DEPARTMENT OF COMMERCE

National Oceanic and Atmospheric Administration

50 CFR Part 218

[Docket No. 241220–0334]

RIN 0648–BL72

Taking and Importing Marine Mammals; Taking Marine Mammals Incidental to the U.S. Navy Training and Testing Activities in the Hawaii-Southern 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. Navy (Navy), issues these regulations pursuant to the Marine Mammal Protection Act (MMPA) to govern the taking of marine mammals incidental to the training and testing activities conducted in the Hawaii-Southern California Training and Testing (HSTT) Study Area between 2018 and 2025. In 2021, two separate U.S. Navy vessels struck unidentified large whales on two separate occasions, one whale in June 2021 and one whale in July 2021, in waters off Southern California. The takes by vessel strike of the two whales by the U.S. Navy were covered by the existing regulations and Letters of Authorization (LOAs), which authorize the U.S. Navy to take up to three large whales by serious injury or mortality by vessel strike between 2018 and 2025. The Navy reanalyzed the potential of vessel strike in the HSTT Study Area, including the recent strikes, and as a result, requested two additional takes of large whales by serious injury or mortality by vessel strike for the remainder of the current regulatory period. In May 2023, a U.S. Navy vessel struck a large whale in waters off Southern California. NMFS reanalyzed the potential for vessel strike based on new information, including the three strikes, and authorizes two additional takes of large whales by serious injury or mortality by vessel strike for the remainder of the current regulatory period (two takes in addition to the three takes authorized in the current regulations). The Navy's activities qualify as military readiness activities pursuant to the MMPA, as amended by the National Defense Authorization Act for Fiscal Year 2004 (2004 NDAA).

DATES: Effective from January 16, 2025 to December 20, 2025.

ADDRESSES: Copies of the Navy's applications, NMFS' proposed and final rules and subsequent LOAs for these regulations, NMFS' proposed and final rules and subsequent LOAs for the associated 5-year HSTT Study Area regulations, other supporting documents cited herein, and 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 use the contact listed here (see **FOR FURTHER INFORMATION CONTACT**).

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

SUPPLEMENTARY INFORMATION:

Purpose of Regulatory Action

These regulations, promulgated under the authority of the MMPA (16 U.S.C. 1361 *et seq.*), modify previous regulations which allow for the authorization of take of marine mammals incidental to the Navy's training and testing activities (which qualify as military readiness activities) from the use of sonar and other transducers, in-water detonations, air guns, impact pile driving/vibratory extraction, and the movement of vessels throughout the HSTT Study Area (50 CFR part 218, subpart H; hereafter ''2020 HSTT regulations'').

NMFS received a request from the Navy to modify the 2020 HSTT regulations and LOAs to authorize two additional takes of large whales by serious injury or mortality by vessel strike over the remainder of the HSTT regulatory period. The 2020 HSTT regulations and LOAs authorized the incidental take, by serious injury or mortality, of three large whales by vessel strike. Here, in consideration of the best available science, including updated information related to vessel strikes, NMFS analyzes and authorizes the incidental serious injury or mortality by vessel strike of five large whales over the effective period of the regulations (December 2018–December 2025). The effective period remains unchanged from the existing regulations. Further, the Navy's planned activities remain unchanged; however, this final rule includes two additional mitigation measures and revision of two existing mitigation measures to further reduce the probability of vessel strike, as well as two additional reporting measures (described below in the Changes from the Proposed Rule to the Final Rule section) from that included in the 2020 HSTT regulations. With the exception of these new mitigation measures and revisions to two existing mitigation measures, the required mitigation and monitoring measures remain unchanged from the 2020 HSTT regulations.

Section 101(a)(5)(A) of the MMPA (16 U.S.C. 1371(a)(5)(A)) 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, after notice and public comment, the agency makes certain findings and issues regulations that set forth permissible methods of taking pursuant to that activity, as well as monitoring and reporting requirements. Section 101(a)(5)(A) of the MMPA and the implementing regulations at 50 CFR part 216, subpart I, provide the legal basis for issuing this final rule and the subsequent LOAs. As directed by this legal authority, this final rule contains mitigation, monitoring, and reporting requirements.

Summary of Major Provisions Within the Final Rule

The following is a summary of the major provisions of this final rule regarding the Navy's activities. Major provisions include, but are not limited to:

- The use of defined powerdown and shutdown zones (based on activity);
- Measures to reduce or eliminate the likelihood of ship 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 a vessel); and
- Implementation of a robust monitoring plan to improve our understanding of the environmental effects resulting from the Navy training and testing activities.

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

Background

The MMPA prohibits the ''take'' of marine mammals, with certain exceptions. Sections 101(a)(5)(A) and (D) of the MMPA (16 U.S.C. 1361 *et*

seq.) direct 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 issued or, if the taking is limited to harassment, the public is provided with notice of the proposed incidental take authorization and the opportunity to review and submit comments.

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 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 rulemaking as ''mitigation''); and requirements pertaining to the monitoring and reporting of such 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 below 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 indicated above and amended the definition of ''harassment'' as applied to a ''military readiness activity.'' The definition of harassment for military readiness activities (section 3(18)(B) of the MMPA) is (i) 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 (ii) 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). In addition, the 2004 NDAA amended the MMPA as it relates to military readiness activities such that the least practicable adverse impact analysis shall include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity.

The NDAA for Fiscal Year 2019 (2019 NDAA) (Pub. L. 115–232), amended the MMPA to allow incidental take rules for military readiness activities under section 101(a)(5)(A) to be issued for up to 7 years. Prior to this amendment, all incidental take rules under section 101(a)(5)(A) were limited to 5 years.

Under the MMPA implementing regulations, incidental take regulations may be modified, in whole or in part, as new information is developed and after notice and opportunity for public comment (50 CFR 216.105). An LOA must be withdrawn or suspended if, after notice and opportunity for public comment, NMFS determines that the regulations are not being substantially complied with, or the taking is having, or may have, more than a negligible impact on species or stock. (*Id.* at 216.106(e)). Note, in its application, Navy relied on §§ 218.76, and 218.77. These sections outline the process for modification of an LOA without modifying the applicable incidental take regulation. These sections do not apply here because the Navy requested modification of the 2020 HSTT regulations.

Summary of Request

On December 27, 2018, NMFS issued a 5-year final rule governing the taking of marine mammals incidental to Navy training and testing activities conducted in the HSTT Study Area (83 FR 66846; hereafter ''2018 HSTT final rule''). Previously, on August 13, 2018, and towards the end of the time period in which NMFS was processing the Navy's request for the 2018 regulations, the 2019 NDAA amended the MMPA for military readiness activities to allow incidental take regulations to be issued for up to 7 years instead of the previous 5 years. The Navy's training and testing activities conducted in the HSTT Study Area qualify as military readiness activities pursuant to the MMPA, as amended by the 2004 NDAA. On March 11, 2019, the Navy submitted an application requesting that NMFS extend the 2018 HSTT final rule (83 FR 66846, December 27, 2018) and associated LOAs such that they would cover take incidental to 7 years of training and testing activities instead of 5, extending the expiration date from December 20, 2023 to December 20, 2025. On July 10, 2020, NOAA Fisheries issued regulations (85 FR 41780) to govern the taking of marine mammals incidental to the training and testing activities conducted in the HSTT Study Area over the course of 7 years, effectively extending the effective period from December 20, 2023 to December 20, 2025.

On March 31, 2022, NMFS received an adequate and complete application (2022 Navy application) from the Navy requesting that NMFS modify the existing regulations and LOAs to authorize two additional takes of large whales by serious injury or mortality by vessel strike over the remainder of the HSTT authorization period. The 2020 HSTT regulations (50 CFR part 218, subpart H) and LOAs authorize the take of marine mammals from the Navy's training and testing activities in the HSTT Study Area through December 20, 2025. These regulations and LOAs authorize the take of three large whales by serious injury or mortality by vessel strike.

The Navy's 2022 request is based upon new information regarding U.S. Navy vessel strikes off the coast of Southern California. As described in the 2022 Navy application, in 2021, two separate U.S. Navy vessels struck unidentified large whales off the coast of Southern California on two separate occasions, one whale in June 2021 and one whale in July 2021. Separately, a foreign naval vessel struck two fin whales off the coast of Southern California in May 2021.

In the 2022 Navy application, the Navy proposed no changes to the nature of the specified activities covered by the 2020 HSTT final rule. The Navy stated that the level of activity within and between years would be consistent with that previously analyzed in the 2020 HSTT final rule, and all activities would be conducted within the same boundaries of the HSTT Study Area identified in the 2020 HSTT final rule. The training and testing activities (*e.g.,* equipment and sources used, exercises conducted) are identical to those described and analyzed in the 2020 HSTT final rule, and the mitigation, monitoring, and reporting measures are similar to those described and analyzed in the 2020 HSTT final rule. The only changes included in the Navy's request are for additional take by serious injury or mortality by vessel strike.

The Navy's mission is to organize, train, equip, and maintain combat-ready naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. This mission is mandated by Federal law (10 U.S.C. 8062), which ensures the readiness of the naval forces of the United States. The Navy executes this responsibility by establishing and executing training programs, including at-sea training and exercises, and ensuring naval forces

have access to the ranges, operating areas (OPAREAs), and airspace needed to develop and maintain skills for conducting naval activities.

For a summary of the training and testing activities within the HSTT Study Area, see the Navy's previous rulemaking and LOA applications submitted for HSTT Phase III activities (October 13, 2017 initial rulemaking and LOA application (hereafter ''2017 Navy application'') and March 11, 2019 extension rulemaking and LOA application (hereafter ''2019 Navy application'')) and the 2020 HSTT regulations that were subsequently promulgated, which can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities.* These activities are deemed by the Navy necessary to accomplish military readiness requirements and are anticipated to continue into the reasonably foreseeable future. The 2022 Navy application and this rule cover training and testing activities that would occur over the remainder of the effective period of the current regulations, valid from the publication date of this final rule through December 20, 2025.

Summary of the Regulations

NMFS is modifying the incidental take regulations and associated LOAs to cover the same Navy activities covered by the 2020 HSTT regulations but authorize five takes of large whales by serious injury or mortality by vessel strike (two takes in addition to the three takes authorized in the 2020 HSTT regulations). In its 2022 application, the Navy proposed no additional changes and explained that its training and testing activities, including the level of vessel use, remain unchanged. Nearly all mitigation, monitoring, and reporting measures remain unchanged from the 2020 HSTT regulations (85 FR 41780, July 10, 2020) with the exception of two additional mitigation measures (see the Mitigation Measures section of this final rule), revision of two existing mitigation measures (see the Mitigation Measures section of this final rule), and two additional reporting measures resulting from discussions between the Navy and NMFS (see the Reporting section of this final rule).

In response to the Navy's request, we focus our analysis on the new information related to vessel strike. We also review any new information that may be pertinent to our analysis of the impacts from all other activities that comprise Navy's specified activity, and our analysis of mitigation, monitoring, and reporting. Where there is any new information pertinent to the descriptions, analyses, or findings required to authorize the incidental take for military readiness activities under MMPA section 101(a)(5)(A), that information is provided in the appropriate sections below. Where there is no new information or any new information does not change our previous analysis or findings, we indicate as such and refer the reader to the original analysis in the 2018 HSTT proposed and final rule, 2020 HSTT final rule or the 2019 HSTT Final Environmental Impact Statement (FEIS)/Overseas Environmental Impact Statement (OEIS).

After reviewing all new information and as discussed below, we largely find that our previous analyses and findings remain current and applicable. For vessel strike, we provide a new analysis and authorize two additional takes of large whales, for a total of five takes by serious injury or mortality by vessel strike over the 7-year period. We authorize these additional takes after analyzing the best available scientific information and after considering the effects of the entire specified activity and the total taking as required by MMPA section 101(a)(5)(A). When setting forth the permissible methods of taking pursuant to the activity and other means of effecting the least practicable adverse impact on the species or stock, we require new and modified mitigation and also consider whether to require any new or modified mitigation for the entire specified activity.

The regulatory language included at the end of this final rule, which is published at 50 CFR part 218, subpart H, remains largely the same as that under the HSTT 2020 regulations, except for a small number of technical changes related to the Navy's 2022 request, new and revised mitigation measures, and two new reporting measures. Therefore, in this final rule, we refer the reader to complete analyses described in the 2018 HSTT final rule or an updated analysis in the 2020 HSTT final rule, where appropriate.

Below is a list of the regulatory documents referenced in this final rule. The list indicates the short name by which the document is referenced in this final rule as well as the full titles of the cited documents. All of the documents can be found at: *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities* and *http://www.hstteis.com/.*

- NMFS June 26, 2018, Hawaii-Southern California Training and Testing (HSTT) proposed rule (83 FR 29872; 2018 HSTT proposed rule);
- NMFS December 27, 2018, Hawaii-Southern California Training and Testing (HSTT) final rule (83 FR 66846; 2018 HSTT final rule);
- NMFS September 13, 2019, Hawaii-Southern California Training and Testing (HSTT) proposed rule (84 FR 48388; 2019 HSTT proposed rule);
- NMFS July 10, 2020, Hawaii-Southern California Training and Testing (HSTT) final rule (85 FR 41780; 2020 HSTT final rule);
- NMFS October 3, 2023, Hawaii-Southern California Training and Testing (HSTT) proposed rule (88 FR 68290; 2023 HSTT proposed rule);
- Navy October 13, 2017, MMPA rulemaking and LOA application (2017 Navy application);
- Navy March 11, 2019, MMPA rulemaking and LOA extension application (2019 Navy application);
- Navy March 31, 2022, MMPA rulemaking and LOA revision application (2022 Navy application); and
- October 26, 2018, Hawaii-Southern California Training and Testing (HSTT) Final Environmental Impact Statement/Overseas Environmental Impact Statement (FEIS/OEIS) (2018 HSTT FEIS/OEIS).

Description of the Specified Activity

The Navy requested authorization to take marine mammals incidental to conducting training and testing activities. The Navy has determined that acoustic and explosives stressors are most likely to result in impacts on marine mammals that could rise to the level of harassment. In addition to take by harassment, the Navy has determined that vessel movement may result in serious injury or mortality to marine mammals. Detailed descriptions of these activities are provided in chapter 2 of the 2018 HSTT FEIS/OEIS and in the 2017 Navy application.

Overview of Training and Testing Activities

The Navy routinely trains in the HSTT Study Area in preparation for national defense missions. Training and testing activities and components covered in the 2022 Navy application are described in detail in the *Overview of Training and Testing Activities* sections of the 2018 HSTT proposed rule, the 2018 HSTT final rule, and chapter 2 (*Description of Proposed Action and Alternatives*) of the 2018 HSTT FEIS/OEIS (*http://www.hstteis.com/*). Each military training and testing activity described meets mandated Fleet requirements to deploy ready forces. The Navy proposed no changes to the specified activities

described and analyzed in the 2018 HSTT final rule and subsequent 2020 HSTT final rule. The boundaries of the HSTT Study Area (see figure 2–1 of the 2019 Navy application); the dates and duration of the activities; and the training and testing activities (*e.g.,* equipment and sources used, exercises conducted) analyzed in this final rule are identical to those described and analyzed in the 2020 HSTT final rule and therefore, are not repeated herein. Please see the 2020 HSTT final rule for more information. The manner of vessel movement presented in this final rule is also identical to that analyzed in the 2020 HSTT final rule.

Vessel Strike

Vessel strikes are not specific to any particular training or testing activity but rather, a limited, sporadic, and incidental result of Navy vessel movement within the HSTT Study Area. Vessel strikes from commercial, recreational, and military vessels are known to seriously injure and occasionally kill cetaceans (Abramson *et al.* 2011; Berman-Kowalewski *et al.* 2010; Calambokidis, 2012; Douglas *et al.* 2008; Laggner, 2009; Lammers *et al.* 2003; Van der Hoop *et al.* 2012; Van der Hoop *et al.* 2013; Crum *et al.* 2019), although reviews of the literature on vessel strikes mainly involve collisions between commercial vessels and whales (Jensen and Silber, 2003; Laist *et al.* 2001). Vessel speed, size, and mass are all important factors in determining both the potential likelihood and impacts of a vessel strike to marine mammals (Conn and Silber, 2013; Gende *et al.* 2011; Silber *et al.* 2010; Vanderlaan and Taggart, 2007; Wiley *et al.* 2016). For large vessels, speed and angle of approach can influence the severity of a strike.

Navy vessels transit at speeds that are optimal for fuel conservation or to meet training and testing requirements. Small craft (for purposes of this analysis, less than 18 meters (m) in length) have much more variable speeds (0–50+ knots (kn; 0–92.6 kilometers (km) per hour), dependent on the activity). Submarines generally operate at speeds in the range of 8–13 kn (14.8–24.1 km per hour), and the average speed of large Navy ships range between 10 and 15 kn (18.5 and 27.8 km per hour). While these speeds are considered averages and representative of most events, some vessels need to operate outside of these parameters for certain times or during certain activities. For example, to produce the required relative wind speed over the flight deck, an aircraft carrier engaged in flight operations must adjust its speed through the water accordingly. Also, there are other instances when vessels would be dead in the water or moving slowly ahead to maintain steerage, such as launch and recovery of a small rigid hull inflatable boat; vessel boarding, search, and seizure training events; or retrieval of a target. There are a few specific events, including high-speed tests of newly constructed vessels, where vessels would operate at higher speeds. By comparison, this is slower than most commercial vessels where full speed for a container ship is typically 24 kn (44.4 km per hour; Bonney and Leach, 2010).

Large Navy vessels (greater than 18 m in length) within the offshore areas of range complexes and testing ranges operate differently from commercial vessels in ways that may reduce the probability of whale collisions. Surface ships operated by or for the Navy have multiple personnel assigned to stand watch at all times when a ship or surfaced submarine is moving through the water (underway). A primary duty of personnel standing watch on surface ships is to detect and report all objects and disturbances sighted in the water that may indicate a threat to the vessel and its crew, such as debris, a periscope, surfaced submarine, or surface disturbance. Per vessel safety requirements, personnel standing watch also report any marine mammals sighted in the path of the vessel as a standard collision avoidance procedure. All vessels proceed at a safe speed so they can take proper and effective action to avoid a collision with any sighted object or disturbance and can be stopped within a distance appropriate to the prevailing circumstances and conditions. As described in the *Standard Operating Procedures* section, the Navy utilizes Lookouts to avoid collisions, and Lookouts are also trained to spot marine mammals so that vessels may change course or take other appropriate action to avoid collisions. Should a vessel strike occur, we consider that it would likely result in incidental take in the form of serious injury and/or mortality and, accordingly, for the purposes of the analysis, we assume that any vessel strike would result in serious injury or mortality.

The Navy proposed no changes to the nature of the specified activities, the training and testing activities, the manner of vessel movement, the speeds at which vessels operate, the number of vessels that would be used during various activities, or the locations in which Navy vessel activity would be concentrated within the HSTT Study Area described in the 2018 HSTT final rule and referenced in the 2020 HSTT final rule.

Vessel Movement

Vessels used as part of the planned activities include ships, submarines, unmanned vessels, and boats ranging in size from small, 22 feet (ft; 7 m) rigid hull inflatable boats to aircraft carriers with lengths up to 1,092 ft (333 m). The average speed of large Navy ships ranges between 10 and 15 kn (18.5 and 27.8 km per hour) and submarines generally operate at speeds in the range of 8–13 kn (14.8–24.1 km per hour) while a few specialized vessels can travel at faster speeds. Small craft (for purposes of this analysis, less than 18 m in length) have much more variable speeds (0–50+ kn (0–92.6 km per hour), dependent on the activity) but generally range from 10 to 14 kn (18.5 to 25.9 km per hour). From unpublished Navy data, average median speed for large Navy ships in the HSTT Study Area from 2011–2015 varied from 5–10 knots (kn; 9.2–18.5 km per hour) with variations by ship class and location (*i.e.,* slower speeds close to the coast). While these speeds for large and small craft are representative of most events, some vessels need to temporarily operate outside of these parameters. Typical speed of Navy vessels in HSTT core high use areas from 2014–2018 were between 10 and 15 kn (18.5 and 27.8 km per hour; Starcovic and Mintz 2021). This core area is a region including the approaches to San Diego, and immediate offshore areas west of San Diego, centered north and south of San Clemente Island. A full description of Navy vessels that are used during training and testing activities can be found in the 2017 Navy application and chapter 2 (*Description of Proposed Action and Alternatives*) of the 2018 HSTT FEIS/OEIS.

The number of Navy vessels used in the HSTT Study Area varies based on military training and testing requirements, deployment schedules, annual budgets, and other dynamic factors. Most training and testing activities involve the use of vessels. These activities could be widely dispersed throughout the HSTT Study Area but would typically be conducted near naval ports, piers, and range areas. Navy vessel traffic would be especially concentrated near San Diego, California and Pearl Harbor, Hawaii. Based on historical data, we anticipate the annual number of at-sea hours by U.S. Navy vessels in the HSTT action area will be around 26,800 hours per year (Starcovic and Mintz 2021). We expect that about 25 percent of this vessel activity would occur within the Hawaii Range Complex

(HRC) and 75 percent within the Southern California Range Complex (SOCAL; Mintz 2016). There is no seasonal differentiation in Navy vessel use because of continual operational requirements from Combatant Commanders. The majority of large vessel traffic occurs between the installations and the OPAREAs. The transit corridor, notionally defined by the great circle route (*e.g.,* shortest distance) from San Diego to the center of the HRC, as depicted in the 2018 HSTT FEIS/OEIS, is generally used by ships transiting between SOCAL and HRC. While in transit, ships and aircraft would, at times, conduct basic and routine unit-level activities such as gunnery, bombing, and sonar training and maintenance. Of note, support craft would be more concentrated in the coastal waters in the areas of naval installations, ports, and ranges. Activities involving vessel movements occur intermittently and are variable in duration, ranging from a few hours up to weeks. More information on Navy and non-Navy vessel traffic patterns in the HSTT Study Area may be found in several studies prepared by the Navy (Starcovic and Mintz 2021; Mintz, 2016; Mintz and Filadelfo, 2011; Mintz, 2012; Mintz and Parker, 2006).

Foreign Navies

In addition, we note that in some cases, foreign militaries may participate in U.S. Navy training or testing activities in the HSTT Study Area. The Navy does not consider these foreign military activities as part of the ''specified activity'' under the MMPA, and NMFS defers to the applicant to describe the scope of its request for an authorization.

The participation of foreign navies varies from year to year, but overall is infrequent compared with Navy's total training and testing activities. The most significant joint training event is the Rim of the Pacific (RIMPAC), a multi-national training exercise held every-other-year 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 (Navy 2021). 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. In 2020, a RIMPAC year, foreign vessels participating in U.S. Navy-led events accounted for 32 at-sea days in the HRC from August through September (some of this activity occurred after the RIMPAC exercise). 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, twenty-five 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 HSTT (205 days out of an estimated 2,056 days at sea).

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 nautical miles (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. Exclusive Economic Zone, the U.S. Navy will encourage the foreign vessel to follow the U.S. Navy's mitigation measures for that particular event (Navy 2022a; Navy 2022b). In either scenario (*i.e.,* both within and beyond the territorial sea), U.S. Navy personnel will provide the foreign vessels participating with a description of the mitigation measures to follow.

According to the U.S. Navy, the May 2021 vessel strike of two fin whales by an Australian navy vessel did not occur while that vessel was participating in a U.S. Navy-led training exercise. The Royal Australian Navy vessel was adhering to its standard operating procedures at the time of the strike. The Royal Australian Navy provided a report of the incident, which is discussed below to inform our analysis.

NMFS analyzes the effects of these foreign military activities. First, effects of all past foreign military activities are captured in the baseline for the analysis, through marine mammal abundance estimates and population trends found in the Stock Assessment Reports (SARs). Second, NMFS considers foreign military activities, including recent strikes, qualitatively in this final rule. For instance, in preparing this rulemaking, NMFS and the U.S. Navy discussed the nature, frequency, and control over joint or U.S. Navy-led training and testing activities with foreign entities to identify opportunities to encourage foreign militaries to adopt mitigation. NMFS and the U.S. Navy examined the Royal Australian Navy 2021 strike report for any lessons that could inform U.S. Navy strike mitigation. NMFS considered the Royal Australian Navy strikes along with other recent U.S. Navy strikes to determine whether these strikes indicate an increased risk of strike by the U.S. Navy in this region during the early summer months. NMFS also considered the species struck in this incident, fin whales, along with other literature, when considering the likelihood of certain species to be struck by the U.S. Navy. NMFS considered the fact that two fin whales were struck by the Royal Australian Navy qualitatively when considering other fin whale population and mortality trends, as well as the authorized take, as part of the negligible impact analysis.

This final rule includes a new reporting measure that requires that the Navy's annual HSTT reports shall include confirmation 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 U.S. Navy's use of sonar and explosives, would not cause 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. This new reporting measure will allow NMFS to ensure that its analysis remains valid.

Standard Operating Procedures

For training and testing to be effective, personnel must be able to safely use their sensors and weapon systems as they are intended to be used in a real-world situation and to their optimum capabilities. While standard operating procedures (SOPs) are designed for the safety of personnel and equipment and to ensure the success of training and testing activities, their implementation often yields additional benefits on environmental, socioeconomic, public health and safety, and cultural resources. Because SOPs are essential to safety and mission success, the Navy considers them to be part of the proposed activities under the National Environmental Policy Act

(NEPA) and included them in the environmental analysis. We consider SOPs as part of Navy's specified activity for the purposes of MMPA but also, where procedures are utilized (even in part) to reduce impacts to marine mammal species and Navy's commitment to follow the measures are practicable, certain SOPs may also be required as mitigation. Details on SOPs were provided in the 2018 HSTT proposed rule; please see the 2018 HSTT proposed rule, the 2017 Navy application, and chapter 2 (*Description of Proposed Action and Alternatives*) of the 2018 HSTT FEIS/OEIS for more information.

As stated in its 2022 application, in 2018, the Navy updated its SOPs related to vessel safety to incorporate revised procedures regarding Lookouts for certain ship classes as per the 2021 Surface Ship Navigation Department Organization and Regulations Manual (NAVDORM). The 2021 NAVDORM requires the use of three Lookouts on Navy cruisers and destroyers as compared to the previous requirement of one Lookout when a vessel was underway and not engaged in sonar training or testing. However, as discussed in the Mitigation Measures section below, the Navy informed NMFS that requiring the additional Lookouts as mitigation is not practicable because this SOP may change in response to manning issues and national security needs. Further, since submission of its 2022 application, the Navy has updated its Lookout Training Handbook and implemented other training improvements, as described in the Mitigation Measures section (September 2022).

Comments and Responses

We published a proposed rule in the **Federal Register** on October 3, 2023 (88 FR 68290), with a 45-day comment period. That notice described, in detail, Navy's request for modification of the 2020 HSTT final rule and LOAs, new information regarding the occurrence of large whale strikes by naval vessels in the southern California portion of the HSTT Study Area and NMFS' proposal to authorize two additional takes of large whales by serious injury or mortality. In that notice, we requested public input on the proposed promulgation of modified regulations and associated LOAs for the Navy governing this additional incidental taking of marine mammals. During the 45-day comment period, we received 20 comment submissions. Of this total, one submission was from a non-governmental organization (NGO) and the remainder were from private citizens. NMFS has reviewed and considered all public comments received on the proposed rule and issuance of the LOAs. All substantive comments and our responses are described below. We organize our comment responses by major categories.

