have a non-negligible impact on that stock and additional analysis is necessary.

Additional detail regarding the two tiers of the evaluation is provided below.

As indicated above, the goal of the Tier 1 assessment is to determine whether total annual human-caused mortality, including from the specified activity, would exceed PBR. To aid in the Tier 1 evaluation and get a clearer picture of the amount of annual M/SI that remains without exceeding PBR, for each species or stock, we first calculate a "residual PBR," which equals PBR minus the ongoing annual human-caused M/SI (*i.e.*, Residual PBR = PBR - (annual M/SI estimate from the SAR + other M/SI authorized under section 101(a)(5)(A) of the MMPA)). If the ongoing human-caused M/SI from other sources does not exceed PBR, then residual PBR is a positive number, and we consider how the proposed authorized incidental M/SI from the specified activities being evaluated compares to residual PBR using the Tier 1 framework in the following paragraph. If the ongoing anthropogenic mortality from other sources already exceeds PBR, then residual PBR is a negative number and we move to the Tier 2 discussion further below to consider the M/SI from the specific activities.

To reiterate, the Tier 1 analysis overview in the context of residual PBR, if the M/SI from the specified activity does not exceed PBR, the impacts of the authorized M/SI on the species or stock are generally considered to be negligible. As a simplifying analytical tool in the Tier 1 evaluation, we first consider whether the M/SI from the specified activities could cause incidental M/SI that is less than 10 percent of residual PBR, which we consider an "insignificance threshold." If so, we consider M/SI from the specified activities to represent an insignificant incremental increase in ongoing anthropogenic M/SI for the marine mammal stock in question that alone will clearly not adversely affect annual rates of recruitment and survival and for which additional analysis or discussion of the anticipated M/SI is not required because the negligible impact standard clearly will not be exceeded on that basis alone.

When the M/SI from the specified activity is above the insignificance threshold in the Tier 1 evaluation, it does not indicate that the M/SI associated with the specified

activities is necessarily approaching a level that would exceed negligible impact. Rather, it is used as a cue to look more closely if and when the M/SI for the specified activity approaches residual PBR, as it becomes increasingly necessary (the closer the M/SI from the specified activity is to 100 percent residual PBR) to carefully consider whether there are other factors that could affect reproduction or survival, such as take by Level A and/or Level B harassment that has been predicted to impact reproduction or survival of individuals, or other considerations such as information that illustrates high uncertainty involved in the calculation of PBR for some stocks. Recognizing that the impacts of harassment of any authorized incidental take (by Level A or Level B harassment from the specified activities) would not combine with the effects of the authorized M/SI to adversely affect the stock through effects on recruitment or survival, if the proposed authorized M/SI for the specified activity is less than residual PBR, the M/SI, alone, would be considered to have a negligible impact on the species or stock. If the proposed authorized M/SI is greater than residual PBR, then the assessment should proceed to Tier 2.

For the Tier 2 evaluation, recognizing that the total annual human-caused M/SI exceeds PBR, we consider whether the incremental effects of the proposed authorized M/SI for the specified activity, specifically, would be expected to result in a negligible impact on the affected species or stocks. For the Tier 2 assessment, consideration of other factors (positive or negative), including those described above (*e.g.*, the certainty in the data underlying PBR and the impacts of any harassment authorized for the specified activity), as well as the mitigation in place to reduce M/SI from other activities is especially important to assessing the impacts of the M/SI from the specified activity on the species or stock. PBR is a conservative metric and not sufficiently precise to serve as an absolute predictor of population effects upon which mortality caps would appropriately be based. For example, in some cases stock abundance (which is one of

three key inputs into the PBR calculation) is underestimated because marine mammal survey data within the U.S. EEZ are used to calculate the abundance even when the stock range extends well beyond the U.S. EEZ. An underestimate of abundance could result in an underestimate of PBR. Alternatively, we sometimes may not have complete M/SI data beyond the U.S. EEZ to compare to PBR, which could result in an overestimate of residual PBR. The accuracy and certainty around the data that feed any PBR calculation, such as the abundance estimates, must be carefully considered to evaluate whether the calculated PBR accurately reflects the circumstances of the particular stock.

As referenced above, in some cases the ongoing human-caused mortality from activities other than those being evaluated already exceeds PBR and, therefore, residual PBR is negative. In these cases, any additional mortality would result in greater exceedance of PBR. PBR is helpful in informing the analysis of the effects of mortality on a species or stock because it is important from a biological perspective to be able to consider how the total mortality in a given year may affect the population. However, section 101(a)(5)(A) of the MMPA indicates that NMFS shall authorize the requested incidental take from a specified activity if we find that "the total of such taking [*i.e.*, from the specified activity] will have a negligible impact on such species or stock." In other words, the task under the statute is to evaluate the applicant's anticipated take in relation to their take's impact on the species or stock, not other entities' impacts on the species or stock. Neither the MMPA, nor NMFS' implementing regulations call for consideration of other unrelated activities and their impacts on the species or stock.

Accordingly, we may find that the impacts of the taking from the specified activity may (alone) be negligible even when total human-caused mortality from all activities exceeds PBR (in the context of a particular species or stock). Specifically, where the authorized M/SI would be less than or equal to 10 percent of PBR and management measures are being taken to address M/SI from the other contributing

activities (*i.e.*, other than the specified activities covered by the ITA under consideration), the impacts of the authorized M/SI would be considered negligible. In addition, we must also still determine that any impacts on the species or stock from other types of take (*i.e.*, harassment) caused by the applicant do not combine with the impacts from mortality or serious injury addressed here to result in adverse effects on the species or stock through effects on annual rates of recruitment or survival.

As noted above, while PBR is useful in informing the evaluation of the effects of M/SI in MMPA section 101(a)(5)(A) determinations, it is one consideration to be assessed in combination with other factors and is not determinative. For example, as explained above, the accuracy and certainty of the data used to calculate PBR for the species or stock must be considered. And we reiterate the considerations discussed above for why it is not appropriate to consider PBR an absolute cap in the application of this guidance. Accordingly, we use PBR as a trigger for concern while also considering other relevant factors to provide a reasonable and appropriate means of evaluating the effects of potential mortality on rates of recruitment and survival, while acknowledging that it is possible for total human-caused M/SI to exceed PBR (or for the M/SI from the specified activity to exceed 10 percent of PBR in the case where other human-caused mortality is exceeding PBR, as described in the last paragraph) and still make a negligible impact determination under MMPA section 101(a)(5)(A).

We note that on June 17, 2020, NMFS finalized new Criteria for Determining Negligible Impact under MMPA section 101(a)(5)(E). The guidance explicitly notes the differences in the negligible impact determinations required under paragraph 101(a)(5)(E), as compared to paragraphs (a)(5)(A) and (D) of section 101, and specifies that the procedure in that document is limited to how the agency conducts negligible impact analyses for commercial fisheries under section 101(a)(5)(E). In this rule, NMFS has described its method for considering PBR to evaluate the effects of potential

mortality in the negligible impact analysis. NMFS has reviewed the 2020 guidance and determined that our consideration of PBR in the evaluation of mortality as described above and in the rule remains appropriate for use in the negligible impact analysis for the Action Proponents' activities under section 101(a)(5)(A).

Our evaluation of the M/SI for each of the species and stocks for which mortality or serious injury could occur follows.

We first consider maximum potential incidental M/SI from the vessel strike analysis for the affected large whales (table 52) and from the Action Proponents' explosive detonations for the affected small cetaceans and pinnipeds (table 53) in consideration of NMFS' threshold for identifying insignificant M/SI take. By considering the maximum potential incidental M/SI in relation to PBR and ongoing sources of anthropogenic mortality, as described above, we begin our evaluation of whether the potential incremental addition of M/SI through vessel strikes and explosive detonations may affect the species' or stocks' annual rates of recruitment or survival. We also consider the interaction of those mortalities with incidental taking of that species or stock by harassment pursuant to the specified activity.

Based on the methods discussed previously, NMFS is authorizing nine mortalities of large whales due to vessel strike over the course of the 7-year rule, seven by the Navy and two by the Coast Guard (table 52). Across the 7-year duration of the rule, six takes by mortality (annual average of 0.86 takes) of fin whale (CA/OR/WA stock) could occur and are authorized; three takes by mortality (annual average of 0.43 takes) of gray whale (Eastern North Pacific stock) and humpback whale (Hawaii stock) could occur and are authorized; two takes by mortality (annual average of 0.29 takes) of blue whale (Eastern North Pacific stock), sei whale (Eastern North Pacific), and humpback whale (Mainland Mexico - CA/OR/WA and Central America/Southern Mexico - CA/OR/WA stocks (Mexico and Central America DPSs, respectively)) could occur and are authorized; one

take by mortality (annual average of 0.14 takes) of the Hawaii stock of sperm whale could occur and is authorized. To calculate the annual average of M/SI by vessel strike, we divided the 7-year proposed take by serious injury or mortality by seven.

Table 52 -- Summary Information Related to Mortalities Requested for Vessel Strike, 2025-2032

Common name	Stock	Stock abundance	Total annual M/SI [a]	Fisheries interactions (Y/N); annual rate of M/SI from fisheries interactions	Annual M/SI due to vessel collision	NWTT authorized take (annual)	Potential Biological Removal (PBR)	Residual PBR (PBR minus annual M/SI)	Recent UME (Y/N); number of strandings, year declared (since 2014)	Annual proposed authorized take (Navy)	7-year proposed authorized take (Navy)	Annual proposed authorized take (Coast Guard)	7-year proposed authorized take (Coast Guard)	Total annual proposed authorized take	Total 7-year proposed authorized take
Blue whale	Eastern North Pacific*	3,233	≥18.6	Y; ≥0.61	0.6	0	4.1	-14.5	N	0.14	1	0.14	1	0.29	2
Fin whale	California/Oregon/Washington*	12,304	≥43.4	Y; ≥0.41	6.45	0.29	80	36.31	N	0.43	5	0.14	1	0.86	6
Humpback whale	Mainland Mexico - California-Oregon-Washington*[b]	3,741	22	Y; 11.4	2.6	0.29 b	43	20.71	N	0.14	1	0.14	1	0.29	2
Humpback whale	Central America/Southern Mexico - California-Oregon-Washington*[c]	1,603	14.9	Y; 8.1	6.45	0.29 c	3.5	-11.69	N	0.14	1	0.14	1	0.29	2
Sperm whale	Hawaii*	6,062	0	N; 0	UNK	0	18	18	N	0.14	1	0.00	0	0.14	1
Gray whale	Eastern North Pacific	26,960	131	Y; 9.3	1.8	0.14	801	669.86	Y; 690; 2019	0.29	2	0.14	1	0.43	3
Humpback whale	Hawaii [b]	11,278	27.09	Y; 8.39	5.4	0.29 b	127	99.62	Y; 52; 2015	0.29	2	0.14	1	0.43	3
Sei whale	Eastern North Pacific	864	0	Unk	0	0	1.25	1.25	N	0.14	1	0.14	1	0.29	2

Note: NWTT = Northwest Training and Testing Study Area. Unk = Unknown. N/A = Not Applicable. NMFS is authorizing nine takes by serious injury or mortality by vessel strike total across the 7-year duration of the rule, seven takes by the Navy and two takes by the Coast Guard.

* Stock abundance from NMSDD

[a] This column represents the total number of incidents of M/SI that could potentially accrue to the specified species or stock as indicated in the SAR and includes M/SI from fisheries interactions and other sources.

[b] In 2022, the Central North Pacific stock of humpback whale was split into the Mainland Mexico - CA/OR/WA and Hawaii stocks. The 2020 NWTT final rule (85 FR 72312, November 12, 2020) authorized two takes of the Central North Pacific stock. Given the stock structure change, NMFS has assumed that the two strikes could occur to either the Mainland Mexico - CA/OR/WA stock or the Hawaii stock.

[c] The 2020 NWTT final rule (85 FR 72312, November 12, 2020) authorized two takes of the CA/OR/WA stock of humpback whale. Given the stock structure change, NMFS has assumed that the two strikes could occur to the Central America/Southern Mexico - CA/OR/WA stock.

The Action Proponents also requested a limited number of takes by M/SI from explosives. Across the 7-year duration of the rule, NMFS is authorizing 107 takes by M/SI (annual average of 15.29 takes) of short-beaked common dolphin (CA/OR/WA stock), 27 takes by M/SI (annual average of 3.86 takes) of California sea lion (U.S. stock), 17 takes by M/SI (annual average of 2.43 takes) of long-beaked common dolphin (California stock), 7 takes by M/SI (annual average of 1 take) of harbor seal (California stock), 4 takes by M/SI (annual average of 0.57 takes) of short-finned pilot whale (CA/OR/WA stock), 2 takes by M/SI (annual average of 0.29 takes) of bottlenose dolphin (Hawaii pelagic stock), Pacific white-sided dolphin (CA/OR/WA stock), pantropical spotted dolphin (Baja California Peninsula Mexico population), and rough-toothed dolphin (Hawaii stock), and 1 take by M/SI (annual average of 0.14 takes) of bottlenose dolphin (O'ahu stock), Northern right whale dolphin (CA/OR/WA stock), striped dolphin (CA/OR/WA stock), and Guadalupe fur seal (Mexico stock) (table 53). To calculate the annual average of M/SI from explosives, we divided the 7-year proposed take by serious injury or mortality by seven (table 53), the same method described for vessel strikes.

Table 53 -- Summary Information Related to HCTT Serious Injury or Mortality from Explosives, 2025-2032

Species	Stock	Stock abundance	Total annual M/SI [a]	Fisheries interactions (Y/N); annual rate of M/SI from fisheries interactions	SWFSC authorized take (annual) [b]	NWTT authorized take (annual) [b]	PBR	Residual PBR (PBR minus annual M/SI) [c]	Recent UME (Y/N); number of strandings, year declared (since 2014)	Annual proposed take by serious injury or mortality (all Action Proponents) [d]	7-year proposed take by serious injury or mortality (all Action Proponents)	Population Trend
Short-finned pilot whale	California/Oregon/ Washington	836	1.2	Y; 1.2	0.40	0	4.5	2.90	N	0.57	4	Unk
Bottlenose dolphin	Hawaii Pelagic*	25,120	0	N; 0	0	0	158	158	N	0.29	2	Unk
Bottlenose dolphin	O'ahu*	113	Unk	Unk	0	0	1	Unk	N	0.14	1	Unk
Long-beaked common dolphin	California*	209,100	≥29.7	Y; ≥26.5	2.8	0	668	635.5	N	2.43	17	Unk
Northern right whale dolphin	California/Oregon/ Washington*	68,935	≥6.6	Y; ≥6.6	2.20	0	163	154.20	N	0.14	1	Unk
Pacific white-sided dolphin	California/Oregon/ Washington*	107,775	7	Y; 4	8.2 [c]	0	279	263.8	N	0.29	2	Unk
Pantropical spotted dolphin	Baja California Peninsula Mexico*	70,889	Unk	Unk	0	0	Unk	Unk	N	0.29	2	Unk
Rough-toothed dolphin	Hawaii*	106,193	3.2	Y; 3.2	0	0	511	507.8	N	0.29	2	Unk
Short-beaked common dolphin	California/Oregon/ Washington*	1,049,117	≥30.5	Y; ≥30.5	2.8	0	8,889	8,856	N	15.29	107	Unk, possibly increasing
Striped dolphin	California/Oregon/ Washington*	160,551	≥4	Y; ≥4.0	2.8	0	225	218.2	N	0.14	1	Unk
California sea lion	U.S.	257,606	>321	Y; ≥197	6	0	14,011	13,684	N	3.86	27	Stable
Guadalupe fur seal	Mexico	63,850	≥10.0	Y; ≥7.2	0	0	1,959	1,949	Y; 715; 2015	0.14	1	Increasing
Harbor seal	California	30,968	43	Y; 30	2.8 [d]	0	1,641	1,595	N	1	7	Decreasing

Note: NWTT= Northwest Training and Testing Study Area. Unk = Unknown.

* Stock abundance from NMSDD

[a] This column represents the total number of incidents of M/SI that could potentially accrue to the specified species or stock as indicated in the SAR and includes M/SI from fisheries interactions and other sources.

[b] These columns represent the annual authorized take by mortality in the 2021 LOA for SWFSC Fisheries and Ecosystem Research Activities and the 2020 LOAs for U.S. Navy NWTT Study Area.

[c] The SWFSC final rule (86 FR 3840, January 15, 2021) authorizes 41 takes by M/SI of Pacific white-sided dolphin over the 5-year duration of the final rule (*i.e.*, 8.2 annually). These takes could be of multiple stocks; however, NMFS has conservatively assumed that all of the takes would occur to the CA/OR/WA stock.
[d] The SWFSC final rule (86 FR 3840, January 15, 2021) authorizes 14 takes by M/SI of harbor seals over the 5-year duration of the final rule (*i.e.*, 2.8 annually). These takes could be of multiple stocks; however, NMFS has conservatively assumed that all of the takes would occur to the California stock.

As described above, NMFS M/SI analysis includes two Tiers and our discussion is organized into sections that mirror that framework, as applicable. Specifically, we standardly first address stocks analyzed within Tier 1 (*i.e.*, those for which total known human-caused M/SI is below PBR (*i.e.*, the M/SI from the specified activity is below residual PBR)), considering those with proposed M/SI both below and above the insignificance threshold. Then, if applicable, we discuss stocks for which total mortality exceeds PBR in a Tier 2 analysis in which we compare the proposed M/SI of the specified activity alone against PBR and consider other factors as necessary. Of note, for some stocks total M/SI is not known, in which case a Tier 1 analysis is not possible and, therefore, we move directly to a Tier 2 analysis. In rare cases, PBR itself cannot be calculated, in which case we consider other known factors and/or surrogate stocks to inform the negligible impact determination analysis.

Stocks with Total Average Annual Human-Caused M/SI Below PBR (Tier 1) and Authorized M/SI From the Specified Activity is Below the Insignificance Threshold –

As noted above, for a species or stock with authorized M/SI less than 10 percent of residual PBR, we consider M/SI from the specified activities to represent a clearly insignificant incremental increase in ongoing anthropogenic M/SI that alone (*i.e.*, in the absence of any other take and barring any other unusual circumstances) will clearly not adversely affect annual rates of recruitment and survival. In this case, as shown in table 52 and table 53, the following species or stocks have potential for estimated take by M/SI from vessel strike and explosives, respectively, and authorized below their insignificance threshold: fin whale (CA/OR/WA stock); humpback whale (Mainland Mexico - CA/OR/WA and Hawaii stocks); gray whale (Eastern North Pacific stock); sperm whale (Hawaii stock); bottlenose dolphin (Hawaii pelagic stock); long-beaked common dolphin (California stock); northern right whale dolphin (CA/OR/WA stock); Pacific white-sided dolphin (CA/OR/WA stock); rough-toothed dolphin (Hawaii stock); short-beaked

common dolphin (CA/OR/WA stock); striped dolphin (CA/OR/WA stock); California sea lion (U.S. stock); Guadalupe fur seal (Mexico stock); and harbor seal (California stock). For the stocks with authorized M/SI below the insignificance threshold, there are no other known factors, information, or unusual circumstances that indicate anticipated M/SI below the insignificance threshold could have adverse effects on annual rates of recruitment or survival and they are not discussed further.

Stocks with Total Average Annual Human-Caused M/SI Below PBR (Tier 1) and Authorized M/SI is Above the Insignificance Threshold –

Sei Whale (Eastern North Pacific stock)

For sei whales (Eastern North Pacific stock), PBR is currently set at 1.25. The total annual M/SI is zero, yielding a residual PBR of 1.25. NMFS is authorizing one M/SI for the Navy and one for the Coast Guard over the 7-year duration of the rule (two total; indicated as 0.29 annually for the purposes of comparing to PBR and evaluating overall effects on annual rates of recruitment and survival), which leaves a PBR remainder of 0.96.

As described above, if the total M/SI estimate is less than or equal to PBR, which is the case here, then the specified activity is considered to have a negligible impact on that stock. Although the M/SI from takes authorized here for the specified activity is above the insignificance threshold, as described above, that does not indicate that the M/SI associated with the specified activities is necessarily approaching a level that would exceed negligible impact. Rather, it is used as a cue to look more closely if and when the M/SI for the specified activity approaches residual PBR, as it becomes increasingly necessary (the closer the M/SI from the specified activity is to 100 percent residual PBR) to carefully consider whether there are other factors that could affect reproduction or survival. Here, the M/SI is not closely approaching residual PBR (PBR remainder is 0.96)

and there are no other factors that would suggest that the authorized mortality (alone) would have more than a negligible impact on this stock.

As described previously, NMFS must also ensure that impacts by the applicant on the species or stock from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

Additionally of note, management measures are in place to address M/SI caused by other activities. NOAA annually issues voluntary vessel speed reduction (VSR) requests that are scheduled to be in effect May 1 to December 31 off San Francisco, Monterey, and Southern California within and near Greater Farallones, Cordell Bank, Monterey Bay, Chumash Heritage and Channel Islands national marine sanctuaries (NMSs) and in partnership with the Blue Whales Blue Skies program (note that in 2025, the Southern California VSR was extended in 2025 to cover Chumash Heritage NMS). Vessels transiting the area from May 1 through December 31, 2025 are recommended to exercise caution and voluntarily reduce speed to 10 kn (18.5 km/hour) or less.

The Channel Islands NMS staff coordinates, collects, and monitors whale sightings in and around the VSR zones and the Channel Islands NMS region. The seasonally established Southern California VSR zone spans from Point Arguello to Dana Point, including the Traffic Separation Schemes in the Santa Barbara Channel and San Pedro Channel. Channel Island NMS observers collect information from aerial surveys conducted by NOAA, the U.S. Coast Guard, California Department of Fish and Game, and U.S. Navy chartered aircraft. Information on seasonal presence, movement, and general distribution patterns of large whales is shared with mariners, NMFS, U.S. Coast Guard, California Department of Fish and Game, the Santa Barbara Museum of Natural History, the Marine Exchange of Southern California, and whale scientists. Real time and

historical whale observation data collected from multiple sources can be viewed on the Point Blue Whale Database. The Blue Whales Blue Skies program states that enrollment and cooperation rates from participating shipping lines have increased every year since the program began in 2014. The program further estimates that risk of fatal vessel strikes to endangered whales was reduced by approximately 50 percent in 2024. As such, while vessel strike risk is not eliminated by these measures, the risk is significantly reduced by this meaningful mitigation scheme.

As stated in the 2023 SAR, the California swordfish drift gillnet fishery is the most likely U.S. fishery to interact with Eastern North Pacific sei whales, though there are zero estimated annual takes from this fishery given no observed entanglements from 1990 to 2021 across 9,246 observed fishing sets (Carretta *et al.*, 2022). NMFS established the Pacific Offshore Cetacean Take Reduction Team (POCTRT) in 1996 and prepared an associated Plan to reduce the risk of M/SI via fisheries interactions incidental to the California/Oregon thresher shark/swordfish drift gillnet fishery. In 1997, NMFS published final regulations formalizing the requirements of the Plan, including the use of pingers following several specific provisions and the employment of Skipper education workshops. While the POCTRT is still active, the fishery is expected to be phased out entirely by 2027 following passage of the Driftnet Modernization and Bycatch Reduction Act by the U.S. Congress in 2022. As such, within 2 years of the effective period of this rule, NMFS does not anticipate mortality from this fishery.

Short-finned Pilot Whale (CA/OR/WA stock)

For the CA/OR/WA stock of short-finned pilot whale, PBR is currently set at 4.5, the total annual M/SI is estimated at 1.2, and the total annual authorized take from SWFSC Fisheries and Ecosystem Research Activities in the California Current is 0.4, yielding a residual PBR of 2.9. NMFS is authorizing four M/SIs (U.S. Navy only) over the 7-year duration of the rule (indicated as 0.57 annually for the purposes of comparing

to PBR and evaluating overall effects on annual rates of recruitment and survival), which leaves a PBR remainder of 2.33.

As described above, if the total M/SI estimate is less than or equal to PBR, which is the case here, then the specific activity is considered to have a negligible impact on that stock. Although the M/SI from takes authorized here for the specified activity is above the insignificance threshold, as described above, that does not indicate that the M/SI associated with the specified activities is necessarily approaching a level that would exceed negligible impact. Rather, it is used as a cue to look more closely if and when the M/SI for the specified activity approaches residual PBR, as it becomes increasingly necessary (the closer the M/SI from the specified activity is to 100 percent residual PBR) to carefully consider whether there are other factors that could affect reproduction or survival. Here, the M/SI is not closely approaching residual PBR (PBR remainder is 2.33) and there are no other factors that would suggest that the authorized mortality (alone) would have more than a negligible impact on this stock.

As described previously, NMFS must also ensure that impacts by the applicant on the species or stock from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

As reported in the SAR, the total annual M/SI of this stock (1.2) is from the CA/OR thresher shark/swordfish drift gillnet fishery. NMFS established the POCTRT in 1996 and prepared an associated Plan to reduce the risk of M/SI via fisheries interactions incidental to the California/Oregon thresher shark/swordfish drift gillnet fishery. In 1997, NMFS published final regulations formalizing the requirements of the Plan, including the use of pingers following several specific provisions and the employment of Skipper education workshops. While the POCTRT is still active, the fishery is expected to be

phased out entirely by 2027 following passage of the Driftnet Modernization and Bycatch Reduction Act by the U.S. Congress in 2022. As such, within 2 years of the effective period of this rule, NMFS does not anticipate additional mortality from this fishery.

Stocks with Total Average Annual Human-Caused Mortality Above PBR (Tier 2) – Blue Whale (Eastern North Pacific stock)

For blue whales (Eastern North Pacific stock), PBR is currently set at 4.1 and the total annual M/SI is estimated at greater than or equal to 18.6, yielding a residual PBR of -14.5. NMFS is authorizing one M/SI for the Navy and one for the Coast Guard over the 7-year duration of the rule (two total; indicated as 0.29 annually for the purposes of comparing to PBR and evaluating overall effects on annual rates of recruitment and survival), which leaves a PBR remainder of -14.79. However, given that the negligible impact determination is based on the assessment of take of the activity being analyzed, when total annual mortality from human activities is higher, but the impacts from the specific activity being analyzed are very small, NMFS may still find the incremental impact of the authorized take from a specified activity is negligible even if total human-caused mortality exceeds PBR. Specifically, for example, if the authorized mortality is less than 10 percent of PBR and management measures are being taken to address serious injuries and mortalities from the other activities causing mortality (*i.e.*, other than the specified activities covered by the ITA in consideration). When those considerations are applied here, the authorized lethal take (0.29 annually) of blue whales from the Eastern North Pacific stock is less than 10 percent of PBR (which is 4.1), and there are management measures in place to address M/SI from activities other than those the Action Proponents are conducting (as discussed below). Immediately below, we explain the information that supports our finding that the Action Proponents' authorized M/SI is not expected to result in more than a negligible impact on this stock. As described previously, NMFS must also ensure that impacts by the applicant on the species or stock

from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

Based on identical simulations as those conducted to identify Recovery Factors for PBR in Wade *et al.* (1998), but where values less than 0.1 were investigated (P. Wade, pers. comm.), we predict that where the mortality from a specified activity does not exceed N_{min} * 1/2 Rmax * 0.013, the contemplated mortality for the specific activity will not delay the time to recovery by more than 1 percent. For this stock of blue whales, N_{min} * 1/2 Rmax * 0.013 = 0.459. The annual mortality authorized is 0.29 (*i.e.*, less than 0.459). This means that the mortality authorized in this rule for HCTT activities will not delay the time to recovery to OSP by more than 1 percent.

The 2018 draft SAR and the more recent SARs incorporate a method to estimate annual deaths by vessel strike utilizing an encounter theory model that combined species distribution models of whale density, vessel traffic characteristics, and whale movement patterns obtained from satellite-tagged animals in the region to estimate encounters that would result in mortality (Rockwood *et al.*, 2017). The model predicts 18 annual mortalities of blue whales from vessel strikes, which, with the additional M/SI of 1.54 from fisheries interactions, results in a residual PBR of -15.4. Although NMFS' Permits and Conservation Division in the Office of Protected Resources has independently reviewed the vessel strike model and its results and agrees that it is appropriate for estimating blue whale mortality by vessel strike on the U.S. West Coast, for analytical purposes we also note that if the historical method were used to predict vessel strike (*i.e.*, using observed mortality by vessel strike, or 0.6, instead of 18), then total human-caused mortality including the Action Proponents' potential take would not exceed PBR. We further note that the authors (Rockwood *et al.*, 2017) do not suggest that vessel strike

suddenly increased to 18 recently. In fact, the model is not specific to a year, but rather offers a generalized prediction of vessel strike off the U.S. West Coast. Therefore, if the Rockwood *et al.* (2017) model is an accurate representation of vessel strike, then similar levels of vessel strike have been occurring in past years as well. Put another way, if the model is correct, for some number of years total-human-caused mortality has been significantly underestimated and PBR has been similarly exceeded by a notable amount, and yet, the Eastern North Pacific stock of blue whales remains stable nevertheless.

NMFS' 2023 SAR states that the current population trend is unknown, though there may be evidence of a population size increase since the 1990s. The SAR further cites to Monnahan *et al.* (2015), which used a population dynamics model to estimate that the Eastern North Pacific blue whale population was at 97 percent of carrying capacity in 2013 and to suggest that the observed lack of a population increase since the early 1990s was explained by density dependence, not impacts from vessel strike. This would mean that this stock of blue whales shows signs of stability and is not increasing in population size because the population size is at or nearing carrying capacity for its available habitat. In fact, we note that this population has maintained this status throughout the years that the Navy has consistently tested and trained at similar levels (with similar vessel traffic) in areas that overlap with blue whale occurrence, which would be another indicator of population stability.