Take Estimates

Comment 1: A commenter recommended ensuring that any modifications to existing regulations or authorizations are based on recent and rigorous scientific evaluations. This can be achieved by conducting regular environmental impact assessments to account for changes in marine mammal populations and habitat conditions.

Response: NMFS concurs with the commenter that modifications to existing regulations or authorizations must be based on rigorous scientific evaluations. NMFS has conducted a rigorous scientific evaluation in the promulgation of this rulemaking and has used the best available science to inform its analysis. These final regulations and LOAs include reporting provisions to ensure compliance and that the most value is obtained from the required monitoring. Monitoring results are considered annually through the adaptive management process described in the Adaptive Management section herein. Further, incidental take authorizations for military readiness activities can be effective for no more than 7 years. Therefore, at minimum, NMFS must reconduct its analysis every 7 years, and in doing so, it considers changes in marine mammal populations and habitats in its analyses. However, during the effective period of an LOA(s), if NMFS were to find that the Navy's activities are having more than a negligible impact on a species or stock, NMFS is required to withdraw or suspend the LOA(s) for a certain time (16 U.S.C. 1371(a)(5)(B)).

Comment 2: A commenter stated that the 2022 Navy application is based on 50 CFR 216.015 [the commenter is likely referring to section 216.105], which allows incidental take regulations to ''be modified, in whole or in part, as new information is developed.'' The commenter asserted that the only ''new information'' in the 2022 application is the information that the Navy has already reached its 7-year take limit and that failure to meet our own standards does not constitute ''new information'' in the sense of 50 CFR 216.015. The commenter stated that ''new information'' for this purpose would be either (1) evidence that allowing two additional takes (and relaxing mitigation procedures as requested in the application) during this time period will have no impact on threatened cetacean populations or (2) a dramatic increase in the level of military activity in HSTT.

Response: 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. Under 50 CFR 216.105, as new information is developed, through monitoring, reporting, or research, the regulations may be modified, in whole or in part, after notice and opportunity for public review. On March 31, 2022, NMFS received an adequate and complete application from the Navy requesting that NMFS modify the existing regulations and LOAs to authorize two additional takes of large whales by serious injury or mortality by vessel strike over the remainder of the HSTT regulatory period based on probabilities derived from a Poisson distribution using new vessel strike data between 2009–2021 in the HSTT Study Area, as well as historical at-sea days in the HSTT Study Area from 2009–2015 and estimated at-sea days for the period from 2016 to 2025, informed by monitoring and reporting. NMFS independently analyzed the request based on updated vessel strike data and days-at-sea, as well as using updated probability methodology, and also determined that the strike of up to two large whales could occur over the remaining duration of the regulations. NMFS, following its own analysis and proposed rule, has determined it is appropriate to promulgate a revised final rule and LOAs pursuant to 16 U.S.C. 1371(a)(5)(A) and 50 CFR 216.105.

Comment 3: A commenter stated that Kuehne *et al.* (2020), referenced in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), indicates that noise from Navy aircraft penetrates more deeply into the water than the Navy or NMFS considered in their analyses. The commenter stated that the study found that noise from aircraft can permeate the water to at least 30 m and that the detected noise level (134 ± 3 dB re 1 µPa rms) exceeds volumes that can cause behavioral changes in marine mammals (Houser *et al.* 2013; Kastelein *et al.* 2012; Kuehne *et al.* 2020; Williams *et al.* 2002). The commenter asserted that, therefore, the Navy's reliance on this paper to assert that aircrafts do not impact marine mammals is misplaced, and the proposed rule's dismissal of the

study because it ''did not include behavioral observations of wildlife, and the authors' conclusions about potential impacts to wildlife were unsupported by data from the study'' ignores the valid bases for these conclusions.

Response: NMFS disagrees with the commenter that Kuehne *et al.* (2020) shows impacts to marine mammals from Navy's HSTT activities that were not considered by NMFS and the Navy in their respective analyses. As stated in the comment, the strongest one-second window of underwater sound measured by Kuehne *et al.* (2020) was 134 ± 3 dB RMS re 1 µPa rms at 30 m below the sea surface. While sound levels between the hydrophone and the surface may have been stronger than those measured at 30 m (Kuehne *et al.* 2020), for the reasons discussed in the 2023 HSTT proposed rule, there is no new information presented in this study to indicate that exposures closer to the surface or in air would have resulted in behavioral responses that would qualify as take by Level B harassment.

We conclude that the information presented in Kuehne *et al.* (2020) does not reveal effects of the action on marine mammals in a manner or to an extent not already considered. We reiterate that NMFS reviewed the Navy's analysis and conclusions that aircraft noise will not result in incidental take of marine mammals and finds the analysis and conclusions remain complete and supportable, as stated in the 2018 HSTT final rule and in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023). Please see section 3.7 (Marine Mammals) of the 2018 HSTT FEIS/OEIS for additional information. Of note, even if the sound level in the water were to exceed the Level B harassment threshold, a marine mammal would need to cross the path of the aircraft while the animal is relatively close to the surface in order for a take to occur, which is unlikely.

In addition to Kuehne *et al.* (2020), the commenter referenced several other studies that it described as indicating that other Navy activities in the HSTT Study Area may affect listed species to an extent not previously considered. These studies include Goldbogen *et al.* (2013), Pirotta *et al.* (2019), Pirotta *et al.* (2021), Pirotta et al (2022), Simonis *et al.* (2020), Southall *et al.* (2019), Southall *et al.* (2021), and Szesciorka *et al.* (2019). NMFS considered Pirotta *et al.* (2021), Pirotta *et al.* (2022), and Southall *et al.* (2021) in its 2023 HSTT proposed rule (88 FR 68290, October 3, 2023). NMFS considered Goldbogen *et al.* (2013) in the 2018 HSTT proposed rule (83 FR 29872, June 26, 2018) and 2018 HSTT final rule (83 FR 66846, December 27, 2018), and NMFS considered Southall *et al.* (2019) in the 2019 HSTT proposed rule (84 FR 48388, September 13, 2019). Pirotta *et al.* (2019) found that environmental changes could severely affect a population's vital rates, but that, depending on the context of a disturbance, individuals were tolerant of anthropogenic disturbance. Simonis *et al.* (2020) correlated strandings in the Mariana islands with naval activities. NMFS is aware of this study and has considered it along with global information related to the correlation of sonar with strandings in our analysis. In a case study of a close vessel encounter with a blue whale, Szesciorka *et al.* (2019) noted that the ship's reduced speed (*i.e.,* 11.3 kn (20.9 km per hour)) may have played a role by giving the whale enough time to respond to the nearby vessel and that higher vessel speeds increase the risk that a whale could have been struck at the surface or get close enough to the ship's draft that the propeller suction effect created by the ship's hydrodynamic flow could pull the whale toward the hull. Additionally, feeding whales may be distracted and thus be less capable of detecting and avoiding approaching vessels (Szesciorka *et al.* 2019). NMFS determined that the information presented in these studies does not substantively affect our analysis of impacts on marine mammals and their habitat that appeared in the 2023 HSTT proposed rule, all of which remains applicable and valid for our assessment of the effects of the Navy's activities during the 7-year period of this final rule. Please see NMFS' response to Comment 14 regarding vessel speed restrictions.

Comment 4: A commenter expressed support for Navy use of marine mammals for military purposes through its Marine Mammal Program. However, the commenter stated that to ''take'' mammals simply as a training opportunity via severe injury or mortality is unethical and to allow the killing of innocent animals as cross-fire or training shouldn't be tolerated.

Response: The actions the Navy takes through its Marine Mammal Program are outside the scope of this action; we note that no animals are intentionally exposed to serious injury or mortality through that program. For additional information about the Navy's Marine Mammal Program, please see the Navy's website at *https://www.niwcpacific.navy.mil/About/Departments/Intelligence-Surveillance-and-Reconnaissance/Marine-Mammal-Program/*.

Comment 5: A commenter stated that the recent whale deaths indicate that (1) NMFS' earlier assumptions that vessel strikes would be unlikely and easily detected if they did occur were proven wrong, (2) vessel strikes are occurring at rates well-above that analyzed in NMFS' analyses, (3) whales cannot avoid vessel strike at the level NMFS assumed in issuing the regulations, (4) and that sonar affects blue whales in ways not adequately considered.

Response: In the 2018 HSTT final rule, 2020 HSTT final rule, and 2023 HSTT proposed rule, NMFS described why a strike by a Navy vessel is unlikely in comparison to a strike by a non-Navy vessel, and that, overall, it is unlikely that the Navy would hit a large whale for these reasons. However, even in consideration of these factors that make vessel strike unlikely, given the history of vessel strike by the U.S. Navy in the HSTT Study Area, NMFS, in the 2018 and 2020 HSTT final rules concluded that vessel strikes could occur and that authorization of three takes by vessel strike was appropriate. Therefore, NMFS disagrees that the recent vessel strikes disprove NMFS' assumption that vessel strikes would be unlikely.

To date, NMFS is aware of three confirmed vessel strikes of large whales by U.S. Navy vessels during the current regulatory period. Therefore, the strikes that have occurred to date have been within what NMFS anticipated could occur, though, NMFS' current analysis suggests that two additional strikes may occur during the current regulatory period based on the best available scientific information since promulgation of the 2020 HSTT final rule.

NMFS further disagrees that the recent vessel strikes disprove NMFS' assumption that vessel strikes would be detected if they did occur. As demonstrated by the June 2021, July 2021, and May 2023 U.S. Navy strikes, NMFS is confident that whales struck by Navy vessels are detected and reported, and Navy strikes are the numbers used in NMFS' analysis to support the authorized number of strikes. Navy ships have multiple Lookouts, including on the forward part of the ship that can visually detect a hit whale (which has occasionally occurred), in the unlikely event ship personnel do not feel the strike. The Navy's strict internal procedures and mitigation requirements include reporting of any vessel strikes of marine mammals, and the Navy's 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 information used to support the analysis is accurate and complete. Regarding the 2021 Royal Australian Navy vessel strikes, while the U.S. Navy cannot speculate on the configurations of other ships bows and even sonar dome specifications (that may be at the bow), the Navy believes it would be implausible for a marine mammal to become lodged on the sonar dome of a U.S. Navy ship and remain undetected due to a technological standard operating procedure.

While the 2018 HSTT final rule, the 2020 HSTT final rule, and this final rule include mitigation to reduce the potential for vessel strike, NMFS neither states nor implies vessel strike avoidance of a particular ''level''. However, it is important that NMFS and the Navy consider the new information regarding vessel strikes in southern California consistent with 50 CFR 216.105(c). Consideration of this new information in an updated analysis allows NMFS to reassess its negligible impact determination and to determine whether additional potential mortality would still constitute a negligible impact on the potentially affected stocks, as it has determined would be the case here.

The commenter referenced several studies related to blue whales and sonar. Please see NMFS' response to Comment 3.

Comment 6: A commenter stated that NMFS should deny the Navy's request for authorization of two additional takes of large whales by vessel strike because for at least two of the impacted marine mammal stocks (Eastern North Pacific stock of blue whale and Central America/Southern Mexico—California/Oregon/Washington stock of humpback whale) mortality and serious injury already exceeds potential biological removal (PBR). The commenter stated that NMFS' reasoning for authorizing the take amounts to ''take by a thousand cuts'' and defies the stated purpose and objectives of the MMPA.

A commenter stated that NMFS may allow take of marine mammals incidental to military readiness activities only if the taking will have a ''negligible impact'' on an affected species or stock. The commenter further stated that as one court has explained, ''[b]ecause any mortality level that exceeds PBR will not allow the stock to reach or maintain its optimum sustainable population ('OSP'), such a mortality level could not be said to have only a 'negligible impact' on the stock.'' (See *Conservation Council for Hawai'i* v. *Nat'l Marine Fisheries Serv.,* 97 F. Supp. 3d 1210, 1225 (D. Haw. 2015); see also 54 FR 40338, 40341, 40342 (Sept. 29, 1989) (''In order to make a negligible impact finding, the proposed incidental take must not prevent a depleted population from increasing toward its OSP.'')). Indeed, NMFS itself has previously recognized that when mortality of a species is above its PBR, ''a negligible impact finding under section 101(a)(5)(A) cannot be made'' (61 FR 54,157, October 17, 1996).

Response: The commenter is correct that PBR for the Eastern North Pacific stock of blue whales and the Central America/Southern Mexico—California/Oregon/Washington stock of humpback whales is currently exceeded. However, NMFS is not authorizing take by mortality of the Central America/Southern Mexico—California/Oregon/Washington stock of humpback whales. In this final rule, NMFS is authorizing take of the Mainland Mexico-CA/OR/WA stock of humpback whale, and PBR is not exceeded for this stock. A stock's PBR is part of the best scientific information available and therefore, is considered in the negligible impact determination (see *Conservation Council for Hawai'i* v. *Nat'l Marine Fisheries Serv.,* 97 F. Supp. 3d 1210, 1228 (D. Haw. 2015)). However, exceedance of PBR does not inherently imply that a negligible impact determination cannot be made for an authorization that includes mortality or serious injury (M/SI) of that stock. As explained in the *Serious Injury or Mortality* subsection of the *Analysis and Negligible Impact Determination* section of the 2018 HSTT final rule and 2020 HSTT final rule, and referenced in the same section of this final rule, in the commercial fisheries setting for Endangered Species Act (ESA)-listed marine mammals (which is similar to the non-fisheries incidental take setting, in that a negligible impact determination is required that is based on the assessment of take caused by the activity being analyzed), NMFS may find the impact of the authorized take from a specified activity to be negligible even if total human-caused mortality exceeds PBR, 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). When those considerations are applied in the section 101(a)(5)(A) context here, the authorized lethal take (0.14 annually) of blue whales from the Eastern North Pacific stock is less than 10 percent of PBR (4.1) and there are management measures in place to address the mortality and serious injury from the activities other than those the Navy is conducting. For the complete discussion of how NMFS carefully considered potential mortalities from the Navy's activities in light of PBR levels, including an explanation for why mortality above PBR will not necessarily induce population-level non-negligible impacts, see the discussion in the Analysis and Negligible Impact Determination section of this rule, the 2020 HSTT final rule, and the 2018 HSTT final rule.

The commenter references a 1996 NMFS notice of receipt and request for comments (61 FR 54,157; October 17, 1996) that stated that a negligible impact finding under section 101(a)(5)(A) could not be made where PBR for the North Atlantic right whale stock was 0.4. The method that NMFS has articulated herein to evaluate negligible impact of potential mortality was adopted in 1999 to evaluate negligible impact pursuant to MMPA section 101(a)(5)(E). NMFS uses these same criteria adopted in 1999 to inform (*i.e.,* it is not the sole factor considered) our negligible impact analysis of potential mortality under section 101(a)(5)(A).

The 1996 decision that a negligible impact determination could not be made was regarding a request for take by mortality of North Atlantic right whale (61 FR 54,157; October 17, 1996)). PBR for North Atlantic right whale at that time was 0.4. If NMFS were to apply its current method for evaluating negligible impact of potential mortality to that request, the results would suggest that take by mortality should not be authorized (though again, the PBR evaluation is not the sole factor considered).

Comment 7: A commenter stated that the Navy and NMFS must consider serious injury and mortality that results from joint training exercises the Navy engages in with foreign nations as ''take'' under the regulations and that NMFS must reexamine the impacts of the Navy's full suite of activities (including joint activities with foreign fleets) on marine mammals using the best available science. In the proposed rule, NMFS states that ''[a]ccording to the U.S. Navy, the May 2021 vessel strike of two fin whales by an Australian navy vessel did not occur while that vessel was participating in a U.S. Navy-led training exercise. The Royal Australian Navy vessel was adhering to its standard operating procedures at the time of the strike.'' The commenter stated that this contradicts coverage of

the incident, including by the Navy Times/AP that reported: ''[t]he Sydney has been holding joint exercises with the U.S. Navy in the area since early April'' (The Navy Times, 2021).

The commenter stated that elsewhere in the rule, NMFS appears to say that regardless of whether it considered vessel strikes that occurred during joint training or not, NMFS lets the Navy decide what activities it requests authorization for, and there is no reasoned explanation provided for this position. These joint activities led by the U.S. Navy pose serious threats to marine mammals, kill whales, and should be included as specified activities. The commenter recommended that NMFS not ''defer to the applicant to describe the scope of its request for an authorization.''

Response: Under the MMPA, only a U.S. Citizen may request NMFS authorize the incidental take of marine mammals (16 U.S.C. 1371(a)(5)(A)). Further, the MMPA requires NMFS to authorize the incidental take caused by the applicant's specified activities, provided certain findings are made (*Id.*). In some cases, foreign militaries may participate in U.S. Navy training or testing activities in the HSTT Study Area. As stated in the proposed rule, the HMAS Sydney most likely struck the two fin whales around 6:25 a.m. the morning of May 7, 2021 while the HMAS Sydney was getting into position to participate in a U.S. Navy-led exercise later that day but was not actively engaged in an exercise at the presumed time of the strike. The Navy does not consider the Royal Australian Navy's vessel movements at the time of strike as part of the 'specified activity' under the MMPA, as the strike did not occur while the HMAS Sydney was actively participating in a joint training exercise with the U.S. Navy. The MMPA is necessarily an applicant-driven process (*Melone* v. *Coit,* 100 F.4th 21, 32 (1st Cir. 2024)) and NMFS has appropriately deferred to the Navy's reasoned explanation of why the Royal Australian Navy's operations were not part of the ''specified activity.''

As explained in the *Foreign Navies* section of this final rule, in preparing this rulemaking, NMFS and the U.S. Navy discussed the nature, frequency, and control over joint or U.S. Navy-led training and testing activities with foreign entities. Consistent with customary international law, U.S. Navy requests or encourages participating foreign entities to follow U.S. Navy's mitigation measures for that particular event, depending on whether the activity is in the U.S.'s territorial sea or the EEZ. NMFS and the U.S. Navy also examined the Royal Australian Navy 2021 strike report, and NMFS concurred with U.S. Navy's conclusion that the strike most likely occurred before, but not during, a joint exercise, and the Royal Australian Navy vessel was adhering to its standard operating procedures at the time of the strike.

As noted by the commenter in its letter, NMFS assessed the effects of foreign military activities. First, the impacts of all activities are captured in the baseline for the analysis, through marine mammal abundance estimates and population trends found in the SARs. Second, NMFS considers foreign military activities, including recent strikes, qualitatively in its analysis, as described in the *Foreign Navies* section of this final rule. For instance, NMFS and the U.S. Navy examined the Royal Australian Navy 2021 strike report for any lessons that could inform U.S. Navy strike mitigation.

This final rule includes a new reporting measure related to foreign vessels. The new measure requires that the Navy's annual HSTT reports shall include confirmation 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 U.S. Navy's use of sonar and explosives, did not cause exceedance of the analyzed levels (within each 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. This new reporting measure will allow NMFS to ensure that its analysis remains valid.

Comment 8: A commenter stated that it supports the Navy's request for two additional incidental takes of large whales by vessel strike. The commenter discussed a U.S. Supreme Court case, *Winter* v. *NRDC, Inc.,* 555 U.S. 7 (2008), in support of its assertion that preparing for war still plainly outweighs the interests in the safety of marine life. Considering these interests, the commenter recommended that NMFS consider granting the Navy's request for two additional incidental takes.

Response: NMFS has made the required findings on the Navy's request consistent with the statutory criteria under the MMPA and has authorized two additional takes of large whales by serious injury or mortality by vessel strike for the remainder of the current regulatory period (two takes in addition to the three takes authorized in the current regulations). NMFS does not weigh the necessity of Navy training and testing against the risks to marine mammals as part of the required analysis for issuance of take regulations under the MMPA. The MMPA requires NMFS to authorize the incidental take of marine mammals caused by specified activities upon request, provided certain findings are made (16 U.S.C. 1371(a)(5)(A)). NMFS' least practicable adverse impact determination for military readiness activities must include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity (16 U.S.C. 1371(a)(5)(a)(iii)).

Comment 9: A commenter noted NMFS' reference to Cure *et al.* (2021) and Isojunno *et al.* (2020) in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023) discussing sperm whale behavioral responses to exposure to pulsed active sonar (PAS) and continuous active sonar (CAS). The commenter stated that physical trauma, sensory impairment (PTS, TTS, and acoustic masking), physiological responses (particularly stress responses), and behavioral disturbances are all part of the harassment of the whales and that these factors have not been included in the ''take'' of the three whales already, only the mortalities have been counted. The commenter stated that even brief and transient exposure to modest levels of mid-frequency military sonar has been observed to cause whales to strand or perish at sea within hours (Dave, D.M., & Dave, M., 2023). These studies do not include the permanent injuries to these marine mammals' hearing and sonar capabilities. The commenter stated that effects on marine mammal hearing are not mentioned outside of some studies on stranding and should include more study and data collection by marine mammal experts when it comes to PTS and sonar damage to these animals due to the impact of the U.S. Navy's military ocean noise pollution.

Response: In the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), NMFS included a discussion of relevant literature that had published since publication of the 2020 HSTT final rule (85 FR 41780, July 10, 2020), and in this final rule, NMFS has included a discussion of relevant literature that has published since publication of the 2023 HSTT proposed rule. Herein, and in the 2023 HSTT proposed rule, NMFS discussed all relevant literature, not just that related to vessel strike. (See the New Pertinent Science Since Publication of the 2020 HSTT Final Rule section of the 2023 HSTT proposed rule and the Potential Effects of Specified Activities on Marine Mammals and their Habitat section of this final rule.)

The commenter's statement that ''even brief and transient exposure to modest levels of mid-frequency military sonar has been observed to cause whales to strand or perish at sea within hours'' is not supported. The proposed rule discussed the limited examples of when tactical active sonar, in certain circumstances, have been found to have likely contributed to marine mammal stranding events. The reference that the commenter cites (Dave, D.M. & Dave, M., 2023) states that ''even a brief and transient exposure to modest levels of mid-frequency military sonar has been observed to cause whales to strand or perish at sea within hours,'' citing Fernández *et al.* (2005) and NOAA and U.S. Department of the Navy (2001). These publications discuss two specific stranding events in the Canary Islands and the Bahamas, respectively. NMFS is aware of stranding events coincident with military MFAS use in which exposure to sonar is believed to have been a contributing factor and discussed these cases in detail in the 2018 HSTT proposed rule. While NMFS did not repeat this information in the 2023 proposed rule as the analyses remain unchanged, NMFS stated in the rule that we refer the reader to complete analyses described in the 2018 HSTT final rule or an updated analysis in the 2020 HSTT final rule, where appropriate.

It is unclear what the commenter means by physical trauma, sensory impairment (PTS, TTS, and acoustic masking), physiological responses (particularly stress responses), and behavioral disturbances not having been included in the ''take'' of the three whales already, and that only the mortalities have been counted. In the 2020 HSTT final rule, NMFS discussed all of the likely impacts to marine mammals, including PTS, TTS, masking, and stress, and authorized take of marine mammals by Level B harassment, Level A harassment, and mortality. The 2023 HSTT proposed rule and this final rule only discuss changes to NMFS' analysis regarding mortality of marine mammals in detail, and refer back to the 2018 HSTT proposed and final rules and the 2020 HSTT final rule regarding take by Level A harassment and Level B harassment. However, NMFS' analysis, including its negligible impact determination, takes into consideration the total authorized take, not just mortality.

Comment 10: A commenter stated that in addition to blue, humpback, and fin whales, the Navy also identifies other large whales in its request (Bryde's whales, gray whales, minke whales, sperm whales, and sei whales) which are also all vulnerable to vessel strikes (Laist *et al.* 2001, Glass *et al.* 2008, and van der Hoop *et al.* 2015). NMFS' 2023 HSTT proposed rule (88 FR 68290, October 3, 2023) determined that the likelihood of vessel strikes to those whales is ''discountable'' due to their relatively low occurrence in the HSTT Study Area and the fact that they have rarely, if ever, been recorded struck by vessels. Due to the fact that reported collisions vastly underestimate actual strikes, the commenter asks NMFS and the Navy to approach vessel strikes and other harm very conservatively, particularly in light of how some of these whales are particularly vulnerable to vessel strike and at already-small population levels, as detailed in the commenter's July 1, 2022 letter.

Response: NMFS concurs with the commenter that all large whales are vulnerable to vessel strike, and that reported vessel strikes vastly underestimate actual strikes across many industries generally. However, NMFS has already conducted a conservative vessel strike analysis. While all large whales are vulnerable to vessel strike, it would be inappropriate to assume that all large whales that occur in the HSTT Study Area are likely to be struck by U.S. Navy vessels.

Of note, the commenter is correct that NMFS does not anticipate vessel strike of Bryde's whale, minke whale, or sperm whale. However, NMFS did propose to authorize take by M/SI by vessel strike of sei whale and Eastern North Pacific gray whale in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023) and would authorize such take in this final rule. NMFS proposed authorizing one take (0.14 takes annually) of sei whale (Eastern North Pacific stock) and four takes (0.57 takes annually) of Eastern North Pacific gray whale.

Regarding stocks for which take by M/SI by vessel strike was not proposed, as stated in the proposed rule, 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 in the 7-year period of the rule. This includes Bryde's whale, minke whale, and the CA/OR/WA stock of sperm whale raised by the commenter (an individual of the Hawaii stock of sperm whale was struck in 2007; see table 7 of this final rule). Stocks that have never been struck by the Navy, 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 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. Further, it is unlikely that the Hawaii stock of sperm whale would be struck given the zero percent likelihood of striking a sperm whale as indicated by the quantitative analysis in the *Estimated Take From Vessel Strikes and Explosives by Serious Injury or Mortality Vessel Strike* section of the proposed rule and the *Authorized Take From Vessel Strikes and Explosives by Serious Injury or Mortality* section in this final rule. Vessel strikes of the Hawaii stock of sperm whale are also unlikely given the fact that the last U.S. Navy strike of a Hawaii stock sperm whale was in 2007, before the mitigation updates discussed above, and that, with the exception of humpback whales, vessel strikes (both military and non-military) of other large whale species in the HRC are extremely rare events (Carretta 2021b; Carretta 2022). Given this analysis, NMFS concludes that the proposed take by M/SI by vessel strike included in the proposed rule remains appropriately conservative, and has not included take by M/SI by vessel strike of Bryde's whale, Western North Pacific gray whale, minke whale, or sperm whale in this final rule.

Comment 11: A commenter stated that aside from excluding impacts from foreign vessels, the proposed rule looks at the impacts of vessel strikes on large whales almost in isolation and does not adequately assess new science on the combined impacts of the Navy's activities, in particular on large whales. The commenter asserted that while the Navy acknowledges that sonar and aircraft may affect whales, it does not adequately consider the extent of these impacts. Any analysis of the impacts of the Navy's exercises must include, in addition to vessel strike impacts, the impacts from sonar activities of domestic vessels and foreign vessels involved in joint training exercises and any other stressor caused by the Navy's activities. The commenter also asserted that the Navy's literature review does not adequately focus on the large baleen whales that are of concern in this most recent request.

The commenter stated that as it noted in its July 2022 letter, in its review of sound effects on animals, the Navy focuses heavily on pinnipeds (seals and sea lions) and odontocetes (dolphins and toothed whales), while their request for increased take focuses on mysticetes

(baleen whales). Mysticetes' hearing systems are different from those of pinnipeds and odontocetes, and so while they are closely related one cannot infer that each group will experience the same effects from sound pollution (Southall *et al.* 2019). Mysticetes' cochlea have their own unique shape, which in concert with the larger mass of baleen whales indicates that they are more sensitive to low-frequency sound (Southall *et al.* 2019). Though auditory capabilities in baleen whales are understudied (Southall *et al.* 2019), absence of literature on baleen whales does not indicate absence of effect. The commenter stated that furthermore, the Navy ignored key papers studying the effect of sonar on baleen whales. It specifically stated that the Navy failed to consider, and NMFS failed to address in its proposed rule, Goldbogen *et al.* (2013), and further references Southall *et al.* (2019) and Southall *et al.* (2021).

Response: NMFS disagrees with the commenter that the proposed rule looks at the impacts of vessel strikes on large whales almost in isolation and does not adequately assess new science on the combined impacts of the Navy's activities, in particular on large whales. While NMFS did not repeat discussion of a portion of the analysis that did not change (*e.g.,* takes by harassment), this analysis was incorporated into the proposed rule and this final rule by reference, and NMFS considered those impacts in conjunction with the updated M/SI analysis in making its determinations.

NMFS further disagrees that the literature review should have focused on large baleen whales. In the proposed rule (88 FR 68290, October 3, 2023), and in this final rule, NMFS' literature review discussed recent literature concerning potential impacts from all of the Navy's activities, not just those related to vessel strike. As the commenter has noted in its letter, NMFS must consider the full range of effects of the Navy's activity, not just the potential for vessel strike of large whales in isolation. NMFS agrees with the commenter that an absence of literature on baleen whales does not indicate an absence of effects, nor has NMFS drawn such a conclusion. Rather, NMFS conducted a thorough analysis on the impacts of the Navy's activities, including sonar and explosive use, on mysticetes, as well as other taxa, as described in the proposed rule and this final rule, which in some cases, reference the 2018 (83 FR 66846, December 27, 2018) and 2020 HSTT final rules (85 FR 41780, July 10, 2020). Regarding the specific studies that the commenter asserts NMFS failed to consider, while not directly cited to in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), NMFS considered and cited Goldbogen *et al.* (2013) in the 2018 (83 FR 66846, December 27, 2018) and 2020 HSTT final rules (85 FR 41780, July 10, 2020), and the Navy considered and cited this paper in the 2018 HSTT EIS/OEIS. NMFS considered and cited Southall *et al.* (2019) and Southall *et al.* (2021) in the 2023 HSTT proposed rule.

Please see NMFS' response to Comment 7 regarding foreign vessels.

Comment 12: A commenter stated that the rule overlooks the likelihood that the Navy's activities will take humpback whales from the endangered Central America distinct population segment (DPS). The commenter stated that its read of the science is that most of the humpback whale deaths that occur off California could be from the endangered Central America DPS. The commenter further stated that Wade *et al.* (2017) predicted a 67.2 percent movement probability for a whale in California to move to Central America. In other words, an estimated 7.056 Central America DPS humpback whales could die from vessel strikes off California annually (10.5 deaths * 0.672). The commenter stated in its letter that applying the Rockwood *et al.* (2021) model, 10.5 humpback mortalities occur annually off California from the January to April and July to November periods combined. The commenter stated that this does not include potential deaths from other sources or in other locations yet still represents a significant source of mortality for this already endangered population.

Response: NMFS carefully considered the potential for each stock of large whales to be taken by serious injury or mortality by vessel strike. As stated in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), regarding the likelihood of striking a humpback whale from a particular DPS, NMFS evaluated the relative abundance of each of these DPS in California waters. Curtis *et al.* (2022) estimated the abundance of the Central America DPS to be 1,496 whales. From Wade *et al.* (2017), about 93 percent (or 1,391 whales) of these humpbacks that winter in Central America will move to Oregon/California in the summer months. While there is currently no abundance estimate for the Mexico DPS, an estimated 3,477 whales from the Mexico DPS feed off the U.S. West Coast (Calambokidis and Barlow 2020; Curtis 2022). Based on this information, we estimate that approximately 30 percent of the humpback whales off the coast of California may be from the Central America DPS and the remaining 70 percent are expected to be from the Mexico DPS. Therefore, we anticipate that if a Navy vessel strike of a humpback whale were to occur within SOCAL, it would likely be from the Mexico DPS.

The commenter is correct that Wade *et al.* (2017) predicts that 67.2 percent of whales that summer in Oregon and California will move to Central America for the winter. However, NMFS disagrees with the commenter's implication that it is more appropriate for NMFS to assume that 67.2 percent of humpbacks off of California are of the Central America DPS, and the commenter has not provided justification for doing so. (Of note, an updated paper from Wade (2021) shows that 58 percent of whales that summer in Oregon and California will move to Mexico (only 42 percent will move to Central America)). Rather, NMFS continues to find that it is appropriate to use the abundance estimates described above and the estimate that approximately 93 percent of humpbacks that winter in Central America will move to Oregon/California in the summer months to determine the relative abundance of each DPS off the coast of California. Therefore, NMFS continues to conclude that if a Navy vessel strike of a humpback whale were to occur within SOCAL, it would likely be from the Mexico DPS.

Mitigation and Monitoring

Comment 13: A commenter stated that in addition to strengthening the new and revised mitigation measures that NMFS included in the 2023 HSTT proposed rule, it should also require the following additional mitigation measures to ensure the least practicable adverse impact to marine mammals. The commenter noted that it and others have requested and expounded upon these measures in previous comment letters.

1. Reinstating more protective mitigation areas and restricted training exercises in key migration corridors, feeding habitat, and other biologically important areas (BIAs) and creating/expanding protective mitigation areas to protect newly recognized critical habitat and other BIAs. In a related comment, a separate commenter stated that the chances of an incidental take can be dramatically reduced by adjusting the time and location of exercises (*e.g.,* minimizing activity in the vicinity of California's Channel Islands during July–October) and reducing speed in mitigation areas. The commenter further asserted that additional BIAs identified by Kratofil *et al.* 2023 provide new

information that necessitates reevaluation of mitigation measures, yet NMFS rejects adding these new mitigation areas as ''impracticable.'' A third commenter stated that it is crucial to integrate scientific research, public awareness, and proactive measures to ensure the sustained well-being of gray whales and the preservation of their migratory habitats.

2. Restricting activities when whale detection is particularly difficult, such as periods of low visibility (Williams *et al.* 2016).

3. Improving detection of marine mammals by adding alternative detection methods, including safe/environmentally-sound drone, thermal, and/or acoustic technologies, to lookouts/observers (Verfuss *et al.* 2018). In a related comment, a commenter recommended utilizing existing acoustic detection systems to track marine mammals in near real-time.

4. Capping/reducing the level of naval activities authorized each year, in particular major exercises. In a related comment, a separate commenter stated that it is crucial to limit the [Navy]'s takes on marine mammals.

5. Halting training exercises when whale presence in the area is ''High'' or ''Very High,'' per WhaleSafe (see *https://whalesafe.com*).

Response: Under the MMPA, NMFS' least practicable adverse impact determination for military readiness activities must include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity (16 U.S.C. 1371(a)(5)(a)(iii)). NMFS has responded to these recommended measures, by corresponding number.

1. In the 2023 HSTT proposed rule, NMFS discussed that since publication of the 2020 HSTT final rule, Kratofil *et al.* (2023) identified updated BIAs in Hawaii. The HSTT Study Area overlaps the updated BIAs for small and resident populations of the following species in Hawaii: 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 HSTT Study Area overlaps updated BIAs for humpback whale reproduction in Hawaii. The updated BIAs overlap critical Navy training and testing areas within the HSTT Study Area, including most of the internal Navy operating areas. Please see Kratofil *et al.* (2023) for additional details about the BIAs.

Since publication of the 2023 HSTT proposed rule, Calambokidis *et al.* (2024) identified updated BIAs on the West Coast of the U.S. The HSTT Study Area overlaps feeding BIAs for blue whale and fin whale in SOCAL. Additionally, it overlaps a reproductive BIA as well as northbound and southbound migratory BIAs for gray whale. Please see Calambokidis *et al.* (2024) for additional details about the BIAs.

NMFS and the Navy considered additional mitigation areas (beyond those already identified with associated measures to reduce impacts to marine mammals) to further protect marine mammals, including odontocetes with small or resident populations in the HSTT Study Area, and large whales with feeding, reproductive, and migratory BIAs in the HSTT Study Area. This includes consideration of new mitigation areas that could be based on newly identified BIAs in Hawaii (Kratofil *et al.* 2023) and on the West Coast (Calambokidis *et al.* 2024). The HRC overlaps BIAs identified in Kratofil *et al.* (2023) for humpback whale, 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. All of the BIAs that overlap the HRC are small and resident population BIAs, with the exception of the humpback whale reproductive BIA. SOCAL overlaps BIAs identified in Calambokidis *et al.* (2024) for blue whale (feeding area), fin whale (feeding area), and gray whale (migratory route).

Additional restrictions in mitigation areas beyond those restrictions and areas included in the 2020 HSTT final rule (including mitigation to reduce vessel strike risk such as vessel speed restrictions, and in consideration of the newly identified BIAs (Kratofil et al. 2023 and Calambokidis et al. 2024)) is impracticable given overlap with critical Navy training areas in the HRC and SOCAL, including areas around the Channel Islands in SOCAL. However, many of the BIAs identified in Kratofil *et al.* 2023 and Calambokidis *et al.* (2024) partially or fully overlap the mitigation areas included in the 2020 HSTT final rule and this final rule and are aimed at reducing impacts to the same species for which Kratofil *et al.* 2023 and Calambokidis *et al.* (2024) identified BIAs. In the HRC, the existing mitigation areas are targeted and expected to reduce impacts to humpback whales, false killer whales, dwarf sperm whales, pygmy killer whales, short-finned pilot whales, melon-headed whales, bottlenose dolphins, spotted dolphins, spinner dolphins, rough-toothed dolphins, goose-beaked whales, and Blainville's beaked whales (*i.e.,* all species for which Kratofil *et al.* (2023) identified BIAs). In SOCAL, the existing mitigation areas are aimed at reducing impacts to blue whales, fin whales, and gray whales (*i.e.,* all species for which Calambokidis *et al.* (2024) identified BIAs). Further, as included in the 2023 HSTT proposed rule, this final rule requires that Navy personnel must issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in a select area of SOCAL, and that Navy personnel must send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area. Last, this final rule includes modification of two mitigation measures from the 2020 HSTT final rule (85 FR 41780; July 10, 2020) to further reduce the potential for vessel strike.

Beyond the papers described herein, NMFS is not aware of, nor have commenters provided, additional research that suggests other areas warrant additional mitigation. While NMFS agrees with the commenter that public awareness can be an important part of gray whale conservation, NMFS does not anticipate that additional public awareness would assist in mitigating effects of Navy's activities on gray whales, and therefore, has not required the Navy to implement measures related to public awareness. For a discussion of the mitigation measures required by this final rule, please see the Mitigation Measures section.

Please see NMFS' response to Comment 14 regarding vessel speed restrictions.

2. Anti-submarine warfare training involving the use of mid-frequency active sonar (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, *etc.*). 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.

3. The Navy has compiled information related to the effectiveness of certain equipment to detect marine mammals in the context of their activities, as well as the practicality and effect on mission effectiveness of using various equipment. NMFS has reviewed this evaluation and concurs with the characterizations and the conclusions below.

Thermal detection—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. 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. In one study, a false positive rate approaching one incorrect notification per 4 min of observation was noted.

The Navy has been investigating the use of thermal detection systems with automated marine mammal detection algorithms for future mitigation during training and testing, including on autonomous platforms. Thermal detection technology being researched by the Navy, which is largely based on existing foreign military grade hardware, is designed to allow observers and eventually automated software to detect the difference in temperature between a surfaced marine mammal (*i.e.,* the body or blow of a whale) and the environment (*i.e.,* the water and air). Although thermal detection may be reliable in some applications and environments, the current technologies are limited by their: (1) Low sensor resolution and a narrow field of view, (2) reduced performance in certain environmental conditions, (3) inability to detect certain animal characteristics and behaviors, and (4) high cost and uncertain long-term reliability.

Thermal detection systems for military applications are deployed on various Department of Defense (DoD) platforms. These systems were initially developed for night time targeting and object detection such as a boat, vehicle, or people. 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, not optimized for marine mammal detection, 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. One example of trying to use existing DoD thermal systems is being proposed by the U.S. Air Force. The Air Force agreed to attempt to use specialized U.S. Air Force aircraft with military thermal detection systems for marine mammal detection and mitigation during a limited at-sea testing event. It should be noted, however, that these systems are specifically designed for and integrated into a small number of U.S. Air Force aircraft and cannot be added or effectively transferred universally to Navy aircraft. The effectiveness remains unknown in using a standard DoD thermal system for the detection of marine mammals without the addition of customized system-specific computer software to provide critical reliability (enhanced detection, cueing for an operator, reduced false positive, *etc.*)

Finally, current DoD thermal sensors are not always 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 combination of thermal technology and automated algorithms are still undergoing demonstration and validation under Navy funding.

Thermal detection systems specifically for marine mammal detection have not been sufficiently studied both in terms of their effectiveness within the environmental conditions found in the HSTT Study Area and their compatibility with Navy training and testing (*i.e.,* polar waters vs. temperate waters). The effectiveness of even the most advanced thermal detection systems with technological designs specific to marine mammal surveys is highly dependent on environmental conditions, animal characteristics, and animal behaviors. At this time, thermal detection systems have not been proven to be more effective than, or equally effective as, traditional techniques currently employed by the Navy to observe for marine mammals (*i.e.,* naked-eye scanning, hand-held binoculars, high-powered binoculars mounted on a ship deck). Focusing on thermal detection systems could also provide a distraction from and compromise to the Navy's ability to implement its established observation and mitigation requirements. Last, the Navy does not have available manpower to add Lookouts to use thermal detection systems in tandem with existing Lookouts who are using traditional observation techniques.

The Defense Advanced Research Projects Agency funded six initial studies to test and evaluate infrared-based thermal detection technologies and algorithms to automatically detect marine mammals on an unmanned surface vehicle. Based on the outcome of these initial studies, the Navy is pursuing additional follow-on research efforts.

The Office of Naval Research Marine Mammals and Biology program funded a project (2013–2019) to test the thermal limits of infrared-based automatic whale detection technology. That project focused on capturing whale spouts at two different locations featuring subtropical and tropical water temperatures, optimizing detector/classifier performance on the collected data, and testing system performance by comparing system detections with concurrent visual observations. Results indicated that thermal detection systems in subtropical and tropical waters can be a valuable addition to marine mammal surveys within a certain distance from the observation platform (*e.g.,* during seismic surveys, vessel movements), but have challenges associated with false positive detections of waves and birds (Boebel, 2017). While Zitterbart *et al.* (2020) reported on the results of land-based thermal imaging of passing whales, their conclusion was that thermal technology under the right conditions and from land can detect a whale within 3 km although there could also be lots of false positives, especially if there are birds, boats, and breaking waves at sea.

The Navy's Living Marine Resources program is funding one ongoing thermal imaging project entitled ''Thermal Imaging for Vessel Strike Mitigation on Autonomous Vessels Project 68''. The project is focused on adapting and testing two thermal imaging-based whale detection systems to reduce the potential for vessel strike during navigation of unmanned Navy surface vessels. Phase one is planned for 2024 and 2025. The schedule for subsequent phases will be determined as work progresses. Project details are available at: *https://exwc.navfac.navy.mil/Portals/88/Documents/EXWC/Environmental_Security/Living%20Marine%20Resources/LMRFactSheet_Project68.pdf.*

The Navy plans to continue researching thermal detection systems for marine mammal detection to determine their effectiveness and compatibility with Navy applications. If the technology matures to the state where thermal detection is determined to be an effective mitigation tool during training and testing, NMFS and the Navy will assess the practicability of using the technology during training and testing events and retrofitting the Navy's observation platforms with thermal detection devices. The assessment will include an evaluation of the budget and acquisition process (including costs associated with designing, building, installing, maintaining, and manning the equipment); logistical and physical considerations for device installment, repair, and replacement (*e.g.,* conducting engineering studies to ensure there is no electronic or power interference with existing shipboard systems); manpower and resource considerations for training personnel to effectively operate the equipment; and considerations of potential security and classification issues. New system integration on Navy assets can entail up to 5 to 10 years of effort to account for acquisition, engineering studies, and development and execution of systems training. The Navy will provide information to NMFS about the status and findings of Navy-funded thermal detection studies and any associated practicability assessments at the annual adaptive management meetings.

Passive Acoustic Monitoring—Regarding the recommendation to utilize existing acoustic detection systems to track marine mammals in near real-time, the Navy does employ passive acoustic monitoring when practicable to do so (*i.e.,* when assets that have passive acoustic monitoring capabilities are already participating in the activity). For other explosive events, there are no platforms participating that have passive acoustic monitoring capabilities. Adding a passive acoustic monitoring capability (either by adding a passive acoustic monitoring device to a platform already participating in the activity, or by adding a platform with integrated passive acoustic monitoring capabilities to the activity, such as a sonobuoy) for mitigation is not practicable. As discussed in chapter 5 (Mitigation), section 5.5.3 (Active and Passive Acoustic Monitoring Devices) of the 2018 HSTT FEIS/OEIS, there are significant manpower and logistical constraints that make constructing and maintaining additional passive acoustic monitoring systems or platforms for each training and testing activity impracticable. Additionally, diverting platforms that have passive acoustic monitoring platforms would impact their ability to meet their Title 10 requirements for maintaining military readiness and reduce the service life of those systems.

The use of real-time PAM for mitigation at the Southern California Anti-submarine Warfare Range (SOAR) exceeds the capability of current technology. The Navy has a significant research investment in the Marine Mammal Monitoring on Navy Ranges (M3R) system at three ocean locations including SOAR. However, this system was designed and intended to support marine mammal research for select species, and not as a mitigation tool. Marine mammal PAM using instrumented hydrophones is still under development and while it has produced meaningful results for marine species monitoring, abundance estimation, and research, it was not developed for, nor is it appropriate for, real-time mitigation. The ability to detect, classify, and develop an estimated position (and the associated area of uncertainty) differs across species, behavioral context, animal location vs. receiver geometry, source level, *etc.*

Based on current capabilities, and given adequate time, vocalizing animals within an indeterminate radius around a particular hydrophone are detected, but obtaining an estimated position for all individual animals passing through a predetermined area is not assured. Detecting vocalizations on a hydrophone does not determine whether vocalizing individuals would be within the established mitigation zone in the timeframes required for mitigation. Since detection ranges are generally larger than current mitigation zones for many activities, this would unnecessarily delay events due to uncertainty in the animal's location and put at risk event realism. If an event were to be moved based upon low-confidence localizations, it may inadvertently be moved to an area where non-vocalizing animals of undetermined species are present.

To develop an estimated position for an individual, it must be vocalizing and its vocalizations must be detected on at least three hydrophones. The hydrophones must have the required bandwidth, and dynamic range to capture the signal. In addition, calls must be sufficiently loud so as to provide the required signal to noise ratio on the surrounding hydrophones. Typically, small odontocetes echolocate with a directed beam that makes detection of the call on multiple hydrophones difficult. Developing an estimated position of selected species requires the presence of whistles which may or may not be produced depending on the behavioral state. Beaked whales at SOAR vocalize only during deep foraging dives which occur at a rate of approximately 10 per day. They produce highly directed echolocation clicks that are difficult to simultaneously detect on multiple hydrophones. Current real-time systems cannot follow individuals and at best produce sparse positions with multiple false locations. The position estimation process must occur in an area with hydrophones spaced to allow the detection of the same echolocation click on at least three hydrophones. Typically, a spacing of less than 4 km

in water depths of approximately 2 km is preferred. In the absence of detection, the analyst can only determine with confidence if a group of beaked whales is somewhere within 6 km of a hydrophone. Beaked whales produce stereotypic click trains during deep (500 m) foraging dives. The presence of a vocalizing group can be readily detected by an analyst by examining the click structure and repetition rate. However, estimating position is possible only if the same train of clicks is detected on multiple hydrophones which is often precluded by the animal's narrow beam pattern. Currently, this is not an automated routine.

In summary, the analytical and technical capabilities required to use PAM such as M3R at SOAR as a required mitigation tool are not sufficiently robust to rely upon due to limitations with near real-time classification and determining estimated positions. The level of uncertainty as to a species presence or absence and location are too high to provide the accuracy required for real-time mitigation. As discussed in chapter 5 (Mitigation) of the 2018 HSTT FEIS/OEIS, existing Navy visual mitigation procedures and measures, when performed by individual units at-sea, still remain the most effective and practical means of protection for marine species.

NMFS is not requiring drones to be used at this time and the commenters did not provide information supporting the recommendation that they be used when considering the extensive monitoring by Lookouts required.

4. The commenters neither offer a rationale for why a cap on the level of activities is needed nor do they suggest what an appropriate cap might be. The Navy is responsible under Title 10 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 Mitigation Measures section, the Navy has determined that it is practicable to limit activities (active sonar, explosive use, *etc.*) to varying degrees in five 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 and is required by this final rule to do so.

5. During the promulgation of this rule, NMFS and the Navy fully explored the potential for the Navy to incorporate WhaleSafe into its mitigation methods. However, the current WhaleSafe operational areas (Santa Barbara Channel and off the coast of San Francisco) do not overlap the HSTT Study Area. As such, while WhaleSafe can inform whale occurrence in other areas of Southern California, it is not an appropriate tool for determining mitigation actions in the HSTT Study Area, and NMFS has not required the Navy to halt training exercises when WhaleSafe indicates that whale presence in the area is ''high'' or ''very high'' as suggested by the commenter. However, NMFS has recommended to the Navy, including as a conservation recommendation in the 2024 reinitiated Biological and Conference Opinion, that it explore funding options and seek partnership opportunities for the development of a mapping and analysis tool that integrates acoustic and visual whale detections with model predictions to display near real-time whale presence data within the SOCAL and nearby surrounding areas. Information generated by such a tool could then be used by Navy, and potentially non-military, vessels to reduce the risk of large whale vessel strike in Southern California.

Comment 14: A commenter stated that NMFS must substantially strengthen mitigation measures, including requiring more effective measures to protect large whales from vessel strikes, before issuing any additional take authorizations to the Navy. The commenter stated that NMFS rejected other mitigation measures, such as requiring vessels used in the Navy's activities to slow to 10 kn (18.5 km per hour) or less in certain BIAs to reduce the risk of vessel strikes, by downplaying the risk of vessel strikes to endangered whales and other species impacted by the Navy's activities. The commenter stated that NMFS' proposed modifications to the mitigation measures fall short of meeting the least practicable adverse impact standard. Commenters provided several specific recommendations for mitigation measures.

1. The 2023 HSTT proposed rule included a revised mitigation measure that states ''if marine mammals are observed, Navy personnel must maneuver (which may include reducing speed as the mission or circumstances allow) to maintain distance.'' The reference to reducing speed as the mission or circumstances allow is a revision from the measure in the 2020 HSTT final rule. The commenter stated that this measure should be mandatory in important whale habitat, where whales are known to occur, and where vessel strikes have occurred or are expected to occur, and should be implemented in these areas even when whales have not been observed by Lookouts. Another commenter recommended focusing on vessel speeds and their impact on marine mammal safety to mitigate the risks associated with high-speed vessel travel and including revised protocols.

2. The 2023 HSTT proposed rule also requires that Navy personnel must send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area. The commenter stated that NMFS should attach specific actions required of other vessels in the area, including a 10 kn (18.5 km per hour) ship speed, when a Navy vessel strike has been reported, in order to reduce the risk of further strikes. The commenter stated that these alerts should also go to non-Navy vessels in the vicinity that pose a risk to whales.

3. The 2023 HSTT proposed rule modified the requirement for awareness messages disseminated in Southern California. The commenter stated that it supports the use of more accurate seasonal information to inform large whale awareness messages, but expects awareness and alerts to be tied to more robust mitigation action, and recommends that if a marine mammal is spotted, NMFS should require a mandatory 10 kn (18.5 km per hour) ship speed limit.

4. The 2023 HSTT proposed rule also contains a new mitigation measure in which Navy personnel would issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in a select area of SOCAL (Of note, the four whales do not have to be the same species and do not have to be part of the same group (*e.g.,* two whales of one species sighted at a distance off the port side at 500 yards (yd; 457.2 m) and two more whales of another species sighted off the starboard side at 500 yd (457.2 m) would be considered an aggregation under this measure)). The commenter recommended that (a) this should apply any time a whale is sighted (*i.e.,* Navy should not have to observe at least four whales to trigger this measure), (b) this should have no geographic limitation, and (c) this should trigger a mandatory 10 kn (18.5 km per hour) ship speed limit.

5. A commenter stated that the Navy will evaluate future revisions to online or DVD Marine Species Awareness Training (MSAT) video training to emphasize that when a protected species is spotted, this may be an indicator that additional marine

mammals are present and nearby, and the vessel should take this into consideration when transiting. The commenter stated that this purported mitigation measure should be more forceful; when a protected species is spotted, protective actions must result.

Response: Under the MMPA, NMFS' least practicable adverse impact determination for military readiness activities must include consideration of personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activity (16 U.S.C. 1371(a)(5)(a)(iii)). The recommendation for NMFS to require, in some cases a reduction in speed, and in other cases a 10 kn (18.5 km per hour) speed limit, generally speaking, is impracticable because these speed reductions and further reductions to Navy vessel speeds negatively impact mission effectiveness. The Navy is unable to impose a 10 kn (18.5 km per hour) ship speed limit because it would not be practical to implement and would impact the effectiveness of Navy's activities by putting constraints on training and testing. The Navy requires flexibility in the 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 Navy's analysis of these additional restrictions and the impacts they would have on military readiness and concurs with the Navy's assessment that they are impracticable. That said, NMFS has strengthened its mitigation requirement requiring Navy personnel to maneuver if marine mammals are observed to add ''which may include reducing speed as the mission or circumstances allow'' to emphasize that reduction of speeds should be considered where appropriate. Of note, current Navy Standard Operating Procedures and mitigations require a minimum of at least three Lookouts on duty on Navy cruisers and destroyers while underway and, so long as safety of navigation is maintained, to keep 500 yards away from large whales and 200 yards away from other marine mammals (except for bow-riding dolphins and pinnipeds hauled out on shore or man-made navigational structures, port structures, and vessels).

Previously, the Navy commissioned a vessel density and speed report based on an analysis of Navy ship traffic in the HSTT Study Area between 2011 and 2015. Median speed of all Navy vessels within the HSTT Study Area is typically already low, with median speeds between 5 and 12 kn (9.2 to 22.2 km per hour). Further, the presence and transits of commercial and recreational vessels, annually numbering in the thousands, poses a more significant risk to large whales than the presence of Navy vessels. The *Vessel Strike* subsection of the *Estimated Take of Marine Mammals* section of the 2020 HSTT final rule and this rule and the 2018 HSTT FEIS/OEIS chapter 3 (Affected Environment and Environmental Consequences) section 3.7.3.4.1 (Impacts from Vessels and In-Water Devices) and Appendix K, section K.4.1.6.2 (San Diego (Arc) Blue Whale Feeding Area Mitigation Considerations), explain the important differences between most Navy vessels and their operation and commercial ships that make Navy vessels much less likely to strike a whale.

When developing Phase III mitigation measures, the Navy analyzed the potential for implementing additional types of mitigation, such as vessel speed restrictions within the HSTT Study Area. The Navy determined that based on how the training and testing activities will be conducted within the HSTT Study Area, vessel speed restrictions would be incompatible with practicability criteria for safety, sustainability, and training and testing missions, as described in chapter 5 (Mitigation), section 5.3.4.1 (Vessel Movement) of the 2018 HSTT FEIS/OEIS. NMFS fully reviewed this analysis and concurs with the Navy's conclusions. During the promulgation of this final rule, NMFS again discussed the potential for vessel speed restrictions, including during limited times and areas, and Navy continued to assert that such restrictions are not practicable. After thorough discussion, NMFS again concurs with the Navy's conclusions.