Monnahan *et al.* (2015) modeled vessel numbers, vessel strikes, and the population of the Eastern North Pacific blue whale population from 1905 out to 2050 using a Bayesian framework to incorporate informative biological information and assign probability distributions to parameters and derived quantities of interest. The authors tested multiple scenarios with differing assumptions, incorporated uncertainty, and further tested the sensitivity of multiple variables. Their results indicated that there is no immediate threat (*i.e.*, through 2050) to the population from any of the scenarios tested,

which included models with 10 and 35 strike mortalities per year. Broadly, the authors concluded that, unlike other blue whale stocks, the Eastern North Pacific blue whales have recovered from 70 years of whaling and are in no immediate threat from vessel strikes. They further noted that their conclusion conflicts with the depleted and strategic designation under the MMPA as well as PBR specifically.

As discussed, we also take into consideration management measures in place to address M/SI caused by other activities. Redfern *et al.* (2013) note that the most risky area for blue whales is the Santa Barbara Channel, where shipping lanes intersect with common feeding areas, and Berman-Kowalewski *et al.* (2010) state that southern California and off San Francisco is where most observed blue whale vessel strikes have occurred. NOAA annually issues voluntary VSR requests that are scheduled to be in effect May 1 to December 31 off San Francisco, Monterey, and Southern California within and near Greater Farallones, Cordell Bank, Monterey Bay, Chumash Heritage and Channel Islands national marine sanctuaries and in partnership with the Blue Whales Blue Skies program (note that in 2025, the Southern California VSR was extended in 2025 to cover Chumash Heritage NMS). Vessels transiting the area from May 1 through December 31, 2025 are recommended to exercise caution and voluntarily reduce speed to 10 kn (18.5 km/hr) or less for blue, humpback, and fin whales.

The Channel Islands NMS staff coordinates, collects, and monitors whale sightings in and around the VSR zones and the Channel Islands NMS region. The seasonally established Southern California VSR zone spans from Point Arguello to Dana Point, including the Traffic Separation Schemes in the Santa Barbara Channel and San Pedro Channel. Channel Island NMS observers collect information from aerial surveys conducted by NOAA, the U.S. Coast Guard, California Department of Fish and Game, and U.S. Navy chartered aircraft. Information on seasonal presence, movement, and general distribution patterns of large whales is shared with mariners, NMFS, U.S. Coast

Guard, California Department of Fish and Game, the Santa Barbara Museum of Natural History, the Marine Exchange of Southern California, and whale scientists. Real time and historical whale observation data collected from multiple sources can be viewed on the Point Blue Whale Database. The Blue Whales Blue Skies program states that enrollment and cooperation rates from participating shipping lines have increased every year since the program began in 2014. The program further estimates that risk of fatal vessel strikes to endangered whales was reduced by approximately 50 percent in 2024. As such, while vessel strike risk is not eliminated by these measures, the risk is significantly reduced by this meaningful mitigation scheme.

The loss of a male would have far less, if any, effect on population rates and absent any information suggesting that one sex is more likely to be struck than another, we can reasonably assume that there is a 50 percent chance that each of the two authorized strikes would be a male, thereby further decreasing the likelihood of impacts on the population rate. In situations like this where potential M/SI is fractional, consideration must be given to the lessened impacts anticipated due to the likely absence of M/SI in 5 or 6 of the 7 years and the fact that each of the strikes could be a male.

Lastly, we reiterate that PBR is a conservative metric and also not sufficiently precise to serve as an absolute predictor of population effects upon which mortality caps would appropriately be based. As noted above, Wade *et al.* (1998), authors of the paper from which the current PBR equation is derived, note that "Estimating incidental mortality in 1 year to be greater than the PBR calculated from a single abundance survey does not prove the mortality will lead to depletion; it identifies a population worthy of careful future monitoring and possibly indicates that mortality-mitigation efforts should be initiated." The information included here indicates that the current population trend of this blue whale stock is unknown but likely approaching carrying capacity and has leveled off because of density-dependence, not human-caused mortality, in spite of what

might be otherwise indicated from the calculated PBR. Further, authorized M/SI is below 10 percent of PBR and management actions are in place to minimize vessel strike from other vessel activity in one of the highest-risk areas for strikes. Based on the presence of the factors described above, we do not expect lethal take from Action Proponents' activities, alone, to adversely affect Eastern North Pacific blue whales through effects on annual rates of recruitment or survival. Nonetheless, the fact that total human-caused mortality exceeds PBR necessitates close attention to the remainder of the impacts (*i.e.*, harassment) on the Eastern North Pacific stock of blue whales from the Navy's activities to ensure that the total authorized takes have a negligible impact on the species or stock. Therefore, this information will be considered in combination with our assessment of the impacts of authorized harassment takes in the *Group and Species-Specific Analyses* section that follows.

Humpback whale (Central America/Southern Mexico - CA/OR/WA stock)

For humpback whales (Central America/Southern Mexico - CA/OR/WA stock), PBR is currently set at 3.5, the total annual M/SI is estimated at greater than or equal to 14.9, and the 2020 NWTT final rule authorizes 0.29 takes by mortality annually, yielding a residual PBR of -11.69. NMFS is authorizing one M/SI for the Navy and one for the Coast Guard over the 7-year duration of the rule (two total; indicated as 0.29 annually for the purposes of comparing to PBR and evaluating overall effects on annual rates of recruitment and survival), which leaves a PBR remainder of -11.98.

However, given that the negligible impact determination is based on the assessment of take of the activity being analyzed, when total annual mortality from human activities is higher, but the impacts from the specific activity being analyzed are very small, NMFS may still find the incremental impact of the authorized take from a specified activity is negligible even if total human-caused mortality exceeds PBR. Specifically, for example, if the authorized mortality is less than 10 percent of PBR and

management measures are being taken to address serious injuries and mortalities from the other activities causing mortality (*i.e.*, other than the specified activities covered by the ITA in consideration). When those considerations are applied here, the authorized lethal take (0.29 annually) of humpback whales from the Central America/Southern Mexico - CA/OR/WA stock is less than 10 percent of PBR (which is 3.5), and there are management measures in place to address M/SI from activities other than those the Action Proponents are conducting (as discussed below). Immediately below, we explain the information that supports our finding that the Action Proponents' authorized M/SI is not expected to result in more than a negligible impact on this stock. As described previously, NMFS must also ensure that impacts by the applicant on the species or stock from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

Based on identical simulations as those conducted to identify Recovery Factors for PBR in Wade *et al.* (1998), but where values less than 0.1 were investigated (P. Wade, pers. comm.), we predict that where the mortality from a specified activity does not exceed N_{min} * 1/2 Rmax * 0.013, the contemplated mortality for the specific activity will not delay the time to recovery by more than 1 percent. For this stock of humpback whales, N_{min} * 1/2 Rmax * 0.013 = 0.684. The annual mortality authorized is 0.29 (*i.e.*, less than 0.684). This means that the mortality authorized in this rule for HCTT activities will not delay the time to recovery to OSP by more than 1 percent.

The 2018 draft SAR and the more recent SARs rely on a new method to estimate annual deaths by vessel strike utilizing an encounter theory model that combined species distribution models of whale density, vessel traffic characteristics, and whale movement patterns obtained from satellite-tagged animals in the region to estimate encounters that

would result in mortality (Rockwood *et al.*, 2017). The model predicts 22 annual mortalities of humpback whales from vessel strikes, and the SAR attributes 6.45 of those strikes to the Central America/Southern Mexico - CA/OR/WA stock. With the additional M/SI of 8.1 from fisheries interactions, 0.35 from marine debris, recreational, and tribal fisheries, and 0.29 from vessel strike authorized in the NWTT final rule, results in the current estimate of residual PBR being -11.69. Although NMFS' Permits and Conservation Division in the Office of Protected Resources has independently reviewed the vessel strike model and its results and agrees that it is appropriate for estimating humpback whale mortality by vessel strike on the U.S. West Coast, for analytical purposes we also note that if the historical method were used to predict vessel strike (*i.e.*, using observed mortality by vessel strike, or 0.6, instead of 18), then total human-caused mortality including the Action Proponents' potential take would not exceed PBR. We further note that the authors (Rockwood *et al.*, 2017) do not suggest that vessel strike suddenly increased to 22 recently. In fact, the model is not specific to a year, but rather offers a generalized prediction of vessel strike off the U.S. West Coast. Therefore, if the Rockwood *et al.* (2017) model is an accurate representation of vessel strike, then similar levels of vessel strike have been occurring in past years as well. Put another way, if the model is correct, for some number of years total-human-caused mortality has been significantly underestimated and PBR has been similarly exceeded by a notable amount, and yet, the Central America/Southern Mexico - CA/OR/WA stock of humpback whales is increasing nevertheless.

As discussed, we also take into consideration management measures in place to address M/SI caused by other activities. NOAA annually issues voluntary VSR requests that are scheduled to be in effect May 1 to December 31 off San Francisco, Monterey, and Southern California within and near Greater Farallones, Cordell Bank, Monterey Bay, Chumash Heritage and Channel Islands national marine sanctuaries and in

partnership with the Blue Whales Blue Skies program (note that in 2025, the Southern California VSR was extended in 2025 to cover Chumash Heritage NMS). Vessels transiting the area from May 1 through December 31, 2025 are recommended to exercise caution and voluntarily reduce speed to 10 kn (18.5 km per hour) or less for blue, humpback, and fin whales.

The Channel Islands NMS staff coordinates, collects, and monitors whale sightings in and around the VSR zones and the Channel Islands NMS region. The seasonally established Southern California VSR zone spans from Point Arguello to Dana Point, including the Traffic Separation Schemes in the Santa Barbara Channel and San Pedro Channel. Channel Island NMS observers collect information from aerial surveys conducted by NOAA, the U.S. Coast Guard, California Department of Fish and Game, and U.S. Navy chartered aircraft. Information on seasonal presence, movement, and general distribution patterns of large whales is shared with mariners, NMFS, U.S. Coast Guard, California Department of Fish and Game, the Santa Barbara Museum of Natural History, the Marine Exchange of Southern California, and whale scientists. Real time and historical whale observation data collected from multiple sources can be viewed on the Point Blue Whale Database. The Blue Whales Blue Skies program states that enrollment and cooperation rates from participating shipping lines have increased every year since the program began in 2014. The program further estimates that risk of fatal vessel strikes to endangered whales was reduced by approximately 50 percent in 2024. As such, while vessel strike risk is not eliminated by these measures, the risk is significantly reduced by this meaningful mitigation scheme.

In addition to management measures for vessel strike, NMFS is in the process of developing a new Take Reduction Team to address the incidental M/SI of humpback whales (Central America/Southern Mexico and Mainland Mexico stocks) in the Federal sablefish pot fishery. Additional information is available on NMFS' website:

https://www.fisheries.noaa.gov/west-coast/marine-mammal-protection/west-coast-take-reduction-team.

The loss of a male would have far less, if any, effect on population rates and absent any information suggesting that one sex is more likely to be struck than another, we can reasonably assume that there is a 50 percent chance that each of the two strikes authorized by this rulemaking would be a male, thereby further decreasing the likelihood of impacts on the population rate. In situations like this where potential M/SI is fractional, consideration must be given to the lessened impacts anticipated due to the likely absence of M/SI in 5 or 6 of the 7 years and the fact that each of the strikes could be a male.

Lastly, we reiterate that PBR is a conservative metric and also not sufficiently precise to serve as an absolute predictor of population effects upon which mortality caps would appropriately be based. As noted above, Wade *et al.* (1998), authors of the paper from which the current PBR equation is derived, note that "Estimating incidental mortality in 1 year to be greater than the PBR calculated from a single abundance survey does not prove the mortality will lead to depletion; it identifies a population worthy of careful future monitoring and possibly indicates that mortality-mitigation efforts should be initiated." Further, authorized M/SI is below 10 percent of PBR and management actions are in place to minimize vessel strike from other vessel activity and efforts are underway to minimize M/SI from trap/pot fisheries along the U.S. West Coast. Based on the presence of the factors described above, we do not expect lethal take from Action Proponents' activities, alone, to adversely affect Central America/Southern Mexico - CA/OR/WA humpback whales through effects on annual rates of recruitment or survival. Nonetheless, the fact that total human-caused mortality exceeds PBR necessitates close attention to the remainder of the impacts (*i.e.*, harassment) on the Central America/Southern Mexico - CA/OR/WA stock of humpback whales from the Action

Proponents' activities to ensure that the total authorized takes have a negligible impact on the species or stock. Therefore, this information will be considered in combination with our assessment of the impacts of authorized harassment takes in the *Group and Species-Specific Analyses* section that follows.

Stocks for Which Total Average Annual Mortality is Not Known –

Bottlenose Dolphin (O'ahu stock)

For bottlenose dolphin (O'ahu stock), PBR is currently set at 1. The total annual M/SI is unknown, and therefore a residual PBR cannot be calculated. NMFS is authorizing one M/SI over the 7-year duration of the rule (indicated as 0.14 annually for the purposes of comparing to PBR and evaluating overall effects on annual rates of recruitment and survival).

Given that the negligible impact determination is based on the assessment of take of the activity being analyzed, even if total annual mortality from human activities is higher, but the impacts from the specific activity being analyzed are very small, NMFS may still find the incremental impact of the authorized take from a specified activity is to be negligible even if total human-caused mortality exceeds PBR. As such, the incremental impact of the authorized take from a specified activity may also be negligible where total annual M/SI is unknown. An unknown total annual M/SI is a cue to look more closely if and when the M/SI for the specified activity approaches PBR (*e.g.*, consider whether there are mitigation measures in place for other potential sources of M/SI), as it becomes increasingly necessary (the closer the M/SI from the specified activity is to PBR) to carefully consider whether there are other factors that could affect reproduction or survival. Here, the authorized M/SI is 0.14 annually, which does not closely approach PBR (PBR is 1.0), there are management measures in place to address M/SI from activities other than those the Action Proponents are conducting (as discussed below), and there are no other factors that would suggest that the authorized mortality

(alone) would have more than a negligible impact on this stock. Immediately below, we explain the information that supports our finding that the Action Proponents' authorized M/SI is not expected to result in more than a negligible impact on this stock. As described previously, NMFS must also ensure that impacts by the applicant on the species or stock from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

As reported in the SAR, while information about fishery-related mortality is limited for this stock, Hawaii fisheries use gear types that cause mortality and serious injury to marine mammals in other U.S. fisheries, including gillnets and hook-and-line, and mortality reports indicate that nearshore fisheries are a risk for bottlenose dolphins in Hawaii. However, gillnetting around Maui and much of O'ahu is banned by state regulation, and in areas where gillnetting is permitted, fishermen are required to monitor their gillnets for bycatch every 30 minutes.

In this case, 0.14 M/SI means one mortality in 1 of the 7 years and zero mortalities in 6 of those 7 years. Therefore, the Action Proponents would not be contributing to the total human-caused mortality at all in 6 of the 7, or 85.7 percent, of the years covered by this rulemaking. That means that even if an O'ahu bottlenose dolphin were to be lethally taken from explosives, in 6 of the 7 years, there could be no effect on annual rates of recruitment or survival from Navy-caused M/SI. Additionally, the loss of a male would have far less, if any, effect on population rates and absent any information suggesting that one sex is more likely to be struck than another, we can reasonably assume that there is a 50 percent chance that the single mortality authorized by this rulemaking would be a male, thereby further decreasing the likelihood of impacts on the population rate. In situations like this where potential M/SI is fractional, consideration

must be given to the lessened impacts anticipated due to the absence of M/SI in 6 of the 7 years and the fact that the single mortality could be a male. Lastly, we reiterate that PBR is a conservative metric and also not sufficiently precise to serve as an absolute predictor of population effects upon which mortality caps would appropriately be based. This is especially important given the minor difference between zero and one across the 7-year period covered by this rulemaking, which is the smallest distinction possible when considering mortality. As noted above, Wade *et al.* (1998), authors of the paper from which the current PBR equation is derived, note that "Estimating incidental mortality in 1 year to be greater than the PBR calculated from a single abundance survey does not prove the mortality will lead to depletion; it identifies a population worthy of careful future monitoring and possibly indicates that mortality-mitigation efforts should be initiated." Further, management actions are in place that minimize fishery interactions. Based on the presence of the factors described above, we do not expect lethal take from the Action Proponents' activities, alone, to adversely affect O'ahu bottlenose dolphins through effects on annual rates of recruitment or survival. Nonetheless, the fact that total human-caused mortality is unknown, and PBR is low, necessitates close attention to the remainder of the impacts (*i.e.*, harassment) on the O'ahu stock of bottlenose dolphins from the Action Proponents' activities to ensure that the total authorized takes have a negligible impact on the species or stock. Therefore, this information will be considered in combination with our assessment of the impacts of authorized harassment takes in the *Group and Species-Specific Analyses* section that follows.

Stocks for Which PBR is Unknown –

Pantropical Spotted Dolphin (Baja California Peninsula Mexico population)

The Baja California Peninsula Mexico population of pantropical spotted dolphins are not a NMFS-managed stock, and therefore, PBR and annual M/SI metrics are not available. NMFS is authorizing two M/SIs over the 7-year duration of the rule (indicated

as 0.29 annually for the purposes of evaluating overall effects on annual rates of recruitment and survival).

Immediately below, we explain the information that supports our finding that the Action Proponents' authorized M/SI is not expected to result in more than a negligible impact on this stock. As described previously, NMFS must also ensure that impacts by the applicant on the species or stock from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

Given that this is not a NMFS-managed stock, some metrics are not available for this population, including PBR. PBR values are calculated by NMFS as the level of annual removal from a stock that will allow that stock to equilibrate within OSP at least 95 percent of the time, and is the product of factors relating to the minimum population estimate of the stock (N_{min}), the productivity rate of the stock at a small population size, and a recovery factor. The productivity rate is estimated as one-half of the estimated or theoretical maximum rate of population growth for the stock if it were small. In this case, NMFS estimates the productivity rate to be one half the default maximum net growth rate for cetaceans (½ of 4 percent). Recovery factors range from 0.1 to 1, with smaller factors applied to more at-risk species. Given the unknowns of this population, NMFS used 0.1. N_{min} is not available, and therefore, NMFS relies on the NMSDD abundance estimate of 70,889 to estimate PBR. As such, using the NMSDD abundance estimate, PBR is estimated to be 141.78 (70,889 x (0.5 x 4 percent) x (0.1)). Of note, if PBR was calculated using an estimated N_{min} of half of the NMSDD abundance estimate (35,445), PBR would be 70.89.

Given that the negligible impact determination is based on the assessment of take of the activity being analyzed, even if total annual mortality from human activities is

higher, but the impacts from the specific activity being analyzed are very small, NMFS may still find the incremental impact of the authorized take from a specified activity is to be negligible even if total human-caused mortality exceeds PBR. As such, the incremental impact of the authorized take from a specified activity may also be negligible where total annual M/SI is unknown. An unknown total annual M/SI is a cue to look more closely if and when the M/SI for the specified activity approaches PBR (*e.g.*, consider whether there are mitigation measures in place for other potential sources of M/SI), as it becomes increasingly necessary (the closer the M/SI from the specified activity is to PBR) to carefully consider whether there are other factors that could affect reproduction or survival. Here, the authorized M/SI is 0.29 annually, which does not closely approach our PBR estimate above (PBR is estimated as 141.78, potentially as low as 70.89), and there are no other factors that would suggest that the authorized mortality (alone) would have more than a negligible impact on this stock. Immediately below, we explain the information that supports our finding that the Action Proponents' authorized M/SI is not expected to result in more than a negligible impact on this stock. As described previously, NMFS must also ensure that impacts by the applicant on the species or stock from other types of take (*i.e.*, harassment) do not combine with the impacts from mortality to adversely affect the species or stock via impacts on annual rates of recruitment or survival, which occurs further below in the *Group and Species-Specific Analyses* section.

The loss of a male would have far less, if any, effect on population rates and absent any information suggesting that one sex is more likely to be struck than another, we can reasonably assume that there is a 50 percent chance that any single mortality authorized by this rulemaking would be a male, thereby further decreasing the likelihood of impacts on the population rate. In situations like this where potential M/SI is fractional, consideration must be given to the lessened impacts anticipated due to the

absence of M/SI in 5 or 6 of the 7 years and the fact that any single mortality could be a male.

Based on the presence of the factors described above, we do not expect lethal take from the Action Proponents' activities, alone, to adversely affect the Baja California Peninsula Mexico population of pantropical spotted dolphins through effects on annual rates of recruitment or survival. Nonetheless, the fact that total human-caused mortality is unknown necessitates close attention to the remainder of the impacts (*i.e.*, harassment) on the Baja California Peninsula Mexico population of pantropical spotted dolphins from the Action Proponents' activities to ensure that the total authorized takes have a negligible impact on the species or stock. Therefore, this information will be considered in combination with our assessment of the impacts of authorized harassment takes in the *Group and Species-Specific Analyses* section that follows.

Group and Species-Specific Analyses

In this section, we build on the general analysis that applies to all marine mammals in the HCTT Study Area from the previous sections. We first include information and analysis that applies to mysticetes or, separately, odontocetes or pinnipeds, and then within those three sections, more specific information that applies to smaller groups, where applicable, and the affected species or stocks. The specific authorized take numbers are also included in the analyses below, so here we provide some additional context and discussion regarding how we consider the authorized take numbers in those analyses.

The maximum amount and type of incidental take of marine mammals reasonably likely to occur and therefore authorized from exposures to sonar and other active acoustic sources and explosions during the 7-year activity period are shown in table 3, table 4, table 5, and table 6, and the subset attributable to ship shock trials is included in table 15.

In the discussions below, the estimated takes by Level B harassment represent instances of take, not the number of individuals taken (the much lower and less frequent Level A harassment takes are far more likely to be associated with separate individuals), and in some cases individuals may be taken more than one time. As part of our evaluation of the magnitude and severity of impacts to marine mammal individuals and the species, and specifically in an effort to better understand the degree to which the modeled and estimated takes likely represent repeated takes of the individuals of a given species/stock, we consider the total annual numbers of take by harassment (auditory injury, non-auditory injury, TTS, and behavioral disturbance) for species or stocks as compared to their associated abundance estimates - specifically, take numbers higher than the stock abundance clearly indicate that some number of individuals are being taken on more than 1 day in the year, and broadly higher or lower ratios of take to abundance may reasonably be considered to equate to higher or lower likelihood of repeated takes, respectively, other potentially influencing factors being equal. In addition to the mathematical consideration of estimated take compared to abundance, we also consider other factors or circumstances that may influence the likelihood of repeated takes, where known, such as circumstances where activities resulting in take are focused in an area and time (*e.g.*, instrumented ranges or a homeport, or long-duration activities such as MTEs) and/or where the same individual marine mammals are known to congregate over longer periods of time (*e.g.*, pinnipeds at a haulout, mysticetes in a known foraging area, or resident odontocetes with smaller home ranges). Similarly, and all else being equal, estimated takes that are largely focused in one region and/or season (see appendix A of the application and table 54, table 56, table 58, table 60, table 62, and table 64 of this final rule) may indicate a higher likelihood of repeated takes of the same individuals.

Occasional, milder behavioral responses are unlikely to cause long-term consequences for individual animals or populations, and even if some smaller subset of

the takes are in the form of a longer (several hours or a day) and more severe response, if they are not expected to be repeated over a comparatively longer duration of sequential days, impacts to individual fitness are not anticipated. Nearly all studies and experts agree that infrequent exposures of a single day or less are unlikely to impact an individual's overall energy budget (Farmer *et al.*, 2018b; Harris *et al.*, 2018; King *et al.*, 2015; NAS, 2017; New *et al.*, 2014; Southall *et al.*, 2007; Villegas-Amtmann *et al.*, 2015; Hoekendijk *et al.*, 2018; Wisniewska *et al.*, 2018; Czapanskiy *et al.*, 2021; Pirotta, 2022). Generally speaking, and in the case of most species impacted by the planned activities, in the cases where some number of individuals may reasonably be expected to be taken on more than 1 day within a year, that number of days would be comparatively small and also with no reason to expect that those takes would occur on sequential days. In the rarer cases of species where individuals might be expected to be taken on a comparatively higher number of days of the year and there are reasons to think that these days might be sequential or clumped together, the likely impacts of this situation are discussed explicitly in the species discussions.

To assist in understanding what this analysis means, we clarify a few issues related to estimated takes and the analysis here. An individual that incurs AUD INJ or TTS may sometimes, for example, also be subject to behavioral disturbance at the same time. As described above in this section, the degree of auditory injury, and the degree and duration of TTS, expected to be incurred from the Navy's activities are not expected to impact marine mammals such that their reproduction or survival could be affected. Similarly, data do not suggest that a single instance in which an animal accrues auditory injury or TTS and is also subjected to behavioral disturbance would result in impacts to reproduction or survival. Alternately, we recognize that if an individual is subjected to behavioral disturbance repeatedly for a longer duration and on consecutive days, effects could accrue to the point that reproductive success is impacted. Accordingly, in analyzing

the number of takes and the likelihood of repeated and sequential takes, we consider the total takes, not just the takes by Level B harassment by behavioral disturbance, so that individuals potentially exposed to both threshold shift and behavioral disturbance are appropriately considered. The number of takes by Level A harassment by auditory injury are so low (and zero in some cases) compared to abundance numbers that it is considered highly unlikely that any individual would be taken at those levels more than once.

Use of sonar and other transducers would typically be transient and temporary. The majority of acoustic effects to most marine mammal stocks from sonar and other active sound sources during the specified military readiness activities would be primarily from anti-submarine warfare events. On the less severe end, exposure to comparatively lower levels of sound at a detectably greater distance from the animal, for a few or several minutes, could result in a behavioral response such as avoiding an area that an animal would otherwise have moved through or fed in, or breaking off one or a few feeding bouts. More severe behavioral effects could occur when an animal gets close enough to the source to receive a comparatively higher level of sound, is exposed continuously to one source for a longer time, or is exposed intermittently to different sources throughout a day. Such effects might result in an animal having a more severe flight response and leaving a larger area for a day or more or potentially losing feeding opportunities for a day. However, such severe behavioral effects are expected to occur infrequently. In addition to the proximity to the source, the type of activity and the season and location during which an animal is exposed can inform the impacts. These factors, including the numbers and types of effects that are estimated in areas known to be biologically important for certain species are discussed in the group and species-specific sections, below.

As described in the **Mitigation Measures** section, this rule includes mitigation measures that would reduce the probability and/or severity of impacts expected to result

from acute exposure to acoustic sources or explosives, vessel strike, and impacts to marine mammal habitat. Specifically, the Action Proponents will use a combination of delayed starts, powerdowns, and shutdowns to avoid mortality or serious injury, minimize the likelihood or severity of AUD INJ or non-auditory injury, and reduce instances of TTS or more severe behavioral disturbance caused by acoustic sources or explosives. The Action Proponents will also implement multiple time/area restrictions that would reduce take of marine mammals in areas or at times where they are known to engage in important behaviors, such as calving, where the disruption of those behaviors would have a higher probability of resulting in impacts on reproduction or survival of individuals that could lead to population-level impacts.

These time/area restrictions include a Hawaii Island Marine Mammal Mitigation Area, a Hawaii 4-Islands Marine Mammal Mitigation Area, Northern California Large Whale Mitigation Area, Central California Large Whale Mitigation Area, Southern California Blue Whale Mitigation Area, California Large Whale Real-Time Notification Mitigation Area, and San Nicolas Island Pinniped Haulout Mitigation Area as well as Hawaii Humpback Whale Awareness Messages and California Large Whale Awareness Messages. The Southern California Blue Whale Mitigation Area is discussed in the blue whale section below. However, it is important to note that measures in that area, while developed to protect blue whales, would also benefit other marine mammals in those areas.

Within the Hawaii Island Marine Mammal Mitigation Area, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted MFAS or 20 hours of helicopter dipping sonar (a MFAS source) annually and must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets). Mitigation in this area is designed to reduce exposure of numerous small and resident marine mammal populations (including

Blainville's beaked whales, bottlenose dolphins, goose-beaked whales, dwarf sperm whales, false killer whales, melon-headed whales, pantropical spotted dolphins, pygmy killer whales, rough-toothed dolphins, short-finned pilot whales, and spinner dolphins), humpback whales within important seasonal reproductive habitat, and Hawaiian monk seals within critical habitat, to levels of sound that have the potential to cause injurious or behavioral impacts.

Within the Hawaii 4-Islands Marine Mammal Mitigation Area, from November 15 through April 15, the Action Proponents must not use MF1 and MF1C surface ship hull-mounted MFAS. The Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) within the mitigation area (year-round). This mitigation will prevent exposure of humpback whales in high-density seasonal reproductive habitats (*e.g.*, north of Maui and Moloka'i), Main Hawaiian Islands insular false killer whales in high seasonal occurrence areas, and numerous small and resident marine mammal populations that occur year-round (including bottlenose dolphins, pantropical spotted dolphins, and spinner dolphins, and Hawaiian monk seals) to explosives that have the potential to cause injury, mortality, or behavioral disturbance, and will minimize exposure of humpback whales in high-density seasonal reproductive habitats (*e.g.*, north of Maui and Moloka'i) and Main Hawaiian Islands insular false killer whales in high seasonal occurrence areas to levels of sound that have the potential to cause injurious or behavioral impacts.

Within the Northern California Large Whale Mitigation Area, Central California Large Whale Mitigation Area, and Southern California Blue Whale Mitigation Area, from June 1 through October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted MFAS (excluding normal maintenance and systems checks) total during training and testing within these three areas. This measure will reduce exposure of blue whales, fin whales, gray whales, and

humpback whales in important seasonal foraging, migratory, and calving habitats to levels of sound that have the potential to cause injurious or behavioral impacts. Additionally, during the same June 1-October 31 period, within the portion of the mitigation area off San Diego, the Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) during large-caliber (≥57 mm (2.24 in)) gunnery, torpedo, bombing, and missile (including 2.75-in (7 cm) rockets) training and testing. This measure will reduce exposure of large whales within important seasonal foraging habitats to explosives that have the potential to cause injury, mortality, or behavioral disturbance.