Regarding the recommendation for Navy to send alerts of increased risk of strike to non-Navy vessels (such as through the WhaleAlert app), Navy has informed NMFS that transmitting information between Navy and civilian vessels poses security risks that make sending alerts to non-Navy vessels impracticable.

Regarding the recommendations for the measure described in number 4 to be implemented when a single whale is sighted and in all areas, Navy asserts that doing so is not practicable as it would interfere with its mission success. Four whales was determined to be the appropriate trigger for this measure as it represents an increased strike risk without occurring so often that this measure becomes impracticable for the Navy to implement. Regarding the geographic limitations, this measure would apply to the area between 32–33 degrees North and 117.2–119.5 degrees West, which includes the locations where recent (2009, 2021, 2023) strikes occurred, and historic locations where strikes occurred when precise latitude and longitude were known. Given that this area includes the location where all known strikes have occurred, NMFS anticipates that this measure is of particular importance in this area, and Navy asserted that implementing this measure more broadly would be impracticable, as it could divert the attention of bridge personnel from other critical tasks.

As stated by the commenter, the Navy will evaluate future revisions to online or DVD MSAT video training to emphasize that when a protected species is spotted, this may be an indicator that additional marine mammals are present and nearby, and the vessel should take this into consideration when transiting. NMFS does not dictate exactly what measure must be taken, as different situations warrant different actions and may have different safety and practicability considerations.

The 2023 HSTT proposed rule and this final rule include two new mitigation measures beyond that required by the 2020 HSTT final rule and modification of two existing mitigation measures. Please see NMFS' response to Comment 15.

With the exception of the recommended mitigation measures discussed within this Comments and Responses section, the commenter has not demonstrated why NMFS has not met the least practicable adverse impact standard. As described in the Mitigation Measures section of this final rule, NMFS has included the mitigation requirements necessary to achieve the least practicable adverse impact on the affected species or stocks and their habitat.

Comment 15: Multiple commenters stated that, rather than authorizing additional take by serious injury or mortality by vessel strike, NMFS should require the Navy to implement additional mitigation measures to avoid harassment and future vessel strikes of large whales. Commenters specifically referenced the 2021 Royal Australian Navy vessel strikes of fin whales, with one commenter referencing what it describes as NMFS' acknowledgement of the susceptibility of fin whales to vessel strike year-round, and another stating that the Royal Australian Navy vessel strikes should be factored into the take calculation for the HSTT Study Area.

In a related comment, a commenter questioned whether the Navy can

continuously keep asking for more takes if they continue to reach their authorized number.

Response: Based on the available information at the time that the 2020 HSTT final rule was promulgated, NMFS' analysis suggested that three takes by serious injury or mortality by vessel strike over the 7-year duration of the HSTT rule could occur. To date, NMFS is aware of three confirmed vessel strikes of large whales by U.S. Navy vessels during the current regulatory period. While those three takes are within what NMFS anticipated could occur, given that three years remained of the effective period of the rule when the first two strikes occurred, the Navy reanalyzed the potential for take by mortality and serious injury by vessel strike over the duration of the rule, and that analysis suggested that additional takes could occur. NMFS' subsequent analysis also suggested that two additional takes could occur over the remainder of the regulatory period. NMFS requires the Navy to implement mitigation measures to reduce the potential for vessel strike; however, this mitigation is not quantitatively incorporated into NMFS' analysis, and therefore, does not reduce the number of takes that NMFS authorizes.

Regarding mitigation, the 2023 HSTT proposed rule and this final rule include two new mitigation measures beyond that required by the 2020 HSTT final rule and modification of two existing mitigation measures. The new measures include:

- Navy personnel must issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in a select area of SOCAL; and
- Navy personnel must send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area.

Additionally, the 2020 HSTT final rule (85 FR 41780, July 10, 2020) requires Navy personnel to issue seasonal awareness notification messages to alert ships and aircraft to the possible presence of blue whales, humpback whales, gray whales, and fin whales in the seasons that they are most likely to occur in the HSTT Study Area. These messages assist in maintaining safety of navigation and in avoiding interactions with large whales during transits. This final rule requires the Navy to re-title the spring blue whale message (released in June) to a large whale awareness message inclusive of typical spring-summer large whales in southern California (mainly blue, fin, and humpback whales), as included in the 2023 HSTT proposed rule. Furthermore, rather than tying the message release to a specific month, the message would be for a period based on predicted oceanographic conditions for a given year.

For vessel movement, the 2020 HSTT final rule (85 FR 41780, July 10, 2020) required that ''when underway, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must maneuver to maintain distance.'' This measure has been updated to state that reducing speed may be an appropriate way to maneuver, as included in the 2023 HSTT proposed rule. Please see the Mitigation Measures section for a full discussion of these new and revised measures.

NMFS anticipates that additional vessel strike of large whales could still occur even in consideration of these additional and modified mitigation measures (noting that the mitigation measures are not quantitatively included in the vessel strike calculation). Therefore, NMFS is authorizing two additional takes of large whales by serious injury or mortality by vessel strike over the 7-year duration of the HSTT rule (two takes in addition to the three takes authorized in the current regulations). In the 2023 HSTT proposed rule and this final rule, NMFS describes factors that make fin whales particularly susceptible to vessel strike by the Navy in southern California (*e.g.,* occurrence, Navy vessel strike history in SOCAL, year-round occurrence). As such, NMFS analysis suggests that of the five total takes by serious injury or mortality by vessel strike of large whales, up to four of those takes could be of the CA/OR/WA stock of fin whale. Regarding the suggestion that the Royal Australian Navy vessel strike of two fin whales should be factored into the take calculation for the HSTT Study Area, as explained in the 2023 HSTT proposed rule and in the Vessel Strike section of this final rule, according to the U.S. Navy, the May 2021 vessel strike of two fin whales by a Royal Australian Navy vessel did not occur while that vessel was participating in a U.S. Navy-led training exercise, and the strike of those two fin whales is not included in the estimated take by vessel strike calculation. Instead, NMFS considered the 2021 vessel strike by the Royal Australian Navy along with other strike information when determining which species could be among the estimated large whales struck.

Regarding a commenter's concern about whether the Navy can continuously keep asking for more takes if they continue to reach their authorized number, as stated in the Background 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 16: The 2023 HSTT proposed rule (88 FR 68290, October 3, 2023) states: ''The 2021 NAVDORM requires the use of three Lookouts on Navy cruisers and destroyers as compared to the previous requirement of one Lookout when a vessel was underway and not engaged in sonar training or testing. However, as discussed in the Mitigation Measures section below, the Navy informed NMFS that requiring the additional Lookouts as mitigation is not practicable because this SOP may change in response to manning issues and national security needs.'' A commenter stated that NMFS should reject the Navy's explanation for why three lookouts on cruisers and destroyers are not practicable. In a related comment, a commenter stated that the 2023 HSTT proposed rule seeks to reduce the number of lookouts (the simplest and cheapest mitigation strategy) from three to one, and recommended increased numbers of lookouts as a mitigation measure. This commenter also recommended enhancing bridge resource management. A commenter also recommended training for Lookouts.

Response: Neither the 2023 HSTT proposed rule nor this final rule propose a reduction in the number of lookouts required on Navy vessels, and it is unclear what the commenter means by enhancing bridge resource management, though it is important to note that all bridge watchstanders including Lookouts take the Navy's Marine Species Awareness Training that NMFS has reviewed and approved. The

commenter did not suggest what additional training Lookouts should receive. As a general matter, NMFS' evaluation of least practicable adverse impact appropriately relies heavily on input from the applicant regarding the practicability of any given measure provided the explanation is reasonable and clear. Further, the 2004 NDAA amended the MMPA as it relates to military readiness activities and the incidental take authorization 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 and consultation with the Department of Defense on these considerations (see 16 U.S.C. 1371(a)(5)(A)(iii)). The Navy has clearly indicated the need for flexibility to effectively carry out foreseeable military readiness activities, such that requiring additional Lookouts at all times would be impracticable, and we concur with that assessment.

Comment 17: A commenter stated that if the Navy is allowed a greater number of incidental takes on marine life, it must enforce strategies to avoid such incidents and suggested that the Navy expand its existing precautions to protect marine life and minimize takes of marine animals. The commenter encourages the Navy to (1) continue implementing state-of-the-art technology and best practices to reduce underwater noise and disturbance during training exercises, particularly in areas where marine mammals are known to inhabit, (2) collaborate with marine biologists and conservation experts to continually monitor the effects of Navy activities on marine life and suggest corrective actions when necessary, (3) consider adjusting the timing or location of training exercises to minimize their impact on critical marine habitats and migration paths, and (4) promote transparency and cooperation by engaging with environmental organizations and local communities to develop and assess mitigation strategies collaboratively. In a related comment, another commenter stated that advanced technologies should allow the United States military to maintain readiness standards and protect wildlife.

Response: NMFS worked closely with the Navy to investigate the recent vessel strikes and to identify ways to improve mitigation measures. This final rule includes revision to two existing mitigation measures and two new mitigation measures beyond that included in the 2020 HSTT final rule (85 FR 41780, July 10, 2020; described further in response to Comment 15). Of note, this final rule authorizes additional take by serious injury or mortality by vessel strike beyond that authorized by the 2020 HSTT final rule. This final rule does not authorize additional take by Level A or Level B harassment. However, as discussed in the Mitigation Measures section of this final rule, elsewhere in this section, and in chapter 5 (Mitigation) of the 2018 HSTT FSEIS/OEIS, the Navy will implement extensive mitigation, both procedural mitigation and mitigation areas, to avoid or reduce potential impacts from the HSTT activities on marine mammals, including impacts from sonar and explosives. (Note that additional measures and revisions to some existing measures have been made since publication of this FEIS/OEIS). Specifically, the Navy would use a combination of delayed starts, powerdowns, and shutdowns to minimize the likelihood of M/SI, minimize the likelihood or severity of PTS or other injury, and reduce instances of TTS or more severe behavioral disruption caused by acoustic sources or explosives. The Navy will limit activities (active sonar, explosive use, major training exercises (MTEs), *etc.*) to varying degrees in multiple areas that are important to sensitive species or for critical behaviors in order to minimize impacts that are more likely to lead to adverse effects on rates of recruitment or survival. The mitigation measures 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. Please see the Mitigation Measures section of this final rule for additional detail regarding required mitigation measures.

Regarding best practices to reduce underwater noise, most of the Navy's vessels already have state of the art quieting technologies employed to reduce their sound profile to assist them in avoiding detection by enemy forces, therefore, they are much quieter than commercial/recreational vessels of similar sizes.

Regarding monitoring the effects of Navy activities on marine life and the commenter's recommendation to take corrective actions when necessary, as required by this final rule, the Navy implements a robust monitoring program. Although the Navy has been conducting research and monitoring in the HSTT Study Area for over 20 years, it developed a formal marine species monitoring program in support of the MMPA and ESA authorizations for the Hawaii and Southern California range complexes in 2009. This robust program has resulted in hundreds of technical reports and publications on marine mammals that have informed Navy and NMFS analyses in environmental planning documents, rules, and Biological Opinions. The reports are made available to the public on the Navy's marine species monitoring website (*www.navymarinespeciesmonitoring.us*) and the data on the Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations (OBIS–SEAMAP) (*www.seamap.env.duke.edu*). For additional information about the Navy's monitoring program, please see the Monitoring section herein and the websites listed above.

Further, the regulations governing the take of marine mammals incidental to Navy training activities in the HSTT Study Area contain an adaptive management component. Our understanding of the effects of Navy training and testing 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. Please see the Adaptive Management section of this final rule for additional information.

Regarding transparency and cooperation, the MMPA does not require an independent review of mitigation measures. It does require notice and opportunity for public comment (16 U.S.C. 1371(a)(5)(A)(i)). The public comment period is a means by which the public (*e.g.,* environmental organizations and local communities) are able to provide NMFS with mitigation measure recommendations supported by scientific evidence that NMFS takes into consideration when finalizing the rulemaking.

Comment 18: A commenter stated that measures should be taken to cease any more actions potentially impacting marine mammals. The 2023 HSTT proposed rule (88 FR 68290, October 3, 2023) states that results of a study indicated that Navy Lookout Teams, which include lookouts and other crew members, have approximately an 80 percent chance of failing to detect a pod of large whales beyond 200 yd (182.9 m), compared with a 49 percent chance for trained marine mammal observers. The commenter recommended that the Navy hire trained marine mammal observers to keep the incidents of whale take to the original take numbers or less, and not need to have modifications to the LOA for additional animal take. The

commenter also recommended having experts that can accurately assess the physical and mental health of these animals. In a related comment, a commenter stated that the rule calls into question whether the three vessel strikes that have occurred were due to the crew not spotting the whales, not spotting them before the strike, or the Navy not emphasizing the importance of spotting and avoiding marine wildlife to its personnel.

Response: As described in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), a recent study by Oedekoven and Thomas (2022) was designed to evaluate the effectiveness of Navy Lookouts at detecting marine mammals before they entered a defined set of mitigation zones (*i.e.,* 200, 500, and 1,000 yd (182.9, 457.2, and 914.4 m)) during MFAS training activities. This study also compared Lookout effectiveness with that of trained marine mammal observers. Lookout teams were comprised of varying numbers of Lookouts depending on the type of ship and the training activity that was occurring (noting that the data was collected prior to the Navy's change in its SOPs to require the use of three Lookouts on Navy cruisers and destroyers). Marine mammal observer teams consisted of two dedicated observers. As noted by the commenter, results of this study indicate that Navy Lookout Teams, which include Lookouts and other crew members, have approximately an 80 percent chance of failing to detect a pod of large baleen whales (rorquals) before they come closer than a mitigation range of 200 yd (182.9 m), compared with a 49 percent chance for trained marine mammal observers. The probability of a pod remaining undetected by Lookouts was greater for larger mitigation zones (*i.e.,* 85 percent at 500 yd (457.2 m); 91 percent at 1,000 yd (914.4 m)). These values require some level of interpretation with regard to the numerical results. For instance, the study's statistical model assumed that Navy ships moved in a straight line at a set speed for the duration of the field trials, and that animals could not move in a direction perpendicular to a ship. Violation of this model assumption would underestimate Lookout effectiveness for some data points. The values for both Navy Lookouts and the Marine Mammal Observers include animals under the water that would not have been available for detection by a Lookout. This study suggests that detection of marine mammals is less certain than previously assumed at certain distances. While this study suggests that trained marine mammal observers are more effective than Navy Lookouts, the Navy has asserted that it is impracticable to station independent marine mammal observers on Navy vessels. When making the least practicable adverse impact determination for military readiness activities, NMFS must consider personnel safety, practicality of implementation, and impact on the effectiveness of the military readiness activities and must consult with the Department of Defense on these considerations (16 U.S.C. 1371(a)(5)(A)(iii)). As described in section 5.5.5 (Third-Party Observers) of the 2018 HSTT FEIS/OEIS, use of third-party observers on Navy vessels or aircraft would result in safety and security clearance issues, berthing shortages or exceedance of other space limitations, impacts to Lookouts' abilities to complete their other mission-essential duties, and unsustainable costs, among other issues. Please see the 2018 HSTT FEIS/OEIS for additional detail.

Lookouts remain an important component of the Navy's 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. Further, NMFS and the Navy are also considering, through the adaptive management process, whether there are additional measures that would be practicable to implement that would improve effectiveness of Lookouts, such as enhanced personnel training.

As described in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), the 2021 U.S. Navy vessel strikes were the first known U.S. Navy vessel strikes in the HSTT Study Area since 2009. Historically, military vessel strikes of large whales within the HSTT Study Area have been rare events with only seven such strikes occurring over the past 14 years, five U.S. Navy strikes, and two Royal Australian Navy strikes. Based on the Navy and NMFS' investigation of these recent strike incidents, NMFS found that the Navy was substantially following the required mitigation protocols, consistent with 16 U.S.C. 1371(a)(5)(B). These recent vessel strike reports (2021, 2023) appear to reflect the sporadic, episodic, or clustered nature of vessel strike or may reflect a trend of increased large whale presence in this area in the early summer months. Given the size of Navy vessels and the need to maintain specific speeds during certain activities, even if a whale is detected, a U.S. Navy vessel may not be able to avoid a strike. Therefore, given the potential shift in factors contributing to vessel strike, and the challenges in avoiding potential strikes, it is important to ensure that the compliance process addresses the appropriate number of potential strikes and that they are considered in the negligible impact determination, which is why it was necessary to evaluate the authorization of an additional two takes by strike. The MMPA provides for the authorization of incidental take caused by specified activities, 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.

It is unclear how having experts that can accurately assess the physical and mental health of these animals, as suggested by the commenter, would assist in mitigating the effects of the Navy's activities, nor has the commenter provided detail explaining how. The required procedural mitigation measures are implemented within defined ranges based on established criteria, and implementation does not rely on a visual assessment of behavioral or physiological effects to animals. In its analysis, NMFS does consider the potential impacts of stress on marine mammals from exposure to the Navy's activities. Please see the Stress Response section of the 2018 HSTT Proposed Rule for a discussion of stress responses in marine mammals. Further, since that discussion, additional information about stress responses has become available (*e.g.,* Houser *et al.* (2020); Houser *et al.* (2021)). However, the additional studies do not change the expected potential impacts of stress on marine mammals from exposure to the Navy's activities.

NMFS thoroughly discussed each of the strikes with the Navy, and summarized the circumstances surrounding each strike in the *Estimated Take From Vessel Strikes and Explosives by Serious Injury or Mortality* section of the 2023 HSTT proposed rule ((88 FR 68290, October 3, 2023) and the *Authorized Take From Vessel Strikes and Explosives by Serious Injury or Mortality* section of this final rule. The circumstances surrounding whale detection ahead of each strike varied. However, of note, Navy vessels routinely successfully maneuver to avoid large whales. Between 2009 and 2021 (the most recent year for which data is available), U.S. Navy vessels in the SOCAL portion of the HSTT Study Area maneuvered 316 times to avoid large whales during MTEs. The years

2017 and 2021 had the highest number of maneuvers (n = 64 and n = 82, respectively). In all years for which data is available (2009 to 2021), Navy cruisers and destroyers account for 51 to 100 percent of maneuvers during MTEs to avoid whales.

Comment 19: A commenter, referencing two news articles, stated that new information indicates that the Navy is increasingly using unmanned systems, which cannot replace human monitoring, even if useful in addition to the lookouts and observers NMFS relies on to mitigate and monitor the impacts of the Navy's activities on marine mammals.

Response: As stated in the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023), the Navy's proposed activities have not changed from that analyzed in the 2018 final rule (83 FR 66846, December 27, 2018) or the 2020 final rule (85 FR 41780, July 10, 2020). Impacts from all unmanned systems that would be used in training and testing activities under this proposed rule have been accounted for in the analysis. Neither NMFS nor the Navy have proposed to replace human marine mammal monitoring with monitoring by unmanned systems.

Determinations

Comment 20: A commenter stated that NMFS has neither adequately evaluated nor met the negligible impact standard for the following reasons:

1. The negligible impact determination dismisses the important fact that vessel strikes already pose a substantial threat to large whales in the region, and several populations are already exceeding PBR. Endangered blue whales, threatened and endangered humpback whales, and endangered fin whales off the coast of Southern California are particularly vulnerable, with even one additional ship strike constituting a significant impact.

2. NMFS has failed to consider the impacts of the full scope of training exercises over 7 years on marine mammals, including joint training exercises with foreign fleets. The commenter further asserted that what is not unsaid in the rule, but is critically important, is that the Navy's activities over 7 years (in contrast to the five already authorized) has never been evaluated under the MMPA, ESA, or NEPA. The commenter stated that this underscores that NMFS has not taken the measures needed to ensure the Navy's activities in the HSTT Study Area will have no more than a negligible impact on endangered whales and other marine mammals in the Pacific Ocean over the full 7 years of the proposed authorization. NMFS must reexamine the increased risk and incidence of vessel strikes in light of the Navy's full suite of impacts on large whales and other marine mammals (over this extended period of time) and decline to authorize this additional take.

Response: NMFS disagrees with the commenter's assertion that it has not adequately evaluated nor met the negligible impact standard. NMFS assessed all of the best available information about the relative risk of vessel strikes by commercial, recreational, and military vessels in the Vessel Strike section of this final rule. As explained in the Serious Injury or Mortality subsection of the *Analysis and Negligible Impact Determination* section of the 2018 HSTT final rule, the 2020 HSTT final rule, and this final rule, NMFS may find the impact of the authorized take from a specified activity to be negligible even if total human-caused mortality exceeds PBR, 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, including vessel strike from other actions). When those considerations are applied in the section 101(a)(5)(A) context here, the authorized lethal take (0.14 annually) of humpback whales from the Mainland Mexico- CA/OR/WA stock, and blue whales from the Eastern North Pacific stock are less than 10 percent of PBR (less than 1 percent for humpback whales from the Mainland Mexico- CA/OR/WA stock and 3 percent for blue whales from the Eastern North Pacific stock). The authorized lethal take (0.57 annually) of fin whales from the CA/OR/WA stock is less than 10 percent of PBR also (less than 1 percent). There are management measures in place to address the mortality and serious injury from the activities other than those the Navy is conducting. For the complete discussion of how NMFS carefully considered potential mortalities from the Navy's activities in light of PBR levels, including an explanation for why mortality above PBR will not necessarily induce population-level non-negligible impacts, see the discussion in this rule, the 2020 HSTT final rule, and the 2018 HSTT final rule.

NMFS acknowledges that the removal of a reproductive female (or any female) could be more impactful to the status of a population than the removal of a male. However, the PBR framework that supports the negligible impact finding inherently considers the likelihood that the human-caused mortalities being considered may consist of a random distribution of individuals of different sex in different life stages. Also, beyond the low likelihood of striking a whale at all, the likelihood of hitting a female is even lower.

It is important to note that the only change to the number of takes proposed by the 2023 HSTT proposed rule was to the take by vessel strike to account for new information since publication of the 2020 HSTT final rule. The 2020 HSTT final rule analyzed and authorized take of marine mammals over a 7-year period, not 5 years as noted by the commenter, and NMFS conducted the appropriate level of MMPA, ESA, and NEPA analysis to comply with both statutes during the promulgation of the 2020 HSTT final rule.

As stated in the Preliminary Analysis and Negligible Impact Determination section of the 2023 HSTT proposed rule (88 FR 68290, October 3, 2023) and the Analysis and Negligible Impact Determination section of this final rule, while this rule consists of a modification of take by M/SI by vessel strike, NMFS considers the impacts of the entire specified activity and the total taking in the negligible impact determination. In consideration of the total taking, including take by mortality, Level A harassment, and Level B harassment, NMFS finds that the incidental take from the specified activities will have a negligible impact on all affected marine mammal species and stocks. Consistent with 40 CFR 1502.9 and the information and analysis contained in this final rule, the Navy and NMFS as a cooperating agency made a determination that this final rule and the subsequent LOAs will not result in significant impacts that were not fully considered in the 2018 HSTT FEIS/OEIS. As indicated in the 2023 HSTT proposed rule, the Navy has made no substantial changes to the activities nor are there significant new circumstances or information relevant to environmental concerns or their impacts.

NMFS and the Navy reinitiated consultation under the ESA. NMFS issued a reinitiated Biological and Conference Opinion on June 3, 2024 concluding that the issuance of the 2024 HSTT final rule and subsequent LOAs are not likely to jeopardize the continued existence of the threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of critical habitat in the HSTT Study Area. The opinion is

available at *https://doi.org/10.25923/7y9x-vw84.*

Please also see NMFS' response to Comment 7 regarding foreign vessels.

Comment 21: Commenters stated that they oppose this proposed promulgation of modified regulations and associated LOAs for the Navy because it is not consistent with MMPA mandates that require NMFS to ensure activities have no more than a negligible impact on marine mammal species or stocks and that they have the least practicable adverse impact on marine mammal species, stocks, and habitat. In a related comment, a commenter stated that this rule would disregard the previously established boundaries between the Navy and NMFS and would also disregard the push the United States claims to have for the protection of marine wildlife. The commenter stated that it perceives the request to be heavily hypocritical of the same government that implemented regulations to protect marine wildlife that teeter on the edge of the endangered species list, to reach for an exception for its military, and further that the proposed amendment is unethical, hypocritical, and unnecessary.

Response: The MMPA requires NMFS to authorize the incidental take of marine mammals by specified activities upon request if certain findings are made (16 U.S.C. 1371(a)(5)(A)). Here, the Navy submitted an application requesting two additional takes of large whales by serious injury or mortality by vessel strike through modification of the existing regulations and LOAs. As required by the MMPA, NMFS conducted the analysis described in the 2023 HSTT proposed rule and this final rule and made all required findings (preliminarily, in the case of the 2023 HSTT proposed rule), including finding that the Navy's activities will have a negligible impact on marine mammals and that the required mitigation measures will effect the least practicable adverse impact on marine mammals. Therefore, promulgation of this final rule is appropriate.

Please see the Mitigation Measures section of this final rule for additional discussion of the required mitigation measures and NMFS' least practicable adverse impact finding.

Other Regulatory Processes

Comment 22: A commenter stated that the Navy issued an EIS purporting to analyze the environmental impacts of its training and testing activities in the HSTT Study Area. NMFS was a cooperating agency for the 2018 HSTT FEIS/OEIS. The EIS considered only three alternatives in detail: the No Action Alternative under which the Navy's training activities would not occur; Alternative 1 that considered fluctuations in training cycles, testing requirements, and deployment schedules based on global demand and other factors and included the Navy's entire suite of mitigation measures; and Alternative 2 that considered a higher number of training exercises and sonar hours than in Alternative 1 and included the Navy's entire suite of mitigation measures. Alternative 1 was the preferred and adopted alternative. The commenter stated that none of the Navy's alternatives considered in detail an alternative that would require mandatory speed limits to avoid collisions with endangered whales.

Response: While none of the Navy's alternatives considered in the 2018 HSTT FEIS/OEIS include mandatory vessel speed limits, the Navy conducted an operational analysis of potential mitigation throughout the entire Study Area to consider a wide range of mitigation options, including but not limited to vessel speed restrictions. As discussed in chapter 3, section 3.0.3.3.4.1 (Vessels and In-Water Devices) of the 2018 HSTT FEIS/OEIS, Navy ships transit at speeds that are optimal for fuel conservation or to meet operational requirements. Operational input indicated that implementing additional vessel speed restrictions beyond what is identified in chapter 5 (Mitigation), section 5.4 (Mitigation Areas to be Implemented) of the 2018 HSTT FEIS/OEIS would be impracticable to implement due to implications for safety and sustainability. In its assessment of potential mitigation, the Navy considered implementing additional vessel speed restrictions (*e.g.,* expanding the 10 kn (18.5 km per hour) restriction to other activities). The Navy determined that implementing additional vessel speed restrictions beyond what is described in chapter 5 (Mitigation), section 5.5.2.2 (Restricting Vessel Speed) of the 2018 HSTT FEIS/OEIS would be impracticable due to implications for safety (the ability to avoid potential hazards), sustainability (maintain readiness), and the Navy's ability to continue meeting its Title 10 requirements to successfully accomplish military readiness objectives. Additionally, as described in chapter 5 (Mitigation), section 5.5.2.2 (Restricting Vessel Speed) of the 2018 HSTT FEIS/OEIS, any additional vessel speed restrictions would prevent vessel operators from gaining skill proficiency, would prevent the Navy from properly testing vessel capabilities, or would increase the time on station during training or testing activities as required to achieve skill proficiency or properly test vessel capabilities, which would significantly increase fuel consumption. As discussed in chapter 5 (Mitigation), section 5.3.4.1 (Vessel Movement) of the 2018 HSTT FEIS/OEIS, the Navy implements mitigation to avoid vessel strikes throughout the Study Area. Additionally, this final rule includes two new mitigation measures beyond that required by the 2020 HSTT final rule and modification of two existing mitigation measures. These measures are described in response to Comment 15 and the Mitigation Measures section of this final rule.

Comment 23: A commenter stated that agencies must prepare supplemental EISs if: ''(i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or (ii) There are significant new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts'' (40 CFR 1502.9(d)(1)). The commenter stated that because these triggers have been met, it urges NMFS to prepare a supplemental EIS on the basis of the new information that has come to light since 2018, including on the impacts of vessel strikes on large whales and on alternatives that reduce vessel strike impacts to marine mammals.

Response: NMFS disagrees with the commenter that supplemental NEPA evaluation is warranted. As described in the *National Environmental Policy Act* section herein, consistent with 40 CFR 1502.9(d) and the information and analysis contained in this rule, the Navy and NMFS as a cooperating agency have determined that this final rule and any subsequent LOAs would not result in significant impacts that were not fully considered in the 2018 HSTT FEIS/OEIS. As indicated in this final rule and a supplemental information report prepared by NMFS, the Navy has made no substantial changes to the activities that are relevant to environmental concerns; nor are there substantial new circumstances or information about the significance of adverse effects that bear on the analysis.

Comment 24: A commenter stated that despite the new 2020 authorization—and the additional extensive take and other impacts it enables—NMFS has not completed new ESA consultation or a supplemental NEPA evaluation. The Navy is operating under the 2018 BiOp and 2018 EIS. Since NMFS issued the 2018 BiOp and EIS, a slew of new information—in addition to the expanded scope of the Navy's

activities—indicates that the Navy's activities in the HSTT Study Area are likely affecting ESA-listed species to an extent not previously considered.

In a related comment regarding ESA compliance, a commenter stated that the proposed rule states, ''NMFS has also reinitiated consultation internally on the issuance of these proposed, revised regulations and LOAs under section 101(a)(5)(A) of the MMPA.'' The commenter noted that when reinitiation is required, ''the original opinion loses its validity, as does its accompanying incidental take statement, which then no longer shields the action agency from penalties for takings'' *(Ctr. for Biological Diversity* v. *BLM,* 698 F.3d 1101, 1108 (9th Cir. 2012)). A commenter stated that it awaits the conclusion of this reinitiated consultation and expects a revised biological opinion that fully complies with the ESA's standards.

Response: NMFS has fully complied with the ESA and NEPA. NMFS described the ESA section 7 consultation history for this action in the *Endangered Species Act* section of the 2023 HSTT proposed rule and this final rule. As described in that section, NMFS consulted internally on the issuance of the 2018 HSTT regulations and LOAs under section 101(a)(5)(A) of the MMPA.

NMFS issued a Biological Opinion on December 10, 2018 concluding that the issuance of the 2018 HSTT final rule and subsequent LOAs are not likely to jeopardize the continued existence of the threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of critical habitat in the HSTT Study Area. The 2018 Biological Opinion included specified conditions under which NMFS would be required to reinitiate section 7 consultation. NMFS reviewed these specified conditions for the 2020 HSTT rulemaking and determined that reinitiation of consultation was not warranted. The incidental take statement that accompanied the 2018 Biological Opinion was amended to cover the 7-year period of the 2020 HSTT rule. The 2018 Biological Opinion for this action is available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities.*

The 2018 Biological Opinion reinitiation clause (2), states that formal consultation should be reinitiated if ''new information reveals effects of the agency action that may affect ESA-listed species or critical habitat in a manner or to an extent not previously considered.'' Given the new information regarding the recent occurrence of large whale strikes by naval vessels in the southern California portion of the HSTT Study Area, as described herein, the Navy has reinitiated consultation with NMFS pursuant to section 7 of the ESA for HSTT Study Area activities, and NMFS has also reinitiated consultation internally on the issuance of the revised regulations and LOAs under section 101(a)(5)(A) of the MMPA. On June 3, 2024, NMFS issued a 2024 reinitiated Biological and Conference Opinion concluding that the issuance of the rule and subsequent LOAs is not likely to jeopardize the continued existence of the threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of critical habitat in the HSTT Study Area. The 2024 reinitiated Biological and Conference Opinion for this action is available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities.*

NMFS is aware of the statement in Ctr. for Biological Diversity v. BLM, 698 F.3d 1101, 1108 (9th Cir. 2012) referenced by the commenter. NMFS' position is that a biological opinion, including its Incidental Take Statement, for which formal consultation has been re-initiated remains valid and effective during the consultation and until a new biological opinion is issued. When the new biological opinion with a new ITS is issued, it supersedes and replaces the previous opinion and ITS.

Please see NMFS' response to Comment 23 regarding NEPA compliance.

Changes From the Proposed Rule to the Final Rule

NMFS has added two additional reporting requirements since publication of the 2023 HSTT proposed rule. First, the Navy's annual HSTT Training Exercise Report and Testing Activity Report must include information that tracks the Navy's implementation of the new SOCAL large whale aggregation real-time reporting mitigation measure. The report must include the following information for each instance that an aggregation of large whales is reported: (1) the date, time and general location (*e.g.,* approximately 10–12 nmi SE of San Clemente Island) of the whales when the aggregation was first sighted; (2) the total number of whales observed within 1 nmi of a Navy vessel that make up the aggregation; and (3) the approximate distance (or distances if more than one group of whales is sighted) of the vessel from the whales in the aggregation when the whales were first sighted. To the extent practicable, this information should be provided in the Navy's unclassified version of these reports.

Second, the Navy's annual HSTT Training Exercise Report and Testing Activity Report must include a confirmation 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 U.S. Navy's 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, which formed the basis of the acoustic impacts effects analysis used to estimate take in this final rule.

NMFS has also made a non-substantive name change in the final rule. *Ziphius cavirostris* has multiple common names. In the 2018 HSTT final rule, 2020 HSTT final rule, and 2023 HSTT proposed rule, NMFS used the common name Cuvier's beaked whale. In this final rule, NMFS uses the common name goose-beaked whale instead.

Last, NMFS made several non-substantive changes to the regulations to add clarity and improve readability.

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

Marine mammal species and their associated stocks that have the potential to occur in the HSTT Study Area are presented in table 1 along with the best/minimum abundance estimate and associated coefficient of variation value. Consistent with the 2018 HSTT final rule and 2020 HSTT final rule, the Navy anticipates the take of individuals from 38 marine mammal species by Level A harassment and Level B harassment incidental to training and testing activities from the use of sonar and other transducers, in-water detonations, air guns, and impact pile driving/vibratory extraction activities. As described in detail later, serious injury or mortality of six species is also analyzed and authorized. Two marine mammal species, the Hawaiian monk seal and the Main Hawaiian Islands Insular DPS of false killer whale, have critical habitat designated under the ESA (16 U.S.C. 1531 *et seq.*) in the HSTT Study Area.

In the 2018 HSTT proposed rule and 2018 HSTT final rule, we presented a detailed discussion of marine mammals and their occurrence in the HSTT Study Area, inclusive of important marine mammal habitat (*e.g.,* ESA-designated critical habitat), BIAs, national marine sanctuaries (NMSs), and unusual

mortality events (UMEs). Please see these rules and the 2017 and 2019 Navy applications for additional information beyond what is provided herein. While there have been some minor changes described here, there have been no changes to important marine mammal habitat, NMSs, or ESA-designated critical habitat since the issuance of the 2018 HSTT final rule that change our determination of which species or stocks have the potential to be affected by the Navy's activities or the information in the *Description of Marine Mammals and Their Habitat in the Area of the Specified Activities* section in the 2019 HSTT proposed rule and 2020 HSTT final rule. Therefore, the information presented in those sections of the 2019 HSTT proposed rule and 2020 HSTT final rule remains current and valid with the exception of the information about UMEs, BIAs, and revised humpback whale stock structures, discussed below.

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. None of the designated critical habitat overlaps with the HSTT Study Area. One of the proposed areas, critical habitat Unit 19, would have 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. The best available science also currently does not enable NMFS to identify particular sound levels or to describe a certain soundscape feature that is essential to the conservation of humpback whales. 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 final regulations.

NMFS has reviewed the 2023 SARs (Carretta *et al.* 2024, Young *et al.* 2024). For all species except humpback whale, NMFS determined that neither the SARs nor any other new information changes our determination in the 2020 HSTT final rule of which species or stocks have the potential to be affected by the Navy's activities. For humpback whale, the 2023 final SARs include a revision to the humpback whale stock structure in the Pacific Ocean. In the 2020 HSTT final rule, NMFS authorized take of the CA/OR/WA stock and Central North Pacific stock of humpback whale. Given the revised stock structure, in this final rule, NMFS has reanalyzed the potential for take of each stock of humpback whale and determined that the Central America/Southern Mexico-CA/OR/WA, Mainland Mexico—CA/OR/WA stock, and Hawaii stocks are likely to be taken by the Navy's activities. Please refer to the 2023 Alaska and Pacific Ocean SARs for additional information about these new stocks.

The species considered but not carried forward for analysis are two American Samoa stocks of spinner dolphins—(1) the Kure and Midway stock and (2) the Pearl and Hermes stock. There is no potential for overlap with any stressors from Navy activities and therefore there would be no incidental takes, therefore, these stocks are not considered further.

TABLE 1—MARINE MAMMAL OCCURRENCE WITHIN THE HSTT STUDY AREA

Common name	Scientific name	Stock	Status		Occurrence	Seasonal absence	Stock abundance (CV)/minimum population
			MMPA	ESA			
Blue whale	*Balaenoptera musculus*	Eastern North Pacific	Strategic, Depleted	Endangered	Southern California.	-	1,898 (0.085)/1,767.
		Central North Pacific	Strategic, Depleted	Endangered	Hawaii	Summer	133 (1.09)/63.
Bryde's whale	*Balaenoptera brydei/edeni.*	Eastern Tropical Pacific	-	-	Southern California.	-	unknown.
		Hawaii	-	-	Hawaii	-	791 (0.29)/623.
Fin whale	*Balaenoptera physalus*	CA/OR/WA	Strategic, Depleted	Endangered	Southern California.	-	11,065 (0.405)/7,970.
		Hawaii	Strategic, Depleted	Endangered	Hawaii	Summer	203 (0.99)/101.
Humpback whale	*Megaptera novaeangliae.*	Central America/Southern Mexico—CA/OR/WA.	Strategic	Endangered [1]	Southern California.	Winter	1,496 (0.171)/1,284.
		Mainland Mexico—CA/OR/WA.	Strategic	Threatened [1]	Southern California.	Winter	3,477 (0.101)/3,185.
		Hawai'i	-	- [1]	Hawaii	Summer	11,278 (0.56)/7,265.
Minke whale	*Balaenoptera acutorostrata.*	CA/OR/WA	-	-	Southern California.	-	915 (0.792)/509.
		Hawaii	-	-	Hawaii	Summer	438 (1.05)/212.
Sei whale	*Balaenoptera borealis*	Eastern North Pacific	Strategic, Depleted	Endangered	Southern California.	-	864 (0.40)/625.
		Hawaii	Strategic, Depleted	Endangered	Hawaii	Summer	391 (0.9)/204.
Gray whale	*Eschrichtius robustus*	Eastern North Pacific	-	-	Southern California.	-	26,960 (0.05)/25,849.
		Western North Pacific	Strategic, Depleted	Endangered	Southern California.	-	290 (NA)/271.

TABLE 1—MARINE MAMMAL OCCURRENCE WITHIN THE HSTT STUDY AREA—Continued

Common name	Scientific name	Stock	Status		Occurrence	Seasonal absence	Stock abundance (CV)/minimum population
			MMPA	ESA			
Sperm whale	*Physeter macrocephalus.*	CA/OR/WA	Strategic, Depleted	Endangered	Southern California.	-	2,606 (0.135)/2,011.
		Hawaii	Strategic, Depleted	Endangered	Hawaii	-	5,707 (0.23)/4,486.
Pygmy sperm whale	*Kogia breviceps*	CA/OR/WA	-	-	Southern California.	Winter and Fall	4,111 (1.12)/1,924.
		Hawaii	-	-	Hawaii	-	42,083 (0.64) 25,695.
Dwarf sperm whale	*Kogia sima*	CA/OR/WA	-	-	Southern California.	-	unknown.
		Hawaii	-	-	Hawaii	-	unknown.
Baird's beaked whale	*Berardius bairdii*	CA/OR/WA	-	-	Southern California.	-	1,363 (0.53)/894.
Blainville's beaked whale.	*Mesoplodon densirostris*	Hawaii	-	-	Hawaii	-	1,132 (0.99)/564.
Goose-beaked whale[2]	*Ziphius cavirostris*	CA/OR/WA	-	-	Southern California.	-	5,454 (0.27)/4,214.
		Hawaii	-	-	Hawaii	-	4,431 0.41/3,180.
Longman's beaked whale.	*Indopacetus pacificus*	Hawaii	-	-	Hawaii	-	2,550 (0.67)/1,527.
Mesoplodont beaked whales.	*Mesoplodon spp.*	CA/OR/WA	-	-	Southern California.	-	3,044 (0.54)/1,967.
Common Bottlenose dolphin.	*Tursiops truncatus*	California Coastal	-	-	Southern California.	-	453 (0.06)/346.
		CA/OR/WA Offshore	-	-	Southern California.	-	3,477 (0.696)/2,048.
		Hawaii Pelagic	-	-	Hawaii	-	unknown.
		Kauai and Niihau	-	-	Hawaii	-	112 (0.24)/92.
		Oahu	-	-	Hawaii	-	112 (0.17)/97.
		Maui Nui[3]	-	-	Hawaii	-	64 (0.15)/56.
		Hawaii Island	-	-	Hawaii	-	136 (0.43)/96.
False killer whale	*Pseudorca crassidens*	Main Hawaiian Islands Insular[4].	Strategic, Depleted	Endangered	Hawaii	-	167 (0.14)/149.
		Hawaii Pelagic	-	-	Hawaii	-	5,528 (0.35)/4,152.
		Northwestern Hawaiian Islands.	-	-	Hawaii		477 (1.71)/178.
Fraser's dolphin	*Lagenodelphis hosei*	Hawaii			Hawaii	-	40,960 (0.7)/24,068.
Killer whale	*Orcinus orca*	Eastern North Pacific Offshore.	-	-	Southern California.	-	300 (0.1)/276.
		West Coast Transient	-	-	Southern California.	-	349 (N/A)/349.
		Hawaii	-	-	Hawaii	-	161 (1.06)/78.
Long-beaked common dolphin.	*Delphinus capensis*	California	-	-	Southern California.	-	83,379 (0.216)/69,636.
Melon-headed whale	*Peponocephala electra*	Hawaiian Islands	-	-	Hawaii	-	40,647 (0.74)/23,301.
		Kohala Resident	-	-	Hawaii	-	unknown.
Northern right whale dolphin.	*Lissodelphis borealis*	CA/OR/WA	-	-	Southern California.	-	29,285 (0.72)/17,024.
Pacific white-sided dolphin.	*Lagenorhynchus obliquidens.*	CA/OR/WA	-	-	Southern California.	-	34,999 (0.222)/29,090.
Pantropical spotted dolphin.	*Stenella attenuata*	Oahu	-	-	Hawaii	-	unknown.
		Maui Nui[3]	-	-	Hawaii	-	unknown.
		Hawaii Island	-	-	Hawaii	-	unknown.
		Hawaii Pelagic	-	-	Hawaii	-	67,313 (0.27)/53,839.
Pygmy killer whale	*Feresa attenuata*	Tropical	-	-	Southern California.	Winter & Spring	unknown.
		Hawaii	-	-	Hawaii	-	10,328 (0.75)/5,885.
Risso's dolphins	*Grampus griseus*	CA/OR/WA	-	-	Southern California.	-	6,336 (0.32)/4,817.
		Hawaii	-	-	Hawaii	-	6,979 (0.29)/5,283.
Rough-toothed dolphin	*Steno bredanensis*	NSD[5]	-	-	Southern California.	-	unknown.
		Hawaii	-	-	Hawaii	-	83,915 (0.49)/56,782.
Short-beaked common dolphin.	*Delphinus delphis*	CA/OR/WA	-	-	Southern California.	-	1,056,308 (0.21)/888,971.
Short-finned pilot whale	*Globicephala macrorhynchus.*	CA/OR/WA	-	-	Southern California.	-	836 (0.79)/466.
		Hawaii	-	-	Hawaii	-	19,242 (0.23)/15,894.
Spinner dolphin	*Stenella longirostris*	Hawaii Pelagic	-	-	Hawaii	-	unknown.
		Hawaii Island	-	-	Hawaii	-	665 (0.09)/617.

TABLE 1—MARINE MAMMAL OCCURRENCE WITHIN THE HSTT STUDY AREA—Continued

Common name	Scientific name	Stock	Status		Occurrence	Seasonal absence	Stock abundance (CV)/minimum population
			MMPA	ESA			
		Oahu and 4-Islands	-	-	Hawaii	-	unknown.
		Kauai and Niihau	-	-	Hawaii	-	unknown.
		Kure and Midway	-	-	Hawaii	-	unknown.
		Pearl and Hermes	-	-	Hawaii	-	unknown.
Striped dolphin	*Stenella coeruleoalba*	CA/OR/WA	-	-	Southern California.	-	29,988 (0.3)/23,448.
		Hawaii	-	-	Hawaii	-	64,343 (0.28)/51,055.
Dall's porpoise	*Phocoenoides dalli*	CA/OR/WA	-	-	Southern California.	-	16,498 (0.61)/10,286.
Harbor seal	*Phoca vitulina*	California	-	-	Southern California.	-	30,968 (NA)/27,348.
Hawaiian monk seal	*Neomonachus schauinslandi.*	Hawaii	Strategic, Depleted	Endangered	Hawaii	-	1,564 (0.05)/1,444.
Northern elephant seal	*Mirounga angustirostris*	California	-	-	Southern California.	-	187,386 (NA)/85,369.
California sea lion	*Zalophus californianus*	U.S. Stock	-	-	Southern California.	-	257,606 (NA)/233,515.
Guadalupe fur seal	*Arctocephalus townsendi.*	Mexico to California	Strategic, Depleted	Threatened	Southern California.	-	34,187 (NA)/31,019.
Northern fur seal	*Callorhinus ursinus*	California	Depleted	-	Southern California.	-	14,050 (NA)/7,524.

Note: A "-" indicates that this column does not apply.

[1] The Mainland Mexico—CA/OR/WA stock and the Mexico—North Pacific stock (which does not occur in the HSTT Study Area) of humpback whale comprise the Mexico DPS. The Hawai'i stock comprises the Hawai'i DPS. The Central America/Southern Mexico—CA/OR/WA stock comprises the Central America DPS.

[2] *Ziphius cavirostris* has multiple common names. In the 2018 HSTT final rule, 2020 HSTT final rule, and 2023 HSTT proposed rule, NMFS used the common name Cuvier's beaked whale. In this final rule, NMFS uses the common name goose-beaked whale instead.

[3] The "4-Islands" stocks of common bottlenose dolphin and pantropical spotted dolphin are now the "Maui Nui" stocks.

[4] NMFS relied on the 2022 final SAR for this stock.

[5] NSD—No stock designation. Rough-toothed dolphin has a range known to include the waters off Southern California, but there is no recognized stock or data available for the U.S. West Coast.

Unusual Mortality Events

An UME is defined under section 410(6) 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.

At the time of publication of the 2023 HSTT proposed rule, there was an active UME for gray whales which NMFS fully considered in its analysis (88 FR 68290, October 3, 2023). This UME was closed on November 9, 2023. The UME involved 690 gray whale strandings, including 347 in the United States, 316 in Mexico, and 27 in Canada. Strandings occurred from Alaska to Mexico along the west coast of North America, including in the whale's wintering, migratory, and feeding areas. The Investigative Team concluded that the preliminary cause of the UME was localized ecosystem changes in the whale's Subarctic and Arctic feeding areas that led to changes in food, malnutrition, decreased birth rates, and increased mortality all documented during the UME. Please see *https://www.fisheries.noaa.gov/national/marine-life-distress/2019-2023-eastern-north-pacific-gray-whale-ume-closed* for additional information on this UME.

Biologically Important Areas

Kratofil *et al.* (2023) identified updated BIAs in Hawaii. The HSTT Study Area overlaps the updated BIAs for small and resident populations of the following species in Hawaii: 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 HSTT Study Area overlaps updated BIAs for humpback whale reproduction in Hawaii. The updated BIAs overlap critical Navy training and testing areas within the HSTT Study Area, including most of the internal Navy operating areas. Please see Kratofil *et al.* (2023) for additional details about the BIAs.

Since publication of the 2023 HSTT proposed rule, Calambokidis *et al.* (2024) identified updated BIAs on the West Coast of the U.S. The HSTT Study Area overlaps feeding BIAs for blue whale and fin whale in SOCAL. Additionally, it overlaps a reproductive BIA as well as northbound and southbound migratory BIAs for gray whale. Please see Calambokidis *et al.* (2024) for additional details about the BIAs.

Potential Effects of Specified Activities on Marine Mammals and Their Habitat

This section provides a discussion of the ways in which components of the specified activity may impact marine mammals and their habitat. The Estimated Take section later in this document includes a quantitative analysis of the number of individuals that are expected to be taken by this activity. The Analysis and Negligible Impact Determination section considers the content of this section, the Estimated Take section, and the Mitigation Measures section, to draw conclusions regarding the likely impacts of these activities on the reproductive success or survivorship of individuals and whether those impacts are reasonably expected to, or reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival. In the *Potential Effects of Specified Activities on Marine Mammals and Their Habitat* section of the 2018 HSTT proposed and final rules, and as updated by the 2020 HSTT final rule, NMFS provided a description of the ways marine mammals may be affected by the same activities that the Navy will be conducting during the 7-year period analyzed in this rulemaking in the form of serious injury or mortality, physical trauma, sensory impairment (permanent and temporary threshold shifts and acoustic masking),

physiological responses (particularly stress responses), behavioral disturbance, or habitat effects. Further, in the 2023 HSTT proposed rule, we summarized any new relevant information from the scientific literature since publication of the 2020 HSTT final rule. We do not repeat the information here, all of which remains current and applicable, but refer the reader to those rules and the 2018 HSTT FEIS/OEIS (chapter 3, section 3.7 *Marine Mammals*), which NMFS participated in the development of via our cooperating agency status and adopted to meet our NEPA requirements.

In the *Potential Effects of Specified Activities on Marine Mammals and Their Habitat* section of the 2018 HSTT final rule, we stated that it has been speculated for some time that beaked whales might have unusual sensitivities to sonar sound due to their likelihood of stranding in conjunction with MFAS use, although few definitive causal relationships between MFAS use and strandings have been documented, and no such findings have been documented with Navy use in Hawaii and southern California. On March 25, 2022, a beaked whale (species unknown) stranded in Honaunau Bay, Hawaii. The animal was observed swimming into shore and over rocks. Bystanders intervened to turn the animal off of the rocks, and it swam back out of the Bay on its own. Locals reported hearing a siren or alarm type of sound underwater on the same day, and a Navy vessel was observed from shore on the following day. The Navy confirmed it used CAS within 50 km (27 nmi) and 48 hours of the time of stranding, though the stranding has not been definitively linked to the Navy's CAS use.

An initial study of another deep diving odontocete, the sperm whale, found similar behavioral responses and reductions in foraging when whales were exposed to PAS and CAS at similar cumulative Sound Exposure Levels (SEL_{cum}), even though the CAS signal had a lower source level than the PAS signal. This may indicate that animals were, in this case, responding to the cumulative energy of a signal rather than the instantaneous amplitude (Cure *et al.* 2021, Isojunno *et al.* 2020). If a beaked whale were inshore of a Navy vessel using either PAS or CAS MFAS, and responded by moving away from the vessel, they could find themselves in shallow water and become disoriented, as may have happened in the case of Honaunau Bay. In addition, the animal was not seen after it returned to sea, so blood tissue samples could not be obtained. There has been a growing body of literature about the impacts of new pathogens on the health and stranding of marine mammals, including beaked whales in Hawaii and other locations in the Pacific (*e.g.,* Clifton *et al.* 2023 and West *et al.* 2013).

NMFS has reviewed new relevant information from the scientific literature since publication of the 2023 HSTT proposed rule. Further, in the 2023 HSTT proposed rule, we summarized any new relevant information from the scientific literature since publication of the 2020 HSTT final rule. Summaries of the new key scientific literature reviewed since publication of the 2023 HSTT proposed rule are presented below. The literature generally falls into the following topic areas: Vessel Strike; Hearing, Vocalization, and Masking; Hearing Loss (Temporary Threshold Shift (TTS) and Permanent Threshold Shift (PTS)); Behavioral Reactions; Stranding; Population Consequences of Disturbance and Cumulative Stressors; Methodology for Assessing Acoustic Impacts.

Vessel Strike

Dunlop (2024) studied migrating east Australian humpback whales' response to approaching vessels to determine if individuals exhibited an avoidance response. While some select groups did display changes in their movements, the sampled collective did not display any consistent vessel avoidance response. Furthermore, the degree of avoidance was lower as vessels approached at faster speeds. Overall, the results showed that humpbacks were generally unresponsive to approaching vessels regardless of the speed or noise level at which they approached. Female-calf pairs proved to be the biggest exception to this pattern; though this demographic did not exhibit a consistent response as a whole, these pairs were more likely to change their travel pattern more than any other group. Due to the lack of response from the population, the results suggest that implementation of vessel strike avoidance protocols is critical for successfully conserving large whale populations.

Redfern *et al.* (2024) developed a new metric for analyzing vessel strike risk reduction (''PLETHd'') and applied it to North Atlantic right, humpback, fin, and sei whale distributions along the U.S. East Coast. The metric is calculated using three parameters: the relationship between vessel speed and the probability that a strike is lethal, vessel transit distance, and whale distributions. The authors compared the impact of a 14 kn (25.9 km/hr) vs. 10 kn (18.5 km/hr) speed restriction and found that only the 10 kn (18.5 km/hr) reduction substantially reduced risk. The authors also found that applying a 10 kn (18.5 km/hr) speed restriction within multiple whale species' critical habitat zones was almost as effective as enacting the same speed restriction along the entire East Coast Exclusive Economic Zone (EEZ). The results suggest that 10 kn (18.5 km/hr) speed restrictions are a robust method for reducing vessel strike risk and that vessel restrictions within high-density core areas of a marine mammal's habitat can be highly impactful.

Hearing, Vocalization, and Masking

Parnell *et al.* (2024) studied the soundscapes of four underwater Hawaiian monk seal critical habitats, including measurement of ambient noise and characterization of detected sound sources. The authors observed diel patterns in both anthropogenic and biological sound sources that mask acoustic communication in Hawaiian monk seals. The measurements collected for this study provide a baseline for future research on impacts of anthropogenic activities on these soundscapes.