Within the California Large Whale Real-Time Notification Mitigation Area, for each instance an aggregation of large whales (three or more whales within 1 nmi (1.9 km)) is sighted in the area between 32 and 33 degrees North and 117.2 and 119.5 degrees West, Action Proponent surface vessels must report the sightings to other Action Proponent vessels in the vicinity. Reported sightings will be made as soon as operationally and safely feasible. Lookouts must use the information from the real-time notifications to inform their visual observations of applicable mitigation zones. The real-time notification area encompasses the locations of recent (2021 through 2025) military vessel strikes, and historic strikes where precise latitude and longitude were known. Timely information regarding an aggregation of whales in a particular location may result in an increased awareness of vessel strike risk by Lookouts and vessel operators.

Within the San Nicolas Island Pinniped Haulout Mitigation Area, Navy personnel must implement multiple measures that would minimize in-air launch noise and physical disturbance to pinnipeds hauled out on beaches, as well as to continue assessing baseline pinniped distribution/abundance and potential changes in pinniped use of these beaches after launch events.

Last, the Hawaii Humpback Whale Awareness Messages and California Large Whale Awareness Messages will alert applicable assets (and their Lookouts) transiting and training or testing in the Hawaii Range Complex or on the U.S. West Coast to the possible presence of concentrations of large whales during certain periods of the year. Lookouts must use that knowledge to help inform their visual observations during military readiness activities that involve vessel movements, active sonar, in-water explosives (including underwater explosives and explosives deployed against surface targets), or the deployment of non-explosive ordnance against surface targets in the mitigation area. These messages will minimize potential large whale vessel interactions and exposure to acoustic, explosive, and physical disturbance and strike stressors that have the potential to cause mortality, injury, or behavioral disturbance during reproductive seasons, foraging and migration seasons, and to resident whales.

In addition to the nature and context of the disturbance, including whether take occurs in a known BIA, species-specific factors affect the severity of impacts to individual animals and population consequences of disturbance. Keen *et al.* (2021) identifies three population consequences of disturbance themes: life history traits, environmental conditions, and disturbance source characteristics. Life history traits considered in Keen *et al.* (2021) include movement ecology (whether animals are resident, nomadic, or migratory), reproductive strategy (capital breeders, income breeders, or mixed), body size (based on size and life stage), and pace of life (slow or fast).

Regarding movement ecology, resident animals that have small home ranges relative to the size and duration of an impact zone have a higher risk of repeated exposures to an ongoing activity. Animals that are nomadic over a larger range may have less predictable risk of repeated exposure. For resident and nomadic populations, overlap of a stressor with feeding or reproduction depends more on time of year rather than

location in their habitat range. In contrast, migratory animals may have higher or reduced potential for exposure during feeding and reproduction based on both location, time of the year, and duration of an activity. The risk of repeated exposure during individual events may be lower during migration as animals maintain directed transit through an area.

Reproduction is energetically expensive for female marine mammals, and reproductive strategy can influence an animal's sensitivity to disturbance. Mysticetes and phocids are generally capital breeders. Capital breeders rely on their capital, or energy stores, to migrate, maintain pregnancy, and nurse a calf. Capital breeders would be more resilient to short-term foraging disruption due to their reliance on built-up energy reserves but are vulnerable to prolonged foraging impacts during gestation. Otariids and most odontocetes are income breeders, which rely on some level of income, or regular foraging, to give birth and nurse a calf. Income breeders would be more sensitive to the consequences of disturbances that impact foraging during lactation. Some species exhibit traits of both, such as beaked whales.

Smaller animals require more food intake per unit body mass than large animals. They must consume food on a regular basis and are likely to be non-migratory and income breeders. The smallest odontocetes, the porpoises, must maintain high metabolisms to maintain thermoregulation and cannot rely on blubber stores for long periods of time, whereas larger odontocetes can more easily thermoregulate. The larger size of other odontocetes is an adaptation for deep diving that allows them to access high quality mesopelagic and bathypelagic prey. Both small and large odontocetes have lower foraging efficiency than the large whales. The filter-feeding large whales (mysticetes) consume most of their food within several months of the year and rely on extensive lipid reserves for the remainder of the year. The metabolism of mysticetes allows for fasting while seeking prey patches during foraging season and prolonged periods of fasting

outside of foraging season (Goldbogen *et al.*, 2023). Their energy stores support capital breeding and long migrations. The effect of a temporary feeding disturbance is likely to have inconsequential impacts to a mysticete, but may be consequential for small cetaceans. Despite their relatively smaller size, amphibious pinnipeds have lower thermoregulatory requirements because they spend a portion of time on land. For purposes of this assessment, marine mammals were generally categorized as small (less than 10 ft (3.05 m)), medium (10-30 ft (3.05-9.1 m)), or large (more than 30 ft (9.1 m)) based on length.

Populations with a fast pace of life are characterized by early age of maturity, high birth rates, and short life spans, whereas populations with a slow pace of life are characterized by later age of maturity, low birth rates, and long life spans. The consequences of disturbance in these populations differ. Although reproduction in populations with a fast pace of life is more sensitive to foraging disruption, these populations are quick to recover. Reproduction in populations with a slow pace of life is resilient to foraging disruption, but late maturity and low birth rates mean that long-term impacts to breeding adults have a longer-term effect on population growth rates. Pace of life was categorized for each species in this analysis by comparing age at sexual maturity, birth rate interval, life span, body size, and feeding and reproductive strategy.

Southall *et al.* (2023) also identified factors that inform a population's vulnerability. The authors describe a framework to assess risk to populations from specific industry impact scenarios at different locations or times of year. While this approach may not be suitable for many military readiness activities, for which alternate spatial or seasonal scenarios are not usually feasible, the concepts considered in that framework's population vulnerability assessment are useful in this analysis, including population status (*e.g.*, endangered or threatened), population trend (*i.e.*, decreasing, stable, or increasing), population size, and chronic exposure to other anthropogenic or

environmental stressors (*e.g.*, fisheries interactions, pollution). These factors are also considered when assessing the overall vulnerability of a stock to repeated effects from acoustic and explosive stressors.

In consideration of the factors outlined above, if impacts to individuals increase in magnitude or severity such that repeated and sequential higher severity impacts occur (the probability of this goes up for an individual the higher total number of takes it has) or the total number of moderate to more severe impacts increases substantially, especially if occurring across sequential days, then it becomes more likely that the aggregate effects could potentially interfere with feeding enough to reduce energy budgets in a manner that could impact reproductive success via longer cow-calf intervals, terminated pregnancies, or calf mortality. It is important to note that these impacts accrue exclusively to females, which comprise only approximately 50 percent of the population. Based on energetic models, it takes energetic impacts of a significantly greater magnitude to cause the death of an adult marine mammal, and females will always terminate a pregnancy or stop lactating before allowing their health to deteriorate. Also, the death of an adult female has significantly more impact on population growth rates than reductions in reproductive success, while the death of an adult male has very little effect on population growth rates. However, as explained earlier, such severe impacts from the specified activities would be very infrequent and not considered likely to occur at all for most species and stocks. We note that the negligible impact analysis is inherently a two-tiered assessment that first evaluates the anticipated impacts of the activities on marine mammals individuals, and then if impacts are expected to reproduction or survival of any individuals further evaluates the effects of those individual impacts on rates of reproduction and survival of the species or stock, in the context of the status of the species or stock. The analyses below in some cases address species collectively if they occupy the same functional hearing group (*i.e.*, very-low, low, high, and very high-frequency cetaceans), share

similar life history strategies, and/or are known to behaviorally respond similarly to acoustic stressors. Because some of these groups or species share characteristics that inform the impact analysis similarly, it would be duplicative to repeat the same analysis for each species. In addition, similar species typically have the same hearing capabilities and behaviorally respond in the same manner.

Thus, our analysis below considers the effects of the specified activities on each affected species or stock even where discussion is organized by functional hearing group and/or information is evaluated at the group level. Where there are meaningful differences between a species or stock that would further differentiate the analysis, they are described either within the section or included as a separate part of each section. Specifically, below, we first give broad descriptions of the mysticete, odontocete, and pinniped groups and then differentiate them further into groups as appropriate.

Mysticetes

This section builds on the broader discussion above and brings together the discussion of the different types and amounts of take that different stocks will incur, the applicable mitigation for each stock, and the status and life history of the stocks to support the negligible impact determinations for each stock. We have already described above why we believe the incremental addition of the limited number of low-level auditory injury takes will not have any meaningful effect towards inhibiting reproduction or survival. We have also described in this section above the unlikelihood of any masking or habitat impacts having effects that would impact the reproduction or survival of any of the individual marine mammals affected by the Action Proponents' activities. For mysticetes, there is no predicted non-auditory injury from explosives for any stocks except the CA/OR/WA stock of fin whale and the Mainland Mexico - CA/OR/WA stock of humpback whale. Regarding the severity of individual takes by Level B harassment by behavioral disturbance for mysticetes, the majority of these responses are anticipated to

occur at received levels below 172 dB, and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Much of the discussion below focuses on the behavioral effects and the mitigation measures that reduce the probability or severity of effects in biologically important areas or other habitat. Because there are multiple stock-specific factors in relation to the status of the species, as well as mortality take arising from vessel strike for several stocks, at the end of the section we break out stock-specific findings.

In table 54 below for mysticetes, we indicate the total annual mortality, Level A harassment, and Level B harassment, and the maximum annual harassment as a percentage of stock abundance.

In table 55 below, we indicate the status, life history traits, important habitats, and threats that inform our analysis of the potential impacts of the estimated take on the affected mysticete stocks.

Table 54 -- Annual Estimated Take by Level B Harassment, Level A Harassment, and Mortality and Related Information for Mysticetes in the HCTT Study Area

Marine Mammal Species	Stock	NMFS Stock Abundance	NMSDD Abundance	Maximum Annual Level B Harassment	Maximum Annual Level A Harassment	Maximum Annual Mortality	Maximum Annual Take	Maximum Annual Harassment As Percentage of Stock Abundance	Season(s) with 50 Percent of Take or Greater	Region(s) with 40 Percent of Take or Greater
Gray Whale	Eastern North Pacific	26,960 *	10,863	16,711	167	0.43	16,878	63 [a]	Cold (99 percent)	SOCAL (98 percent)
Gray Whale	Western North Pacific	290 *	110	169	2	0	171	59	Cold (100 percent)	SOCAL (97 percent)
Blue Whale	Central North Pacific	133	170 *	92	1	0	93	55	Cold (70 percent)	HRC (95 percent)
Blue Whale	Eastern North Pacific	1,898	3,233 *	4,571	27	0.29	4,598	142	Warm (56 percent)	SOCAL (87 percent)
Bryde's Whale	Eastern Tropical Pacific	UNK	69 *	322	5	0	327	474	Cold (56 percent)	SOCAL (89 percent)
Bryde's Whale	Hawaii	791 *	766	409	3	0	412	52	Cold (57 percent)	HRC (93 percent)
Fin Whale	Hawaii	203	226 *	86	1	0	87	38	Cold (75 percent)	HRC (97 percent)
Fin Whale	California/Oregon/Washington	11,065	12,304 *	13,501	55	0.86	13,557	110	Warm (70 percent)	SOCAL (52 percent)
Humpback Whale	Central America/Southern Mexico - California-Oregon-Washington	1,496	1,603 *	1,888	19	0.29	1,907	119	Cold (71 percent)	SOCAL (56 percent)
Humpback Whale	Mainland Mexico - California-Oregon-Washington	3,477	3,741 *	4,449	44	0.29	4,493	120	Cold (71 percent)	SOCAL (58 percent)
Humpback Whale	Hawaii	11,278 *	9,806	3,034	24	0.43	3,058	27	Cold (99 percent)	HRC (98 percent)
Minke Whale	Hawaii	438	509 *	296	3	0	299	59	Cold (70 percent)	HRC (96 percent)

Minke Whale	California/Oregon/Washington	915	1,342 *	2,993	32	0	3,025	225	N/A	SOCAL (75 percent)
Sei Whale	Hawaii	391	452 *	253	2	0	255	56	Cold (69 percent)	HRC (95 percent)
Sei Whale	Eastern North Pacific	864 *	155	302	3	0.29	305	35	Cold (58 percent)	SOCAL (72 percent)

Note: N/A = Not Applicable, UNK = Unknown. NMSDD abundances are averages only within the U.S. EEZ.

* Indicates which abundance estimate was used to calculate the maximum annual take as a percentage of abundance, either the NMFS SARs (Carretta *et al.*, 2024; Young *et al.*, 2024) or the NMSDD (table 2.4-1 in appendix A of the application). Please refer to the Mysticetes section for details on which abundance estimate was selected.

[a] Note that in comparison to the recent Eguchi *et al.* (2025) abundance estimate, the number of estimated total instances of take compared to the abundance would be 130 percent.

Table 55 -- Life History Traits, Important Habitat, and Threats to Mysticetes in the HCTT Study Area

Marine Mammal Species	Stock	ESA Status	MMPA Status	Movement Ecology	Body Size	Reproductive Strategy	Pace of Life	Chronic Risk Factors	UME, Oil Spill, Other	ESA-Designated Critical Habitat	BIAs II for Hawaii (Kratofil *et al.*, 2023) and West Coast (Calambokidis *et al.*, 2024)	Population Trend	PBR	Annual Mortality/Serious Injury (from other human activities)
Gray Whale	Eastern North Pacific	Not listed	Not depleted, not strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise, subsistence hunting	No	No	Yes: F-BIA Parent and Core; M-BIA Parent and Child; R-BIA	Increasing	801	131

Gray Whale	Western North Pacific	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise, subsistence hunting	No	No	No	Unk	0.12	UNK
Blue Whale	Central North Pacific	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	No	No	Unk	0.1	0
Blue Whale	Eastern North Pacific	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	No	Yes: F-BIA Parent and Core	Unk, possibly increasing	4.1	≥18.6
Bryde's Whale	Eastern Tropical Pacific	Not listed	Not depleted, not	Unknown, likely	Large	Income	Slow	Vessel strikes, fisheries	No	No	No	Unk	UND	UNK

			strategic	migratory				interactions, habitat degradation, pollution, vessel disturbance, ocean noise						
Bryde's Whale	Hawaii	Not listed	Not depleted, not strategic	Unknown, likely migratory	Large	Income	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	No	No	Unk	6.2	0
Fin Whale	Hawaii	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	No	No	Unk	0.2	0
Fin Whale	California/Oregon/Washington	Endangered	Depleted, Strategic	Migratory-resident (SOCAL)	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution,	No	No	Yes: F-BIA Parent and Core	Unk	80	≥43.4

								vessel disturbance, ocean noise						
Humpback Whale	Central America/Southern Mexico - California-Oregon-Washington	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	Yes	Yes: F-BIA Parent and Core	Increasing	3.5	14.9
Humpback Whale	Mainland Mexico - California-Oregon-Washington	Threatened	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	Yes	Yes: F-BIA Parent and Core	Unk	43	22
Humpback Whale	Hawaii	Not listed	Not depleted, not strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise	No	No	Yes: R-BIA MHI and MHI-Core Parent and Child	Unk	127	27.09
Minke Whale	Hawaii	Not listed	Not deplete	Migratory	Med-	Capital	Slow	Vessel strikes,	No	No	No	Unk	2.1	0

			d, not strategic		Large			fisheries interactions, habitat degradation, pollution, vessel disturbance						
Minke Whale	California/Oregon/Washington	Not listed	Not depleted, not strategic	Migratory-resident	Med-Large	Capital	Slow	Vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance	No	No	No	Unk	4.1	≥0.19
Sei Whale	Hawaii	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, ocean noise	No	No	No	Unk	0.4	0.2
Sei Whale	Eastern North Pacific	Endangered	Depleted, Strategic	Migratory	Large	Capital	Slow	Vessel strikes, fisheries interactions, ocean noise	No	No	No	Unk	1.25	UNK

Note: N/A = Not Applicable, UND = Undetermined, Unk = Unknown.

Gray Whale (Eastern North Pacific and Western North Pacific stocks) –

Gray whales from the Eastern North Pacific stock are not listed under the ESA and are not considered as depleted or strategic under the MMPA, while gray whales from the Western North Pacific stock are listed as endangered under the ESA and depleted and strategic under the MMPA. Both stocks are migratory and most likely to be in the California Study Area during their migrations from winter to spring within 10 km (5.4 nmi) of the coast. Some gray whales transit further offshore in Southern California when making straight line transits south of Point Conception to and from Mexico. Gray whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, ocean noise, and subsistence hunting, among others.

The current stock abundance estimate of the Eastern North Pacific stock of gray whale is 26,960 animals. However, recent (2024-2025) surveys conducted by NMFS' SWFSC estimated that the population has declined since the most recent Eastern North Pacific gray whale SAR was published, and estimates an abundance of 12,950 whales (Eguchi *et al.*, 2025). The Western North Pacific stock abundance is 290 animals. There are no UMEs or other factors that cause particular concern for these stocks. As described in the **Description of Marine Mammals and Their Habitat in the Area of the Specified Activities** section, the HCTT Study Area overlaps eight BIAs for the Eastern North Pacific stock, including three feeding, four migratory, and one reproductive for the nearshore migratory corridor used by cow/calf pairs. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 167 and 16,711, respectively. As indicated, the rule also allows for up to three takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section.

There are no known biologically important areas for the Western North Pacific stock of gray whale in the HCTT Study Area, though the Western North Pacific stock may use the same migratory areas as the Eastern North Pacific stock while migrating to wintering areas in Mexico (Calambokidis *et al.*, 2024). As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 2 and 169, respectively. No mortality is anticipated or authorized, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with gray whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Gray whales are large-bodied capital breeders with a slow pace of life and are therefore generally less susceptible to impacts from shorter duration

foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, given the number of takes by harassment as compared to the stock/species abundance (see table 54), and the fact that a portion of the takes of the Eastern North Pacific occur in BIAs, it is likely that some portion of the individuals taken are taken repeatedly over a limited number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the magnitude and severity of the impacts discussed above to the Western North Pacific stock (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are unlikely to result in impacts on the reproduction or survival of any individuals and, therefore, unlikely to affect annual rates of recruitment or survival. For the Eastern North Pacific stock, as analyzed and described in the Serious Injury and Mortality section, given the status of the stock and in consideration of other ongoing anthropogenic mortality (fisheries interactions, vessel strike), the authorized M/SI (three over the course of the 7-year rule, or 0.43 annually)

will not, alone, nor in combination with the impacts of the take by harassment discussed above (which is not expected to impact the reproduction or survival of any individuals), be expected to adversely affect rates of recruitment and survival for any of this stock. For these reasons, we have determined that the total take (considering annual maxima and across 7 years) anticipated and authorized will have a negligible impact on the Eastern North Pacific and Western North Pacific stocks of gray whale.

Blue Whale (Central North Pacific and Eastern North Pacific stocks) –

Blue whales are listed as endangered under the ESA and as both depleted and strategic under the MMPA. Both stocks of blue whales are migratory populations that can occur near the coast, over the continental shelf, and in oceanic waters. Blue whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strike, fisheries interactions, habitat degradation, pollution, vessel disturbance, and ocean noise, among others.

The Navy's NMSDD estimates the Central North Pacific stock abundance as 170, and the Eastern North Pacific stock abundance as 3,233. The Central North Pacific stock's primary range is outside of the HCTT Study Area. There are no UMEs or other factors that cause particular concern for this stock, and there are no known biologically important areas for the Central North Pacific stock of blue whales in the HCTT Study Area. This stock migrates from their feeding grounds in the Gulf of Alaska to Hawaii in winter. While they occur in the Hawaii Study Area, they are not sighted frequently or year-round. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 1 and 92, respectively. No mortality is anticipated or authorized, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19.

For the Eastern North Pacific stock, there are no UMEs or other factors that cause additional concern for this stock. As described in the **Description of Marine Mammals**

and Their Habitat in the Area of the Specified Activities section, the HCTT Study Area overlaps a feeding BIA for the Eastern North Pacific stock (Calambokidis *et al.*, 2024). The Eastern North Pacific stock of blue whales is a migratory population that can occur near the coast, over the continental shelf, and in deep oceanic waters from the northern Gulf of Alaska to the eastern tropical Pacific. This stock forages in their hierarchical feeding BIAs off California in warmer months (June-November). In recent years, the Eastern North Pacific stock has been reported to spend more time (averaging over 8 months) on feeding grounds in the Southern California Bight. The highest densities of blue whales are predicted along nearshore southern California where most impacts will occur, so blue whales may be impacted while foraging in the designated BIAs. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 27 and 4,571, respectively. As indicated, the rule also allows for up to two takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with blue whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Blue whales are large-bodied capital breeders with a slow pace of life and are therefore generally less susceptible to impacts from shorter duration foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, for the Central North Pacific stock, given the lower number of takes by harassment as compared to the stock/species abundance (see table 54), their migratory movement pattern, and the absence of take concentrated in areas in which animals are known to congregate, it is unlikely that any individual blue whales from the Central North Pacific stock would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival. For the Eastern North Pacific stock, given the number of takes by harassment as compared to the stock/species abundance (see table 54) and the fact that a portion of the takes occur in BIAs, it is likely that some portion of the individuals taken are taken repeatedly over a limited number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in

different areas (*i.e.*, not concentrated within a specific region and season), and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the magnitude and severity of the impacts discussed above to the Central North Pacific stock of blue whales (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are not expected to result in impacts on the reproduction or survival of any individuals, much less affect annual rates of recruitment or survival. For the Eastern North Pacific stock, as analyzed and described in the Serious Injury and Mortality section, given the status of the stock, and in consideration of other ongoing anthropogenic mortality (fisheries interactions, vessel strike), the authorized M/SI (two over the course of the 7-year rule, or 0.29 annually) will not, alone, nor in combination with the impacts of the take by harassment discussed above (which is not expected to impact the reproduction or survival of any individuals), be expected to adversely affect rates of recruitment and survival for any of this stock. For these reasons, we have determined that the total take (considering annual maxima and across 7 years) anticipated and authorized will have a negligible impact on the Eastern North Pacific and Central North Pacific stocks of blue whale.

Bryde's Whale (Eastern Tropical Pacific and Hawaii stocks) –

Little is known about the movements of Bryde's whales in the Study Area, but seasonal shifts in their distribution occur toward and away from the equator in winter and summer. Therefore, both populations of Bryde's whales are at least somewhat migratory populations that travel within their tropical and subtropical ranges year-round. There are no known biologically important areas for Bryde's whales in the HCTT Study Area.

Bryde's whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strike, fisheries interactions, habitat degradation, pollution, vessel disturbance, and ocean noise, among others.

Bryde's whales in the Eastern Tropical Pacific have not been designated as a stock under the MMPA, are not ESA-listed, and there is no current reported population trend. The Navy's NMSDD estimates the Eastern Tropical Pacific Bryde's whale is 69 animals. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 5 and 322, respectively. No mortality is anticipated or authorized, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19.

The Hawaii stock of Bryde's whale is not listed as threatened or endangered under the ESA and is not considered depleted or strategic under the MMPA. The current stock abundance estimate of the Hawaii stock of Bryde's whale is 791 animals. The stock's primary range extends outside of the HCTT Study Area. There are no UMEs or other factors that cause particular concern for this stock. Bryde's whales are the only baleen whale found in Hawaiian waters year-round, and the only mysticete in Hawaii that does not undergo predictable north-south seasonal migrations. However, Bryde's whales occur mostly in offshore waters of the North Pacific. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 3 and 409, respectively. No mortality is anticipated or authorized, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with Bryde's

whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Bryde's whales are large-bodied income breeders with a slow pace of life and may be susceptible to energetic costs from foraging disruption, especially during lactation. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts to the Hawaii stock through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, given the number of takes by harassment as compared to the stock/species abundance (see table 54), it is likely that some portion of the individuals taken from the Eastern Tropical Pacific stock are taken repeatedly over a moderate number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from

transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted. For the Hawaii stock, given the lower number of takes by harassment as compared to the stock/species abundance (see table 54), their migratory movement pattern, and the absence of take concentrated in areas in which animals are known to congregate, it is unlikely that any individual Bryde's whales from the Hawaii stock would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival.

Given the magnitude and severity of the impacts discussed above to Bryde's whales in the Eastern Tropical Pacific (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are not expected to result in impacts on the reproduction or survival of any individuals, much less affect annual rates of recruitment or survival. For these reasons, we have determined that the anticipated and authorized take will have a negligible impact on the Eastern Tropical Pacific and Hawaii stocks of Bryde's whale.

Fin Whale (Hawaii and CA/OR/WA stocks) –

Fin whales are listed as endangered under the ESA and depleted and strategic under the MMPA. Fin whales have higher abundances in temperate and polar waters, and are not frequently seen in warm, tropical waters. Fin whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strike, fisheries interactions, habitat degradation, pollution, vessel disturbance, and ocean noise, among others.

The Navy's NMSDD estimates the abundance of the Hawaii stock of fin whale is 226 and the CA/OR/WA stock of fin whale is 12,304. There are no UMEs or other factors that cause particular concern for these stocks, and there are no known biologically important areas for the Hawaii stock of fin whale in the HCTT Study Area. The Hawaii stock of fin whales are not sighted frequently or year-round, and likely only migrate to the Hawaii portion of the HCTT Study Area during fall and winter. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A Harassment and Level B harassment are 1 and 86, respectively. No mortality is anticipated or authorized, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19.

For the CA/OR/WA stock, as described in the **Description of Marine Mammals and Their Habitat in the Area of the Specified Activities** section, the HCTT Study Area overlaps a feeding BIA (Parent and Child) for this stock (Calambokidis *et al.*, 2024). This stock of fin whales is a migratory-resident population that travels along the entire U.S. west coast and may be present throughout the year in southern and central California. There are generally higher densities farther offshore in the summer and fall, and closer to shore in winter and spring. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 55 and 13,501, respectively. The rule allows for a limited number of takes by non-auditory injury (one animal). As indicated, the rule also allows for up to six takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be

lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with fin whale communication and other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness. The rule also allows for a limited number of takes by non-auditory injury (one animal) for this stock. As described above in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these non-auditory injuries are unlikely to be of a nature or level that would impact reproduction or survival.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Fin whales are large-bodied capital breeders with a slow pace of life and are therefore generally less susceptible to impacts from shorter duration foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, given the number of takes by harassment as compared to the stock/species abundance (see table 54) and the fact that a portion of the takes occur in BIAs for the CA/OR/WA stock, it is likely that some portion of the individuals of each stock are taken repeatedly over a limited number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Fin whales have the largest hierarchical feeding BIAs spanning the coast of California from June to November, which overlap more with PMSR and SOCAL compared to NOCAL, as the core BIAs are generally farther offshore in northern California. Impacts would be attributable to various activities in summer and fall (warm season), with most impacts occurring in southern California year-round. However, this stock is migratory and Navy activities are not anticipated to overlap a large portion of the BIAs, leaving large areas of important foraging habitat available.

Given the magnitude and severity of the impacts discussed above to the Hawaii stock of fin whales (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are unlikely to result in impacts on the reproduction or survival of any individuals and, therefore, unlikely to affect annual rates of recruitment or survival. For the CA/OR/WA stock, as analyzed and described in the Serious Injury and Mortality section, given the status of the stock and in consideration

of other ongoing anthropogenic mortality (fisheries interactions, vessel strike), the authorized M/SI (six over the course of the 7-year rule, or 0.86 annually) will not, alone, nor in combination with the impacts of the take by harassment discussed above (which is not expected to impact the reproduction or survival of any individuals), be expected to adversely affect rates of recruitment and survival for any of this stock. For these reasons, we have determined that the total take (considering annual maxima and across 7 years) anticipated and authorized will have a negligible impact on the CA/OR/WA and Hawaii stocks of fin whale.

Humpback Whale (Central America/Southern Mexico - CA/OR/WA, Mainland Mexico - CA/OR/WA, and Hawaii stocks) –

Humpback whales occur throughout the HCTT Study Area, and the two stocks (Central America/Southern Mexico - CA/OR/WA and Mainland Mexico - CA/OR/WA) that occur in the California portion of the Study Area are most abundant in shelf and slope waters which are areas of high productivity and often sighted near shore, while also frequently moving through deep offshore waters during migration. In the Hawaii portion of the Study Area, the Hawaii stock of humpback whales occur seasonally in nearshore waters surrounding the main Hawaiian Islands during breeding season (typically December through May). The HCTT Study Area overlaps ESA-designated critical habitat for the endangered Central America DPS and the Mexico DPS of humpback whales along the west coast (86 FR 21082, April 21, 2021), as described in the **Description of Marine Mammals and Their Habitat in the Area of Specified Activities** section. There are no UMEs or other factors that cause particular concern for these stocks. The HCTT Study Area overlaps a feeding BIA (Parent and Core) for the two stocks that occur in California (Calambokidis *et al.*, 2024), and a reproductive BIA (Parent and Child) for the Hawaii stock (Kratofil *et al.*, 2023). Humpback whales face several anthropogenic

and non-anthropogenic risk factors, including vessel strikes, fisheries interactions, habitat degradation, pollution, vessel disturbance, and ocean noise, among others.

The Central America/Southern Mexico - CA/OR/WA stock (Central America DPS) of humpback whale is listed as endangered under the ESA and as both depleted and strategic under the MMPA. The Navy's NMSDD estimates this stock size is 1,603. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A harassment and Level B harassment are 19 and 1,888, respectively. As indicated, the rule also allows for up to two takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section.

The Mainland Mexico - CA/OR/WA stock (part of the Mexico DPS) of humpback whale is listed as threatened under the ESA and as both depleted and strategic under the MMPA. The Navy's NMSDD estimates this stock size is 3,741. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A harassment and Level B harassment are 44 and 4,449 respectively. The rule allows for a limited number of takes by non-auditory injury (one animal). As described above, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these injuries are unlikely to impact reproduction or survival. As indicated, the rule also allows for up to two takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section.

The Hawaii stock of humpback whale is not listed as endangered under the ESA and as neither depleted nor strategic under the MMPA. The current stock abundance estimate of the Hawaii stock (Hawaii DPS) is 11,278. The stock's primary range extends outside of the HCTT Study Area. As shown in table 54, the maximum annual allowable

instances of take under this rule by Level A and Level B harassment are 24 and 3,034, respectively. As indicated, the rule also allows for up to three takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section. The total take allowable for each stock across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with humpback whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness. The rule also allows for one take by non-auditory injury for the Mainland Mexico - CA/OR/WA stock. As described above, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, this non-auditory injury is unlikely to be of a nature or level that would impact reproduction or survival.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Humpback whales are large-bodied capital breeders with a

slow pace of life and are therefore generally less susceptible to impacts from shorter duration foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat. In particular, for the Mainland Mexico - CA/OR/WA stock, this rulemaking includes the Northern California Large Whale Mitigation Area and Central California Large Whale Mitigation Area. From June 1 through October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted MFAS (excluding normal maintenance and systems checks) total during training and testing within the combination of the Northern California Large Whale Mitigation Area, the Central California Large Whale Mitigation Area, and the Southern California Blue Whale Mitigation Area. These restrictions would reduce exposure of humpback whales in important seasonal foraging, migratory, and calving habitats to levels of sound that have the potential to cause injurious or behavioral impacts.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, for the Mainland Mexico - CA/OR/WA and Central America/Southern Mexico - CA/OR/WA stocks, given the number of takes by harassment as compared to the stock/species abundance (see table 54) and the fact that a portion of the takes of both stocks occur in BIAs, it is likely that some portion of the individuals taken are taken repeatedly over a limited number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it

is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted. Further, these stocks are migratory, and although some impacts to these stocks would occur in critical habitat and BIAs important for foraging off the coast of California, there are large areas available outside of the Study Area that contain high-quality foraging habitat for both stocks. Further, the majority of impacts to these stocks are anticipated to occur during the cold season, a portion of which (December to February) the BIAs for feeding are not considered to be active.

For the Hawaii stock, given the lower number of takes by harassment as compared to the stock/species abundance (see table 54), their migratory movement pattern, and the absence of take concentrated in areas in which animals are known to congregate, it is unlikely that any individual humpback whales from the Hawaii stock would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival.

For all three stocks, as described in the Serious Injury and Mortality section, given the status of the stocks, and in consideration of other ongoing anthropogenic mortality, the M/SI authorized here will not, alone, nor in combination with the impacts of the take by harassment discussed above (which is not expected to impact the reproduction or survival of any individuals), be expected to adversely affect rates of recruitment and survival. For these reasons, we have determined that the total take (considering annual maxima and across 7 years) anticipated and authorized will have a negligible impact on the Central America/Southern Mexico - CA/OR/WA, Mainland Mexico - CA/OR/WA, and Hawaii stocks of humpback whales.

Minke Whale (Hawaii and CA/OR/WA stocks) –

Minke whales in the HCTT Study Area are not listed as threatened or endangered under the ESA, and neither the Hawaii stock nor the CA/OR/WA stock are considered depleted or strategic under the MMPA. There are no UMEs or other factors that cause particular concern for either stock, and there are no known biologically important areas for minke whales in the HCTT Study Area. Minke whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strike, fisheries interactions, habitat degradation, pollution, vessel disturbance, and disease, among others.

The Navy's NMSDD estimates the abundance of the Hawaii stock of minke whale is 509 animals and the CA/OR/WA stock of minke whale is 1,342 animals. The stock's primary range extends outside of the HCTT Study Area. The Hawaii stock generally congregates in Hawaiian water in the colder months (fall to spring) and migrates to more productive areas in winter. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 3 and 296, respectively. The CA/OR/WA stock can be found year-round in southern California, generally congregating in nearshore waters over the continental shelf off California, and has low variability in annual distribution patterns. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 32 and 2,993, respectively. No mortality is anticipated or authorized for either stock, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19. Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration, and mostly not in a frequency band that would be expected to interfere with minke whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might

experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Minke whales are medium-to-large-bodied capital breeders with a slow pace of life and are therefore generally less susceptible to impacts from shorter duration foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, for the Hawaii stock, given the lower number of takes by harassment as compared to the stock/species abundance (see table 54), their migratory movement pattern, and the absence of take concentrated in areas in which animals are known to congregate, it is unlikely that any individual minke whales from the Hawaii stock would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival. For the CA/OR/WA stock, given the number of takes by harassment as compared to the stock/species abundance

(see table 54), it is likely that some portion of the individuals taken are taken repeatedly over a limited to moderate number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the magnitude and severity of the impacts discussed above to the CA/OR/WA and Hawaii stocks of minke whale (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are not expected to result in impacts on the reproduction or survival of any individuals, much less affect annual rates of recruitment or survival. For these reasons, we have determined that the take by harassment anticipated and authorized will have a negligible impact on the Hawaii and CA/OR/WA stocks of minke whales.

Sei Whale (Hawaii and Eastern North Pacific stocks) –

Sei whales are listed as endangered under the ESA and as both depleted and strategic under the MMPA. Sei whales generally have higher abundances in the cold and deep water of the open ocean. There are no UMEs or other factors that cause particular concern for either stock, and there are no known biologically important areas for sei whales in the HCTT Study Area. Sei whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strike, fisheries interactions, and ocean noise, among others.

The Navy's NMSDD estimates the abundance of the Hawaii stock is 452 and the Eastern North Pacific stock is 864 animals. The Hawaii stock's primary range is outside of the HCTT Study Area. This stock is migratory and not frequently detected in Hawaii,

traveling from their cold subpolar latitudes to Hawaii in the winter, where they are more likely to be on the Hawaii Range Complex in the cold season. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 2 and 253, respectively. No mortality of the Hawaii stock is anticipated or authorized, nor is any non-auditory injury.

The Eastern North Pacific stock occurs year-round in deep offshore waters of California, and is likely to occur in the Transit Corridor of the HCTT Study Area. The Eastern North Pacific stock seasonally migrates, though to a lesser extent compared to other large whales. As shown in table 54, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 3 and 302, respectively. As indicated, the rule also allows for up to two takes by serious injury or mortality over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section. The total take allowable across all 7 years of the rule for both stocks is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with sei whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Sei whales are large-bodied capital breeders with a slow pace of life and are therefore generally less susceptible to impacts from shorter duration foraging disruptions. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, given the lower number of takes by harassment as compared to the stock/species abundance (see table 54), their migratory movement pattern, and the absence of take concentrated in areas in which animals are known to congregate, it is unlikely that any individual from either stock would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival.

Given the magnitude and severity of the impacts discussed above to the Hawaii stock of sei whales (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are not expected to result in impacts on the reproduction or survival of any individuals, much less affect annual rates

of recruitment or survival. For the CA/OR/WA stock, as analyzed and described in the Serious Injury and Mortality section above, given the status of the stock, the authorized M/SI for CA/OR/WA sei whales (two over the course of the 7-year rule, or 0.29 annually) would not, alone, be expected to adversely affect the stock through rates of recruitment or survival. Given the magnitude and severity of the take by harassment discussed above and any anticipated habitat impacts, and in consideration of the required mitigation measures and other information presented, the authorized take by harassment is unlikely to result in impacts on the reproduction or survival of any individuals and, therefore, unlikely to affect annual rates of recruitment or survival either alone or in combination with the authorized M/SI. For these reasons, we have determined that the take by harassment anticipated and authorized will have a negligible impact on the Hawaii and CA/OR/WA stocks of sei whales.

Odontocetes

This section builds on the broader discussion above and brings together the discussion of the different types and amounts of take that different stocks will incur, the applicable mitigation for each stock, and the status and life history of the stocks to support the negligible impact determinations for each stock. We have already described above why we believe the incremental addition of the limited number of low-level auditory injury takes will not have any meaningful effect towards inhibiting reproduction or survival. We have also described above in this section the unlikelihood of any masking or habitat impacts having effects that would impact the reproduction or survival of any of the individual marine mammals affected by the Action Proponents' activities. Some odontocete stocks have predicted non-auditory injury from explosives, discussed further below. Regarding the severity of individual takes by Level B harassment by behavioral disturbance for odontocetes, the majority of these responses are anticipated to occur at received levels below 178 dB for most odontocete species and below 154 dB for sensitive

species (*i.e.*, beaked whales and harbor porpoises, for which a lower behavioral disturbance threshold is applied), and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Much of the discussion below focuses on the behavioral effects and the mitigation measures that reduce the probability or severity of effects in biologically important areas or other habitats. Because there are multiple stock-specific factors in relation to the status of the species, as well as mortality take for several stocks, at the end of the section we break out stock- or group-specific findings.

In table 56 (sperm whales, dwarf sperm whales, and pygmy sperm whales), table 58 (beaked whales), table 60 (dolphins and small whales), table 62 (porpoises), and table 64 (pinnipeds) below, we indicate the total annual mortality, Level A harassment, and Level B harassment, and the maximum annual harassment as a percentage of stock abundance.

In table 57 (sperm whales, dwarf sperm whales, and pygmy sperm whales), table 59 (beaked whales), table 61 (dolphins and small whales), table 63 (porpoises), and table 65 (pinnipeds), below, we indicate the status, life history traits, important habitats, and threats that inform our analysis of the potential impacts of the estimated take on the affected odontocete stocks.

Table 56 -- Annual Estimated Take by Level B Harassment, Level A Harassment, and Mortality and Related Information for Pacific Stocks of Sperm Whale, Dwarf Sperm Whale, and Pygmy Sperm Whale in the HCTT Study Area

Marine Mammal Species	Stock	NMFS Stock Abundance	NMSDD Abundance	Maximum Annual Level B Harassment	Maximum Annual Level A Harassment	Maximum Annual Mortality	Maximum Annual Take	Maximum Annual Harassment As Percentage of Stock Abundance	Season(s) with 50 Percent of Take or Greater	Region(s) with 40 Percent of Take or Greater
Sperm Whale	Hawaii	5,707	6,062 *	1,649	1	0.14	1,650	27	Cold (55 percent)	HRC (94 percent)
Sperm Whale	California/Oregon/ Washington	2,606	4,549 *	3,891	3	0	3,894	86	Cold (55 percent)	SOCAL (70 percent)
Dwarf Sperm Whale	Hawaii	UNK	43,246 *	45,224	915	0	46,139	107	Cold (54 percent)	HRC (93 percent)
Dwarf Sperm Whale	California/Oregon/ Washington	UNK	2,462 *	5,664	94	0	5,758	234	Cold (57 percent)	SOCAL (75 percent)
Pygmy Sperm Whale	Hawaii	42,083	48,589 *	45,787	936	0	46,723	96	Cold (54 percent)	HRC (93 percent)
Pygmy Sperm Whale	California/Oregon/ Washington	4,111 *	2,462	5,615	107	0	5,722	139	Cold (59 percent)	SOCAL (74 percent)

Note: N/A = Not Applicable, UNK = Unknown. NMSDD abundances are averages only within the U.S. EEZ.

* Indicates which abundance estimate was used to calculate the maximum annual take as a percentage of abundance, either the NMFS SARs (Carretta *et al.*, 2024; Young *et al.*, 2024) or the NMSDD (table 2.4-1 in appendix A of the application). Please refer to the Odontocetes section for details on which abundance estimate was selected.

Table 57 -- Life History Traits, Important Habitat, and Threats to Sperm Whale, Dwarf Sperm Whale, and Pygmy Sperm Whale in the HCTT Study Area

Marine Mammal Species	Stock	ESA Status	MMPA Status	Movement Ecology	Body Size	Reproductive Strategy	Pace of Life	Chronic Risk Factors	UME, Oil Spill, Other	ESA-Designated Critical Habitat	BIAs II for Hawaii (Kratofil *et al.*, 2023) and West Coast (Calambokidis *et al.*, 2024)	Population Trend	PBR	Annual Mortality/ Serious Injury (from other human activities)

Sperm Whale	Hawaii	Endangered	Depleted, Strategic	Resident-migratory	Large	Income	Slow	Vessel strikes, fisheries interactions, ocean noise, marine debris, disease	No	No	No	Unk	18	0
Sperm Whale	California/ Oregon/Washington	Endangered	Depleted, Strategic	Migratory-resident	Large	Income	Slow	Vessel strikes, fisheries interactions, ocean noise, marine debris, disease	No	No	No	Stable	4	0.52
Dwarf Sperm Whale	Hawaii	Not listed	Not depleted, not strategic	Migratory, nomadic, resident	Small-Med	Income	Fast	Fisheries interactions, marine debris, ocean noise	No	No	Yes: S-BIA Parent and Child HI-Core	Unk	UND	0
Dwarf Sperm Whale	California/ Oregon/Washington	Not listed	Not depleted, not strategic	Migratory, nomadic, resident	Small-Med	Income	Fast	Fisheries interactions, marine debris, ocean noise	No	No	No	Unk	UND	0
Pygmy Sperm Whale	Hawaii	Not listed	Not depleted, not strategic	Migratory, nomadic, resident	Small-Med	Income	Fast	Fisheries interactions, marine debris, ocean noise	No	No	Yes: S-BIA O MN HI	Unk	257	0
Pygmy Sperm Whale	California/ Oregon/Washington	Not listed	Not depleted, not strategic	Migratory, nomadic, resident	Small-Med	Income	Fast	Fisheries interactions, marine debris, ocean noise	No	No	No	Unk	19.2	0

Note: N/A = Not Applicable, UND = Undetermined, Unk = Unknown.

Sperm Whales, Dwarf Sperm Whales, and Pygmy Sperm Whales –

Sperm Whale (Hawaii and CA/OR/WA stocks)

Sperm whales are listed as endangered under the ESA and are considered depleted and strategic under the MMPA. The Navy's NMSDD estimate for the Hawaii stock is 6,062 animals and for the CA/OR/WA stock is 4,549 animals. There are no UMEs or other factors that cause particular concern for these stocks, and there are no known biologically important areas for the sperm whales in the HCTT Study Area. Sperm whales generally have higher abundances in deep water and areas of high productivity and are somewhat migratory, but their movement ecology is demographically dependent. The Hawaii stock is residential and occurs in Hawaiian waters year-round, while the CA/OR/WA stock is somewhat migratory, with some individuals leaving warm waters in summer to travel north to their arctic feeding grounds and returning south in the fall and winter. Sperm whales face several chronic anthropogenic and non-anthropogenic risk factors, including vessel strike, fisheries interactions, pollution, ocean noise, and disease, among others.

As shown in table 56, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are 1 (Hawaii stock) and 3 (CA/OR/WA stock), and 1,649 (Hawaii stock) to 3,891 (CA/OR/WA stock), respectively. As indicated, the rule also allows for up to one take by serious injury or mortality of Hawaii sperm whales over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section. The total take allowable for each stock across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day),

and mostly not in a frequency band that would be expected to interfere with sperm whale communication or other important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 178 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Sperm whales are large-bodied income breeders with a slow pace of life and are likely more resilient to missed foraging opportunities due to acoustic disturbance than smaller odontocetes. However, they may be more susceptible to impacts due to lost foraging opportunities during reproduction, especially if they occur during lactation (Farmer *et al.*, 2018b). Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. For both stocks of sperm whales, given the lower number of takes by harassment as compared to the stock/species abundance (see table 56), and the absence of take concentrated in areas in

which animals are known to congregate, it is unlikely that any individual sperm whales would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival.

Given the magnitude and severity of the impacts discussed above to sperm whales (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the authorized take by harassment is not expected to impact the reproduction or survival of any individuals nor, as described previously, is the authorized mortality expected to adversely affect the species or stock. For these reasons, we have determined that the anticipated and authorized take will have a negligible impact on the Hawaii and CA/OR/WA stocks of sperm whale.

Dwarf Sperm Whale (Hawaii and CA/OR/WA stocks) and Pygmy Sperm Whale (Hawaii and CA/OR/WA stocks)

Neither dwarf sperm whales nor pygmy sperm whales are listed under the ESA, and none of the stocks are considered depleted or strategic under the MMPA. The current stock abundance of the CA/OR/WA stock of pygmy sperm whale is 4,111 animals, and the stock abundances from Navy's NMSDD are 2,426 (CA/OR/WA stock of dwarf sperm whale), 43,246 (Hawaii stock of dwarf sperm whale), and 48,589 (Hawaii stock of pygmy sperm whale). There are no UMEs or other factors that cause particular concern for these stocks. As described in the **Description of Marine Mammals and Their Habitat in the Area of the Specified Activities** section, the HCTT Study Area overlaps two known BIAs for small and resident populations of the Hawaii stocks of dwarf and pygmy sperm whale. Dwarf and pygmy sperm whales face several chronic anthropogenic and non-anthropogenic risk factors, including fisheries interactions, marine debris, and ocean noise, among others.

As shown in table 56, the maximum annual allowable instances of take under this rule by Level A and Level B harassment are: 915 and 45,224 for the Hawaii stock of dwarf sperm whale, respectively; 94 and 5,664 for the CA/OR/WA stock of dwarf sperm whale, respectively; 936 and 45,787 for the Hawaii stock of pygmy sperm whale, respectively; and 107 and 5,615 for the CA/OR/WA stock of pygmy sperm whale, respectively. No mortality is anticipated or authorized. The rule allows for a limited number of takes by non-auditory injury (one each for the Hawaii stocks of dwarf and pygmy sperm whales). As described above, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these injuries are unlikely to impact reproduction or survival. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with dwarf and pygmy sperm whale communication, overlap more than a relatively narrow portion of the vocalization range of any single species or stock, or preclude detection or interpretation of important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness. The rule also allows for a limited number of takes by non-auditory injury (one per stock) for the Hawaii stocks of dwarf and pygmy sperm whales. As described above in

the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these non-auditory injuries are unlikely to be of a nature or level that would impact reproduction or survival for either of the Hawaii stocks of dwarf and pygmy sperm whales.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 178 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Dwarf and pygmy sperm whales are small-to-medium-bodied income breeders with a fast pace of life. They are generally more sensitive to missed foraging opportunities than larger odontocetes, especially during lactation, but would be quick to recover given their fast pace of life. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat. In particular, this rulemaking includes a Hawaii Island Marine Mammal Mitigation Area, within which the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted MFAS or 20 hours of helicopter dipping sonar (a MFAS source) annually and must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets). These restrictions will reduce exposure of numerous small and resident marine mammal populations, including dwarf and pygmy sperm whales, to levels of sound from sonar or explosives that have the

potential to cause injury or mortality, thereby reducing the likelihood of those effects and, further, minimizing the severity of behavioral disturbance.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, given the number of takes by harassment as compared to the stock/species abundance (see table 56) and the fact that a portion of the takes occur in BIAs for the Hawaii stocks, it is likely that some portion of the individuals taken are taken repeatedly over a limited to moderate number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the magnitude and severity of the impacts discussed above to dwarf and pygmy sperm whale stocks in the HCTT Study Area (considering annual take maxima and the total across 7 years) and their habitats, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are not expected to result in impacts on the reproduction or survival of any individuals, much less affect annual rates of recruitment or survival. For these reasons, we have determined that the anticipated and authorized take will have a negligible impact on the Hawaii and CA/OR/WA stocks of dwarf and pygmy sperm whales.

Beaked Whales –

This section builds on the broader odontocete discussion above (*i.e.*, that information applies to beaked whales as well), and brings together the discussion of the different types and amounts of take that different beaked whale species and stocks will

likely incur, any additional applicable mitigation, and the status of the species and stocks to support the negligible impact determinations for each species or stock.

Table 58 -- Annual Estimated Take by Level B Harassment, Level A Harassment, and Mortality and Related Information for Beaked Whales in the HCTT Study Area

Marine Mammal Species	Stock	NMFS Stock Abundance	NMSDD Abundance	Maximum Annual Level B Harassment	Maximum Annual Level A Harassment	Maximum Annual Mortality	Maximum Annual Take	Maximum Annual Harassment As Percentage of Stock Abundance	Season(s) with 50 Percent of Take or Greater	Region(s) with 40 Percent of Take or Greater
Baird's Beaked Whale	California/Oregon/Washington	1,363 *	871	10,174	0	0	10,174	746	Cold (54 percent)	SOCAL (58 percent)
Blainville's Beaked Whale	Hawaii	1,132	1,300 *	7,542	0	0	7,542	580	Cold (55 percent)	HRC (94 percent)
Goose-Beaked Whale	Hawaii	4,431	5,116 *	30,359	0	0	30,359	593	Cold (55 percent)	HRC (94 percent)
Goose-Beaked Whale	California/Oregon/Washington	5,454	13,531 *	166,816	2	0	166,818	1233	Cold (54 percent)	SOCAL (82 percent)
Longman's Beaked Whale	Hawaii	2,550	2,940 *	18,316	1	0	18,317	623	Cold (56 percent)	HRC (94 percent)
Mesoplodont Beaked Whale	California/Oregon/Washington	3,044	7,534 *	92,839	2	0	92,841	1232	Cold (55 percent)	SOCAL (76 percent)

Note: N/A = Not Applicable, UNK = Unknown. NMSDD abundances are averages only within the U.S. EEZ.

* Indicates which abundance estimate was used to calculate the maximum annual take as a percentage of abundance, either the NMFS SARs (Carretta *et al.*, 2024; Young *et al.*, 2024) or the NMSDD (table 2.4-1 in appendix A of the application). Please refer to the Odontocetes section for details on which abundance estimate was selected.

Table 59 -- Life History Traits, Important Habitat, and Threats to Beaked Whales in the HCTT Study Area

Marine Mammal Species	Stock	ESA Status	MMPA Status	Movement Ecology	Body Size	Reproductive Strategy	Pace of Life	Chronic Risk Factors	UME, Oil Spill, Other	ESA-Designated Critical Habitat	BIAs II for Hawaii (Kratofil *et al.*, 2023) and West Coast (Calambokidis *et al.*, 2024)	Population Trend	PBR	Annual Mortality/Serious Injury (from other human activities)

Baird's Beaked Whale	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic, resident	Large	Mixed	Slow	Fisheries interactions, ocean noise	No	No	No	Stable, possibly increasing	8.9	≥0.2
Blainville's Beaked Whale	Hawaii	Not listed	Not depleted, not strategic	Nomadic, resident	Med	Mixed	Med	Fisheries interactions, ocean noise	No	No	Yes: S-BIA Parent and Child O MN HI	Unk	5.6	0
Goose-Beaked Whale	Hawaii	Not listed	Not depleted, not strategic	Nomadic, resident	Med	Mixed	Med	Fisheries interactions, ocean noise	No	No	Yes: S-BIA Parent and Child HI-Core	Unk	32	0
Goose-Beaked Whale	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic, resident	Med	Mixed	Med	Fisheries interactions, ocean noise	No	No	No	Unk	42	<0.1
Longman's Beaked Whale	Hawaii	Not listed	Not depleted, not strategic	Nomadic-resident	Med	Mixed	Med	Fisheries interactions, ocean noise	No	No	No	Unk	15	0
Mesoplodont Beaked Whale	California/Oregon/Washington	Not listed	Not depleted, not strategic	Resident-nomadic	Med	Mixed	Med	Fisheries interactions, ocean noise	No	No	No	Unk, possibly increasing	20	0.1

Note: N/A = Not Applicable, Unk = Unknown.

These stocks are not listed as endangered or threatened under the ESA, and they are not considered depleted or strategic under the MMPA. The stock abundance estimates range from 1,300 (Hawaii stock of Blainville's beaked whale, NMSDD) to 13,531 (CA/OR/WA stock of goose-beaked whale, NMSDD). There are no UMEs or other factors that cause particular concern for these stocks in the HCTT Study Area. As described in the **Description of Marine Mammals and Their Habitat in the Area of the Specified Activities** section, the HCTT Study Area overlaps two known biologically important areas for small and resident populations for the Hawaii stocks of Blainville's and goose-beaked whales. Beaked whales face several chronic anthropogenic and non-anthropogenic risk factors, including fisheries interactions, and ocean noise, among others.

As shown in table 58, the maximum annual allowable instances of take under this rule by Level A and Level B harassment range from 0 to 2, and 7,542 and 166,816, respectively. No mortality is anticipated or authorized, nor is any non-auditory injury. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with echolocation, overlap more than a relatively narrow portion of the vocalization range of any single species or stock, or preclude detection or interpretation of important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these

activities are unlikely to have any effect on fitness on the CA/OR/WA stocks of goose- and mesoplodont beaked whales and the Hawaii stock of Longman's beaked whales.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 154 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Beaked whales are medium-to-large-bodied odontocetes with a medium pace of life and likely moderately resilient to missed foraging opportunities due to acoustic disturbance. They are mixed breeders (*i.e.*, behaviorally income breeders), and they demonstrate capital breeding strategies during gestation and lactation (Keen *et al.*, 2021).Therefore, they may be more vulnerable to prolonged loss of foraging opportunities during gestation. Further, as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat. In particular, this rulemaking includes a Hawaii Island Marine Mammal Mitigation Area, within which the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted MFAS or 20 hours of helicopter dipping sonar (a MFAS source) annually and must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets). These restrictions will reduce exposure of numerous small and resident marine mammal populations, including the Hawaii stocks of Blainville's and goose-beaked whales, to levels of sound from sonar or explosives that have the potential to cause injury or mortality, thereby reducing the likelihood of those effects and, further, minimizing the severity of behavioral disturbance.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, given the number of takes by harassment as compared to the stock/species abundance (see table 58), it is likely that some portion of the individuals taken are taken repeatedly over a moderate number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the magnitude and severity of the impacts discussed above to beaked whale stock/species (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are not expected to result in impacts on the reproduction or survival of any individuals, much less affect annual rates of recruitment or survival. For these reasons, we have determined that the anticipated and authorized take will have a negligible impact on the CA/OR/WA stocks of Baird's, goose-, and mesoplodont beaked whales, and the Hawaii stocks of Blainville's, goose-, and Longman's beaked whale stocks.

Dolphins and Small Whales –

Of the 39 stocks of dolphins and small whales (Delphinidae) for which incidental take is authorized (see table 60), one is listed as endangered under the ESA and depleted and strategic under the MMPA: the Main Hawaiian Islands Insular stock of false killer whale. While not ESA-listed, the Hawaii Pelagic stock of false killer whale is considered strategic under the MMPA. As shown in table 60 and table 61, these delphinids vary in

stock abundance, body size, and movement ecology from, for example, the small-bodied, nomadic CA/OR/WA stock of short-beaked common dolphin with NMSDD abundance estimate of 1,049,117, to the medium-sized small and resident Main Hawaiian Islands Insular stock of false killer whale with an estimated abundance of 138. The HCTT Study Area overlaps ESA-designated critical habitat for the Main Hawaiian Islands Insular stock of false killer whale (83 FR 35062, July 24, 2018), as well as BIAs for the following small and resident populations: false killer whale (Main Hawaiian Islands Insular and Northwest Hawaiian Islands stocks), melon-headed whale (Hawaiian Islands and Kohala Resident stocks), short-finned pilot whale (Hawaii stock), bottlenose dolphin (Maui Nui, Hawaii Island, Kaua'i/Ni'ihau, and O'ahu stocks), pantropical spotted dolphins (Maui Nui, Hawaii Island, and O'ahu stocks), rough-toothed dolphin (Hawaii stock), and spinner dolphin (Hawaii Island, Kaua'i/Ni'ihau, and O'ahu/4 Islands Region stocks). These areas are described in the **Description of Marine Mammals and Their Habitat in the Area of Specified Activities** section. Delphinids face a number of chronic anthropogenic and non-anthropogenic risk factors including fishery interactions, biotoxins, chemical contaminants, illegal feeding/ harassment, ocean noise, oil spills and energy exploration, vessel strikes, and swim with dolphin programs, the impacts of which vary depending on whether the stock is more coastal (*e.g.*, swim with dolphin programs occur mostly with coastally-distributed spinner dolphins), more or less deep-diving (*e.g.*, entanglement more common in deep divers like pygmy killer whales and pilot whales), and other behavioral differences (*e.g.*, vessels strikes more concern for killer whales). There are no known UMEs or other factors that cause particular concern for these stocks.