A multi-national team of scientists (U.S. and Norway) obtained the first hearing measurements of a mysticete species through auditory evoked potential (AEP) tests. During the 2023 field season, AEP tests were conducted on two adolescent female minke whales in Norway (Houser *et al.* 2024). Houser *et al.* (2024) indicate that the minke whale's upper-frequency limit of hearing occurs somewhere between 45 to 90 kHz. Minke whale's high-frequency sensitivity is hypothesized to support detection of the echolocation clicks of one their predators, the killer whale. The bandwidth of the tone-bursts used in the Houser *et al.* (2024) AEP testing was too broad to define the precise upper-frequency limit, but indicates this species is more sensitive to higher frequencies than previously predicted based on inner ear anatomy and vocalization data (Southall *et al.* 2019; NMFS 2024). Results from their final 2024 field season, which included further examination of the upper-frequency limit of hearing, are expected to be published in 2025, with preliminary data from two additional whales indicating that minke whale hearing is best around 32 kHz.

Hearing Loss (TTS and PTS)

Gransier and Kastelein (2024) examined TTS susceptibility in harbor porpoises and harbor seals based on exposures varying in frequency range and level. Specifically, exposures consisted of 100% duty cycle one-sixth-

octave noise bands at frequencies covering the entire hearing range of each species. Despite these species having different audiograms and regions of best sensitivity (*i.e.,* underwater pinnipeds are sensitive to sounds ranging from approximately 0.01 to 40–60kHz, while most odontocetes are sensitive sounds ranging from approximately 0.25 to 80–125kHz), the frequency-specific susceptibility to TTS was similar amongst both species, with the greatest susceptibility to TTS occurring at frequencies from 22.5 to 50 kHz and least susceptible to sounds below 10 kHz. The frequency of minimum TTS for the harbor seal aligns with its frequency of best hearing, while frequency of minimum TTS for the harbor porpoise is well below the frequency of best hearing. This study illustrates that the audiogram does not always serve as a good predictor of frequency-dependent susceptibility to TTS, with the pattern of susceptibility to TTS in these two species being more comparable than their audiograms.

Brewer *et al.* (2023) described 41 call types of Cook Inlet beluga vocal behavior and classified them into three categories: (1) whistles, (2) pulsed calls, and (3) combined calls. These are the first descriptions of vocal repertoire of this species in two critical habitat locations and across multiple seasons. Call types were then used to investigate the potential for masking from commercial ship noise. It was found that call types (0–12 kHz) were partially masked by distant ship noise and completely masked by close ship noise. This study provides evidence that ship noise can impact vocal communication of this population. Specifically Cook Inlet beluga vocalizations in the Susitna area, seven of the beluga's most common calls are either partially or fully masked by commercial ship traffic.

Kastelein *et al.* (2024) examined TTS in two California sea lions exposed to one-sixth-octave noise band centered at 32 kHz for 60-minutes of exposure, resulting in cumulative sound exposure levels (SEL_{cum}) ranging from 168 to 192 dB. Hearing after exposure was examined at the center frequency of the fatiguing sound (32 kHz) and at half an octave (44.8 kHz) and one octave above the center frequency (63 kHz). Higher SEL_{cum} resulted in greater threshold shifts. Furthermore, the greatest TTS occurred at half an octave above the center frequency, with TTS onset (6 dB threshold shift) measured at 44.8 kHz occurring at a 179 dB $SEL_{cum.}$ TTS patterns and recovery was similar between the two individuals, with TTSs up to 6.7 dB recovering within 8 minutes of exposure, TTSs up to 12 dB recovering within an hour, and only the highest TTS measured (12.9 dB) taking over an hour to recover. The results of this study were directly incorporated in the Navy's updated Phase IV AUD INJ/TTS criteria and indicate that California sea lions have lower AUD INJ/TTS onset than previously predicted (Southall *et al.* 2019).

Behavioral Reactions

Ceciarini *et al.* (2023) tested the efficacy of Acoustic Deterrent Devices for minimizing common bottlenose dolphin interactions with trammel nets in the Northern Tyrrhenian Sea. The authors used interactive pingers which emitted output signals ''from 5 up to 500 kHz at 168 dB re 1 µPa at 1 m as random high-speed tones FM ranging from 100 µs up to seconds''. The study found that catch damage from dolphins was significantly lower in nets where pingers were used.

Elmegaard *et al.* (2023) exposed six harbor porpoises to Acoustic Harassment Devices (AHDs), commonly referred to as ''seal scarers'', to determine if they would exhibit any physiological or behavioral reactions. The AHDs pulsed at 14 kHz with a source level of 189 dB re 1 µPa (rms) or sound exposure level of 184 dB re 1 μPa^2s, with porpoise RLs ranging from 98–132 dB re 1 µPa. All individuals sampled exhibited a mixture of behavioral or physiological responses, including startling, increased distance from the sound source, increased swim speed, diving, altered echolocation patterns, cardiac responses, or altered respiration patterns. Overall, responses were observed in every individual up to 7 km or down to an RL of 98 dB re 1 µPa.

Frankish *et al.* (2023) followed ten harbor porpoises for 5 to 10 days to observe their reactions to ship traffic around Denmark. The porpoises spent over half of the study period within 10 km of a ship, and a third of the study period exposed to noise levels above ambient. The porpoises responded by moving away from ships during the day, and diving deep during the night. They had a higher likelihood of altering their movements when louder ships were nearby (maximum probability of deterrence = 12.2 percent during the day and 14.9 percent at night), and moved an average of 3.2 km away from 13.6 different ships every day. Deeper dives occurred less frequently, at a rate of 5.7 different ships per individual per night. The porpoises also reacted to loud ships that were far away (>2 km at 93 ± 14 dB re 1 μPa^2), though responses occurred less frequently (5 to 9 percent of the time vs. up to 14.9 percent of the time at close range).

Southall *et al.* (2023) used control exposure experiments (CEEs) to provide the first results in examining the impact of mid-frequency navy sonar (3.5–4.1 kHz) or pseudorandom noise (similar frequency, duration and source and received level compared to mid-frequency sonar) on fin whale behavior in feeding habitats of the Southern California Bight. Of the 15 exposed fin whales, only five individuals demonstrated a mild to moderate behavioral changes (avoidance, changes in feeding, diving, or respiration), with no changes demonstrated for whales in the six control exposures. Compared to blue whales, fin whale behavioral responses were more limited in occurrence, severity and duration and were found to be less dependent upon contextual aspects of exposure, with received level as the primary factor associated with behavioral responses. Additionally, foraging success was not compromised by exposures from this study. The authors note that differences observed between behavioral response in fin whales in this study and blue whales in previously published studies may be attributed to the smaller sample size associated with this study. However, as seen in blue whales, fin whale behavior returned to baseline conditions after noise exposure ended.

Methodology for Assessing Acoustic Impacts

Indeck *et al.* (2024) assessed North Atlantic right whale, fin, and blue whale detectability by Slocum gliders near heavily used shipping lanes in the Gulf of St. Lawrence, Canada. The goal of the study was to evaluate the gliders' suitability as a passive acoustic monitoring platform for whale detection in areas with high anthropogenic noise levels. The authors found that shipping lane noise did not substantially impact whale detectability, as calls from the highly trafficked areas were not masked significantly more than calls in quieter areas nearby. The gliders were therefore identified as a viable PAM platform to use in and around busy shipping areas. These results suggest that gliders could be an important tool for monitoring mysticetes in highly industrialized areas and assisting in ongoing dynamic management initiatives.

Conclusion for New Pertinent Science Since Publication of the 2023 HSTT Proposed Rule

Having considered the best scientific information available, specifically new relevant information published since the 2023 HSTT proposed rule, we have

determined that there is no new information that substantively affects our analysis of impacts on marine mammals and their habitat that appeared in the 2020 HSTT final rule, all of which remains applicable and valid for our assessment of the effects of the Navy's activities during the 7-year period of this rulemaking.

Estimated Take of Marine Mammals

This section indicates the number of takes that NMFS is authorizing, which are based on the amount of take that NMFS anticipates could occur or is likely to occur, depending on the type of take and the methods used to estimate it, as described below. NMFS coordinated closely with the Navy in the development of their incidental take application and agrees that the methods the Navy has put forth described herein, in the 2019 HSTT proposed rule, 2020 HSTT final rule, and in the 2018 HSTT proposed and final rules to estimate take (including the model, thresholds, and density estimates), and the resulting numbers are based on the best available science and appropriate for authorization, with the exception of that of humpback whales, discussed further below. The number and type of incidental takes that could occur or are likely to occur annually remain identical to those authorized in the 2018 HSTT regulations and 2020 HSTT regulations, with the exception of authorized takes by serious injury or mortality by vessel strike and harassment takes of humpback whale stocks in Southern California (due to the new stock structure).

Takes are predominantly in the form of harassment, but a small number of serious injuries or mortalities could occur. For military readiness activities, the MMPA defines ''harassment'' as (i) 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 (ii) 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).

Authorized takes will primarily be in the form of Level B harassment, as use of the acoustic and explosive sources (*i.e.,* sonar, air guns, pile driving, explosives) is more likely to result in the disruption of natural behavior 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) or TTS for marine mammals. There is also the potential for Level A harassment in the form of auditory injury and/or tissue damage (the latter from explosives only) to result from exposure to the sound sources utilized in training and testing activities. Additionally, serious injuries or mortalities of mysticetes (except for sei whales, minke whales, Bryde's whales, Central North Pacific stock of blue whales, Hawaii stock of fin whales, Western North Pacific stock of gray whales, and sperm whales) could occur through vessel strike. Mitigation and monitoring measures are expected to minimize the severity of the taking to the extent practicable.

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 will 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.

Acoustic Thresholds

Using the best available science, NMFS, in coordination with the Navy, has established acoustic thresholds that identify the most appropriate received level of underwater sound above which marine mammals exposed to these sound sources could be reasonably expected to experience a disruption in behavior patterns to a point where they are abandoned or significantly altered, either directly or via the effects of TTS (both equated to Level B harassment) or PTS of some degree (equated to Level A harassment). Thresholds have also been developed to identify the pressure levels above which animals may incur non-auditory injury from exposure to pressure waves from explosive detonation. We described the acoustic thresholds and the methods used to determine thresholds in detail in the *Acoustic Thresholds* section of the 2018 HSTT final rule; please see the 2018 HSTT final rule for detailed information. Further, in the 2020 HSTT final rule, and 2023 HSTT proposed rule, we described new relevant information from the scientific literature since publication of the 2018 HSTT final rule and 2020 HSTT final rule, respectively. Since publication of the 2023 HSTT proposed rule, NMFS has updated our Technical Guidance (NMFS, 2024) containing updated acoustic criteria for auditory injury (89 FR 36762, October 24, 2024). The Technical Guidance provides updated auditory injury thresholds, where appropriate, as well as revised weighting functions, in some cases. For impulsive sources, the Updated Technical Guidance's auditory injury thresholds generally remain identical or are higher compared to our 2018 Technical Guidance, meaning that received levels would need to be higher in order for marine mammals to be expected to incur auditory injury. The exceptions are for phocid pinnipeds (PW), where the cumulative SEL threshold, in the Updated Technical Guidance, is 2 dB lower and for otariid pinnipeds (OW) where the peak sound pressure level threshold is 2 dB lower and the cumulative SEL threshold is 18 dB lower. As for the Updated Technical Guidance's weighting functions, for MF cetaceans (now called HF cetaceans in the updated document) and HF cetaceans (now called VHF cetaceans in the updated document), the weighting functions reflect a higher susceptibility to auditory injury at frequencies below 10 kHz, as compared to the 2018 Technical Guidance. Other minor changes/shifts to weighting functions (*e.g.,* for LF cetaceans, PW pinnipeds, OW pinnipeds) were also included. This new information was not available in a timeframe in which NMFS could have incorporated it into the quantitative analysis supporting this final rulemaking; however, NMFS did consider the information qualitatively. While these changes in the auditory injury thresholds and weighting functions could result in minor increases in PTS exposure estimates for some species, given the conservative assumptions built into the take estimate methodology, they would not be expected to result in meaningful, if any, changes in take estimates and would not be expected to change any of the findings.

Navy's Acoustic Effects Model

The Navy proposed no changes to the Acoustic Effects Model as described in the 2018 HSTT final rule (and incorporated by reference in the 2020 HSTT final rule), and there is no new information that would affect the applicability or validity of the model. Please see the 2018 HSTT final and proposed rules and Appendix E of the 2018 HSTT FEIS/OEIS for detailed information, and see the discussion of the 2024 Technical Guidance in the *Acoustic Thresholds* section above.

Range to Effects

The Navy proposed no changes from the 2018 HSTT final rule (and subsequent 2020 HSTT final rule) to the type and nature of the specified activities to be conducted during the 7-year period analyzed in this final rule, including equipment and sources used and exercises conducted.

As described above in the *Acoustic Thresholds* section, since publication of the 2023 HSTT proposed rule, NMFS has updated our Technical Guidance (NMFS, 2024) containing updated acoustic criteria for auditory injury (89 FR 36762). Please see that section for a full discussion of the updates. This new information was not available in a timeframe in which NMFS could have incorporated it into the quantitative analysis supporting this final rulemaking; however, NMFS did consider the information qualitatively. While these changes in the auditory injury thresholds and weighting functions could result in minor increases in PTS exposure estimates for some species, given the conservative assumptions built into the take estimate methodology, they would not be expected to result in meaningful, if any, changes in take estimates and would not be expected to change any of the findings.

Therefore, the ranges to effects in this final rule are identical to those described and analyzed in the 2018 HSTT final rule and 2020 HSTT final rule, including received sound levels that may cause onset of significant behavioral response and TTS and PTS in hearing for each source type or explosives that may cause non-auditory injury. Please see the *Range to Effects* section and tables 24 through 40 of the 2018 HSTT final rule for detailed information.

Marine Mammal Density

The Navy proposed no changes to the methods used to estimate marine mammal density described in the 2018 HSTT final rule, and there is no new information that would affect the applicability or validity of these methods or change the results in a manner that would change the necessary determinations supporting the issuance of these regulations. The Navy's estimate of marine mammal density as described in the 2018 HSTT final rule remains valid, though, as described herein, NMFS has incorporated new information regarding humpback whale stock structure into its analysis. Please see the 2018 HSTT final rule, and below, for detailed information.

As noted above, NMFS regularly updates SARs, and in this rulemaking considers the 2023 final SARs (Carretta *et al.* 2024, Young *et al.* 2024). While these SARs contain updated information, the Navy's estimate of marine mammal density as described in the 2018 HSTT final rule remains valid for the following reasons. The Navy uses its Marine Species Density Database (NMSDD) for its analysis, which is derived from multiple sources, including but not limited to SARs. In contrast, for most cetacean species, the SAR is estimated using line-transect surveys or mark-recapture studies (*e.g.,* Barlow, 2010; Barlow and Forney, 2007; Calambokidis *et al.* 2008). The result provides one single abundance value for each species across broad geographic areas, but it does not provide information on the species density or concentrations within that area, and it does not estimate density for other timeframes or seasons that were not surveyed. A change in a stock's abundance indicated in a SAR does not necessarily indicate a change in that stock's density in any given area. Therefore, stocks in the HSTT Study Area with higher abundance estimates in the most recent SARs in comparison to the abundance estimates at the time that marine mammal densities were derived for the HSTT Study Area do not necessarily now occur in higher densities in the HSTT Study Area. For humpback whale, while the stock structure in the Pacific Ocean was revised in the 2022 final SARs (Carretta *et al.* 2023, Young *et al.* 2023), the discussion above remains true regarding density of humpback whales in the HSTT Study Area across all stocks.

Take Requests

As in the 2018 HSTT final rule and 2020 HSTT final rule, the Navy determined that the three stressors below could result in the incidental taking of marine mammals. NMFS has reviewed the Navy's data and analysis and determined that it is complete and accurate, and NMFS agrees that the following stressors have the potential to result in takes of marine mammals from the Navy's planned activities:

- Acoustics (sonar and other transducers; air guns; pile driving/extraction);
- Explosives (explosive shock wave and sound, assumed to encompass the risk due to fragmentation); and
- Physical Disturbance and Strike (vessel strike).

NMFS reviewed and agrees with the Navy's conclusion that acoustic and explosive sources have the potential to result in incidental takes of marine mammals by harassment, serious injury, or mortality. NMFS carefully reviewed the Navy's analysis and conducted its own analysis of vessel strikes, determining that the likelihood of any particular species of large whale being struck is quite low. However, as noted previously, in 2021, two separate U.S. Navy vessels struck unidentified large whales on two separate occasions, one whale in June 2021 and one whale in July 2021. In May 2023, the U.S. Navy struck a large whale, which based on available photos and video, NMFS and the Navy have determined was either a fin whale or sei whale. NMFS agrees that vessel strikes have the potential to result in incidental take from serious injury or mortality for certain species of large whales, and the Navy has specifically requested coverage for these species. Therefore, the likelihood of vessel strikes, and later the effects of the incidental take that is being authorized, has been fully analyzed and is described below.

Regarding the quantification of expected takes from acoustic and explosive sources (by Level A and Level B harassment, as well as mortality resulting from exposure to explosives), the number of takes are based directly on the level of activities (days, hours, counts, *etc.,* of different activities and events) in a given year. In the 2020 HSTT final rule, take estimates across the 7 years were based on the Navy conducting 4 years of a representative level of activity and 3 years of maximum level of activity. As in the 2020 HSTT final rule, the Navy uses the maximum annual level to calculate annual takes (which would remain identical to what was determined in the 2020 HSTT final rule, with the exception of attribution of takes to humpback whale stocks), and the sum of all years (4 representative and 3 maximum) to calculate the 7-year totals for this rulemaking.

The quantitative analysis process used for the 2018 HSTT FEIS/OEIS and the 2017 and 2019 Navy applications to estimate potential exposures to marine mammals resulting from acoustic and explosive stressors is detailed in the technical report titled *Quantifying Acoustic Impacts on Marine Mammals and Sea Turtles: Methods and Analytical Approach for Phase III Training and Testing* (U.S. Department of the Navy, 2018). The Navy Acoustic Effects Model estimates acoustic and explosive effects without taking mitigation into account; therefore, the model overestimates predicted impacts on marine mammals within mitigation zones. To account for mitigation for marine species in the take estimates, the

Navy conducts a quantitative assessment of mitigation. The Navy conservatively quantifies the manner in which procedural mitigation is expected to reduce the risk for model-estimated PTS for exposures to sonars and for model-estimated mortality for exposures to explosives, based on species sightability, observation area, visibility, and the ability to exercise positive control over the sound source. Where the analysis indicates mitigation would effectively reduce risk, the model-estimated PTS are considered reduced to TTS and the model-estimated mortalities are considered reduced to injury. For a complete explanation of the process for assessing the effects of mitigation, see the 2017 Navy application and the *Take Requests* section of the 2018 HSTT final rule. The extent to which the mitigation areas reduce impacts on the affected species and stocks is addressed separately in the Analysis and Negligible Impact Determination section.

No changes have been made to the quantitative analysis process to estimate potential exposures to marine mammals resulting from acoustic and explosive stressors and calculate take estimates, with the exception of take of humpback whales to account for the change in stock structure. Please see the documents described in the paragraph above, the 2018 HSTT proposed rule, the 2018 HSTT final rule, and below for detailed descriptions of these analyses. While Oedekoven and Thomas (2022) suggest that detection of marine mammals is less certain than previously assumed at certain distances, NMFS has independently evaluated the Navy's method for application of mitigation effectiveness in estimating take and agrees that it is appropriately applied to augment the model in the prediction and authorization of injury and mortality as described in the rule, including after consideration of Oedekoven and Thomas (2022). In summary, we believe the Navy's methods, including the method for incorporating mitigation and avoidance, are the most appropriate methods for predicting PTS, TTS, and behavioral disturbance. But even with the consideration of mitigation and avoidance, given some of the more conservative components of the methodology (*e.g.,* the thresholds do not consider ear 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 PTS, TTS, or behavioral disturbance.

Summary of Authorized Take From Training and Testing Activities

Based on the methods discussed in the previous sections and the Navy's model and quantitative assessment of mitigation, the Navy provided its take estimate and request for authorization of takes incidental to the use of acoustic and explosive sources for training and testing activities both annually (based on the maximum number of activities that could occur per 12-month period) and over the 7-year period in its 2019 rulemaking/LOA application. With the exception of changes to humpback whale take, described below, annual takes (based on the maximum number of activities that could occur per 12-month period) from the use of acoustic and explosive sources are identical to those presented in tables 41 and 42 and in the *Explosives* subsection of the *Take Requests* section of the 2018 HSTT final rule. The 2022 Navy application includes the Navy's updated take estimate and request for take by vessel strike due to vessel movement in the HSTT Study Area. NMFS reviewed the Navy's data, methodology, and analysis and determined that it was complete, but NMFS has reanalyzed the potential for vessel strike following the May 2023 strike, as described in the *Authorized Take from Vessel Strikes and Explosives by Serious Injury or Mortality* section. NMFS agrees that the estimates for incidental takes by harassment from all sources as well as the incidental takes by serious injury or mortality from explosives requested for authorization are the maximum number of instances in which marine mammals are reasonably expected to be taken at the time of Navy's request, and continues to be for all stocks other than humpback whales, for which changes are described below. NMFS also agrees that the takes by serious injury or mortality as a result of vessel strikes could occur. Note that, consistent with the 2020 HSTT final rule, the total amount of estimated incidental take from acoustic and explosive sources over the total 7-year period covered by the 2019 Navy application is less than the annual total multiplied by seven. Although the annual estimates are based on the maximum number of activities per year and therefore, the maximum possible estimated takes, the 7-year total take estimates are based on the sum of 3 maximum years and 4 representative years, with the exception of humpback whale stocks that occur in SOCAL for which 7-year total take is conservatively estimated as the annual total multiplied by seven. Not all activities occur every year. Some activities would occur multiple times within a year, and some activities would occur only a few times over the course of the 7-year period. Using 7 years of the maximum number of activities each year would vastly overestimate the amount of incidental take that would occur over the 7-year period where the Navy knows that it will not conduct the maximum number of activities each and every year for the 7 years.

As described above in the Description of Marine Mammals and Their Habitat in the Area of the Specified Activities section, the 2022 final SARs include a revision to the humpback whale stock structure in the Pacific Ocean. In the 2020 HSTT final rule, NMFS authorized take of the CA/OR/WA stock and Central North Pacific stock of humpback whale. Given the revised stock structure, in this final rule, NMFS has reanalyzed the potential for take of each stock of humpback whale and determined that the Central America/Southern Mexico-CA/OR/WA, Mainland Mexico-CA/OR/WA stock, and Hawaii stocks are likely to be taken by the Navy's activities.

Under the new stock structure, the Hawaii stock (Hawaii DPS) is the only stock that would occur in Hawaii. Therefore, the Hawaii stock of humpback whale is the only humpback whale stock anticipated to be taken by the Navy's activities in the HRC, and all takes of the Central North Pacific stock of humpback whale that were authorized in the 2020 HSTT final rule are anticipated to be of individuals from the new Hawaii stock. In SOCAL, the takes of individuals from the former CA/OR/WA stock that were authorized in the 2020 HSTT final rule are anticipated to be of individuals from the new Central America/Southern Mexico-CA/OR/WA and Mainland Mexico-CA/OR/WA stock.

Please see the Authorized Harassment Take from Testing Activities and Authorized Harassment Take from Training Activities sections below for the authorized annual and 7-year total number and type of Level A harassment and Level B harassment for each humpback whale stock.

Authorized Harassment Take From Training Activities

For training activities, table 11 of the 2020 HSTT final rule summarizes the Navy's take estimate and request in the 2019 Navy application and the maximum amount and type of Level A harassment and Level B harassment that NMFS concurred is reasonably expected to occur by species or stock and authorized in the 2020 HSTT LOA. In the 2022 Navy application, the Navy

requested no change to this authorized take, though as described above, NMFS has since published the 2023 final, which include a revision to humpback whale stock structure. For the estimated 7-year total amount and type of Level A harassment and Level B harassment, see table 11 of the 2020 HSTT final rule for all species other than humpback whale. For the estimated amount and type of Level A harassment and Level B harassment annually, see table 41 in the 2018 HSTT final rule for all species other than humpback whale. Note that take by Level B harassment includes both behavioral disturbance and TTS. Navy figures 6–12 through 6–50 in section 6 of the 2017 Navy application illustrate the comparative amounts of TTS and behavioral disturbance for each species 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 2—HUMPBACK WHALE TAKE FROM ACOUSTIC AND EXPLOSIVE EFFECTS FOR ALL TRAINING ACTIVITIES IN THE HSTT STUDY AREA

Species	Stock	Annual		7-year total	
		Level B harassment	Level A harassment	Level B harassment	Level A harassment
Humpback whale [a]	Hawaii	5,604	1	34,437	12
	Central America/Southern Mexico-CA/OR/WA (Central America DPS).	585	0	[b] 4,095	0
	Mainland Mexico—CA/OR/WA (Mexico DPS).	669	1	[b] 4,683	7

[a] Combined takes from the Central America/Southern Mexico- CA/OR/WA stock and the Mainland Mexico CA/OR/WA stock are equal to takes of the CA/OR/WA stock authorized in the 2020 HSTT final rule.

[b] Unlike other species and stocks, for the Central America/Southern Mexico-CA/OR/WA stock and Mainland Mexico-CA/OR/WA stock, NMFS estimated the 7-year take by Level B harassment by multiplying the annual estimated take by seven. However, between the two stocks, NMFS does not anticipate that the total number of takes by Level B harassment across all 7 years would exceed the 7,962 takes by Level B harassment from training activities that were authorized for the CA/OR/WA stock of humpback whales in the 2020 HSTT final rule.

Authorized Harassment Take From Testing Activities

For testing activities, table 12 of the 2020 HSTT final rule summarizes the Navy's take estimate and request in the 2019 Navy application and the maximum amount and type of Level A harassment and Level B harassment that NMFS concurred is reasonably expected to occur by species or stock and authorized in the 2020 HSTT LOA. In the 2022 Navy application, the Navy requested no change to this authorized take. For the estimated 7-year total amount and type of Level A harassment and Level B harassment, see table 12 of the 2020 HSTT final rule. For the estimated amount and type of Level A harassment and Level B harassment annually, see table 42 in the 2018 HSTT final rule. Note that take by Level B harassment includes both behavioral disturbance and TTS. Navy figures 6–12 through 6–50 in section 6 of the 2017 Navy application illustrate the comparative amounts of TTS and behavioral disturbance for each species 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 3—HUMPBACK WHALE TAKE FROM ACOUSTIC AND EXPLOSIVE EFFECTS FOR ALL TESTING ACTIVITIES IN THE HSTT STUDY AREA

Species	Stock	Annual		7-year total	
		Level B harassment	Level A harassment	Level B harassment	Level A harassment
Humpback whale [a]	Hawaii	3,522	2	23,750	19
	Central America/Southern Mexico-CA/OR/WA.	291	0	[b] 2,037	0
	Mainland Mexico—CA/OR/WA	449	0	[b] 3,143	0

[a] Combined takes from the Central America/Southern Mexico- CA/OR/WA stock and the Mainland Mexico CA/OR/WA stock are equal to takes of the CA/OR/WA stock authorized in the 2020 HSTT final rule.

[b] Unlike other species and stocks, for the Central America/Southern Mexico-CA/OR/WA stock and Mainland Mexico-CA/OR/WA stock, NMFS estimated the 7-year take by Level B harassment by multiplying the annual estimated take by seven. However, between the two stocks, NMFS does not anticipate that the total number of takes by Level B harassment across all 7 years would exceed the 4,961 takes by Level B harassment from testing activities that were authorized for the CA/OR/WA stock of humpback whales in the 2020 HSTT final rule.