Table 60 -- Annual Estimated Take by Level B Harassment, Level A Harassment, and Mortality and Related Information for Dolphins and Small Whales in the HCTT Study Area

Marine Mammal Species	Stock	NMFS Stock Abundance	NMSDD Abundance	Maximum Annual Level B Harassment	Maximum Annual Level A Harassment	Maximum Annual Mortality	Maximum Annual Take	Maximum Annual Harassment As Percentage of Stock Abundance	Season(s) with 50 Percent of Take or Greater	Region(s) with 40 Percent of Take or Greater	Greatest degree any individual expected to be taken repeatedly across multiple days
False Killer Whale	Main Hawaiian Islands Insular	138 *	98	169	0	0	169	122	Warm (53 percent), Cold (46 percent)	HRC (100 percent)	Limited number of days
False Killer Whale	Northwest Hawaiian Islands	477 *	477	191	0	0	191	40	Cold (68 percent)	HRC (100 percent)	Limited number of days
False Killer Whale	Hawaii Pelagic	5,528 *	2,400	1,670	1	0	1,671	30	Cold (52 percent)	HRC (95 percent)	Zero to limited number of days
False Killer Whale	Baja California Peninsula Mexico	N/A	1,990 *	2,537	2	0	2,539	128	Cold (58 percent)	SOCAL (100 percent)	Limited number of days
Killer Whale	Hawaii	161	198 *	127	0	0	127	64	Cold (51 percent)	HRC (95 percent)	Zero to limited number of days
Killer Whale	Eastern North Pacific Offshore	300 *	155	1,023	4	0	1,027	342	Cold (61 percent)	SOCAL (88 percent)	Limited to moderate number of days
Killer Whale	West Coast Transient	349 *	26	55	0	0	55	16	Warm (56 percent)	NOCAL (58 percent)	Zero to limited number of days
Melon-Headed Whale	Hawaiian Islands	40,647	46,949 *	31,456	13	0	31,469	67	Cold (53 percent)	HRC (96 percent)	Limited number of days
Melon-Headed Whale	Kohala Resident (Hawaii)	UNK	447 *	56	0	0	56	13	Warm (77 percent)	HRC (100 percent)	Zero to limited number of days
Pygmy Killer Whale	Hawaii	10,328	11,928 *	8,895	3	0	8,898	75	N/A	HRC (95 percent)	Zero to limited number of days

Pygmy Killer Whale	California - Baja California Peninsula Mexico	N/A	874 *	795	0	0	795	91	Warm (100 percent)	SOCAL (84 percent)	Zero to limited number of days
Short-Finned Pilot Whale	Hawaii	19,242	23,117 *	17,304	7	0	17,311	75	Cold (53 percent)	HRC (97 percent)	Limited number of days
Short-Finned Pilot Whale	California/Oregon/Washington	836 *	831	4,279	11	0.57	4,291	513	Cold (60 percent)	SOCAL (85 percent)	Moderate number of days
Bottlenose Dolphin	Maui Nui	64	65 *	326	0	0	326	502	N/A	HRC (100 percent)	Moderate number of days
Bottlenose Dolphin	Hawaii Island	136	138 *	9	0	0	9	7	Cold (80 percent)	HRC (100 percent)	Zero to limited number of days
Bottlenose Dolphin	Hawaii Pelagic	24,669	25,120 *	43,313	25	0.29	43,338	173	Cold (52 percent)	HRC (100 percent)	Limited number of days
Bottlenose Dolphin	Kaua‘i/Ni‘ihau	112	113 *	1,460	0	0	1,460	1292	Cold (59 percent)	HRC (100 percent)	High number of days
Bottlenose Dolphin	O‘ahu	112	113 *	7,232	6	0.14	7,238	6405	Cold (54 percent)	HRC (100 percent)	High number of days
Bottlenose Dolphin	California Coastal	453 *	182	1,350	7	0	1,357	300	Cold (60 percent)	SOCAL (98 percent)	Limited to moderate number of days
Bottlenose Dolphin	California/Oregon/Washington Offshore	3,477	42,395 *	28,058	15	0	28,073	66	Warm (65 percent)	SOCAL (93 percent)	Zero to limited number of days
Fraser’s Dolphin	Hawaii	40,960	47,288 *	35,480	8	0	35,488	75	Cold 51 percent)	HRC (97 percent)	Zero to limited number of days
Long-Beaked Common Dolphin	California	83,379	209,100 *	296,878	152	2.43	297,032	142	Warm (54 percent)	SOCAL (82 percent)	Limited number of days

Northern Right Whale Dolphin	California/Oregon/Washington	29,285	68,935 *	45,514	21	0.14	45,535	66	Cold (75 percent)	NOCAL (41 percent)	Zero to limited number of days
Pacific White-Sided Dolphin	California/Oregon/Washington	34,999	107,775 *	69,210	42	0.29	69,252	64	Cold (59 percent)	SOCAL (53 percent)	Zero to limited number of days
Pantropical Spotted Dolphin	Maui Nui	UNK	2,674 *	2,373	4	0	2,377	89	N/A	HRC (100 percent)	Limited number of days
Pantropical Spotted Dolphin	Hawaii Island	UNK	8,674 *	6,024	7	0	6,031	70	Warm (51 percent)	HRC (100 percent)	Limited number of days
Pantropical Spotted Dolphin	Hawaii Pelagic	67,313	62,395 *	44,390	19	0	44,409	71	Cold (55 percent)	HRC (97 percent)	Zero to limited number of days
Pantropical Spotted Dolphin	O‘ahu	UNK	1,491 *	6,426	6	0	6,432	431	Warm (51 percent)	HRC (100 percent)	Moderate number of days
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	N/A	70,889 *	97,626	47	0.29	97,673	138	Cold (55 percent)	SOCAL (100 percent)	Limited number of days
Risso’s Dolphin	Hawaii	6,979	8,649 *	6,558	4	0	6,562	76	N/A	HRC (95 percent)	Zero to limited number of days
Risso’s Dolphin	California/Oregon/Washington	6,336	19,357 *	43,833	21	0	43,854	227	Cold (54 percent)	SOCAL (87 percent)	Limited to moderate number of days
Rough-Toothed Dolphin	Hawaii	83,915	106,193 *	96,873	36	0.29	96,909	91	Cold (53 percent)	HRC (97 percent)	Limited number of days
Short-Beaked Common Dolphin	California/Oregon/Washington	1,056,308	1,049,117 *	2,169,554	877	15.29	2,170,446	207	Warm (53 percent)	SOCAL (82 percent)	Limited to moderate number of days
Spinner Dolphin	Hawaii Pelagic	N/A	6,807 *	4,544	2	0	4,546	67	Cold (54 percent)	HRC (95 percent)	Zero to limited number of days
Spinner Dolphin	Hawaii Island	665	670 *	110	1	0	111	17	Warm (60 percent)	HRC (100 percent)	Zero to limited number of days

Spinner Dolphin	Kaua‘i/Ni‘ihau	N/A	606 *	4,446	2	0	4,448	734	Cold (65 percent)	HRC (100 percent)	Moderate number of days
Spinner Dolphin	O‘ahu/4 Islands Region	N/A	355 *	1,201	1	0	1,202	339	Warm (63 percent)	HRC (100 percent)	Limited to moderate number of days
Striped Dolphin	Hawaii Pelagic	64,343	68,909 *	37,782	12	0	37,794	55	Cold (53 percent)	HRC (95 percent)	Zero to limited number of days
Striped Dolphin	California/Oregon/Washington	29,988	160,551 *	133,399	44	0.14	133,443	83	Warm (55 percent)	SOCAL (87 percent)	Zero to limited number of days

Note: N/A = Not Applicable, UNK = Unknown. NMSDD abundances are averages only within the U.S. EEZ.

* Indicates which abundance estimate was used to calculate the maximum annual take as a percentage of abundance, either the NMFS SARs (Carretta *et al.*, 2024; Young *et al.*, 2024) or the NMSDD (table 2.4-1 in appendix A of the application). Please refer to the Odontocetes section for details on which abundance estimate was selected.

Table 61 -- Life History Traits, Important Habitat, and Threats to Dolphins and Small Whales in the HCTT Study Area

Marine Mammal Species	Stock	ESA Status	MMPA Status	Movement Ecology	Body Size	Reproductive Strategy	Pace of Life	Chronic Risk Factors	UME, Oil Spill, Other	ESA-Designated Critical Habitat	BIAs II for Hawaii (Kratofil *et al.*, 2023) and West Coast (Calambokidis *et al.*, 2024)	Population Trend	PBR	Annual Mortality/Serious Injury (from other human activities)
False Killer Whale	Main Hawaiian Islands Insular	Endangered	Depleted, Strategic	Resident-nomadic	Med	Income	Med	Fisheries interactions, contaminants	No	Yes	Yes: S-BIA Parent and Child MHI-Core	Decreasing [a]	0.3	0.1
False Killer Whale	Northwest Hawaiian Islands	Not listed	Not depleted, not strategic	Resident, nomadic	Med	Income	Med	Fisheries interactions, contaminants	No	No	Yes: S-BIA	Unk	1.43	0.16
False Killer Whale	Hawaii Pelagic	Not listed	Not depleted, Strategic	Nomadic	Med	Income	Med	Fisheries interactions, contaminants	No	No	No	Unk	36	47

False Killer Whale	Baja California Peninsula Mexico	N/A	N/A	Unk	Med	Income	Med	Fisheries interactions, contaminants	No	No	No	Unk		
Killer Whale	Hawaii	Not listed	Not depleted, not strategic	Nomadic	Large	Income	Slow	Fisheries interactions	No	No	No	Unk	0.8	0
Killer Whale	Eastern North Pacific Offshore	Not listed	Not depleted, not strategic	Nomadic	Large	Income	Slow	Fisheries interactions, vessel strikes, ocean noise	No	No	No	Stable	2.8	0
Killer Whale	West Coast Transient	Not listed	Not depleted, not strategic	Nomadic	Large	Income	Slow	Fisheries interactions, vessel strikes, ocean noise	No	No	No	Unk	3.5	0.4
Melon-Headed Whale	Hawaiian Islands	Not listed	Not depleted, not strategic	Resident-nomadic	Small	Income	Med	Fisheries interactions, ocean noise	No	No	Yes: S-BIA	Unk	233	0
Melon-Headed Whale	Kohala Resident (Hawaii)	Not listed	Not depleted, not strategic	Resident	Small	Income	Med	Fisheries interactions, ocean noise	No	No	Yes: S-BIA	Unk	UND	0
Pygmy Killer Whale	Hawaii	Not listed	Not depleted, not strategic	Resident, nomadic	Small	Income	Med	Fisheries interactions, ocean noise	No	No	No	Unk	59	0
Pygmy Killer Whale	California - Baja California Peninsula Mexico	N/A	N/A	Unk	Small	Income	Med	Fisheries interactions, ocean noise	No	No	No	Unk		

Short-Finned Pilot Whale	Hawaii	Not listed	Not depleted, not strategic	Nomadic	Med	Income	Slow	Fisheries interactions	No	No	Yes: S-BIA Parent and Child MHI-Western community, Central community, Eastern community	Unk	159	0.2
Short-Finned Pilot Whale	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic	Med	Income	Slow	Fisheries interactions	No	No	No	Unk	4.5	1.2
Bottlenose Dolphin	Maui Nui	Not listed	Not depleted, not strategic	Resident	Small-Med	Income	Med	Entanglement	No	No	Yes: S-BIA Parent and Child	Unk	0.6	UNK
Bottlenose Dolphin	Hawaii Island	Not listed	Not depleted, not strategic	Resident	Small-Med	Income	Med	Fisheries interactions	No	No	Yes: S-BIA	Unk	1	>0.2
Bottlenose Dolphin	Hawaii Pelagic	Not listed	Not depleted, not strategic	Nomadic	Small-Med	Income	Med	Fisheries interactions	No	No	No	Unk	158	0
Bottlenose Dolphin	Kauaʻi/Niʻihau	Not listed	Not depleted, not strategic	Resident	Small-Med	Income	Med	Fisheries interactions	No	No	Yes: S-BIA Parent and Child	Unk	0.9	UNK
Bottlenose Dolphin	Oʻahu	Not listed	Not depleted, not strategic	Resident	Small-Med	Income	Med	Entanglement	No	No	Yes: S-BIA Parent and Child	Unk	1	UNK
Bottlenose Dolphin	California Coastal	Not listed	Not depleted, not	Nomadic	Small-Med	Income	Med	Biotoxins, chemical contaminants,	No	No	No	Stable, possibly increasing	2.7	≥2.0

			strategic					fisheries interactions, habitat alteration, illegal feeding and harassment, ocean noise, oil spills and energy exploration, vessel strikes						
Bottlenose Dolphin	California/Oregon/Washington Offshore	Not listed	Not depleted, not strategic	Nomadic	Small-Med	Income	Med	Fisheries interactions	No	No	No	Unk	19.7	≥0.82
Fraser's Dolphin	Hawaii	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Fast	Fisheries interactions	No	No	No	Unk	241	0
Long-Beaked Common Dolphin	California	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Med	Fisheries interactions, exposure to underwater detonations in coastal waters	No	No	No	Unk	668	≥29.7
Northern Right Whale Dolphin	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Med	Fisheries interactions	No	No	No	Unk	163	≥6.6
Pacific White-Sided Dolphin	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Med	Entanglement, fisheries interactions	No	No	No	Unk	279	7

Pantropical Spotted Dolphin	Maui Nui	Not listed	Not depleted, not strategic	Resident	Small	Income	Med	Fisheries interactions	No	No	Yes: S-BIA Parent and Child	Unk	UND	UNK
Pantropical Spotted Dolphin	Hawaii Island	Not listed	Not depleted, not strategic	Resident	Small	Income	Med	Fisheries interactions	No	No	Yes: S-BIA Parent and Child	Unk	UND	UNK
Pantropical Spotted Dolphin	Hawaii Pelagic	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Med	Fisheries interactions	No	No	No	Unk	538	0
Pantropical Spotted Dolphin	O‘ahu	Not listed	Not depleted, not strategic	Resident	Small	Income	Med	Fisheries interactions	No	No	Yes: S-BIA Parent and Child	Unk	UND	UNK
Pantropical Spotted Dolphin	Baja California Peninsula Mexico	N/A	N/A	Nomadic	Small	Income	Med	Fisheries interactions	No	No	No	Unk	UNK	UNK
Risso’s Dolphin	Hawaii	Not listed	Not depleted, not strategic	Nomadic	Small-Med	Income	Med	Fisheries interactions	No	No	No	Unk	53	0
Risso’s Dolphin	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic	Small-Med	Income	Med	Fisheries interactions	No	No	No	Unk	46	≥3.7
Rough-Toothed Dolphin	Hawaii	Not listed	Not depleted, not strategic	Resident, nomadic	Small	Income	Med	Fisheries interactions	No	No	Yes: S-BIA MNHI, Parent and Child KNO	Unk	511	3.2
Short-Beaked Commo	California/Oregon/Washington	Not listed	Not depleted, not	Nomadic	Small	Income	Med	Fisheries interactions, exposure to	No	No	No	Unk, possibly increasing	8,889	≥30.5

n Dolphin			strategic					underwater detonations in coastal waters						
Spinner Dolphin	Hawaii Pelagic	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Fast	Fisheries interactions, ocean noise	No	No	No	Unk	UND	0
Spinner Dolphin	Hawaii Island	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Fast	Swim with the dolphin programs, ocean noise, fisheries interactions	No	No	Yes: S-BIA	Unk	6.2	≥1.0
Spinner Dolphin	Kauaʻi/Niʻihau	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Fast	Swim with the dolphin programs, ocean noise, fisheries interactions	No	No	Yes: S-BIA	Unk	UND	UNK
Spinner Dolphin	Oʻahu/4 Islands Region	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Fast	Swim with the dolphin programs, ocean noise, fisheries interactions	No	No	Yes: S-BIA	Unk	UND	≥0.4
Striped Dolphin	Hawaii Pelagic	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Med	Fisheries interactions	No	No	No	Unk	511	0
Striped Dolphin	California/Oregon/Washington	Not listed	Not depleted, not strategic	Nomadic	Small	Income	Med	Fisheries interactions	No	No	No	Unk	225	≥4

Note: N/A = Not Applicable, UND = Undetermined, Unk = Unknown.
[a] See Badger et al. 2025.

As shown in table 60, the maximum annual allowable instances of take by Level B harassment for delphinid stocks ranges from 9 (Hawaii Island stock of bottlenose dolphin) to 2,169,554 for the CA/OR/WA stock of short-beaked common dolphin, with 14 stocks below 2,000, 5 stocks above 70,000, and the remainder between 2,000 and 70,000. Take by Level A harassment is 0 for 9 of the 39 stocks, between 1 and 15 for 20 stocks, and above 15 for 10 stocks. As indicated, the rule also allows for take by M/SI for 10 stocks (the CA/OR/WA stocks of short-finned pilot whale, northern right whale dolphin, Pacific white-sided dolphin, short-beaked common dolphin, and striped dolphin; the Hawaii Pelagic and O'ahu stocks of bottlenose dolphin; the California stock of long-beaked common dolphin; the Baja California Peninsula Mexico population of pantropical spotted dolphin; and the Hawaii stock of rough-toothed dolphin), the impacts of which are discussed above in the Serious Injury and Mortality section. The total take allowable across all 7 years of the rule is indicated in table 19.

All delphinid stocks are expected to incur some number of takes in the form of TTS. As described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, these temporary hearing impacts are expected to be lower-level, of short duration (from minutes to at most several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with delphinid echolocation, overlap more than a relatively narrow portion of the vocalization range of any single species or stock, or preclude detection or interpretation of important low-frequency cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. About three-quarters of the affected delphinid stocks will incur some number of takes by AUD INJ, over half of those stocks will incur take in the single digits, with only 2 stocks exceeding 45 (long- and short-beaked common dolphin). For reasons similar to those discussed for

TTS, while auditory injury impacts last longer, given the anticipated effectiveness of mitigation measures and the likelihood that individuals are expected to avoid higher levels associated with more severe impacts, the lower anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to affect the fitness of any individuals. Two stocks are projected to incur notably higher numbers of take by AUD INJ (128 for the California stock of long-beaked common dolphin and 806 for the CA/OR/WA stock of short-beaked common dolphin) and while the conclusions above are still applicable, it is further worth noting that these 2 stocks have relatively large abundances and limited annual mortality as compared to PBR. The rule also allows for a limited number of takes by non-auditory injury (1-71) for 19 stocks (less than 5 takes for all stocks except for the California stock of long-beaked common dolphin and the CA/OR/WA stock of short-beaked common dolphin). As described above in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these non-auditory injuries are unlikely to be of a nature or level that would impact reproduction or survival, with the exception of long- and short-beaked common dolphins.

Due to the larger number of long- and short-beaked common dolphin individuals predicted to be exposed annually to levels associated with non-auditory injury (24 and 71, respectively), it is more likely that some subset of these individuals could potentially be injured in a manner that would result in them foregoing reproduction for a year (up to 4 long-beaked and 13 short-beaked common dolphins). A year of foregone reproduction for a male is generally meaningless to population rates unless the animal ultimately dies. M/SI have been modeled for this activity separately, and NMFS does not anticipate that these non-auditory injuries would result in mortality, for young or adults. Neither stock is

considered depleted or strategic. While the population trend of these stocks are not known (though the SAR notes that the CA/OR/WA stock of short-beaked common dolphin is possibly increasing), they are not considered depleted or strategic, and total annual mortality is well below PBR for each stock. Importantly, the increase in a calving interval by a year would have far less of an impact on a population rate than a mortality would and, accordingly, the number of instances of foregone reproduction predicted here are not expected to adversely affect this stock through effects on annual rates of recruitment or survival.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 178 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Delphinids are income breeders with a medium pace of life, meaning that while they can be sensitive to the consequences of disturbances that impact foraging during lactation, from a population standpoint, they can be moderately quick to recover. Further, as described in the *Group and Species-Specific Analyses* section (and the **Mitigation Measures** section), mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in higher value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In the case of over half of the delphinid stocks (see the “Greatest degree any individual expected to be taken repeatedly across multiple days” column in table 60), given the low number of

takes by harassment as compared to the stock/species abundance alone, and also in consideration of their nomadic movement pattern and whether take is concentrated in areas in which animals are known to congregate, it is unlikely that these individual delphinids would be taken on more than a limited number of days within a year and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival. In the case of the rest of the stocks, given the number of takes by harassment as compared to the stock/species abundance, it is likely that some portion of the individuals taken are taken repeatedly over a small to moderate number of days (as indicated in the "Greatest degree any individual expected to be taken repeatedly across multiple days" column in table 60), with two stocks (Kaua'i/Ni'ihau and O'ahu stocks of bottlenose dolphins) likely to be taken over a high number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, for all stocks except Kaua'i/Ni'ihau and O'ahu stocks of bottlenose dolphins (addressed below), it is unlikely that the anticipated small to moderate number of repeated takes for a given individual would occur clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals are likely to be impacted. Further, many of these stocks are nomadic and, apart from the small resident populations, there are no known foraging areas or other areas within which delphinids are known to congregate for important behaviors, and for most stocks, the takes are not concentrated within a specific region and season.

Regarding the magnitude of repeated takes for the Kaua'i/Ni'ihau and O'ahu stocks of bottlenose dolphins, given the number of takes by harassment as compared to the stock/species abundance and the small resident populations, it is more likely that some number of individuals would experience a comparatively higher number of

repeated takes over a potentially fair number of sequential days. Due to the higher number of repeated takes focused within the stocks' limited ranges, it is thereby more likely that a portion of the individuals (approximately 50 percent of which would be female) could be repeatedly interrupted during foraging in a manner and amount such that impacts to the energy budgets of a limited number of females (from either losing feeding opportunities or expending considerable energy moving away from sound sources or finding alternative feeding options) could cause them to forego reproduction for a year (noting that bottlenose dolphin calving intervals are typically 3 or more years). Energetic impacts to males are generally meaningless to population rates unless they cause death, and it takes extreme energy deficits beyond what would ever be likely to result from these activities to cause the death of an adult marine mammal, male or female. The population trends of these stocks are unknown, and neither are considered depleted or strategic. Importantly, the increase in a calving interval by a year would have far less of an impact on a population rate than a mortality would and, accordingly, a limited number of instances of foregone reproduction are not expected to adversely affect these stocks through effects on annual rates of recruitment or survival (noting also that no mortality is predicted or authorized for the Kaua'i/Ni'ihau stock, and 0.14 annual mortality is authorized for the O'ahu stock). Further, of note, use of in-water explosives (including underwater explosives and explosives deployed against surface targets) is prohibited within the Hawaii 4-Islands Marine Mammal Mitigation Area. This measure will prevent exposure of these stocks to explosives that have the potential to cause injury, mortality or behavioral disturbance within that area. Further, within the same area, mitigation from November 15 to April 15 prohibiting use of MF1 surface ship hull-mounted MFAS would reduce exposure of these stocks to levels of sound that have the potential to cause injurious or behavioral impacts.

Given the magnitude and severity of the take by harassment discussed above and any anticipated habitat impacts, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are unlikely to result in impacts on the reproduction or survival of any individuals of delphinid stocks, with the exception of the 10 stocks for which takes by M/SI are predicted and the 1 stock for which an increased calving interval could potentially occur. Regarding the Kaua'i/Ni'ihau and O'ahu stocks of bottlenose dolphins, as described above, we do not anticipate the relatively limited number of individuals that might be taken over repeated days within the year in a manner that results in a year of foregone reproduction to adversely affect the stock through effects on rates of recruitment or survival, given the status of the stocks. Regarding the CA/OR/WA stock of short-finned pilot whale, Hawaii Pelagic and O'ahu stocks of bottlenose dolphin, California stock of long-beaked common dolphin, CA/OR/WA stock of Northern right whale dolphin, CA/OR/WA stock of Pacific white-sided dolphin, Baja California Peninsula Mexico population of pantropical spotted dolphin, Hawaii stock of rough-toothed dolphin, CA/OR/WA stock of short-beaked common dolphin, and CA/OR/WA stock of striped dolphin, as described in the Serious Injury and Mortality section, given the status of the stocks and in consideration of other ongoing anthropogenic mortality (where known), the authorized M/SI would not alone, nor in combination with the impacts of the take by harassment discussed above (which are not expected to impact the reproduction or survival of any individuals for those stocks), be expected to adversely affect rates of recruitment and survival. For these reasons, we have determined that the total take (considering annual maxima and across 7 years) anticipated and authorized will have a negligible impact on all delphinid species and stocks.

Porpoises –

Neither Dall's porpoise nor harbor porpoise are listed as endangered or threatened under the ESA, and none of the porpoise stocks are considered depleted or strategic under the MMPA. The Navy's NMSDD estimate for the CA/OR/WA stock of Dall's porpoise is 61,840, and the stock abundances of harbor porpoises range from 3,885 (Navy's NMSDD) to 15,303 (SAR). There are no UMEs or other factors that cause particular concern for this stock. As described in the **Description of Marine Mammals and Their Habitat in the Area of the Specified Activities** section, the HCTT Study Area overlaps two small and resident population BIAs for the Monterey Bay and Morro Bay stocks of harbor porpoise (Calambokidis *et al.*, 2015). There is no ESA-designated critical habitat for Dall's or harbor porpoise as neither species is ESA-listed. Dall's porpoises occur from Baja California, Mexico, to the northern Bering Sea. They shift their distribution southward during cooler-water periods on both interannual and seasonal time scales. They primarily congregate in shelf and slope waters, and decrease substantially in waters warmer than 17 degrees Celsius (°C) (63 °Fahrenheit (F)). Harbor porpoises generally have higher abundances in shallow waters (less than 200 m (656 ft)) and near shore, but they sometimes move into deeper offshore waters. However, this species has no overlap with nearshore or offshore areas in the SOCAL Range Complex (*e.g.*, San Diego, SOAR) or the southern nearshore portions of PMSR (*e.g.*, Port Hueneme). Dall's and harbor porpoises face several chronic anthropogenic and non-anthropogenic risk factors, including fishing gear, fisheries interactions, and ocean noise (including acoustic deterrent devices or "seal bombs" in the case of harbor porpoises), among others.

Table 62 -- Annual Estimated Take by Level B Harassment, Level A Harassment, and Mortality and Related Information for Porpoises in the HCTT Study Area

Marine Mammal Species	Stock	NMFS Stock Abundance	NMSDD Abundance	Maximum Annual Level B Harassment	Maximum Annual Level A Harassment	Maximum Annual Mortality	Maximum Annual Take	Maximum Annual Harassment As Percentage of Stock Abundance	Season(s) with 50 Percent of Take or Greater	Region(s) with 40 Percent of Take or Greater
Dall's Porpoise	California/Oregon/Washington	16,498	61,840 *	59,619	1,237	0	60,856	98	Cold (82 percent)	SOCAL (48 percent)
Harbor Porpoise	Monterey Bay	3,760	4,530 *	2,179	0	0	2,179	48	Cold (71 percent)	NOCAL (100 percent)
Harbor Porpoise	Morro Bay	4,191	3,885 *	4,373	88	0	4,461	115	Cold (74 percent)	PMSR (99 percent)
Harbor Porpoise	Northern California/Southern Oregon	15,303 *	1,961	481	0	0	481	3	Cold (68 percent)	NOCAL (100 percent)
Harbor Porpoise	San Francisco/Russian River	7,777	9,974 *	9,960	26	0	9,986	100	Cold (61 percent)	NOCAL (100 percent)

Note: N/A = Not Applicable, UNK = Unknown. NMSDD abundances are averages only within the U.S. EEZ.

* Indicates which abundance estimate was used to calculate the maximum annual take as a percentage of abundance, either the NMFS SARs (Carretta *et al.*, 2024; Young *et al.*, 2024) or the NMSDD (table 2.4-1 in appendix A of the application). Please refer to the Odontocetes section for details on which abundance estimate was selected.

Table 63 -- Life History Traits, Important Habitat, and Threats to Porpoises in the HCTT Study Area

Marine Mammal Species	Stock	ESA Status	MMPA Status	Movement Ecology	Body Size	Reproductive Strategy	Pace of Life	Chronic Risk Factors	UME, Oil Spill, Other	ESA-Designated Critical Habitat	BIAs II for Hawaii (Kratofil *et al.*, 2023) and West Coast (Calambokidis *et al.*, 2024)	Population Trend	PBR	Annual Mortality/Serious Injury (from other human activities)
Dall's Porpoise	California/Oregon/Washington	Not listed	Not depleted, not	Nomadic	Small	Income	Fast	Fishing gear fisheries	No	No	No	Unk	99	≥0.66

			strategic					interactions						
Harbor Porpoise	Monterey Bay	Not listed	Not depleted, not strategic	Resident	Small	Income	Fast	Fisheries interactions, ocean noise (including acoustic deterrent devices or “seal bombs”)	No	No	Yes: S-BIA	Increasing	35	≥0.2
Harbor Porpoise	Morro Bay	Not listed	Not depleted, not strategic	Resident	Small	Income	Fast	Fisheries interactions, ocean noise (including acoustic deterrent devices or “seal bombs”)	No	No	Yes: S-BIA	Increasing	65	0
Harbor Porpoise	Northern California/Southern Oregon	Not listed	Not depleted, not strategic	Resident	Small	Income	Fast	Fisheries interactions, ocean noise (including acoustic deterrent devices or “seal bombs”)	No	No	No	Unk	195	0
Harbor Porpoise	San Francisco/Russian River	Not listed	Not depleted, not strategic	Resident	Small	Income	Fast	Fisheries interactions, ocean noise (including acoustic deterrent devices or “seal bombs”)	No	No	No	Stable	73	≥0.4

Note: N/A = Not Applicable, UND = Undetermined, Unk = Unknown.

As shown in table 62, the maximum annual allowable instances of take of Dall's porpoise under this rule by Level A and Level B harassment are 1,237 and 59,619, respectively, while the maximum allowable take of harbor porpoise by Level A and Level B harassment are 88 (Morro Bay stock) and 9,960 (San Francisco/Russian River stock), respectively. No mortality is anticipated or authorized. The rule allows for a limited number of takes by non-auditory injury (two for Dall's porpoise, one for the Morro Bay stock of harbor porpoise). As described above, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these injuries are unlikely to impact reproduction or survival. The total take allowable across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as VHF cetaceans, Dall's and harbor porpoises are more susceptible to auditory impacts in mid- to high frequencies and from explosives than other species. As described in the Temporary Threshold Shift section above, any takes in the form of TTS are expected to be lower-level, of short duration (even the longest recovering in less than a day), and mostly not in a frequency band that would be expected to interfere with porpoise communication or other important auditory cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness. The rule also allows for a limited number of takes by non-auditory injury for Dall's porpoise and the Morro Bay stock of harbor porpoise (two and one, respectively). As described above in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section, given the limited

number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these non-auditory injuries are unlikely to be of a nature or level that would impact reproduction or survival for these stocks.

Harbor porpoises are more susceptible to behavioral disturbance than other species. They are highly sensitive to many sound sources and generally demonstrate strong avoidance of most types of acoustic stressors. The information currently available regarding harbor porpoises suggests a very low threshold level of response for both captive (Kastelein *et al.*, 2000; Kastelein *et al.*, 2005) and wild (Johnston, 2002) animals. Southall *et al.* (2007) concluded that harbor porpoises are likely sensitive to a wide range of anthropogenic sounds at low received levels (approximately 90 to 120 dB). Research and observations of harbor porpoises for other locations show that this species is wary of human activity and will display profound avoidance behavior for anthropogenic sound sources in many situations at levels down to 120 dB re 1 µPa (Southall *et al.*, 2007). Harbor porpoises routinely avoid and swim away from large, motorized vessels (Barlow, 1988; Evans *et al.*, 1994; Palka and Hammond, 2001; Polacheck and Thorpe, 1990). Accordingly, and as described in the **Estimated Take of Marine Mammals** section, the threshold for behavioral disturbance is lower for harbor porpoises, and the number of estimated takes is higher, with many occurring at lower received levels than other taxa. Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 154 dB SPL and last from a few minutes to a few hours, at most. Associated responses would likely include avoidance, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours and not likely to exceed 24 hours.

As small odontocetes and income breeders with a fast pace of life, Dall's and harbor porpoises are less resilient to missed foraging opportunities than larger odontocetes. Although reproduction in populations with a fast pace of life is more sensitive to foraging disruption, these populations are quick to recover. Further, as described in the *Group and Species-Specific Analyses* section and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. In this case, for the Monterey Bay and Morro Bay stocks of harbor porpoise, given the number of takes by harassment as compared to the stock/species abundance (see table 62) and the small resident populations, it is likely that some portion of the individuals taken are taken repeatedly over a limited number of days. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted.

Given the magnitude and severity of the impacts discussed above to Dall's porpoises and harbor porpoises (considering annual take maxima and the total across 7 years) and their habitat, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are unlikely to result in impacts on the reproduction or survival of any individuals and, therefore, unlikely to

affect annual rates of recruitment or survival. For these reasons, we have determined that the take by harassment anticipated and authorized will have a negligible impact on Dall's porpoise and all four stocks of harbor porpoises.

Pinnipeds

This section builds on the broader discussion above and brings together the discussion of the different types and amounts of take that different pinniped stocks will incur, the applicable mitigation for each stock, and the status and life history of the stocks to support the negligible impact determinations for each. We have already described above why we believe the incremental addition of the moderate number of low-level auditory injury takes will not have any meaningful effect towards inhibiting reproduction or survival. We have also described above in this section the unlikelihood of any masking or habitat impacts having effects that would impact the reproduction or survival of any of the individual marine mammals affected by the Action Proponents' activities. Regarding the severity of individual takes by Level B harassment by behavioral disturbance for pinnipeds, the majority of these responses are anticipated to occur at received levels below 172 dB, and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours.

In table 64 below for pinnipeds, we indicate the total annual mortality, Level A harassment, and Level B harassment, and the maximum annual harassment as a percentage of abundance. In table 65 below, we indicate the status, life history traits, important habitats, and threats that inform our analysis of the potential impacts of the estimated take on the affected pinniped stocks.

Table 64 -- Annual Estimated Take by Level B Harassment, Level A Harassment, and Mortality and Related Information for Pinnipeds in the HCTT Study Area

Marine Mammal Species	Stock	NMFS Stock Abundance	NMSDD Abundance	Maximum Annual Level B Harassment	Maximum Annual Level A Harassment	Maximum Annual Mortality	Maximum Annual Take	Maximum Annual Harassment As Percentage of Stock Abundance	Season(s) with 50 Percent of Take or Greater	Region(s) with 40 Percent of Take or Greater
California Sea Lion	U.S.	257,606 *	199,121	1,899,749	723	3.86	1,900,476	738	Cold (53 percent)	SOCAL (74 percent)
Guadalupe Fur Seal	Mexico	63,850 *	48,780	347,553	54	0.14	347,607	544	N/A	SOCAL (82 percent)
Northern Fur Seal	Eastern Pacific	612,765 *	89,110	33,195	12	0	33,207	5	Cold (86 percent)	NOCAL (47 percent), PMSR (53 percent)
Northern Fur Seal	California	19,634 *	14,115	22,098	10	0	22,108	113	Cold (58 percent)	PMSR (71 percent)
Steller Sea Lion	Eastern	36,308 *	3,181	999	3	0	1,002	3	Cold (56 percent)	NOCAL (48 percent), SOCAL (49 percent)
Harbor Seal	California	30,968 *	13,343	71,463	261	1.00	71,725	232	N/A	SOCAL (92 percent)
Hawaiian Monk Seal	Hawaii	1,605 *	967	1,249	6	0	1,255	78	Cold (54 percent)	HRC (99 percent)
Northern Elephant Seal	California Breeding	194,907 *	49,526	118,514	111	0	118,625	61	Cold (62 percent)	SOCAL (57 percent)

Note: N/A = Not Applicable, UNK = Unknown. NMSDD abundances are averages only within the U.S. EEZ.

* Indicates which abundance estimate was used to calculate the maximum annual take as a percentage of abundance, either the NMFS SARs (Carretta *et al.*, 2024; Young *et al.*, 2024) or the NMSDD (table 2.4-1 in appendix A of the application). Please refer to the Pinnipeds section for details on which abundance estimate was selected.

Table 65 -- Life History Traits, Important Habitat, and Threats to Pinnipeds in the HCTT Study Area

Marine Mammal Species	Stock	ESA Status	MMPA Status	Movement Ecology	Body Size	Reproductive Strategy	Pace of Life	Chronic Risk Factors	UME, Oil Spill, Other	ESA-Designated Critical Habitat	BIAs II for Hawaii (Kratofil *et al.*, 2023) and West Coast (Calambokidis *et al.*, 2024)	Population Trend	PBR	Annual Mortality/Seriou Injury (from other human activities)
California Sea Lion	U.S.	Not listed	Not depleted,	Resident-migratory	Small	Income	Fast	Fisheries interactions, power plant	No	No	No	Stable	14,011	>321

			not strategic					entrainment, illegal harassment, habitat degradation, vessel strike, chemical contaminants						
Guadalupe Fur Seal	Mexico	Threatened	Depleted, Strategic	Migratory	Small	Income	Fast	Fisheries interactions, intentional illegal killing/harassment	No	No	No	Increasing	1,959	≥10.0
Northern Fur Seal	Eastern Pacific	Not listed	Depleted, Strategic	Migratory	Small	Income	Fast	Fisheries interactions, intentional killing/harassment, chemical contaminants	No	No	No	Decreasing	11,151	296
Northern Fur Seal	California	Not listed	Not depleted, not strategic	Resident	Small	Income	Fast	Fisheries interactions	No	No	No	Variable	527	≥1.2
Steller Sea Lion	Eastern	Not listed	Not depleted, not strategic	Resident	Small	Income	Fast	Fisheries interactions, harassment/	No	No	No	Increasing	2,178	93.2
Harbor Seal	California	Not listed	Not depleted, not strategic	Resident	Small	Capital	Fast	Disturbance at rookeries, commercial aquaculture, illegal intentional killing, chemical contaminants	No	No	No	Decreasing	1,641	43
Hawaiian Monk Seal	Hawaii	Endangered	Depleted, Strategic	Resident	Small	Capital	Fast	Fisheries interactions, illegal harassment, habitat degradation	No	Yes	No	Increasing	5.3	≥4.8
Northern Elephant Seal	California Breeding	Not listed	Not depleted, not strategic	Migratory	Small-Med	Capital	Fast	Fisheries interactions, illegal harassment, chemical contaminants	No	No	No	Increasing	5,328	11.2

Note: N/A = Not Applicable, UND = Undetermined, Unk = Unknown.

The Hawaiian monk seal (a NMFS Species in the Spotlight) and Guadalupe fur seal are listed as endangered and threatened, respectively, under the ESA and are considered depleted and strategic under the MMPA. Northern fur seals are not listed as endangered or threatened under the ESA, but the Eastern Pacific stock is considered depleted and strategic under the MMPA. The remaining pinniped stocks for which incidental take is authorized (see table 64) are neither ESA-listed nor considered depleted or strategic under the MMPA.

As shown in table 64 and table 65, these pinnipeds vary in stock abundance and movement ecology from, for example, the resident Hawaii stock of Hawaiian monk seal with an estimated abundance of 1,605 animals to the migratory Eastern Pacific stock of Northern fur seal with an estimated abundance of 612,765 animals. The HCTT Study Area overlaps the Hawaiian monk seal ESA-designated critical habitat (51 FR 16047, April 30, 1986; 53 FR 18988, May 26, 1988; 80 FR 50925, August 21, 2015), as described in the **Description of Marine Mammals and Their Habitat in the Area of Specified Activities** section, and there are no known BIAs for pinnipeds that overlap the HCTT Study Area. There are no UMEs or other factors that cause additional concern for these stocks. Pinnipeds face a number of chronic anthropogenic and non-anthropogenic risk factors including fisheries interactions, illegal harassment, habitat degradation, disease, intentional killing/harassment, chemical contaminants, power plant entrainment, vessel strike, harmful algal blooms, commercial aquaculture, and harassment/disturbance at rookeries.

As shown in table 64, the maximum annual allowable instances of take by Level B harassment for pinnipeds ranges from 999 (Eastern stock of Steller sea lion) to 1,899,749 (U.S. stock of California sea lion), with 3 stocks below 23,000, 5 stocks above 23,000, and California sea lion being the only stock over 348,000. Take by Level A harassment is at or below 12 for 4 stocks, and above 12 for 4 stocks. As described above,

given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to which any individuals are exposed, these injuries are unlikely to impact reproduction or survival. No mortality is anticipated or authorized for any pinniped stocks except the U.S. stock of California sea lion, Mexico stock of Guadalupe fur seal, and California stock of harbor seal. For those 3 stocks, the rule also allows for up to 27, 1, and 7 takes by serious injury or mortality, respectively, over the course of the 7-year rule, the impacts of which are discussed above in the Serious Injury and Mortality section. The total authorized take across all 7 years of the rule is indicated in table 19.

Regarding the potential takes associated with auditory impairment, as described in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section above, any takes in the form of TTS are expected to be lower-level, of short duration (from minutes to, at most, several hours or less than a day), and mostly not in a frequency band that would be expected to interfere with pinniped communication or other important auditory cues. Any associated lost opportunities or capabilities individuals might experience as a result of TTS would not be at a level or duration that would be expected to impact reproductive success or survival. For similar reasons, while auditory injury impacts last longer, the low anticipated levels of AUD INJ that could be reasonably expected to result from these activities are unlikely to have any effect on fitness.

The rule also allows for a limited number of takes by non-auditory injury (1 to 57) for 7 of the 8 stocks (less than 5 takes for all stocks except for the U.S. stock of California sea lion and California stock of harbor seal). As described above in the Auditory Injury from Sonar Acoustic Sources and Explosives and Non-Auditory Injury from Explosives section, given the limited number of potential exposures and the anticipated effectiveness of the mitigation measures in minimizing the pressure levels to

which any individuals are exposed, these non-auditory injuries are unlikely to be of a nature or level that would impact reproduction or survival of these stocks, with the exception of the U.S. stock of California sea lion and California stock of harbor seal.

Due to the larger number of California sea lion and California stock of harbor seal individuals predicted to be exposed annually to levels associated with non-auditory injury (57 and 7, respectively), it is more likely that some subset of these individuals could potentially be injured in a manner that would result in them foregoing reproduction for a year (up to 10 California sea lions and 1 harbor seal). A year of foregone reproduction for a male is generally meaningless to population rates unless the animal ultimately dies. M/SI have been modeled for this activity separately, and NMFS does not anticipate that these non-auditory injuries would result in mortality, for young or adults. The U.S. stock of California sea lion is considered stable. While the population trend of the California stock of harbor seal is decreasing, neither of these stocks are considered depleted or strategic, and total annual mortality is well below PBR for both stocks. Importantly, the increase in a pupping interval by a year would have far less of an impact on a population rate than a mortality would and, accordingly, the number of instances of foregone reproduction predicted here would not be expected to adversely affect this stock through effects on annual rates of recruitment or survival.

Regarding the likely severity of any single instance of take by behavioral disturbance, as described above, the majority of the predicted exposures are expected to be below 172 dB SPL and last from a few minutes to a few hours, at most, with associated responses most likely in the form of moving away from the source, foraging interruptions, vocalization changes, or disruption of other social behaviors, lasting from a few minutes to several hours. Pinnipeds are small-bodied (or small to medium-bodied) income breeders with a fast pace of life, but have a relatively lower energy requirement for their body size, which may moderate any impact due to foraging disruption. Further,

as described in the *Group and Species-Specific Analyses* section above and the **Mitigation Measures** section, mitigation measures are expected to further reduce the potential severity of impacts through real-time operational measures that minimize higher level/longer duration exposures and time/area measures that reduce impacts in high value habitat. In particular, this rulemaking includes a Hawaii Island Marine Mammal Mitigation Area and a Hawaii 4-Islands Marine Mammal Mitigation Area which will reduce exposure of Hawaiian monk seals to levels of sound that have the potential to cause injury or behavioral impacts, including within a portion of Hawaiian monk seal critical habitat.

As described above, in addition to evaluating the anticipated impacts of the single instances of takes, it is important to understand the degree to which individual marine mammals may be disturbed repeatedly across multiple days of the year. Given the number of takes by harassment as compared to the stock/species abundance alone (see table 64), and also in consideration of their movement pattern and whether take is concentrated in areas in which animals are known to congregate, it is unlikely that these individual pinnipeds would be taken on more than a limited number of days within a year (with the exception of California sea lion for which some individuals may be taken on a limited to moderate number of days within a year) and, therefore, the anticipated behavioral disturbance is not expected to affect reproduction or survival. However, given the variety of activity types that contribute to take across separate exercises conducted at different times and in different areas, and the fact that many result from transient activities conducted at sea, it is unlikely that repeated takes would occur either in numbers or clumped across sequential days in a manner likely to impact foraging success and energetics or other behaviors such that reproduction or survival of any individuals is likely to be impacted. Further, many of these stocks are migratory and apart from the small resident populations, there are no known foraging areas or other areas within which

animals are known to congregate for important behaviors, and for most stocks, the predicted takes are not concentrated within a specific region and season.

Given the magnitude and severity of the take by harassment discussed above and any anticipated habitat impacts, and in consideration of the required mitigation measures and other information presented, the Action Proponents' activities are unlikely to result in impacts on the reproduction or survival of any individuals of pinniped stocks, with the exception of the three stocks for which takes by M/SI are predicted and the two stocks for which an increased pupping interval could potentially occur. Regarding the U.S. stock of California sea lion and California stock of harbor seal, as described above, we do not anticipate the relatively limited number of individuals that might be taken by non-auditory injury in a manner that results in a year of foregone reproduction to adversely affect the stock through effects on rates of recruitment or survival, given the status of the stocks. Regarding the U.S. stock of California sea lion, Mexico stock of Guadalupe fur seal, and California stock of harbor seal, as described in the Serious Injury and Mortality section, given the status of the stocks and in consideration of other ongoing anthropogenic mortality, the authorized M/SI take would not alone, nor in combination with the impacts of the take by harassment discussed above (which are not expected to impact the reproduction or survival of any individuals for those stocks), be expected to adversely affect rates of recruitment and survival. For these reasons, we have determined that the total take (considering annual maxima and across 7 years) anticipated and authorized will have a negligible impact on all pinniped species and stocks.

Determination

Based on the analysis contained herein of the likely effects of the specified activities on marine mammals and their habitat, and taking into consideration the implementation of the proposed monitoring and mitigation measures, NMFS finds that

the total marine mammal take from the specified activity will have a negligible impact on all affected marine mammal species or stocks.

Unmitigable Adverse Impact Analysis and Determination

There are no relevant subsistence uses of the affected marine mammal stocks or species implicated by this action. Therefore, NMFS has determined that the total taking of affected species or stocks will not have an unmitigable adverse impact on the availability of such species or stocks for taking for subsistence purposes.

Classification

Endangered Species Act

There are 10 marine mammal species under NMFS jurisdiction that are listed as endangered or threatened under the ESA with confirmed or possible occurrence in the HCTT Study Area: blue whale, fin whale, gray whale, humpback whale, sei whale, sperm whale, killer whale, false killer whale, Guadalupe fur seal, and Hawaiian monk seal. The humpback whale (86 FR 21082, April 21, 2021), killer whale (71 FR 69054, November 29, 2006; revised August 2, 2021 (86 FR 41668)), false killer whale (83 FR 35062, July 24, 2018), and Hawaiian monk seal (51 FR 16047, April 30, 1986; revised in 1988 (53 FR 18988, May 26, 1988) and in 2015 (80 FR 50925, August 21, 2015)) have critical habitat designated under the ESA in the HCTT Study Area.

The Action Proponents consulted with NMFS pursuant to section 7 of the ESA for HCTT activities, and NMFS also consulted internally on the promulgation of this rule and the issuance of LOAs under section 101(a)(5)(A) of the MMPA. NMFS issued a biological and conference opinion concluding that the promulgation of the rule and issuance of subsequent LOAs are not likely to jeopardize the continued existence of threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of designated or proposed critical habitat in the HCTT Study Area. The biological and conference opinion is available at:

https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities.

National Marine Sanctuaries Act

Federal agency actions that are likely to injure sanctuary resources are subject to consultation with NOAA's Office of National Marine Sanctuaries (ONMS) under section 304(d) of the National Marine Sanctuaries Act (NMSA) (16 U.S.C. 1431 *et seq.*).

On June 3, 2025, NMFS and the Action Proponents jointly requested consultation with NOAA's ONMS to fulfill our responsibilities under the NMSA, as warranted. At that time, NMFS and the Action Proponents submitted a Sanctuary Resource Statement (SRS), as the Action Proponents concluded that their training and testing activities in the HCTT Study Area may incidentally expose sanctuary resources that reside within Channel Islands NMS, Chumash Heritage NMS, Cordell Bank NMS, Greater Farallones NMS, Monterey Bay NMS, Hawaiian Islands Humpback Whale NMS, and Papahānaumokuākea NMS to sound and other environmental stressors, and NMFS concluded that proposed MMPA regulations and associated LOAs that would allow the Action Proponents to incidentally take marine mammals include a subset of those impacts that could occur to NMS resources.

ONMS reviewed the SRS and found the SRS sufficient for the purposes of making an injury determination and developing recommended alternatives as required by the NMSA. On September 30, 2025, ONMS provided its injury determination and five recommended alternatives to minimize injury and to protect sanctuary resources. On October 20, 2025, NMFS and the Navy submitted a joint response to the ONMS recommended alternatives. Consultation under the NMSA is now concluded.

National Environmental Policy Act

To comply with the National Environmental Policy Act of 1969 (NEPA) (42 U.S.C. 4321 *et seq*.) and NOAA Administrative Order (NAO) 216-6A, NMFS must

review our proposed actions with respect to potential impacts on the human environment. NMFS participated as a cooperating agency on the 2025 HCTT EIS/OEIS, which was made available to the public on October 3, 2025 (90 FR 52660), and is available at: *https://www.nepa.navy.mil/hctteis/*.NMFS independently reviewed and evaluated the 2025 HCTT EIS/OEIS and determined that it is adequate and sufficient to meet our responsibilities under NEPA for the issuance of this rule and associated LOAs. NOAA therefore, has adopted the 2025 HCTT EIS/OEIS. NMFS has prepared a separate Record of Decision. NMFS' Record of Decision for adoption of the 2025 HCTT EIS/OEIS and issuance of this final rule and subsequent LOAs can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities*.

Regulatory Flexibility Act

Pursuant to the Regulatory Flexibility Act (RFA), the Chief Counsel for Regulation of the Department of Commerce has certified to the Chief Counsel for Advocacy of the Small Business Administration during the proposed rule stage that this action would not have a significant economic impact on a substantial number of small entities. The factual basis for the certification was published in the proposed rule and is not repeated here. No comments were received regarding this certification. As a result, a regulatory flexibility analysis was not required and none was prepared.

Paperwork Reduction Act

This action does not contain any collection of information requirements for purposes of the Paperwork Reduction Act of 1980 (44 U.S.C. 3501 *et seq.*).

Executive Order 12866

The Office of Management and Budget has determined that this rule is not significant for purposes of Executive Order 12866.

Executive Order 14192

This final rule is not an Executive Order 14192 regulatory action because this rule is not significant under Executive Order 12866.

Waiver of Delay in Effective Date

NMFS has determined that there is good cause under the Administrative Procedure Act (APA) (5 U.S.C. 553(d)(3)) to waive the 30-day delay in the effective date of this final rule. No individual or entity other than the Action Proponents are affected by the provisions of these regulations. The Action Proponents have requested that this final rule take effect on or before December 21, 2025, to accommodate the Navy's LOAs that expire on December 20, 2025, so as to not cause a disruption in training and testing activities. The waiver of the 30-day delay of the effective date of the final rule will ensure that the MMPA final rule and LOAs are in place by the time the previous authorizations expire. Any delay in effectiveness of the final rule would result in either: (1) a suspension of planned naval training and testing, which would disrupt vital training and testing essential to national security; or (2) the Action Proponents' procedural non-compliance with the MMPA (should the Action Proponents conduct training and testing without LOAs), thereby resulting in the potential for unauthorized takes of marine mammals. Moreover, the Action Proponents are ready to implement the regulations immediately. For these reasons, NMFS finds good cause to waive the 30-day delay in the effective date. In addition, the rule authorizes incidental take of marine mammals that would otherwise be prohibited under the statute. Therefore, by granting an exception to the Action Proponents, the rule relieves restrictions under the MMPA, which provides a separate basis for waiving the 30-day effective date for the rule under section 553(d)(1) of the APA.

List of Subjects in 50 CFR Part 218

Administrative practice and procedure, Endangered and threatened species, Fish, Fisheries, Marine mammals, Penalties, Reporting and recordkeeping requirements, Transportation, Wildlife.

Dated: December 12, 2025.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs,

National Marine Fisheries Service.

For the reasons set forth in the preamble, NMFS amends 50 CFR part 218 as follows:

PART 218–REGULATIONS GOVERNING THE TAKING AND IMPORTING OF MARINE MAMMALS

1. The authority citation for part 218 continues to read as follows:

Authority: 16 U.S.C. 1361 *et seq.*

2. Revise subpart H to read as follows:

Subpart H—Taking and Importing Marine Mammals; Military Readiness Activities in the Hawaii-California Training and Testing Study Area

Sec.
218.70 Specified activity and geographical region.
218.71 Effective dates.
218.72 Permissible methods of taking.
218.73 Prohibitions.
218.74 Mitigation requirements.
218.75 Requirements for monitoring and reporting.
218.76 Letters of Authorization.
218.77 Modifications of Letters of Authorization.
218.78 – 218.79 [Reserved]

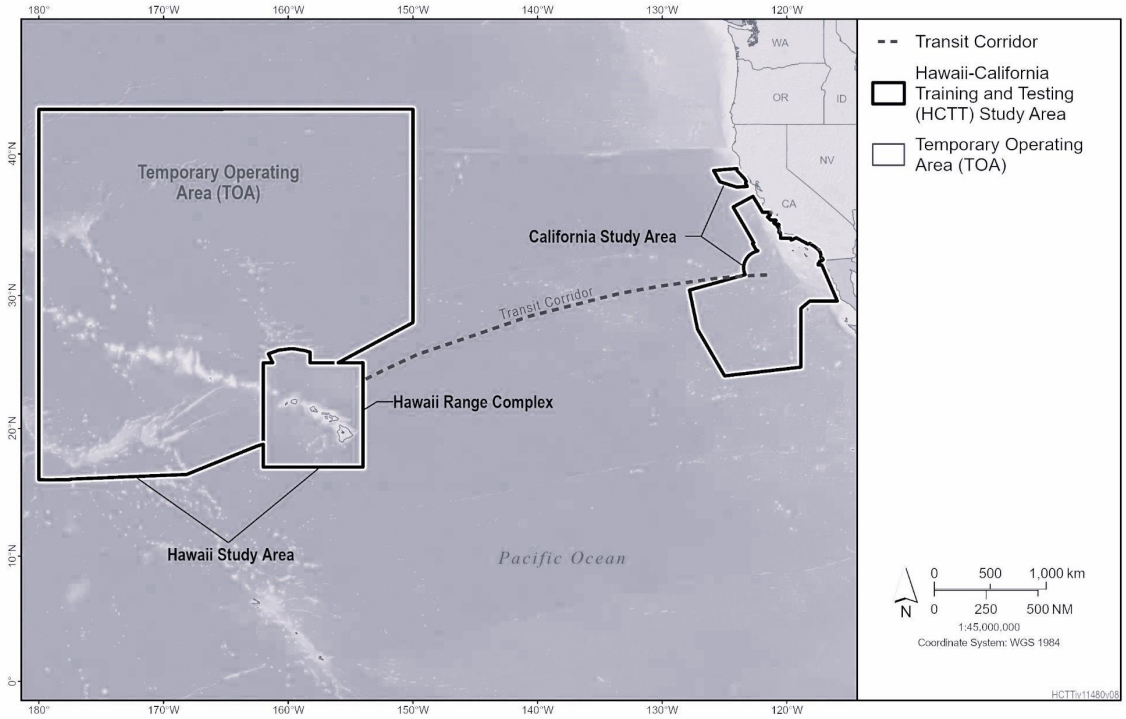
Subpart H—Taking and Importing Marine Mammals; Military Readiness Activities in the Hawaii-California Training and Testing Study Area

§ 218.70 Specified activity and geographical region.

(a) Regulations in this subpart apply only to the U.S. Navy (including the U.S. Marine Corps; Navy), U.S. Coast Guard (Coast Guard), and U.S. Army (collectively referred to as the "Action Proponents") for the taking of marine mammals that occurs in the area described in paragraph (b) of this section and that occurs incidental to the activities listed in paragraph (c) of this section. Requirements imposed on the Action Proponents must be implemented by those persons they authorize or fund to conduct activities on their behalf.

(b) The taking of marine mammals by the Action Proponents under this subpart may be authorized in letters of authorization (LOAs) only if it occurs within the Hawaii-California Training and Testing (HCTT) Study Area. The HCTT Study Area includes areas in the north-central Pacific Ocean, from California west to Hawaii and the International Date Line, and including the Hawaii Range Complex (HRC) and Temporary Operating Area (TOA), Southern California (SOCAL) Range Complex, Point Mugu Sea Range (PMSR), Silver Strand Training Complex, areas along the Southern California coastline from approximately Dana Point to Port Hueneme, and the Northern California (NOCAL) Range Complex. Also included in the HCTT Study Area are Navy pierside locations in Hawaii and Southern California, Pearl Harbor, San Diego Bay, and the transit corridor on the high seas where training and testing may occur. Figure 1 to this paragraph (b) shows the location of the HCTT Study Area.

Figure 1 to paragraph (b)—HCTT Study Area



(c) The taking of marine mammals by the Action Proponents is only authorized if it occurs incidental to the Action Proponents conducting military readiness activities, including the following:

(1) Amphibious warfare;

(2) Anti-submarine warfare;

(3) Expeditionary warfare;

(4) Mine warfare;

(5) Surface warfare;

(6) Vessel evaluation;

(7) Unmanned systems;

(8) Acoustic and oceanographic science and technology;

(9) Vessel movement;

(10) Land-based launches; and

(11) Other training and testing activities.

§ 218.71 Effective dates.

Regulations in this subpart are effective from December 21, 2025, through December 20, 2032.

§ 218.72 Permissible methods of taking.

(a) Under LOAs issued pursuant to § 216.106 of this chapter and this subpart, the Action Proponents may incidentally, but not intentionally, take marine mammals within the area described in § 218.70(b) by Level A harassment and Level B harassment associated with the use of active sonar and other acoustic sources and explosives, as well as serious injury or mortality associated with vessel strikes and explosives, provided the activity is in compliance with all terms, conditions, and requirements of this subpart and the applicable LOAs.

(b) The incidental take of marine mammals by the activities listed in § 218.70(c) is limited to the following species:

Table 1 to paragraph (b)

Species	Stock
Gray whale	Eastern North Pacific
Gray whale	Western North Pacific
Blue whale	Central North Pacific
Blue whale	Eastern North Pacific
Bryde’s whale	Eastern Tropical Pacific
Bryde’s whale	Hawaii
Fin whale	Hawaii
Fin whale	California/Oregon/Washington
Humpback whale	Central America/Southern Mexico - California-Oregon-Washington
Humpback whale	Mainland Mexico - California-Oregon-Washington
Humpback whale	Hawaii
Minke whale	Hawaii
Minke whale	California/Oregon/Washington
Sei whale	Hawaii
Sei whale	Eastern North Pacific
Sperm whale	Hawaii
Sperm whale	California/Oregon/Washington
Dwarf sperm whale	Hawaii
Dwarf sperm whale	California/Oregon/Washington
Pygmy sperm whale	Hawaii
Pygmy sperm whale	California/Oregon/Washington
Baird's beaked whale	California/Oregon/Washington
Blainville's beaked whale	Hawaii
Goose-beaked whale	Hawaii
Goose-beaked whale	California/Oregon/Washington
Longman's beaked whale	Hawaii
Mesoplodont beaked whale	California/Oregon/Washington
False killer whale	Main Hawaiian Islands Insular

False killer whale	Northwest Hawaiian Islands
False killer whale	Hawaii Pelagic
False killer whale	Baja California Peninsula Mexico population
Killer whale	Hawaii
Killer whale	Eastern North Pacific Offshore
Killer whale	West Coast Transient
Melon-headed whale	Hawaiian Islands
Melon-headed whale	Kohala Resident (Hawaii)
Pygmy killer whale	Hawaii
Pygmy killer whale	California - Baja California Peninsula Mexico population
Short-finned pilot whale	Hawaii
Short-finned pilot whale	California/Oregon/Washington
Bottlenose dolphin	Maui Nui
Bottlenose dolphin	Hawaii Island
Bottlenose dolphin	Hawaii Pelagic
Bottlenose dolphin	Kaua'i/Ni'ihau
Bottlenose dolphin	O'ahu
Bottlenose dolphin	California Coastal
Bottlenose dolphin	California/Oregon/Washington Offshore
Fraser's dolphin	Hawaii
Long-beaked common dolphin	California
Northern right whale dolphin	California/Oregon/Washington
Pacific white-sided dolphin	California/Oregon/Washington
Pantropical spotted dolphin	Maui Nui
Pantropical spotted dolphin	Hawaii Island
Pantropical spotted dolphin	Hawaii Pelagic
Pantropical spotted dolphin	O'ahu
Pantropical spotted dolphin	Baja California Peninsula Mexico population
Risso's dolphin	Hawaii
Risso's dolphin	California/Oregon/Washington
Rough-toothed dolphin	Hawaii
Short-beaked common dolphin	California/Oregon/Washington
Spinner dolphin	Hawaii Pelagic

Spinner dolphin	Hawaii Island
Spinner dolphin	Kaua'i/Ni'ihau
Spinner dolphin	O'ahu/4 Islands Region
Striped dolphin	Hawaii Pelagic
Striped dolphin	California/Oregon/Washington
Dall's porpoise	California/Oregon/Washington
Harbor porpoise	Monterey Bay
Harbor porpoise	Morro Bay
Harbor porpoise	Northern California/Southern Oregon
Harbor porpoise	San Francisco/Russian River
California sea lion	U.S.
Guadalupe fur seal	Mexico
Northern fur seal	Eastern Pacific
Northern fur seal	California
Steller sea lion	Eastern
Harbor seal	California
Hawaiian monk seal	Hawaii
Northern elephant seal	California Breeding

§ 218.73 Prohibitions.