Authorized Take From Vessel Strikes and Explosives by Serious Injury or Mortality

Vessel Strike

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.* 2010; Calambokidis, 2012; Douglas *et al.* 2008; Laggner, 2009; Lammers *et al.* 2003; Van der Hoop *et al.* 2012; Van der Hoop *et al.* 2013; Crum *et al.* 2019). Records of collisions date back to the early 17th century, and the worldwide number of collisions appears to have increased steadily during recent decades (Laist *et al.* 2001; Ritter 2012) due to increases in the number and speed of large vessels, increased reporting of strikes, and increased abundance of some large whales (Ransome *et al.* 2021), among other factors.

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; Smultea *et al.* 2022; Szesciorka *et al.* 2019), 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; Lemon *et al.* 2006; Lusseau, 2003; Lusseau, 2006; Magalhaes *et al.* 2002; Nowacek *et al.* 2001; Richter *et al.* 2003; Scheidat *et al.* 2004; Simmonds, 2005; Watkins, 1986; Williams *et al.* 2002; Wursig *et al.* 1998). Several authors suggest that the noise generated during vessel movement is probably an important factor (Blane and Jaakson, 1994; Evans *et al.* 1992; Evans *et al.* 1994). Water disturbance may also be a factor. 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 Navy is conducting training or testing 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 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 collisions (Nowacek *et al.* 2004). These species are primarily large whales.

Some researchers have suggested 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 ship to detect a marine mammal and avoid a collision depends on a variety of factors, including environmental conditions, ship 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. For example, Vanderlaan and Taggart (2007) found that between vessel speeds of 8.6 and 15 kn (15.9 and 27.8 km per hour), the probability that a vessel strike is lethal increases from 0.21 to 0.79. Large whales also do not have to be at the water's surface to be struck. Silber *et al.* (2010) found when a whale is below the surface (about one to two times the vessel draft), 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:

- Many military ships have their bridges positioned closer to the bow, offering better visibility ahead of the ship (compared to a commercial merchant vessel);
- There are often aircraft associated with the training or testing activity (which can serve as Lookouts), which can more readily detect cetaceans in the vicinity of a vessel or ahead of a vessel's present course before crew on the vessel would be able to detect them;
- Military ships are generally more maneuverable than commercial merchant vessels, and if cetaceans are spotted in the path of the ship, could be capable of changing course more quickly;
- The crew size on military vessels is generally larger than merchant ships, allowing for stationing more trained Lookouts on the bridge. At all times when 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. Additional Lookouts, beyond those already stationed on the bridge and on navigation teams, are positioned as Lookouts during some training events; and
- When submerged, submarines are generally slow moving (to avoid detection), and therefore, marine mammals at depth with a submarine are likely able to avoid collision with the submarine. When a submarine is transiting on the surface, there are Lookouts serving the same function as they do on surface ships.

Vessel strike to marine mammals is not associated with any specific training or testing activity but is rather a limited and sporadic, but possible, accidental result of Navy vessel movement within the HSTT Study Area or while in transit.

In 2009, the Navy began implementing additional mitigation measures to further reduce the likelihood of vessel strikes. Prior to the recent strikes in 2021 and 2023, there were two recorded U.S. Navy vessel strikes of large whales in the HSTT Study Area between 2009 and April 2021, a period of approximately 12 years.

Since 2021 there have been five strikes of large whales in SOCAL attributed to naval vessels, three by the U.S. Navy and two by the Royal Australian Navy. As stated previously, the U.S. Navy struck a large whale in 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. In the case of the Royal Australian Navy strike, the carcasses were first sighted under the bow of the vessel while it was approaching the Naval Base in San Diego. The whales had been pinned to a sonar dome in the front of the vessel due to the force of water as the ship was underway. Based on interviews with HMAS Sydney personnel, the most likely time of impact with the two whales would have been around 6:25 a.m. when the vessel was located near Cortes Bank, and visibility was poor. The reported vessel speed at the estimated time of strike was 9 kn (16.7 km per hour). One minute before the estimated strike time a lookout reported whales off the starboard bow. The officer on-watch verbally acknowledged the report, slowed speed, and visually tracked the whales passing clear down the starboard side until they were clear of the ship. The morning of the strike, the HMAS Sydney was getting into position to participate in a U.S. Navy-led exercise later that day. Of note, throughout the remainder of the day visibility was poor and the vessel had implemented mitigation measures in multiple instances due to whale occurrence. In addition to being the only documented occurrence of a foreign military vessel strike of a large whale within the HSTT Study Area, the HMAS Sydney vessel strike was also somewhat unique, as compared to other reported military vessel strikes, in that two whales were apparently struck at one time, and both remained pinned to

the front of the vessel until the vessel approached the port.

On June 29, 2021, a U.S. Navy cruiser struck an unknown whale species approximately 95 nmi (176 km) west of San Diego. The ship was returning from Hawaii, heading to a rendezvous with a fuel replenishment vessel (oiler) for an Underway Replenishment. Off-duty sailors noticed a group of whales approaching the ship from the port quarter (*i.e.,* left rear of the ship), an area unique to cruisers with some equipment structures blocking close aboard sight. The first indication of a whale within the 500-yd mitigation zone immediately prior to the strike was when an off-duty sailor on the flight deck witnessed the whale briefly surface on the aft port quarter before diving. Shortly after this occurred blood was noticed in the wake, and a floating whale body was eventually observed behind the ship. The ship's speed was 25 kn (46.3 km per hour) at the estimated time the strike occurred. The Navy also noted that, on the morning before the strike occurred, the ship had maneuvered several times to avoid whale blows beyond the 500-yd (457.2 m) mitigation zone, closer to 1,000 yd (914.4 m).

On July 11, 2021, a U.S. Navy cruiser struck an unknown whale species approximately 90 nmi (166.7 km) south-southwest of San Diego. The vessel was a participant in a MTE (Large Integrated Anti-Submarine Warfare—Composite Unit Training Exercise) within the SOCAL portion of the action area. The vessel was maneuvering for pending flight operations to receive an inbound helicopter. At 2:27 p.m., the starboard lookout sighted what they believed to be a whale crossing immediately under the vessel's bow. The conning officer attempted to maneuver the vessel by turning to port but internal watchstanders subsequently felt the ship shudder aft. The vessel's combat center observed a red slick 600 yd (548.6 m) astern on a flight deck camera and a brief surfacing of the whale itself, but no carcass was observed. There had not been any sightings of large whales off the bow leading up to the incident. Although the ship was traveling at 25–30 kn (46.3–55.6 km per hour) 1 hour before the estimated strike time, at 10 minutes before, the vessel changed course and reduced its speed to 17 kn (31.5 km per hour). These 2021 incidents were the first known U.S. Navy vessel strikes in the HSTT Study Area since 2009.

On May 20, 2023, a U.S. Navy aircraft carrier was at sea conducting independent, unit-level flight training for the embarked airwing approximately 70 nmi (129.6 km) west of San Diego. Training exercises concluded for the day at approximately 7:44 p.m. local time. Navy personnel discovered a whale impinged on the bow of the vessel at approximately 8:00 p.m. local time. The vessel was traveling at approximately 5 kn (9.3 km per hour) and had recently made a turn to reset position for the evening when the Navy personnel discovered the whale. Navy personnel captured video and photos of the carcass, and based on those images, NMFS and the Navy have determined this whale was either a fin whale or sei whale; the two species are very similar morphologically and are difficult to distinguish from one another at sea. Navy personnel stopped the vessel to allow lack of momentum to dislodge the carcass from the bow, and based on lack of further observations after the carcass dislodged, it is believed to have sunk around 9:30 p.m. local time. Navy personnel on board the vessel reported that they did not feel an impact from striking the whale. Prior to the strike, between 6:45 p.m. and 7:45 p.m., the forward Lookouts on the vessel observed two whales crossing the vessel's bow but did not provide a distance between the vessel and the whales. One Lookout reported seeing the blow and the other reported seeing 'humps' (presumably the dorsal of the animal). Both whales were sighted past the ship's course to the northwest. Within the same time window, one of the aft Lookouts observed a single whale swimming parallel to the ship and soon passed astern of the ship. During the same time, independent of the sightings and for general movement reasons, the ship changed speed from 17 kn (31.5 km per hour) to 10 kn (18.5 km per hour) at 7:22 p.m.

While in this incident a whale was discovered impinged on the bow of a Navy vessel, this incident is very different from the discovery of two fin whales discovered impinged on the sonar dome of a Royal Australian Navy vessel in 2021 when the vessel came to port at Naval Base San Diego. While U.S. Navy cannot speculate on the configurations of other ships bows and even sonar dome specifications (that may be at the bow), the Navy believes it would be implausible for a marine mammal to become lodged on the sonar dome of a U.S. Navy ship and remain undetected due to a technological standard operating procedure. Sonar domes on U.S. Navy ships have a pressurized rubber window that maintains 150 pound-force per square inch (PSI) through the ship's fire main. If anything affects the pressure, an alarm sounds in the sonar control room. In the event of a whale strike in that location, this alarm would alert personnel that something hit the sonar dome. Further, the shape, hydrodynamic design, construction using a non-abrasive material, and regular hull cleaning procedures to remove barnacles and other growth on U.S. Navy ships also make it unlikely that a whale would become lodged and remain undetected on a U.S. Navy ship's bow or even sonar dome. While in the case of the May 2023 strike, described above, a whale also became lodged on the ship's bow, the aircraft carrier that struck the whale does not have active or passive sonar capabilities (*i.e.,* no sonar dome), nor does it have a bulbous bow, and the whale was more quickly discovered by Navy personnel.

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 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.

For the same reasons listed above describing why the likelihood of a military vessel striking a whale is lower than that of some other vessels striking whales, it is also highly unlikely that a Navy vessel would strike a whale, dolphin, porpoise, or pinniped without detecting it. Specifically, Navy vessels have Lookouts, including on the forward part of the ship that can visually detect a hit animal in the event ship personnel do not feel the strike (which has occurred). Accordingly, NMFS is confident that the Navy's reported strikes are accurate and appropriate for use in the analysis. The Navy has strict internal procedures and mitigation requirements include reporting of any vessel strikes of marine mammals, and the Navy's 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.

In order to better account for the accidental nature of vessel strikes to large whales in general and the potential risk from U.S. Navy vessel movement within the HSTT Study Area during the remaining period of the HSTT rule in particular, the Navy requested the HSTT rule be modified to authorize additional incidental takes by vessel strike based on probabilities derived from a Poisson distribution using vessel strike data between 2009–2021 in the HSTT Study Area (the time period from when current mitigations were instituted until the Navy conducted the analysis for the 2022 Navy application), as well as historical at-sea days in the HSTT Study Area from 2009–2015 and estimated at-sea days for the period from 2016 to 2025 covered by the current regulations. This distribution predicted the probabilities of a specific number of strikes (n = 0, 1, 2, *etc.*) over the remaining period of the regulations at the time of the Navy's analysis (2022–2025).

The Navy used the two fin whale strikes (2009) and two unidentified large whale strikes (2021) in their calculations to determine the number of strikes likely to result from its activities over the remaining 3 years of the rule (2023–2025, although worldwide strike information from all Navy activities and other sources was used to inform the species that may be struck). The Navy evaluated data beginning in 2009 as that 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. From this analysis, the Navy concluded that there was a 27 percent chance that zero whales would be struck by Navy vessels over the remaining period of the rule (which, at the time that the application was submitted, was 4 years), and a 35, 23, and 10 percent chance that one, two, or three whales, respectively, would be struck over the remaining 4 years of the rule. Therefore, the Navy estimated that there was some probability that the Navy could strike, and take by serious injury or mortality, up to three large whales incidental to training and testing activities within the HSTT Study Area over what would have been the remaining 4 years of the current authorization, and the Navy requested authorization of two additional takes of large whales by serious injury or mortality by vessel strike, beyond the three takes authorized by the 2020 HSTT final rule (85 FR 41780, July 10, 2020).

NMFS has since updated this analysis to reflect that an additional strike of an unidentified large whale occurred in May 2023 (either a fin whale or sei whale, as stated above) and that additional time has passed since the Navy submitted the 2022 Navy application. Based on further discussions with the Navy, NMFS has also updated the way it calculated at-sea days. This is a different manner of calculating at-sea days for the purposes of the strike analysis rather than a change in Navy's activity levels. For 2010–2015, the at-sea days used in NMFS' calculation reflected historic at-sea days in the HSTT action area based on positional vessel data records (Mintz, 2016). While the actual annual at-sea days from 2016-present are currently classified, NMFS' updated calculation reflects an extrapolation of the 2010–2015 at-sea days (using the formula $y = -64x+131555$) to estimate the number of at-sea days in 2016 (Navy, 2022). The number of at-sea days derived for 2016 was 2,056 at-sea days, which reflects the downward trend in HSTT vessel activity from 2010–2015. Since we do not have sufficient information to say whether or not this downward trend continued for the years 2017–2023, we conservatively estimate the average over these years was the same as the 2016 extrapolated value of 2,056 at-sea days. This analysis only included at-sea days for Navy warships greater than 65 feet (*i.e.,* destroyers are the smallest ship class included). Navy vessels smaller than 65 feet have never reported a whale strike in the Pacific, and therefore, we consider it unlikely that this would occur in the remaining period of the regulations.

TABLE 4—HSTT 2009 THROUGH MID-2023 AT-SEA DAYS USED FOR THE VESSEL STRIKE PROBABILITY CALCULATION

Year	At-Sea days	Derivation
2009	4,233	Estimated average based on 2010–2015 data.
2010	5,207	Based on positional vessel data.
2011	4,483	Based on positional vessel data.
2012	4,081	Based on positional vessel data.
2013	4,041	Based on positional vessel data.
2014	4,272	Based on positional vessel data.
2015	3,311	Based on positional vessel data.
2016	2,056	Extrapolated from 2010–2015 regression.
2017	2,056	Extrapolated from 2010–2015 regression.
2018	2,056	Extrapolated from 2010–2015 regression.
2019	2,056	Extrapolated from 2010–2015 regression.
2020	2,056	Extrapolated from 2010–2015 regression.
2021	2,056	Extrapolated from 2010–2015 regression.
2022	2,056	Extrapolated from 2010–2015 regression.
2023 (first half of year)	1,028	Extrapolated from 2010–2015 regression, then reduced by half.
2009- Mid-2023 total	45,048	

NMFS then used the number of past Navy vessel strikes and the at-sea days to calculate a vessel strike rate for 2009 through mid-2023. The estimated total number of Navy at-sea days (for vessels greater than 65 feet) for 2009 through mid-2023 was 45,048 days. Dividing the five known strikes during that period by the at-sea days (*i.e.,* 5 strikes/45,048 at-sea days) results in a strike rate of 0.000111 strikes per day.

As described above, NMFS conservatively assumed that the average number of at-sea days from mid-2023 through 2025 (the remaining period of the regulations at the time that the analysis was conducted) will be the same as the 2016 extrapolated value of 2,056. Therefore, the estimated at-sea days within the action area for the period from mid-2023 through 2025 is 5,140 days. NMFS multiplied the historic daily strike rate by the estimated at-sea days from mid-2023

through 2025 (0.000111 strikes per day × 5,140 days) to estimate the number of whale strikes anticipated during that period. This calculation predicts an estimated 0.57 strikes over the remaining 2.5 years of the regulations at the time the analysis was conducted (mid-2023 through 2025).

As explained above, according to the U.S. Navy, the May 2021 vessel strike of two fin whales by a Royal Australian Navy vessel did not occur while that vessel was participating in a U.S. Navy-led training exercise, and the strike of those two fin whales is not included in the estimated take by vessel strike calculation. Instead, as noted below, NMFS considered the 2021 vessel strike by the Royal Australian Navy along with other strike information when determining which species could be among the estimated large whales struck.

NMFS used a Poisson distribution to derive the probabilities of a specific number of strikes (n=0, 1, 2, *etc.*) from mid-2023 through 2025, given the estimated 0.57 strikes during that period. NMFS' probability analysis concluded that there is a 57 percent chance that zero whales would be struck by U.S. Navy vessels from mid-2023 through 2025, and a 32, 9, and 2 percent chance that one, two, or three whales, respectively, would be struck over that period. Further, there is an estimated 11 percent chance that the Navy would strike more than one large whale from mid-2023 through 2025. We have assessed these probabilities and determined that the strike of up to two large whales could occur over the remaining duration of the regulations, for a total of five takes by serious injury or mortality of large whales by vessel strike total over the 7-year duration of the regulations (three takes authorized in the 2020 HSTT final rule (85 FR 41780, July 10, 2020) which have occurred, plus two additional takes).

In addition to the reasons listed above that make it unlikely that the Navy will hit a large whale (more maneuverable ships, larger crew, *etc.*), vessel strike of dolphins, small whales, porpoises, and pinnipeds is considered very unlikely. Dating back more than 20 years and for as long as it has kept records, the Navy has no records of any pinnipeds being struck by a vessel as a result of Navy activities. Over the same time period, NMFS and the Navy have only one record of a dolphin, porpoise, or small whale being struck by a vessel as a result of Navy activities. A dolphin was accidentally struck by a Navy small boat in fall 2021 in Saint Andrew's Pass, Florida. The smaller size and maneuverability of dolphins, small whales, and pinnipeds generally make such strikes very unlikely. Other than this one reported strike of a dolphin in 2021, NMFS has never received any reports from other LOA or Incidental Harassment Authorization holders indicating that these species have been struck by vessels. In addition, worldwide vessel strike records show little evidence of strikes of these groups from the shipping sector and larger vessels, and the majority of the Navy's 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. Based on this information, NMFS concurs with the Navy's assessment and recognizes the potential for (and is authorizing) incidental take by vessel strike of large whales only (*i.e.,* no dolphins, small whales, porpoises, or pinnipeds) over the course of the 7-year regulations from training and testing activities as discussed below.

Next, after determining that take of up to five large whales could occur, NMFS considered which species could be among the five large whales struck. As noted in the 2018 HSTT proposed and final rules, the 2019 HSTT proposed rule, 2020 HSTT final rule, and 2023 HSTT proposed rule, in the 2017 Navy rulemaking/LOA application, the Navy initially considered a weight of evidence approach that considered relative abundance, historical strike data over many years, and the overlap of Navy activities with the stock distribution in their request. NMFS updated this analysis to consider 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 Carretta *et al.* (2021; referenced in the Pacific SARs), the Pacific and Alaska SARs (Carretta *et al.* 2024 and Young *et al.* 2024), and unpublished NMFS vessel strike data for 2019–2021; and (2) whether the Navy has ever struck an individual from a particular species or stock in the HSTT Study Area, and if so, how many times. (Note that since publication of the 2023 HSTT proposed rule, Carretta *et al.* (2023), which includes vessel strike data through 2021 has published, but NMFS included this data in its analysis through the unpublished NMFS vessel strike data for 2019–2021, referenced above). NMFS did not consider relative abundance, as was considered in previous analyses, given that the relative abundance of a stock does not necessarily inform its occurrence in a specific area. Further, NMFS did not consider the historical strike data from older years (prior to 2015), given that more recent data is more relevant to determining occurrence of, and strike risk to, various stocks. NMFS updated the analysis with NMFS' vessel strike probability analysis for the remaining period of the rule (2.5 years at the time of the analysis) and included new/updated vessel strike data from the SARs and NMFS records for California and Hawaii.

To address number (1) above, for SOCAL, NMFS compiled information from Carretta *et al.* (2021) and unpublished NMFS vessel strike data for 2020–2021 (since published in Caretta *et al.* (2023)) for California on known annual rates of large whale serious injury or mortality from vessel collisions (this data includes the strike of two fin whales by the Royal Australian Navy in 2021, but does not include Navy strikes in 2021 and 2023 because the species struck is not known). Use of Carretta *et al.* (2021) rather than the Pacific SAR allows NMFS to separate strikes that occurred in California from strikes to the same stocks that occurred in other locations. For the HRC, NMFS compiled information from the Pacific and Alaska SARs and unpublished NMFS vessel strike data for 2019–2021 for Hawaii on known annual rates of large whale serious injury or mortality from vessel collisions. The annual rates of large whale serious injury or mortality from vessel collisions from those sources help inform the relative susceptibility of large whale species to vessel strike in SOCAL and the HRC; therefore, we considered only reported strikes where the species struck was identified with sufficient certainty (*i.e.,* ''known strikes''). Additionally, the M/SI in the 2023 SAR considers modeled takes 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 us to consider-like metrics for this comparative analysis. (Note we rely on the M/SI estimates from the 2023 SAR (or draft 2023 SAR, where relevant) in our negligible impact analysis. We also consider modeled takes of species from Rockwood *et al.* (2017) in table 7). We summed the annual rates of serious injury or mortality from vessel collisions in California and Hawaii as calculated above and then divided each species' annual rate by this sum to get the proportion of strikes for each species/stock (table 5).

TABLE 5—ANNUAL RATES OF SERIOUS INJURY AND MORTALITY FROM VESSEL STRIKE AND PERCENTAGE OF TOTAL STRIKES BY SPECIES IN SOCAL AND THE HRC

ESA status	Species	Stock	SOCAL annual known strikes (2015–2021)	HRC annual known strikes (2015–2021)	Percentage of total annual strikes
Listed	Blue whale	Central North Pacific		0	0.0
		Eastern North Pacific	0.57		6.5
	Fin whale [a]	California, Oregon, & Washington	1.57		17.8
		Hawaiian		0	0.0
	Humpback whale	Central America/Southern Mexico-CA/OR/WA (Central America DPS).	1 [b]		11.3
		Mainland Mexico- CA/OR/WA (Mexico DPS).			
	Sei whale	Eastern North Pacific	0.14		1.6
		Hawaiian		0	0.0
	Gray whale	Western North Pacific	0		0.0
	Sperm whale	California, Oregon, & Washington	0		0.0
		Hawaiian		0	0.0
Not listed	Gray whale	Eastern North Pacific	2.14		24.3
	Bryde's whale	ETP stock	0		0.0
		Hawaiian		0	0.0
	Minke whale	CA/OR/WA	0		0.0
		Hawaii		0	0.0
	Humpback whale	Hawaii (Hawaii DPS)		3.4	38.5
Total			8.82		

[a] This includes the two fin whales struck by the Royal Australian Navy in May 2021.
[b] This strike occurred to an individual of the CA/OR/WA stock under the previous stock structure. As such, in its analysis, NMFS assumed that this strike could have been of either stock.

To inform the likelihood of striking a particular species of large whale, we multiplied the percent of total annual strikes for a given species in table 5, by the total percent likelihood of striking at least one whale during the remaining period of the rule (2023–2025 at the time of the analysis; *i.e.,* 43 percent, as described by the probability analysis above). We also calculated the percent likelihood of striking a particular species of large whale twice during the remaining period of the rule by squaring 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 two columns of table 6. 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 and unpublished NMFS records, stocks tend to consistently maintain a relatively higher or relatively lower likelihood of being struck.

TABLE 6—PERCENT LIKELIHOOD OF STRIKING EACH STOCK ONE OR TWO TIMES OVER 2.5 YEARS AND TOTAL KNOWN U.S. NAVY STRIKES IN THE HSTT STUDY AREA

Species	Stock	Total known U.S Navy strikes in HSTT study area	Percent likelihood of 1 strike over 2.5 years	Percent likelihood of 2 strikes over 2.5 years
Blue whale	Central North Pacific	0	0.00	0.00
	Eastern North Pacific	1 in SOCAL (2004)	2.81	0.08
Fin whale	CA/OR/WA	3 in SOCAL (2009, 2023 [a])	7.74 [b]	0.60 [b]
	Hawaiian	0	0.00	0.00
Humpback whale	Central America/Southern Mexico-CA/OR/WA (Central America DPS).	0	4.93	0.24
	Mainland Mexico- CA/OR/WA (Mexico DPS).			
Sei whale	Eastern North Pacific	1 in SOCAL (2023 [a])	0.69	0.00
	Hawaiian	0	0.00	0.00
Gray whale	Western North Pacific	0	0.00	0.00
Sperm whale	CA/OR/WA	0.00	0.00	
	Hawaiian	1 in HRC (2007)	0.00	0.00
Gray whale	Eastern North Pacific	3 in SOCAL (1993, 1998)	10.55	1.11
Bryde's whale	ETP stock	0	0.00	0.00
	Hawaiian	0	0.00	0.00
Minke whale	CA/OR/WA	0	0.00	0.00
	Hawaii	0	0.00	0.00

TABLE 6—PERCENT LIKELIHOOD OF STRIKING EACH STOCK ONE OR TWO TIMES OVER 2.5 YEARS AND TOTAL KNOWN U.S. NAVY STRIKES IN THE HSTT STUDY AREA—Continued

Species	Stock	Total known U.S Navy strikes in HSTT study area	Percent likelihood of 1 strike over 2.5 years	Percent likelihood of 2 strikes over 2.5 years
Humpback whale	Hawaii (Hawaii DPS)	2 in HRC (2003)	16.76	2.81

[a] Based on available photos and video, NMFS and the Navy have determined the May 2023 strike was of either a fin whale or sei whale. In the analysis herein, NMFS has assumed that this strike could have been of either species, and has therefore, accounted for it in both the fin whale and sei whale strike totals. Given that we are unable to identify the species of the whales struck by the U.S. Navy in 2021, NMFS did not include the two 2021 strikes in this part of the analysis.

[b] This includes the two fin whales struck by the Royal Australian Navy in May 2021.

The percent likelihood calculated as described above are then considered in combination with the information indicating the known species that the Navy has hit in the HSTT Study Area since 1991 (since they started tracking consistently; table 6). We note that for the lethal take of species specifically denoted in table 7 below, 47 percent of those struck by the Navy (8 of 17 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). 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* subsection of the Analysis and Negligible Impact Determination section), and those numbers help inform the relative likelihood that the Navy could hit those stocks.

For each indicated stock, table 7 includes the percent likelihood of striking an individual whale from a particular stock during the remaining 2.5 years of the rule once based on SAR data, Carretta *et al.* (2021), and unpublished NMFS vessel strike data from 2019–2021 for Hawaii; total strikes from Navy vessels in the HSTT Study Area, and modeled vessel strikes from Rockwood *et al.* (2017). The last column indicates the authorized annual mortality.

TABLE 7—SUMMARY OF FACTORS CONSIDERED IN DETERMINING THE NUMBER OF INDIVIDUALS IN EACH STOCK POTENTIALLY STRUCK BY A VESSEL

ESA status	Species	Stock	Percent likelihood of one strike over 2.5 years	Total known U.S Navy strikes in HSTT study area (1993–2009)	Rockwood et al. 2017 modeled vessel strikes [1]	Annual authorized take from 2020 HSTT final rule	Annual authorized take
Listed	Blue whale	Central North Pacific	0.00	0			0
		Eastern North Pacific	2.81	1 in SOCAL (2004)	18	0.14	0.14
	Fin whale	CA/OR/WA	7.74 [2]	3 in SOCAL (2009, 2023 [3])	43	0.29	0.57
		Hawaii	0.00	0			0
	Humpback whale [4]	Central America/Southern Mexico- CA/OR/WA (Central America DPS).	4.93	0	22	0.14	0
		Mainland Mexico-CA/OR/WA (Mexico DPS).					0.14
	Sei whale	Eastern North Pacific	0.69	1 in SOCAL(2023) [3]			0.14
		Hawaii	0.00	0			0
	Gray whale	Western North Pacific	0.00	0			0
	Sperm whale	CA/OR/WA	0.00	0			0
		Hawaii	0.00	1 in HRC (2007)		0.14	0
Not listed	Gray whale	Eastern North Pacific	10.55	3 in SOCAL (1993, 1998)		0.29	0.57
	Bryde's whale	Eastern Tropical Pacific	0.00	0			0
		Hawaii	0.00	0			0
	Minke whale	CA/OR/WA	0.00	0			0
		Hawaii	0.00	0			0
	Humpback whale	Hawaii (Hawaii DPS) [5]	16.76	2 in HRC (2003)		0.29	0.29

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

[2] This includes the two fin whales struck by the Royal Australian Navy in May 2021.