Except incidental take described in § 218.72 and authorized by a LOA issued under this subpart, it shall be unlawful for any person to do the following in connection with the activities described in this subpart:

(a) Violate, or fail to comply with, the terms, conditions, and requirements of this subpart or an LOA issued under § 216.106 of this chapter and this subpart;

(b) Take any marine mammal not specified in § 218.72(b);

(c) Take any marine mammal specified in § 218.72(b) in any manner other than as specified in the LOAs; or

(d) Take a marine mammal specified in § 218.72(b) after NMFS determines such taking results in more than a negligible impact on the species or stock of such marine mammal.

§ 218.74 Mitigation requirements.

(a) When conducting the activities identified in § 218.70(c), the mitigation measures contained in this section and any LOA issued under this subpart must be implemented by Action Proponent personnel or contractors who are trained according to the requirements in the LOA. If Action Proponent contractors are serving on behalf of Action Proponent personnel, Action Proponent contractors must follow the mitigation applicable to Action Proponent personnel. These mitigation measures include, but are not limited to:

(1) *Activity-based mitigation.* Activity-based mitigation is mitigation that the Action Proponents must implement whenever and wherever an applicable military readiness activity takes place within the HCTT Study Area. The Action Proponents must implement the mitigation described in paragraphs (a)(1)(i) through (xxii) of this section, except as provided in paragraph (a)(1)(xxiii) of this section.

(i) *Active acoustic sources with power down and shut down capabilities.* For active acoustic sources with power down and shutdown capabilities (low-frequency active sonar ≥200 decibels (dB), mid-frequency active sonar sources that are hull mounted on a surface ship (including surfaced submarines), and broadband and other active acoustic sources >200 dB):

(A) *Mitigation zones and requirements*. During use of active acoustic sources with power down and shutdown capabilities, the following mitigation zone requirements apply:

(*1*) Within 1,000 yards (yd) (914.4 meters (m)) from a marine mammal, Action Proponent personnel must power down active acoustic sources by 6 dB total.

(*2*) Within 500 yd (457.2 m) from a marine mammal, Action Proponent personnel must power down active acoustic sources by an additional 4 dB (10 dB total).

(*3*) Within 200 yd (182.9 m) from a marine mammal, Action Proponent personnel must shut down active acoustic sources.

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in or on one of the following: aircraft; pierside, moored, or anchored vessel; underway vessel with space/crew restrictions (including small boats); or underway vessel already participating in the event that is escorting (and has positive control over sources used, deployed, or towed by) an unmanned platform.

(*2*) Two Lookouts on an underway vessel without space or crew restrictions.

(*3*) Lookouts must use information from passive acoustic detections to inform visual observations when passive acoustic devices are already being used in the event.

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of using active acoustic sources (*e.g.*, while maneuvering on station).

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals during use of active acoustic sources.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing or powering up active sonar transmission). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft).

(ii) *Active acoustic sources with shut down capabilities only (no power down capability).* For active acoustic sources with shut down capabilities only (no power down capability) (low-frequency active sonar <200 dB, mid-frequency active sonar sources that are not hull mounted on a surface ship (*e.g.*, dipping sonar, towed arrays), high-frequency active sonar, air guns, and broadband and other active acoustic sources <200 dB):

(A) *Mitigation zones and requirements*. During use of active acoustic sources with shut down capabilities only, the following mitigation zone requirements apply:

(*1*) At 200 yd (182.9 m) from a marine mammal, Action Proponent personnel must shut down active acoustic sources.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in or on one of the following: aircraft; pierside, moored, or anchored vessel; underway vessel with space/crew restrictions (including small boats); or underway vessel already participating in the event that is escorting (and has positive control over sources used, deployed, or towed by) an unmanned platform.

(*2*) Two Lookouts on an underway vessel without space or crew restrictions.

(*3*) Lookouts must use information from passive acoustic detections to inform visual observations when passive acoustic devices are already being used in the event.

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of using active acoustic sources (*e.g.*, while maneuvering on station).

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals during use of active acoustic sources.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing or powering up active sonar transmission). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft).

(iii) *Pile driving and extraction.* For pile driving and extraction:

(A) *Mitigation zones and requirements*. During vibratory and impact pile driving and extraction, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease pile driving or extraction if a marine mammal is sighted within 5 yd (4.6 m) of a pile being driven or extracted.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in or on one of the following: shore, pier, or small boat.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation for 15 minutes prior to the initial start of pile driving or pile extraction.

(*2*) Action proponent personnel must use soft start standard operating procedures when impact pile driving. Soft start requires the Action Proponent to conduct three sets of strikes (three strikes per set) at reduced hammer energy with a 30-second waiting period between each set. A soft start must be implemented at the start of each day's impact pile

driving and at any time following cessation of impact pile driving for a period of 30 minutes or longer.

(*3*) Action Proponent personnel must observe the mitigation zone for marine mammals during pile driving or extraction.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing vibratory or impact pile driving or extraction). The wait period for this activity is 15 minutes.

(iv) *Weapons firing noise.* For weapons firing noise:

(A) *Mitigation zones and requirements*. During explosive and non-explosive large-caliber (57 millimeter (mm) and larger) gunnery firing noise (surface-to-surface and surface-to-air), the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease weapons firing if a marine mammal is sighted within 30 degrees on either side of the firing line out to 70 yd (64 m) from the gun muzzle (cease fire).

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on a vessel.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of large-caliber gun firing (*e.g.*, during target deployment).

(*2*) Action Proponent personnel must observe the mitigation zone for marine mammals during large-caliber gun firing.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing explosive and non-explosive large-caliber gunnery firing noise (surface-to-surface and surface-to-air)). The wait period for this activity is 30 minutes.

(v) *Explosive bombs*. For explosive bombs:

(A) *Mitigation zones and requirements*. During the use of explosive bombs of any net explosive weight (NEW), the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of explosive bombs if a marine mammal is sighted within 2,500 yd (2,286 m) from the intended target.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in an aircraft.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of bomb delivery (*e.g.*, when arriving on station).

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals during bomb delivery. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures (the Notification and Reporting Plan is available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities*).

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing use of explosive bombs of any NEW). The wait period for this activity is 10 minutes.

(vi) *Explosive gunnery*. For explosive gunnery:

(A) *Mitigation zones and requirements*. During air-to-surface medium-caliber (larger than 50 caliber and less than 57 mm), surface-to-surface medium-caliber, and surface-to-surface large-caliber explosive gunnery, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of air-to-surface medium-caliber ordnance if a marine mammal is sighted within 200 yd (182.9 m) of the intended impact location.

(*2*) Action Proponent personnel must cease use of surface-to-surface medium-caliber ordnance if a marine mammal is sighted within 600 yd (548.6 m) of the intended impact location.

(*3*) Action Proponent personnel must cease use of surface-to-surface large-caliber ordnance if a marine mammal is sighted within 1,000 yd (914.4 m) of the intended impact location.

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on a vessel or in an aircraft.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of gun firing (*e.g.*, while maneuvering on station).

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals during gunnery fire. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing air-to-surface medium-caliber, surface-to-surface medium-caliber, surface-to-surface large-caliber explosive gunnery). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft, fighter aircraft).

(vii) *Explosive underwater demolition multiple charge – mat weave and obstacle loading.* For explosive underwater demolition multiple charge – mat weave and obstacle loading:

(A) *Mitigation zones and requirements*. During the use of explosive underwater demolition multiple charge – mat weave and obstacle loading of any NEW, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease explosive underwater demolition multiple charge – mat weave and obstacle loading if a marine mammal is sighted within 700 yd (640 m) of the detonation site.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) Two Lookouts, one on a small boat and one on shore from an elevated platform.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) The Lookout positioned on a small boat must observe the mitigation zone for marine mammals and floating vegetation for 30 minutes prior to the first detonation.

(*2*) The Lookout positioned on shore must use binoculars to observe for marine mammals for 10 minutes prior to the first detonation.

(*3*) Action Proponent personnel must observe the mitigation zone for marine mammals during detonations. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*4*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph

(a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing use of explosive underwater demolition multiple charge – mat weave and obstacle loading of any NEW). The wait period for this activity is 10 minutes (determined by the Lookout on shore).

(viii) *Explosive mine countermeasure and neutralization (no divers).* For explosive mine countermeasure and neutralization (no divers):

(A) *Mitigation zones and requirements*. During explosive mine countermeasure and neutralization using 0.1-5 pound (lb) (0.05-2.3 kilogram (kg)) NEW and >5 lb (2.3 kg) NEW, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of 0.1-5 lb (0.05-2.3 kg) NEW if a marine mammal is sighted within 600 yd (548.6 m) from the detonation site.

(*2*) Action Proponent personnel must cease use of >5 lb (2.3 kg) NEW if a marine mammal is sighted within 2,100 yd (1,920.2 m) from the detonation site.

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on a vessel or in an aircraft during 0.1-5 lb (0.05-2.3 kg) NEW use.

(*2*) Two Lookouts, one on a small boat and one in an aircraft during >5 lb (2.3 kg) NEW use.

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of detonations (*e.g.*, while maneuvering on station; typically, 10 or 30 minutes depending on fuel constraints).

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals, concentrations of seabirds, and individual foraging seabirds (in the

water and not on shore) during detonations or fuse initiation. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for 10 or 30 minutes (depending on fuel constraints) for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing explosive mine countermeasure and neutralization using 0.1-5 pound (lb) (0.05-2.3 kilogram (kg)) NEW and >5 lb (2.3 kg) NEW). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft).

(ix) *Explosive mine neutralization (with divers)*. For explosive mine neutralization (with divers):

(A) *Mitigation zones and requirements*. During explosive mine neutralization (with divers) using 0.1-20 lb (0.05-9.1 kg) NEW (positive control), 0.1-29 lb (0.05-13.2 kg) NEW (time-delay), and >20-60 lb (9.1-27.2 kg) NEW (positive control), the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of 0.1-20 lb (0.05-9.1 kg) NEW (positive control) if a marine mammal is sighted within 500 yd (457.2 m) of the detonation site (cease fire).

(*2*) Action Proponent personnel must cease use of 0.1-29 lb (0.05-13.2 kg) NEW (time-delay) and >20-60 lb (9.1-27.2 kg) NEW (positive control) if a marine mammal is sighted within 1,000 yd (914.4 m) of the detonation site (cease fire).

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) Lookouts in two small boats (one Lookout per boat), or one small boat and one rotary-wing aircraft (with one Lookout each), and one Lookout on shore for shallow-water events during use of 0.1-20 lb (0.05-9.1 kg) NEW (positive control).

(*2*) Four Lookouts in two small boats (two Lookouts per boat) and one additional Lookout in an aircraft if used in the event during use of 0.1-29 lb (0.05-13.2 kg) NEW (time-delay) and >20-60 lb (9.1-27.2 kg) NEW (positive control).

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Time-delay devices must be set not to exceed 10 minutes.

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of detonations or fuse initiation for positive control events (*e.g.*, while maneuvering on station) or for 30 minutes prior for time-delay events.

(*3*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals, concentrations of seabirds, and individual foraging seabirds (in the water and not on shore) during detonations or fuse initiation. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*4*) When practical based on mission, safety, and environmental conditions:

(*i*) Boats must observe from the mitigation zone radius mid-point.

(*ii*) When two boats are used, boats must observe from opposite sides of the mine location.

(*iii*) Platforms must travel a circular pattern around the mine location.

(*iv*) Boats must have one Lookout observe inward toward the mine location and one Lookout observe outward toward the mitigation zone perimeter.

(*v*) Divers must be part of the Lookout Team.

(*5*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for 30 minutes for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing explosive mine neutralization (with divers) using 0.1-20 lb (0.05-9.1 kg) NEW (positive control), 0.1-29 lb (0.05-13.2 kg) NEW (time-delay), and >20-60 lb (9.1-27.2 kg) NEW (positive control)). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft).

(x) *Explosive missiles and rockets*. For explosive missiles and rockets:

(A) *Mitigation zones and requirements*. During the use of explosive missiles and rockets using 0.6-20 lb (0.3-9.1 kg) NEW (air-to-surface) and >20-500 lb (9.1-226.8 kg) NEW (air-to-surface), the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of 0.6-20 lb (0.3-9.1 kg) NEW (air-to-surface) if a marine mammal is sighted within 900 yd (823 m) of the intended impact location (cease fire).

(*2*) Action Proponent personnel must cease use of >20-500 lb (9.1-226.8 kg) NEW (air-to-surface) if a marine mammal is sighted within 2,000 yd (1,828.8 m) of the intended impact location (cease fire).

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in an aircraft.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of missile or rocket delivery (*e.g.*, during a fly-over of the mitigation zone).

(*2*) Action Proponent personnel must observe the applicable mitigation zone for marine mammals during missile or rocket delivery. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing use of explosive missiles and rockets using 0.6-20 lb (0.3-9.1 kg) NEW (air-to-surface) and >20-500 lb (9.1-226.8 kg) NEW (air-to-surface)). The wait period for this activity is 30 minutes for activities conducted

by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft, fighter aircraft).

(xi) *Explosive sonobuoys and research-based sub-surface explosives*. For explosive sonobuoys and research-based sub-surface explosives:

(A) *Mitigation zones and requirements*. During the use of explosive sonobuoys and research-based sub-surface explosives using any NEW of sonobuoys and 0.1-5 lb (0.05-2.3 kg) NEW for other types of sub-surface explosives used in research applications, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of any NEW of sonobuoys and 0.1-5 lb (0.05-2.3 kg) NEW for other types of sub-surface explosives used in research applications if a marine mammal is sighted within 600 yd (548.6 m) of the device or detonation sites (cease fire).

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on a small boat or in an aircraft.

(*2*) Conduct passive acoustic monitoring for marine mammals; use information from detections to assist visual observations.

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of detonations (*e.g.*, during sonobuoy deployment, which typically lasts 20-30 minutes).

(*2*) Action Proponent personnel must observe the mitigation zone for marine mammals during detonations. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing use of explosive sonobuoys and research-based sub-surface explosives using any NEW of sonobuoys and 0.1-5 lb (0.05-2.3 kg) NEW for other types of sub-surface explosives used in research applications). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft).

(xii) *Explosive torpedoes*. For explosive torpedoes:

(A) *Mitigation zones and requirements*. During the use of explosive torpedoes of any NEW, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of explosive torpedoes of any NEW if a marine mammal is sighted within 2,100 yd (1,920.2 m) of the intended impact location.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in an aircraft.

(*2*) Conduct passive acoustic monitoring for marine mammals; use information from detections to assist visual observations.

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals, floating vegetation, and jellyfish aggregations immediately prior to the initial start of detonations (*e.g.*, during target deployment).

(*2*) Action Proponent personnel must observe the mitigation zone for marine mammals and jellyfish aggregations during torpedo launches. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) After the event, when practical, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing use of explosive torpedoes of any NEW). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft, fighter aircraft).

(xiii) *Ship shock trials*. For ship shock trials:

(A) *Mitigation zones and requirements*. During ship shock trials using any NEW, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease ship shock trials of any NEW if a marine mammal is sighted within 3.5 nmi (6.5 km) of the target ship hull (cease fire).

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) On the day of the event, 10 observers (Lookouts and third-party observers combined), spread between aircraft or multiple vessels as specified in the event-specific mitigation plan.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must develop a detailed, event-specific monitoring and mitigation plan in the year prior to the event and provide it to NMFS for review.

(*2*) Beginning at first light on days of detonation, until the moment of detonation (as allowed by safety measures) Action Proponent personnel must observe the mitigation zone for marine mammals, floating vegetation, jellyfish aggregations, large schools of fish, and flocks of seabirds.

(*3*) If any injured or dead marine mammals are observed after an individual detonation, Action Proponent personnel must follow established incident reporting procedures and halt any remaining detonations until Action Proponent personnel consults with NMFS and review or adapt the event-specific mitigation plan, if necessary.

(*4*) During the 2 days following the event (minimum) and up to 7 days following the event (maximum), and as specified in the event-specific mitigation plan, Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing ship shock trials). The wait period for this activity is 30 minutes.

(xiv) *Sinking exercises*. For Sinking Exercises (SINKEX):

(A) *Mitigation zones and requirements*. During SINKEX using any NEW, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease SINKEX of any NEW if a marine mammal is sighted within 2.5 nmi (4.6 km) of the target ship hull (cease fire).

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) Two Lookouts, one on a vessel and one in an aircraft.

(*2*) Conduct passive acoustic monitoring for marine mammals; use information from detections to assist visual observations.

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) During aerial observations for 90 minutes prior to the initial start of weapon firing, Action Proponent personnel must observe the mitigation zone for marine mammals, floating vegetation, and jellyfish aggregations.

(*2*) From the vessel during weapon firing, and from the aircraft and vessel immediately after planned or unplanned breaks in weapon firing of more than 2 hours, Action Proponent personnel must observe the mitigation zone for marine mammals. If a marine mammal is visibly injured or killed as a result of detonation, use of explosives in the event must be suspended immediately.

(*3*) Action Proponent personnel must observe the detonation vicinity for injured or dead marine mammals for 2 hours after sinking the vessel or until sunset, whichever comes first. If any injured or dead marine mammals are observed, Action Proponent personnel must follow established incident reporting procedures.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph

(a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing SINKEX). The wait period for this activity is 30 minutes.

(xv) *Non-explosive aerial-deployed mines and bombs*. For non-explosive aerial-deployed mines and bombs:

(A) *Mitigation zones and requirements*. During the use of non-explosive aerial-deployed mines and non-explosive bombs, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease using non-explosive aerial-deployed mines and non-explosive bombs if a marine mammal is sighted within 1,000 yd (914.4 m) of the intended target (cease fire).

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in an aircraft.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the initial start of mine or bomb delivery (*e.g.*, when arriving on station).

(*2*) Action Proponent personnel must observe the mitigation zone for marine mammals during mine or bomb delivery.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the

start) or during the activity (by not recommencing use of non-explosive aerial-deployed mines and non-explosive bombs). The wait period for this activity is 10 minutes.

(xvi) *Non-explosive gunnery*. For non-explosive gunnery:

(A) *Mitigation zones and requirements*. During the use of non-explosive surface-to-surface large-caliber ordnance, non-explosive surface-to-surface and air-to-surface medium-caliber ordnance, and non-explosive surface-to-surface and air-to-surface small-caliber ordnance, the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease non-explosive surface-to-surface large-caliber ordnance, non-explosive surface-to-surface and air-to-surface medium-caliber ordnance, and non-explosive surface-to-surface and air-to-surface small-caliber ordnance use if a marine mammal is sighted within 200 yd (182.9 m) of the intended impact location (cease fire).

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on a vessel or in an aircraft.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the start of gun firing (*e.g.*, while maneuvering on station).

(*2*) Action Proponent personnel must observe the mitigation zone for marine mammals during gunnery firing.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph (a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the

start) or during the activity (by not recommencing use of non-explosive surface-to-surface large-caliber ordnance, non-explosive surface-to-surface and air-to-surface medium-caliber ordnance, and non-explosive surface-to-surface and air-to-surface small-caliber ordnance). The wait period for this activity is 30 minutes for activities conducted from vessels and for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft, fighter aircraft).

(xvii) *Non-explosive missiles and rockets*. For non-explosive missiles and rockets:

(A) *Mitigation zones and requirements*. During the use of non-explosive missiles and rockets (air-to-surface), the following mitigation zone requirements apply:

(*1*) Action Proponent personnel must cease use of non-explosive missile and rocket (air-to-surface) if a marine mammal is sighted within 900 yd (823 m) of the intended impact location.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout in an aircraft.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals and floating vegetation immediately prior to the start of missile or rocket delivery (*e.g.*, during a fly-over of the mitigation zone).

(*2*) Action Proponent personnel must observe the mitigation zone for marine mammals during missile or rocket delivery.

(D) *Commencement or recommencement conditions*. Action Proponent personnel must ensure one of the commencement or recommencement conditions in paragraph

(a)(1)(xxii) of this section is met prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing use of non-explosive missiles and rockets (air-to-surface)). The wait period for this activity is 30 minutes for activities conducted by aircraft that are not fuel constrained and 10 minutes for activities involving aircraft that are fuel constrained (*e.g.*, rotary-wing aircraft, fighter aircraft).

(xviii) *Manned surface vessels*. For manned surface vessels:

(A) *Mitigation zones and requirements*. During the use of manned surface vessels, including surfaced submarines, the following mitigation zone requirements apply:

(*1*) Underway manned surface vessels must maneuver themselves (which may include reducing speed) to maintain the following distances as mission and circumstances allow:

(*i*) 500 yd (457.2 m) from whales.

(*ii*) 200 yd (182.9 m) from other marine mammals.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One or more Lookouts on manned underway surface vessels in accordance with the most recent navigation safety instruction.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals immediately prior to manned surface vessels getting underway and while underway.

(*2*) [Reserved]

(xix) *Unmanned vehicles*. For unmanned vehicles:

(A) *Mitigation zones and requirements*. During the use of unmanned surface vehicles and unmanned underwater vehicles already being escorted (and operated under positive control) by a manned surface support vessel, the following mitigation zone requirements apply:

(*1*) A surface support vessel that is already participating in the event, and has positive control over the unmanned vehicle, must maneuver the unmanned vehicle (which may include reducing its speed) to ensure it maintains the following distances as mission and circumstances allow:

(*i*) 500 yd (457.2 m) from whales.

(*ii*) 200 yd (182.9 m) from other marine mammals.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on a surface support vessel that is already participating in the event, and has positive control over the unmanned vehicle.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals immediately prior to unmanned vehicles getting underway and while underway.

(*2*) [Reserved]

(xx) *Towed in-water devices*. For towed in-water devices:

(A) *Mitigation zones and requirements*. During the use of in-water devices towed by an aircraft, a manned surface vessel, or an unmanned surface vehicle or unmanned underwater vehicle already being escorted (and operated under positive control) by a manned surface vessel, the following mitigation zone requirements apply:

(*1*) Manned towing platforms, or surface support vessels already participating in the event that have positive control over an unmanned vehicle that is towing an in-water device, must maneuver itself or the unmanned vehicle (which may include reducing speed) to ensure towed in-water devices maintain the following distances as mission and circumstances allow:

(*i*) 250 yd (228.6 m) from marine mammals.

(*ii*) [Reserved]

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on the manned towing vessel or aircraft, or on a surface support vessel that is already participating in the event and has positive control over an unmanned vehicle that is towing an in-water device.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals immediately prior to and while in-water devices are being towed.

(*2*) [Reserved]

(xxi) *Net deployment.* For net deployment:

(A) *Mitigation zones and requirements*. During net deployment for testing of an Unmanned Underwater Vehicle, the following mitigation zone requirements apply:

(*1*) If a marine mammal is sighted within 500 yd (457.2 m) of the deployment location, the support vessel will:

(*i*) Delay deployment of nets until the mitigation zone has been clear for 15 minutes.

(*ii*) Recover nets if they are deployed.

(*2*) [Reserved]

(B) *Lookout requirements*. The following Lookout requirements apply:

(*1*) One Lookout on the support vessel.

(*2*) [Reserved]

(C) *Mitigation zone observation*. Action Proponent personnel must observe the mitigation zones in accordance with the following:

(*1*) Action Proponent personnel must observe the mitigation zone for marine mammals for 15 minutes prior to the deployment of nets and while nets are deployed.

(*2*) Nets must be deployed during daylight hours only.

(xxii) *Commencement or recommencement conditions*. Action Proponents must not commence or recommence an activity after a marine mammal is observed within a relevant mitigation zone until one of the following conditions has been met:

(A) *Observed exiting*. A Lookout observes the animal exiting the mitigation zone;

(B) *Concluded to have exited*. A Lookout concludes that the animal has exited the mitigation zone based on its observed course, speed, and movement relative to the mitigation zone;

(C) *Clear from additional sightings*. A Lookout affirms the mitigation zone has been clear from additional sightings for the activity-specific wait period; or

(D) *Platform or target transit*. For mobile events, the platform or target has transited a distance equal to double the mitigation zone size beyond the location of the last sighting.

(xxiii) *Exceptions to activity-based mitigation for acoustic and explosive stressors and non-explosive ordnance.* Activity-based mitigation for acoustic and explosive stressors and non-explosive ordnance will not apply to:

(A) *Not operated under positive control*. Acoustic sources not operated under positive control (*e.g.*, moored oceanographic sources);

(B) *Safety of navigation*. Acoustic sources used for safety of navigation (*e.g.*, fathometers);

(C) *Aircraft operating at high altitudes*. Acoustic sources used or deployed by aircraft operating at high altitudes (*e.g.*, sonobuoys deployed from high altitude (since personnel cannot effectively observe the surface of the water));

(D) *Unmanned platforms*. Acoustic sources used, deployed, or towed by unmanned platforms except when escort vessels are already participating in the event and have positive control over the source;

(E) *Submerged submarines*. Acoustic sources used by submerged submarines (*e.g.*, sonar (since personnel cannot conduct visual observation));

(F) *De minimis sources*. De minimis acoustic sources (*e.g.*, those >200 kilohertz);

(G) *Unattended sources*. Unattended sources, including those used for acoustic and oceanographic research;

(H) *Bow- or wake-riding*. Vessel-based, unmanned vehicle-based, or towed in-water acoustic sources when marine mammals (*e.g.*, dolphins) are determined to be intentionally swimming at the bow or alongside or directly behind the vessel, vehicle, or device (*e.g.*, to bow-ride or wake-ride);

(I) *Aircraft operating at high altitudes*. Explosives deployed by aircraft operating at high altitudes (*i.e.*, altitudes at which marine mammals on the surface cannot be distinguished);

(J) *Submerged submarines*. Explosives deployed by submerged submarines, except for explosive torpedoes;

(K) *Aerial targets*. Explosives deployed against aerial targets;

(L) *Vessel-launched or shore-launched missile or rocket events*. Explosives during vessel-launched or shore-launched missile or rocket events;

(M) *De minimis*. Explosives used at or below the de minimis threshold (≤0.1 lb (0.05 kg) NEW);

(N) *Unmanned platforms*. Explosives deployed by unmanned platforms except when escort vessels are already participating in the event and have positive control over the explosive;

(O) *Aircraft operating at high altitudes*. Non-explosive ordnance deployed by aircraft operating at high altitudes (*i.e.*, altitudes at which marine mammals on the surface cannot be distinguished);

(P) *Aerial targets and land-based targets*. Non-explosive ordnance deployed against aerial targets and land-based targets;

(Q) *Vessel-launched or shore-launched missile or rocket events.* Non-explosive ordnance deployed during vessel- or shore-launched missile or rocket events; and

(R) *Unmanned platforms*. Non-explosive ordnance deployed by unmanned platforms except when escort vessels are already participating in the event and have positive control over ordnance deployment.

(xxiv) *Exceptions to activity-based mitigation for physical disturbance and strike stressors*. Activity-based mitigation for physical disturbance and strike stressors will not be implemented:

(A) *Submerged submarines*. By submerged submarines;

(B) *Unmanned vehicles*. By unmanned vehicles except when escort vessels are already participating in the event and have positive control over the unmanned vehicle movements;

(C) *Bow- or wake-riding*. When marine mammals (*e.g.*, dolphins) are determined to be intentionally swimming at the bow, alongside the vessel or vehicle, or directly behind the vessel or vehicle (*e.g.*, to bow-ride or wake-ride);

(D) *Hauled out pinnipeds*. When pinnipeds are hauled out on man-made navigational structures, port structures, and vessels;

(E) *Cable laying*. By manned surface vessels and towed in-water devices actively participating in cable laying during Modernization & Sustainment of Ranges activities; and

(F) *Mission requirements*. When impractical based on mission requirements (*e.g.*, during certain aspects of amphibious exercises).

(2) *Geographic mitigation areas*. The Action Proponents must implement the geographic mitigation requirements described in paragraphs (a)(2)(i) through (xi) of this section.

(i) *Hawaii Island marine mammal mitigation area*. Figure 1 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Hawaii Island marine mammal mitigation area, the following requirements apply (year-round):

(A) *Surface ship hull-mounted mid-frequency active sonar*. The Action Proponents must not use more than 300 combined hours of MF1 (regular duty cycle) and MF1C (continuous duty cycle) surface ship hull-mounted mid-frequency active sonar or 20 hours of helicopter dipping sonar (a mid-frequency active sonar source) annually within the mitigation area.

(B) *In-water explosives*. The Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) within the mitigation area.

(ii) *Hawaii 4-Islands marine mammal mitigation area*. Figure 1 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Hawaii 4-Islands marine mammal mitigation area, the following requirements apply:

(A) *Surface ship hull-mounted mid-frequency active sonar*. From November 15-April 15, the Action Proponents must not use MF1 or MF1C surface ship hull-mounted mid-frequency active sonar within the mitigation area.

(B) *In-water explosives*. The Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) within the mitigation area (year-round).

(iii) *Hawaii humpback whale special reporting mitigation area*. Figure 1 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Hawaii humpback whale special reporting mitigation area, the following requirements apply:

(A) *Surface ship hull-mounted mid-frequency active sonar*. The Action Proponents must report the total hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar used from November through May in the mitigation area in their training and testing activity reports submitted to NMFS.

(B) [Reserved]

(iv) *Hawaii humpback whale awareness notification mitigation area*. Figure 1 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Hawaii humpback whale awareness notification mitigation area, the following requirements apply:

(A) *Hawaii humpback whale awareness notification mitigation area notifications*. The Action Proponents must broadcast awareness messages to alert applicable assets (and their Lookouts) transiting and training or testing in the Hawaii Range Complex to the possible presence of concentrations of humpback whales from November through May.

(B) *Visual observations.* Lookouts must use that knowledge to help inform their visual observations during military readiness activities that involve vessel movements, active sonar, in-water explosives (including underwater explosives and explosives

deployed against surface targets), or the deployment of non-explosive ordnance against surface targets in the mitigation area.

(v) *Northern California large whale mitigation area*. Figure 2 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Northern California large whale mitigation area, the following requirements apply:

(A) *Surface ship hull-mounted mid-frequency active sonar*. From June 1-October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar (excluding normal maintenance and systems checks) total during training and testing within the combination of this mitigation area, the Central California large whale mitigation area, and the Southern California blue whale mitigation area.

(B) [Reserved]

(vi) *Central California large whale mitigation area*. Figure 2 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Central California large whale mitigation area, the following requirements apply:

(A) *Surface ship hull-mounted mid-frequency active sonar*. From June 1-October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar (excluding normal maintenance and systems checks) total during training and testing within the combination of this mitigation area, the Northern California large whale mitigation area, and the Southern California blue whale mitigation area.

(B) [Reserved]

(vii) *Southern California blue whale mitigation area*. Figure 2 to this paragraph (a)(2) shows the location of the mitigation areas. Within the Southern California blue whale mitigation area, the following requirements apply:

(A) *Surface ship hull-mounted mid-frequency active sonar*. From June 1-October 31, the Action Proponents must not use more than 300 combined hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar (excluding normal maintenance and systems checks) total during training and testing within the combination of this mitigation area, the Northern California large whale mitigation area, and the Central California large whale mitigation area.

(B) *In-water explosives*. From June 1-October 31, the Action Proponents must not detonate in-water explosives (including underwater explosives and explosives deployed against surface targets) during large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch (7 centimeter) rockets) training and testing.

(viii) *California large whale awareness messages*. Figure 2 to this paragraph (a)(2) shows the location of the mitigation areas. For California large whale awareness messages, the following requirements apply:

(A) *California large whale awareness messages*. The Action Proponents must broadcast awareness messages to alert applicable assets (and their Lookouts) transiting and training or testing off the U.S. West Coast to the possible presence of concentrations of large whales, including gray whales (November-June), fin whales (November-May), and mixed concentrations of blue, humpback, and fin whales that may occur based on predicted oceanographic conditions for a given year (*e.g.*, May-November, April-November).

(B) [Reserved]

(ix) *California large whale real-time notification mitigation area*. Figure 2 to this paragraph (a)(2) shows the location of the mitigation areas. Within the California large whale real-time notification mitigation area, the following requirements apply:

(A) *California large whale real-time notification mitigation area notifications.* For each instance an aggregation of large whales (three or more whales within 1 nmi (1.9

km)) is sighted in the area between 32-33 degrees North and 117.2-119.5 degrees West, Action Proponent surface vessels must report the sightings to other Action Proponent vessels in the vicinity. Reported sightings will be made as soon as operationally and safely feasible.

(B) [Reserved]

(x) *San Nicolas Island pinniped haulout mitigation area*. Figure 2 to this paragraph (a)(2) shows the location of the mitigation areas. Within the San Nicolas Island pinniped haulout mitigation area, the following requirements apply:

(A) *Haulouts.* Navy personnel must not enter pinniped haulout or rookery areas. Personnel may be adjacent to pinniped haulouts and rookery prior to and following a launch for monitoring purposes.

(B) *Missile and target use.* Missiles and targets must not cross over pinniped haulout areas at altitudes less than 305 m (1,000 ft), except in emergencies or for real-time security incidents. For unmanned aircraft systems (UAS), the following minimum altitudes will be maintained over pinniped haulout areas and rookeries: Class 0-2 UAS will maintain a minimum altitude of 300 ft (92 m); Class 3 UAS will maintain a minimum altitude of 500 ft (153 m); Class 4 or 5 UAS will not be flown below 1,000 ft (305 m).

(C) *Number of events.* The Navy may not conduct more than 40 launch events annually and 10 launch events at night annually.

(D) *Scheduling.* Launch events must be scheduled to avoid the peak pinniped pupping seasons (from January through July) to the maximum extent practicable.

(E) *Monitoring plan.* The Navy must implement a monitoring plan using video and acoustic monitoring of up to three pinniped haulout areas and rookeries during launch events that include missiles or targets that have not been previously monitored for at least three launch events.

(F) *Review of launch procedure*. The Navy must review the launch procedure and monitoring methods, in cooperation with NMFS, if any incidents of injury or mortality of a pinniped are discovered during post-launch surveys, or if surveys indicate possible effects to the distribution, size, or productivity of the affected pinniped populations as a result of the specified activities. If necessary, appropriate changes will be made through modification to the LOA prior to conducting the next launch of the same vehicle.

(xi) *National security requirement*. Should national security require the Action Proponents to exceed a requirement(s) in paragraphs (a)(2)(i) through (x) of this section, Action Proponent personnel must provide NMFS with advance notification and include the information (*e.g.*, sonar hours, explosives usage) in its annual activity reports submitted to NMFS.

Figure 1 to paragraph (a)(2)—Geographic Mitigation Areas for Marine Mammals in the Hawaii Study Area

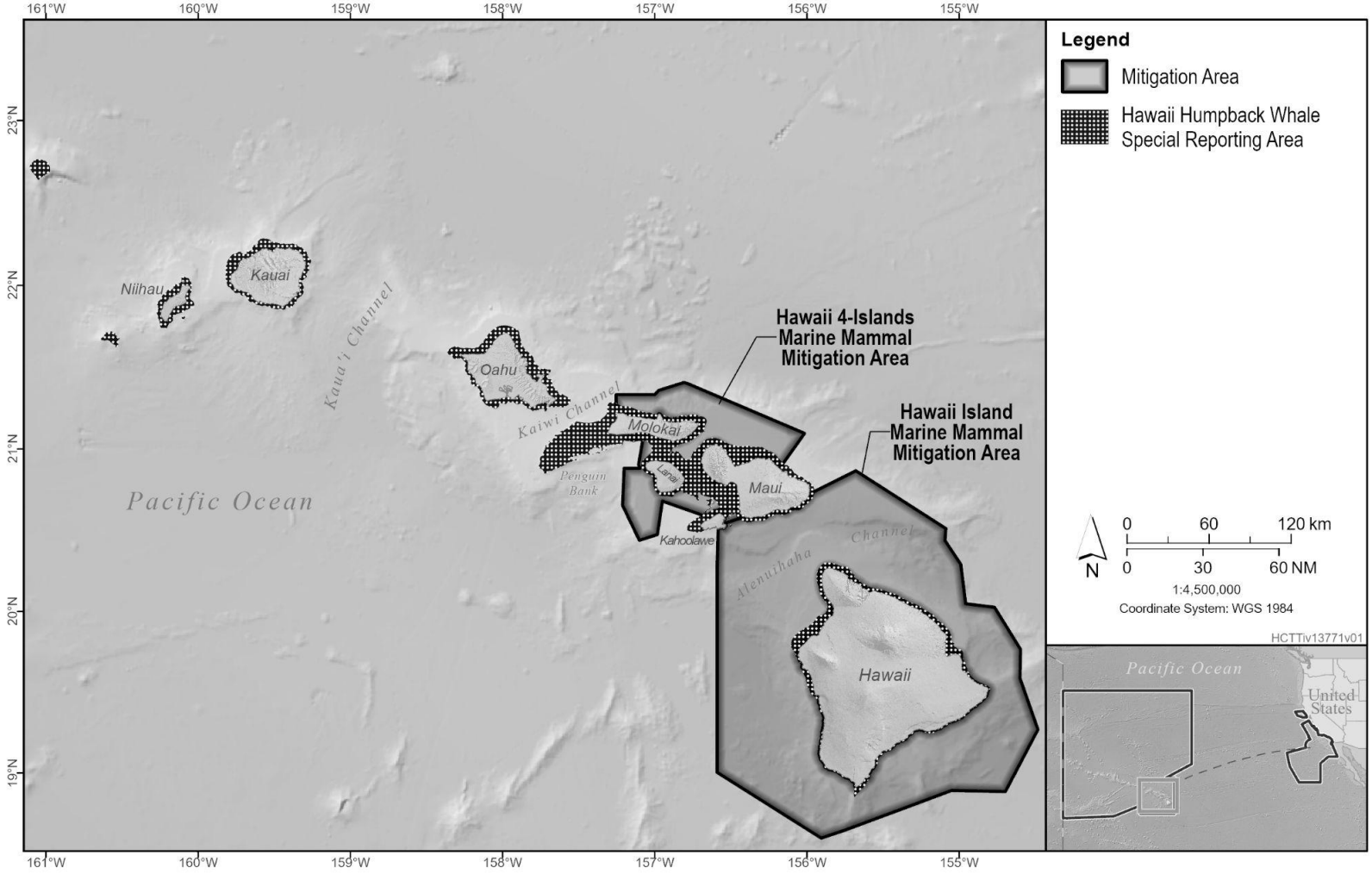
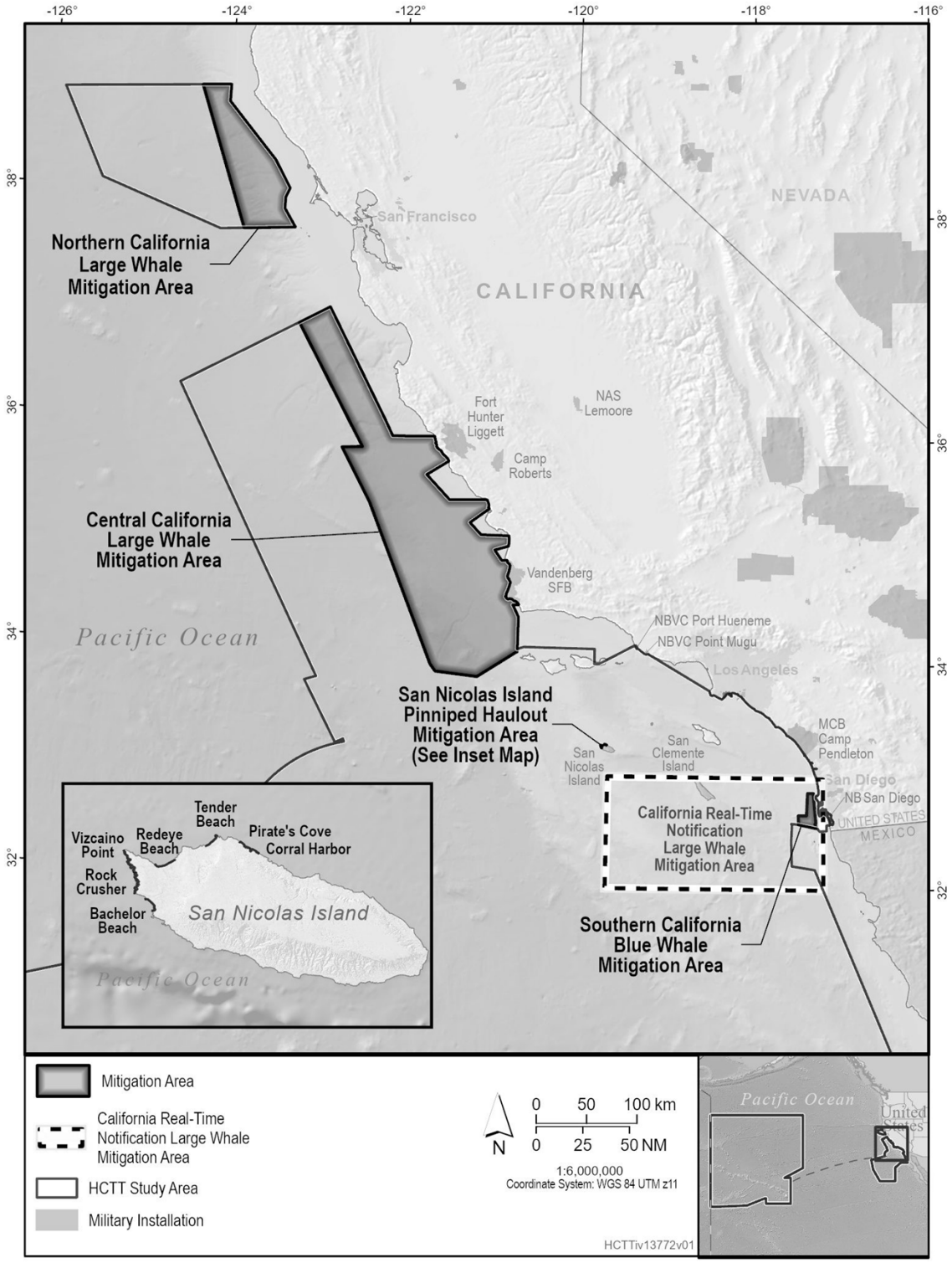


Figure 2 to paragraph (a)(2)—Geographic Mitigation Areas for Marine Mammals in the California Study Area



(3) *Cetacean live stranding.* In the event of a cetacean live stranding (or near-shore atypical milling) event within the HCTT Study Area or within 50 km (27 nmi) of the

boundary of the HCTT Study Area, where the NMFS Marine Mammal Stranding Network is engaged in herding or other interventions to return animals to the water, NMFS Office of Protected Resources will advise the Action Proponents of the need to implement shutdown procedures for all active acoustic sources or explosive devices within 50 km of the stranding. Following this initial shutdown, NMFS will communicate with the Action Proponents to determine whether circumstances support modification of the shutdown zone. The Action Proponents may decline to implement all or part of the shutdown if the holder of the LOA, or his/her designee, determines that it is necessary for national security. Shutdown procedures for live stranding or milling cetaceans include the following:

(i) *Shutdown no longer needed*. If at any time, the marine mammal(s) die or are euthanized, or if herding/intervention efforts are stopped, NMFS will immediately advise that the shutdown around the animals' location is no longer needed;

(ii) *Shutdown procedures remain in effect*. Otherwise, shutdown procedures will remain in effect until NMFS determines and advises that all live animals involved have left the area (either of their own volition or following an intervention); and

(iii) *Further observations*. If further observations of the marine mammals indicate the potential for re-stranding, additional coordination will be required to determine what measures are necessary to minimize that likelihood (*e.g.*, extending the shutdown or moving operations farther away) and to implement those measures as appropriate.

(b) [Reserved]

§ **218.75 Requirements for monitoring and reporting.**

The Action Proponents must implement the following monitoring and reporting requirements when conducting the specified activities:

(a) *Notification of take.* If the Action Proponent reasonably believes that the specified activity identified in § 218.70 resulted in the mortality or serious injury of any

marine mammals, or in any Level A harassment or Level B harassment of marine mammals not identified in this subpart, then the Action Proponent shall notify NMFS immediately or as soon as operational security considerations allow.

(b) *Monitoring and reporting under the LOAs.* The Action Proponents must conduct all monitoring and reporting required under the LOAs.

(c) *Notification of injured, live stranded, or dead marine mammals.* Action Proponent personnel must abide by the Notification and Reporting Plan, which sets out notification, reporting, and other requirements when dead, injured, or live stranded marine mammals are detected. The Notification and Reporting Plan is available at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities.*

(d) *Annual HCTT Study Area marine species monitoring report.* The Navy, on behalf of the Action Proponents, must submit an annual HCTT Study Area marine species monitoring report describing the implementation and results from the previous calendar year. Data collection methods will be standardized across range complexes and the HCTT Study Area to allow for comparison in different geographic locations. The draft report must be submitted to the Director, Office of Protected Resources, NMFS, annually. NMFS will submit comments or questions on the report, if any, within 3 months of receipt. The report will be considered final after the Action Proponents have addressed NMFS' comments, or 3 months after submittal of the draft if NMFS does not provide comments on the draft report. The report must describe progress of knowledge made with respect to intermediate scientific objectives within the HCTT Study Area associated with the Integrated Comprehensive Monitoring Program. Similar study questions must be treated together so that progress on each topic can be summarized across all Navy ranges. The report need not include analyses and content that do not provide direct assessment of cumulative progress on the monitoring plan study questions.

(e) *Quick look reports*. In the event that the sound levels analyzed in the preambles of the Marine Mammal Protection Act (MMPA) proposed rule (90 FR 32118, July 16, 2025) and final rule (90 FR [INSERT FEDERAL REGISTER PAGE NUMBER], [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]) were exceeded within a given reporting year, the Action Proponents must submit a preliminary report(s) detailing the exceedance within 21 days after the anniversary date of issuance of the LOAs.

(f) *Annual HCTT training and testing reports.* Regardless of whether analyzed sound levels were exceeded, the Navy must submit a detailed report (HCTT Annual Training Exercise Report and Testing Activity Report) and the Coast Guard and Army must each submit a detailed report (HCTT Annual Training Exercise Report) to the Director, Office of Protected Resources, NMFS, annually. NMFS will submit comments or questions on the reports, if any, within 1 month of receipt. The reports will be considered final after the Action Proponents have addressed NMFS' comments, or 1 month after submittal of the drafts if NMFS does not provide comments on the draft reports. The annual reports must contain a summary of all sound sources used (total hours or quantity (per the LOAs) of each bin of sonar or other non-impulsive source; total annual number of each type of explosive exercises; and total annual expended/detonated rounds (missiles, bombs, sonobuoys, *etc.*) for each explosive bin). The annual reports must also contain cumulative sonar and explosive use quantity from previous years' reports through the current year. Additionally, if there were any changes to the sound source amount analyzed in the reporting year, or cumulatively, the reports would include a discussion of why the change was made and include analysis to support how the change did or did not affect the analysis in the 2025 HCTT Environmental Impact Statement/Overseas Environmental Impact Statement (*https://www.nepa.navy.mil/hctteis/*) and the analysis in the MMPA final rule (90 FR

[INSERT FEDERAL REGISTER PAGE NUMBER], [INSERT DATE OF PUBLICATION IN THE FEDERAL REGISTER]). The annual reports must also include the details regarding specific requirements associated with the mitigation areas listed in paragraph (f)(4) of this section. The analysis in the detailed report must be based on the accumulation of data from the current year's report and data collected from previous annual reports. The detailed reports shall also contain special reporting for the Hawaii humpback whale special reporting mitigation area, as described in the LOAs. The final annual/close-out reports at the conclusion of the authorization period (year 7) will also serve as the comprehensive close-out reports and provide the annual totals for each sound source bin with a comparison to the annual amount analyzed and the 7-year total for each sound source bin with a comparison to the 7-year amount analyzed. The HCTT Annual Training and Testing Reports must include the specific information described in the LOAs.

(1) *Major training exercises (MTEs).* This section of the report must contain the following information for MTEs completed that year in the HCTT Study Area.

(i) *Exercise information (for each MTE)*. For exercise information (for each MTE):

(A) Exercise designator.

(B) Date that exercise began and ended.

(C) Location.

(D) Number and types of active sonar sources used in the exercise.

(E) Number and types of passive acoustic sources used in exercise.

(F) Number and types of vessels, aircraft, and other platforms participating in each exercise.

(G) Total hours of all active sonar source operation.

(H) Total hours of each active sonar source bin.

(I) Wave height (high, low, and average) during exercise.

(ii) *Individual marine mammal sighting information for each sighting in each exercise where mitigation was implemented.* For individual marine mammal sighting information for each sighting in each exercise where mitigation was implemented:

(A) Date, time, and location of sighting.

(B) Species (if not possible, indication of whale/dolphin/pinniped).

(C) Number of individuals.

(D) Initial Detection Sensor (*e.g.*, passive sonar, Lookout).

(E) Indication of specific type of platform observation was made from (including, for example, what type of surface vessel or testing platform).

(F) Length of time observers maintained visual contact with marine mammal.

(G) Sea state.

(H) Visibility.

(I) Sound source in use at the time of sighting.

(J) Indication of whether animal was less than 200 yd (182.9 m), 200 to 500 yd (182.9 to 457.2 m), 500 to 1,000 yd (457.2 m to 914.4 m), 1,000 to 2,000 yd (914.4 m to 1,828.8 m), or greater than 2,000 yd (1,828.8 m) from sonar source.

(K) Whether operation of sonar sensor was delayed, or sonar was powered or shut down, and the length of the delay.

(L) If source in use was hull-mounted, true bearing of animal from the vessel, true direction of vessel's travel, and estimation of animal's motion relative to vessel (opening, closing, parallel).

(M) Lookouts must report, in plain language and without trying to categorize in any way, the observed behavior of the animal(s) (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming, *etc*.) and if any calves were present.

(iii) *An evaluation (based on data gathered during all of the MTEs) of the effectiveness of mitigation measures designed to minimize the received level to which marine mammals may be exposed.* For an evaluation (based on data gathered during all of the MTEs) of the effectiveness of mitigation measures designed to minimize the received level to which marine mammals may be exposed:

(A) This evaluation must identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation.

(B) [Reserved]

(2) *Sinking exercises (SINKEX).* This section of the report must include the following information for each SINKEX completed that year in the HCTT Study Area:

(i) *Exercise information*. For exercise information:

(A) Location.

(B) Date and time exercise began and ended.

(C) Total hours of observation by Lookouts before, during, and after exercise.

(D) Total number and types of explosive source bins detonated.

(E) Number and types of passive acoustic sources used in exercise.

(F) Total hours of passive acoustic search time.

(G) Number and types of vessels, aircraft, and other platforms participating in exercise.

(H) Wave height in feet (high, low, and average) during exercise.

(I) Narrative description of sensors and platforms utilized for marine mammal detection and timeline illustrating how marine mammal detection was conducted.

(ii) *Individual marine mammal observation (by Action Proponent Lookouts) information for each sighting where mitigation was implemented*. For individual marine mammal observation (by Action Proponent Lookouts) information for each sighting where mitigation was implemented:

(A) Date/time/location of sighting.

(B) Species (if not possible, indicate whale, dolphin, or pinniped).

(C) Number of individuals.

(D) Initial detection sensor (*e.g.*, sonar or Lookout).

(E) Length of time observers maintained visual contact with marine mammal.

(F) Sea state.

(G) Visibility.

(H) Whether sighting was before, during, or after detonations/exercise, and how many minutes before or after.

(I) Distance of marine mammal from actual detonations (or target spot if not yet detonated): Less than 200 yd (182.9 m), 200 to 500 yd (182.9 to 457.2 m), 500 to 1,000 yd (457.2 to 914.4 m), 1,000 to 2,000 yd (914.4 to 1,828.8 m), or greater than 2,000 yd (1,828.8 m).

(J) Lookouts must report the observed behavior of the animal(s) in plain language and without trying to categorize in any way (such as animal closing to bow ride, paralleling course/speed, floating on surface and not swimming, *etc*.), including speed and direction and if any calves were present.

(K) The report must indicate whether explosive detonations were delayed, ceased, modified, or not modified due to marine mammal presence and for how long.

(L) If observation occurred while explosives were detonating in the water, indicate munition type in use at time of marine mammal detection.

(3) *Summary of sources used*. This section of the report must include the following information summarized from the analyzed sound sources used in all training and testing events:

(i) *Totals for sonar or other acoustic source bins.* Total annual hours or quantity (per the LOA) of each bin of sonar or other acoustic sources (*e.g.*, pile driving and air gun activities); and

(ii) *Total for explosive bins*. Total annual expended/detonated ordnance (missiles, bombs, sonobuoys, *etc*.) for each explosive bin.

(4) *San Nicolas Island*. The report must summarize activities and observations of the San Nicolas Island target and missile launch activities for the monitoring period.

(5) *Special reporting for geographic mitigation areas.* This section of the report must contain the following information for activities conducted in geographic mitigation areas in the HCTT Study Area:

(i) *Hawaii humpback whale special reporting mitigation area*. The Action Proponents must report the total hours of MF1 and MF1C surface ship hull-mounted mid-frequency active sonar used from November through May in the mitigation area.

(ii) *California large whale real-time notification mitigation area*. The Navy must report the date, time and general location of the whales when an aggregation is first sighted and the total number of whales in the aggregation. If the whales are identified by species, the Navy must report that information as well.

(iii) *National security requirement*. If an Action Proponent(s) invokes the national security requirement described in § 218.74(a)(2)(xi), the Action Proponent personnel must include information about the event in its Annual HCTT Training and Testing Report.

(6) *Foreign military sonar and explosives*. Navy personnel must confirm that foreign military use of sonar and explosives, when such militaries are participating in a U.S. Navy-led exercise or event, combined with the Action Proponents' use of sonar and explosives, would not cause exceedance of the analyzed levels within each NAEMO modeled sonar and explosive bin used for estimating predicted impacts.

(g) *MTE sonar exercise notification.* The Action Proponents must submit to NMFS (contact as specified in the LOAs) an electronic report within 15 calendar days after the completion of any MTE indicating:

(1) *Location*. Location of the exercise;

(2) *Dates*. Beginning and end dates of the exercise; and

(3) *Type.* Type of exercise.

§ 218.76 Letters of Authorization.

(a) To incidentally take marine mammals pursuant to this subpart, the Action Proponents must apply for and obtain LOAs.

(b) An LOA, unless suspended or revoked, may be effective for a period of time not to exceed the expiration date of this subpart.

(c) In the event of projected changes to the activity or to mitigation, monitoring, or reporting measures (excluding changes made pursuant to the adaptive management provision of § 218.77(c)(1)) required by an LOA, the Action Proponent must apply for and obtain a modification of the LOA as described in § 218.77.

(d) Each LOA will set forth:

(1) Permissible methods of incidental taking;

(2) Geographic areas for incidental taking;

(3) Means of effecting the least practicable adverse impact (*i.e.*, mitigation) on the species and stocks of marine mammals and their habitat; and

(4) Requirements for monitoring and reporting.

(e) Issuance of the LOA(s) must be based on a determination that the level of taking is consistent with the findings made for the total taking allowable under the regulations of this subpart.

(f) Notice of issuance or denial of the LOA(s) will be published in the **Federal Register** within 30 days of a determination.

§ 218.77 Modifications of Letters of Authorization.

(a) An LOA issued under §§ 216.106 of this chapter and 218.76 for the activity identified in § 218.70(c) shall be modified, upon request by the Action Proponents, provided that:

(1) The specified activity and mitigation, monitoring, and reporting measures, as well as the anticipated impacts, are the same as those described and analyzed for the regulations in this subpart (excluding changes made pursuant to the adaptive management provision in paragraph (c)(1) of this section); and

(2) NMFS determines that the mitigation, monitoring, and reporting measures required by the previous LOAs under this subpart were implemented.

(b) For LOA modification requests by the applicants that include changes to the activity or to the mitigation, monitoring, or reporting measures (excluding changes made pursuant to the adaptive management provision in paragraph (c)(1) of this section), the LOA should be modified provided that:

(1) NMFS determines that the change(s) to the activity or the mitigation, monitoring, or reporting do not change the findings made for this subpart and do not result in more than a minor change in the total estimated number of takes (or distribution by species or stock or years); and

(2) NMFS may publish a notice of proposed modified LOA in the **Federal Register**, including the associated analysis of the change, and solicit public comment before issuing the LOA.

(c) An LOA issued under §§ 216.106 of this chapter and 218.76 for the activities identified in § 218.70(c) may be modified by NMFS Office of Protected Resources under the following circumstances:

(1) After consulting with the Action Proponents regarding the practicability of the modifications, through adaptive management, NMFS may modify (including remove,

revise, or add to) the existing mitigation, monitoring, or reporting measures if doing so creates a reasonable likelihood of more effectively accomplishing the goals of the mitigation and monitoring measures set forth in this subpart.

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in an LOA include, but are not limited to:

(A) Results from the Action Proponents' monitoring report and annual exercise reports from the previous year(s);

(B) Results from other marine mammal and/or sound research or studies; or

(C) Any information that reveals marine mammals may have been taken in a manner, extent, or number not authorized by this subpart or subsequent LOAs.

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS shall publish a notice of proposed LOA(s) in the **Federal Register** and solicit public comment.

(2) If the NMFS Office of Protected Resources determines that an emergency exists that poses a significant risk to the well-being of the species or stocks of marine mammals specified in LOAs issued pursuant to §§ 216.106 of this chapter and 218.76, a LOA may be modified without prior notice or opportunity for public comment. Notice would be published in the **Federal Register** within 30 days of the action.

§§ 218.78 – 218.79 [Reserved]

[FR Doc. 2025-23088 Filed: 12/16/2025 8:45 am; Publication Date: 12/17/2025]