[3] Based on available photos and video, NMFS and the Navy have determined the May 2023 strike was of either a fin whale or sei whale. In the analysis herein, NMFS has assumed that this strike could have been of either species, and has therefore, accounted for it in both the fin whale and sei whale strike totals.

[4] In the 2020 HSTT final rule, take of humpback whale by serious injury and mortality by vessel strike in SOCAL was attributed to the former CA/OR/WA stock and the Mexico DPS. Text explains why takes in SOCAL come from the Mexico DPS, and therefore the Mainland Mexico-CA/OR/WA stock.

[5] The 2023 final SAR reports vessel strike data for the Hawaii stock of humpback whales in Alaska, Washington, and Hawaii. Only vessel strike data from Hawaii was incorporated into our analysis as Alaska and Washington are outside of the HSTT Study Area.

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 in the 7-year period of the rule. Stocks that have never been struck by the Navy, 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 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 seven stocks. Further, it is unlikely that the Hawaii stock of sperm whale would be struck given the zero percent likelihood of striking a sperm whale as indicated by the quantitative analysis above, the fact that the last U.S. Navy strike of a Hawaii stock sperm whale was in 2007, before the mitigation updates discussed above, and that, with the exception of humpback whales, vessel strikes (both military and non-military) of other large whale species in the HRC are extremely rare events (Carretta 2021b; Carretta 2022). (The 2020 HSTT final rule authorized one take (0.14 annual take) by mortality of the Hawaii stock of sperm whale.)

As stated previously, 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 (ENP) gray whales, or some combination of these two stocks. These species have the highest annual rates of M/SI from vessel collision in California (1.57, 2.14, respectively, as noted above; which is approximately one and a half to two times higher than the species with the next highest strike rate, humpback whale, and approximately two to four times higher than the strike rate of blue whale). Additionally, gray whale and fin whale have the most recorded vessel strike incidents by military vessels in SOCAL and are the only stocks known to have been hit more than one time by naval vessels in the SOCAL portion of the HSTT 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 2012–2018, 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 strike from January–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.* 2020; Zickel *et al.* 2021). Ship-whale encounter models for the U.S. West Coast Exclusive Economic Zone 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 1991–2011, Calambokidis *et al.* (2015) found fin whale concentration areas included the San Clemente Basin where the 2021 Navy vessel strikes occurred (Tanner and Cortez Banks area and the shelf edge west of San Nicolas Island 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. Based on all of these factors, there is a reasonable likelihood that the CA/OR/WA stock of fin whales or ENP stock of gray whales could be struck twice during the remaining period of the rule. Therefore, we find that, of the five total takes by serious injury or mortality by vessel strike of large whales authorized over the course of the 7-year rule, up to four of those takes could be of the CA/OR/WA stock of fin whale or the ENP stock of gray whale given that the two strikes of unidentified large whales in 2021 could have been of either stock. Further, consistent with the 2020 HSTT final rule, we expect that, of the five total takes by serious injury or mortality by vessel strike of large whales authorized, up to two of those takes could occur in Hawaii, and therefore be of individuals of the Hawaii stock of humpback whale.

Based on the information summarized in table 7 and the fact that there is the potential for up to two large whales to be struck over the remaining period of the rule (five strikes over the full 7-year rule period), one individual from the Eastern North Pacific stock of blue whale, Mainland Mexico-CA/OR/WA stock of humpback whale, or Eastern North Pacific stock of sei whale could be among the two whales struck during the remaining effective period of the regulations (2023–2025 at the time of the analysis). 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 6)). Therefore, we consider it reasonably likely that the Navy could strike one individual over the course of the 7-year rule, and given that we do not expect that the 2023 strike nor either of the 2021 U.S. Navy strikes of unidentified large whales were blue whales, we expect that this strike could occur during the remaining period of the rule. The total strikes of Eastern North Pacific sei whales are low 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 remaining period of the rule. The Navy has not hit a humpback whale in the SOCAL portion of the HSTT Study Area. However, in 2016 a U.S. Coast Guard vessel participating in a Navy event struck a humpback whale in Hood Canal, and as a species, humpbacks have a moderate to high number of total strikes and percent likelihood of being struck. Although 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, the distribution of the Mexico DPS versus the Central America DPS, as well as the distribution of overall vessel strikes inside versus outside of the SOCAL area (the majority are outside), supports the reasonable likelihood that the Navy could strike one individual humpback whale from the Mainland Mexico-CA/OR/WA stock (Mexico DPS) over the 7-year duration of the rule, as described below.

Regarding the likelihood of striking a humpback whale from a particular DPS, we evaluated the relative abundance of each of these DPS in California waters. Curtis *et al.* (2022) estimated the abundance of the Central America DPS to be 1,496 whales. From Wade *et al.* (2017), about 93 percent (or 1,391

whales) of these humpbacks that winter in Central America will move to Oregon/California in the summer months. While there is currently no abundance estimate for the Mexico DPS, an estimated 3,477 whales from the Mexico DPS feed off the U.S. West Coast (Calambokidis and Barlow 2020; Curtis 2022). Based on this information, we estimate that approximately 30 percent of the humpback whales off the coast of California may be from the Central America DPS with the remaining 70 percent expected to be from the Mexico DPS. Therefore, we anticipate that if a Navy vessel strike of a humpback whale were to occur within SOCAL, it would likely be from the Mexico DPS. Last, Rockwood *et al.* (2017) supports a relative likelihood of 1:1:2 for striking blue whales, humpback whales, and fin whales off the U.S West Coast (though as noted above, more recent data suggests that the relative likelihood of striking a fin whale is higher and suggests that the two 2021 U.S. Navy vessel strikes of unidentified large whales may have been fin whales), which, in consideration of more recent data also supports the authorized take included in this rule, which is 1, 1, and 4, respectively over the 7-year period. For these reasons, one lethal take of a Mainland Mexico-CA/OR/WA humpback whale (Mexico DPS) could occur and is authorized.

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 be of the Hawaii stock of humpback whale. Given that this stock has the highest percentage of total annual strikes (38.5 percent) and a 2.81 percent chance of being struck twice over the remaining period of the rule (more than twice that of the species with the next highest percentage, gray whale), NMFS authorizes two lethal takes of Hawaii humpback whales.

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 HSTT Study Area, particularly in core HSTT 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), humpback whale (Central America/Southern Mexico-CA/OR/WA stock, Central America DPS), minke whale (CA/OR/WA stock and Hawaii stock), sei whale (Hawaii stock), and sperm whale (CA/OR/WA stock and Hawaii stock).

Also of note, while information on past Navy vessel strikes 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 SOCAL portion of the HSTT 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 HSTT Study Area have been rare events with only seven such strikes occurring over the past 14 years, five U.S. Navy strikes, and two Royal Australian Navy strikes. However, the fact that 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 SOCAL can be both highly episodic and clustered. The four large whale strikes in 2021 (two strikes of unidentified large whales by the U.S. Navy and two fin whale strikes by the Royal Australian Navy) appear to be outliers in the time series of military vessel strikes in SOCAL for that period. However, particularly in consideration of the 2023 U.S. Navy strike, 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 HSTT areas off southern California, particularly farther offshore as well as closer to shore off San Diego Bay (Zickel MJ *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 and 2023 strikes by the U.S. Navy, NMFS anticipates no more than five takes of large whales by M/SI could occur over the 7-year period of the rule. Of those five whales over the 7-years, no more than four may come from the following stocks: gray whale (Eastern North Pacific stock) and fin whale (CA/OR/WA stock). No more than two may come from the Hawaii stock of humpback whales. No more than one may come from the following stocks: blue whale (Eastern North Pacific stock), sei whale (Eastern North Pacific), and humpback whale (Mexico-North Pacific stock or Mainland Mexico-CA/OR/WA, Mexico DPS). Accordingly, NMFS has evaluated under the negligible impact standard the M/SI of 0.14, 0.29, or 0.57 whales annually from each of these species or stocks (*i.e.,* one, two, or four takes, respectively, divided by 7 years to get the annual number), along with the expected incidental takes by harassment.

Explosives

The Navy's model and quantitative analysis process used for the 2018 HSTT FEIS/OEIS and in the Navy's 2017 and 2019 applications to estimate potential exposures of marine mammals to explosive stressors is detailed in the technical report titled *Quantifying Acoustic Impacts on Marine Mammals and Sea Turtles: Methods and Analytical Approach for Phase III Training and Testing report* (U.S. Department of the Navy, 2018). Specifically, over the course of a modeled maximum year of training and testing, the Navy's model and quantitative analysis process estimates M/SI of two short-beaked common dolphin and one California sea lion as a result of exposure to explosive training and testing activities (please see section 6 of the 2017 Navy application where it is explained how maximum annual estimates are calculated). Over the 7-year period of the 2020 HSTT regulations, M/SI of 8 short-beaked common dolphins and 5 California sea lions (13 marine mammals in total) is estimated as a result of exposure to explosive training and testing activities. NMFS makes no changes to the authorization of take by M/SI as a result of explosive use as the Navy made no changes to its activities from that described in the 2018 HSTT final rule, and after reviewing all new information,

we find that our previous analyses remain applicable. Please refer to the 2018 HSTT final rule and 2020 HSTT final rule for additional information.

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 stock(s) and its habitat, paying particular attention to rookeries, mating grounds, and areas of similar significance, and on the availability of the species or stock(s) 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 incidental take authorization 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 the full discussion of how NMFS interprets least practicable adverse impact, including how it relates to the negligible-impact standard, see the Mitigation Measures section in the 2018 HSTT final rule.

Section 101(a)(5)(A)(i)(II) requires NMFS to issue, in conjunction with its authorization, binding—and enforceable—restrictions (in the form of regulations) setting forth how the activity must be conducted, thus ensuring the activity has the ''least practicable adverse impact'' on the affected species or stocks. In situations where mitigation is specifically needed to reach a negligible impact determination, section 101(a)(5)(A)(i)(II) also provides a mechanism for ensuring compliance with the ''negligible impact'' requirement. Finally, the least practicable adverse impact standard also requires consideration of measures for marine mammal habitat, with particular attention to rookeries, mating grounds, and other areas of similar significance, and for subsistence impacts, whereas the negligible impact standard is concerned solely with conclusions about the impact of an activity on annual rates of recruitment and survival.[1] In evaluating what mitigation measures are appropriate, NMFS considers the potential impacts of the Specified Activities, the availability of measures to minimize those potential impacts, and the practicability of implementing those measures, as we describe below. This final rule includes all mitigation measures required by the 2020 HSTT final rule (though two have been modified in this final rule), and our discussion in that rule remains complete and accurate (including reference to the 2018 HSTT final rule), except as described below.

Implementation of Least Practicable Adverse Impact Standard

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, and their availability for subsistence uses (where relevant). This analysis considers such things as the nature of the potential adverse impact (such as 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 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 firmly established 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

[1] Outside of the military readiness context, mitigation may also be appropriate to ensure compliance with the ''small numbers'' language in MMPA sections 101(a)(5)(A) and (D).

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. 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 will be carefully considered to determine the types of mitigation that are appropriate under the least practicable adverse impact standard. For more detail on how we apply these factors, see the discussion in the Mitigation Measures section of the 2018 HSTT final rule.

Assessment of Mitigation Measures for HSTT Rule

NMFS fully reviewed the Navy's specified activities and the mitigation measures for the 2020 HSTT final rule and determined, with the addition of the new and modified measures discussed herein, and after consideration of the new information and studies described above, that the mitigation measures would result in the least practicable adverse impact on marine mammals (see the 2019 Navy application and the 2018 HSTT final rule for detailed information on the Navy's mitigation measures, with the exception of the new and modified measures described herein). NMFS worked with the Navy in the development of the Navy's mitigation measures, which were informed by years of implementation and monitoring. A complete discussion of the Navy's evaluation process used to develop, assess, and select mitigation measures, which was informed by input from NMFS, can be found in chapter 5 (*Mitigation*) of the 2018 HSTT FEIS/OEIS. The process described in chapter 5 (*Mitigation*) of the 2018 HSTT FEIS/OEIS robustly supports NMFS' independent evaluation of whether the mitigation measures would meet the least practicable adverse impact standard. The Navy has implemented the mitigation measures under the 2020 HSTT regulations and will be required to continue implementation of the mitigation measures identified in this rulemaking for the full 7 years it covers to avoid or reduce potential impacts from acoustic, explosive, and physical disturbance and vessel strike stressors.

The Navy also evaluated numerous measures in the 2018 HSTT FEIS/OEIS that were not included in the 2017 Navy application, and NMFS independently reviewed and considered all new information, and continues to concur with Navy's analysis that their inclusion was not appropriate under the least practicable adverse impact standard. The Navy considered these additional potential mitigation measures in two groups. First, chapter 5 (*Mitigation*) of the 2018 HSTT FEIS/OEIS, in the Measures Considered but Eliminated section, includes an analysis of an array of different types of mitigation that have been recommended over the years by NGOs or the public, through scoping or public comment on environmental compliance documents. Appendix K (Geographic Mitigation Assessment) of the 2018 HSTT FEIS/OEIS includes an in-depth analysis of time/area restrictions that have been recommended over time or previously implemented as a result of litigation.

Below, we summarize the mitigation measures (organized into procedural measures and mitigation areas) that NMFS has determined will ensure the least practicable adverse impact on all affected species and stocks and their habitat, including the specific considerations for military readiness activities, and including several measures that are new or modified since publication of the 2020 HSTT final rule.

In its 2022 application, the Navy proposed no changes to the procedural or geographic mitigation measures in the 2020 HSTT final rule. NMFS reviewed new information potentially pertinent to mitigation of the Navy's training and testing activities. While Lookouts are essential to detecting the potential for and potentially avoiding a vessel strike of a marine mammal, NMFS and the Navy have always acknowledged that Lookouts cannot prevent all vessel strikes. The recent U.S. Navy and Royal Australian Navy vessel strikes appear to confirm this, as these strikes occurred when Lookouts were posted. As acknowledged above, these recent incidents may represent an early indicator of an increased military vessel strike risk within SOCAL. Recent reports appear to reflect the sporadic, episodic, or clustered nature of vessel strike or may reflect a trend of increased large whale presence in this area in the early summer months. NMFS and the Navy have discussed the circumstances of each of the recent strikes, including the Royal Australian Navy strike, and discussed ways of improving strike mitigation. In these further conversations, NMFS and the Navy developed several new and modified mitigation measures in comparison to those included in the 2020 HSTT final rule.

For vessel movement, the 2020 HSTT final rule required that ''When underway Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must maneuver to maintain distance.'' This measure has been updated to state that reducing speed may be an appropriate way to maneuver. The revised measure states that ''When underway, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must maneuver (which may include reducing speed as the mission or circumstances allow) to maintain distance.'' Of note, between 2009 and 2021 (the most recent year for which data is available), U.S. Navy vessels in the SOCAL portion of the HSTT Study Area maneuvered 316 times to avoid large whales during MTEs. The years 2017 and 2021 had the highest number of maneuvers (n=64 and n=82, respectively). In all years for which data is available (2009 to 2021), Navy cruisers and destroyers account for 51 to 100 percent of maneuvers during MTEs. With this modified measure, NMFS is emphasizing that Navy personnel should consider reducing speed (as mission or circumstances allow) when maneuvering to avoid marine mammals, though this modified measure does not require reduction of vessel speed for reasons explained in chapter 5 (*Mitigation*) of the 2018 HSTT FEIS/OEIS, in the Measures Considered but Eliminated section (*i.e.,* requirements to reduce vessel speeds would have significant direct negative effects on mission effectiveness).

This final rule also requires that Navy personnel must send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area.

Further, the 2020 HSTT final rule included a requirement for Navy personnel to issue seasonal awareness notification messages to alert ships and aircraft to the possible presence of blue whales (June–October), humpback whales (November–April), gray whales (November–March), or fin whales (November–May). These messages assist in maintaining safety of navigation and in avoiding interactions with large whales during transits. Platforms must use the information from the awareness notification messages to assist their visual observation of applicable mitigation zones during training and testing activities and to aid in the implementation of procedural mitigation. This final rule requires the Navy to re-title the spring blue whale message (released in June) to a large whale awareness message inclusive of typical spring-summer large whales in southern California (mainly blue, fin,

and humpback whales). Furthermore, rather than tying the message release to a specific month, the message would be for a period based on predicted oceanographic conditions for a given year (*e.g.,* May–November, April–November, *etc.*). The Navy will also evaluate information obtained from NMFS' Southwest Fisheries Science Center scientists, recently published West Coast BIAs (Calambokedis *et al.* 2024), and other oceanographic or predictive models for guiding message text descriptions of whale occurrence in Southern California. The improvement will emphasize that when a marine mammal is spotted, this may be an indicator that additional marine mammals are present and nearby, and increased vigilance and awareness of Navy personnel is warranted.

This final rule also contains a new mitigation measure in which Navy personnel would issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in a select area of SOCAL (Of note, the four whales do not have to be the same species and do not have to be part of the same group (*e.g.,* two whales of one species sighted at a distance off the port side at 500 yd (457.2 m) and two more whales of another species sighted off the starboard side at 500 yd (457.2 m) will be considered an aggregation under this measure)). This measure will apply to the area between 32–33 degrees North and 117.2–119.5 degrees West, which includes the locations where recent (2009, 2021, 2023) strikes occurred, and historic locations where strikes occurred when precise latitude and longitude were known.

Of note, in order to improve mitigation effectiveness, in fall 2022 the Navy made several changes to its Lookout training. The Navy revised its basic Lookout training materials to improve marine mammal awareness and spotting techniques through updates to the Marine Mammal chapter of the Navy's September 2022 Lookout Training Handbook. Further, the Navy integrated improved Lookout training into a new generation of a shipboard simulator at its recruit training center in the Great Lakes. This simulator enhances new sailor knowledge and skill under realistic training scenarios. Last, the Navy will evaluate future revisions to online or DVD Marine Species Awareness Training video training to emphasize that when a protected species is spotted, this may be an indicator that additional marine mammals are present and nearby, and the vessel should take this into consideration when transiting.

In addition to Lookouts required under this rule, the Navy mandates the number of Lookouts on underway vessels per internal policy documents, including the Surface Ship NAVDORM. As described in the *Standard Operating Procedures* section, in 2021, NAVDORM policy changed to require three Lookouts on most classes of surface ship, including destroyers and cruisers. However, the Navy asserts that always including three Lookouts on these vessels in the future as a required mitigation measure is not practicable because lookout numbers are subject to change based on national security needs, including manning and staffing requirements. As such, although the Navy describes these additional Lookouts in its application under the mitigation section, NMFS has not considered the potential presence of two additional lookouts when considering Navy's mitigation effectiveness. Please see the Reporting section for additional detail on this requirement.

With the exception of Oedekoven and Thomas (2022) described above, there is no new information that affects NMFS' assessment of the applicability or effectiveness of the measures included in the 2018 HSTT final rule over the remainder of the 7-year period. As stated above in the Potential Effects of Specified Activities on Marine Mammals and Their Habitat section, while (Oedekoven and Thomas, 2022) suggests that detection of marine mammals is less certain than previously assumed at certain distances, model assumptions may still underestimate Lookout effectiveness in some cases. Additionally, maneuvering data summarized above demonstrates that Navy vessels are successfully maneuvering to avoid striking sighted marine mammals in most cases, despite the Oedekoven and Thomas (2022) results. Further, as described above, Navy and NMFS have developed modified or new mitigation in this final rule which are anticipated to further reduce the risk of vessel strike of large whales.

In summary, and as described in more detail above regarding vessel strike, the Navy has agreed to procedural mitigation measures that will 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 Navy will use a combination of delayed starts, powerdowns, and shutdowns to minimize or avoid M/SI and minimize the likelihood or severity of PTS or other injury, and reduce instances of TTS or more severe behavioral disturbance caused by acoustic sources or explosives. The Navy will also implement multiple time/area restrictions (several of which were added in the 2018 HSTT final rule since the previous HSTT MMPA incidental take rule) that would reduce take of marine mammals in areas or at times where they are known to engage in important behaviors, such as feeding or 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. Table 8 provides the Navy's required procedural mitigation measures for environmental awareness and education and vessel movement as well as summaries of the Navy's procedural mitigation measures for other activities. Table 9 provides summaries of mitigation areas for the HSTT Study Area.

NMFS and the Navy considered additional mitigation areas (beyond those already identified with associated measures to reduce impacts to marine mammals) to further protect marine mammals, including odontocetes with small or resident populations in the HSTT Study Area, and large whales with feeding, reproductive, and migratory BIAs in the HSTT Study Area. This includes consideration of new mitigation areas that could be based on newly identified BIAs in Hawaii (Kratofil *et al.* 2023) and on the West Coast (Calambokidis *et al.* 2024). The HRC overlaps BIAs identified in Kratofil *et al.* (2023) for humpback whale, 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. All of the BIAs that overlap the HRC are small and resident population BIAs, with the exception of the humpback whale reproductive BIA. SOCAL overlaps BIAs identified in Calambokidis *et al.* (2024) for blue whale (feeding area), fin whale (feeding area), and gray whale (migratory route).

Additional restrictions in mitigation areas beyond those restrictions and areas included in the 2020 HSTT final rule (including mitigation to reduce vessel strike risk such as vessel speed restrictions, and in consideration of the newly identified BIAs (Kratofil *et al.* 2023 and Calambokidis *et al.* 2024)) is impracticable given overlap with critical Navy training areas in the HRC and SOCAL. However, many of the BIAs

identified in Kratofil *et al.* 2023 and Calambokidis *et al.* (2024) partially or fully overlap the mitigation areas included in the 2020 HSTT final rule and this final rule and are aimed at reducing impacts to the same species for which Kratofil *et al.* 2023 and Calambokidis *et al.* (2024) identified BIAs. In the HRC, the existing mitigation areas are targeted and expected to reduce impacts to humpback whales, false killer whales, dwarf sperm whales, pygmy killer whales, short-finned pilot whales, melon-headed whales, bottlenose dolphins, spotted dolphins, spinner dolphins, rough-toothed dolphins, goose-beaked whales, and Blainville's beaked whales (*i.e.,* all species for which Kratofil *et al.* (2023) identified BIAs). In SOCAL, the existing mitigation areas are aimed at reducing impacts to blue whales, fin whales, and gray whales (*i.e.,* all species for which Calambokidis *et al.* (2024) identified BIAs). Further, as included in the 2023 HSTT proposed rule, this final rule requires that Navy personnel must issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in a select area of SOCAL, and that Navy personnel must send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area. Last, this final rule includes modification of two mitigation measures from the 2020 HSTT final rule (85 FR 41780; July 10, 2020) to further reduce the potential for vessel strike.

TABLE 8—SUMMARY OF PROCEDURAL MITIGATION

Stressor or activity	Mitigation zone sizes and other requirements
Environmental Awareness and Education	• This mitigation applies to all training and testing activities, as applicable. • Mitigation Requirements: ○ Appropriate Navy personnel (including civilian personnel) involved in mitigation and training or testing activity reporting under the specific 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 the U.S. Navy 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 Navy training and testing activities. The material explains why environmental compliance is important in supporting the Navy's 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. ▪ U.S. Navy 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 software tool. ▪ U.S. Navy 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.
Active Sonar	Depending on sonar source: • 1,000 yd (914.4 m) power down, 500 yd (457.2 m) power down, and 200 yd (182.9 m) shut down. • 200 yd (182.9 m) shut down.
Air Guns	• 150 yd (137.2 m).
Pile Driving	• 100 yd (91.4 m).
Weapons Firing Noise	• 30 degrees on either side of the firing line out to 70 yd (64 m).
Explosive Sonobuoys	• 600 yd (548.6 m).
Explosive Torpedoes	• 2,100 yd (1,920.2 m).
Explosive Medium-Caliber and Large-Caliber Projectiles.	• 1,000 yd (914.4 m; large-caliber projectiles). • 600 yd (548.6 m; medium-caliber projectiles during surface-to-surface activities). • 200 yd (182.9 m; medium-caliber projectiles during air-to-surface activities).
Explosive Missiles and Rockets	• 2,000 yd (1,828.8 m; 21–500 lb. net explosive weight). • 900 yd (823 m; 0.6–20 lb. net explosive weight).
Explosive Bombs	• 2,500 yd (2,286 m).
Sinking Exercises	• 2.5 nmi (4.6 km).
Explosive Mine Countermeasure and Neutralization Activities.	• 2,100 yd (1,929.2 m; 6–650 lb net explosive weight). • 600 yd (548.6 m; 0.1–5 lb net explosive weight).
Explosive Mine Neutralization Activities Involving Navy Divers.	• 1,000 yd (914.4 m; 21–60 lb net explosive weight for positive control charges and charges using time-delay fuses). • 500 yd (457.2 m; 0.1–20 lb net explosive weight for positive control charges).
Underwater Demolition Multiple Charge—Mat Weave and Obstacle Loading.	• 700 yd (640.1 m).
Maritime Security Operations—Anti-Swimmer Grenades.	• 200 yd (182.9 m).
Vessel Movement	• The mitigation must not be applied if: (1) The vessel's safety is threatened, (2) the vessel is restricted in its ability to maneuver (*e.g.,* during launching and recovery of aircraft or landing craft, during towing activities, when mooring), (3) the vessel is operated autonomously, or (4) when impractical based on mission requirements (*e.g.,* during Amphibious Assault—Battalion Landing exercises). • Number of Lookouts and Observation Platform: ○ Lookout must be on the vessel that is underway.[1] • Mitigation Requirements: ○ Mitigation zones:—500 yd (457.2 m) around whales.—200 yd (182.9 m) around other marine mammals (except bow-riding dolphins and pinnipeds hauled out on man-made navigational structures, port structures, and vessels). ○ When a vessel is underway, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must maneuver (which may include reducing speed as the mission or circumstances allow) to maintain distance. • Additional requirements: ○ If a marine mammal vessel strike occurs, Navy personnel must follow the established incident reporting procedures. Navy personnel must also send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area.

TABLE 8—SUMMARY OF PROCEDURAL MITIGATION—Continued

Stressor or activity	Mitigation zone sizes and other requirements
	○ Navy personnel must issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in the area between 32–33 degrees North and 117.2–119.5 degrees West. These notifications would be issued to Navy vessels within this boundary only.
Towed In-Water Devices	• 250 yd (228.6 m; marine mammals).
Small-, Medium-, and Large-Caliber Non-Explosive Practice Munitions.	• 200 yd (182.9 m).
Non-Explosive Missiles and Rockets	• 900 yd (823 m).
Non-Explosive Bombs and Mine Shapes	• 1,000 yd (914.4 m).

Note: lb: pounds; nmi: nautical miles; yd: yards; m: meters.

[1] Underway vessels will maintain at least one Lookout. For ship classes required to maintain more than one Lookout, the specific requirement is subject to change over time in accordance with Navy navigation instruction (*e.g.,* the Surface Ship NAVDORM). Navy personnel will notify NMFS as soon as practicable should its Lookout policies change, including in the NAVDORM.

TABLE 9—SUMMARY OF MITIGATION AREAS FOR MARINE MAMMALS

Summary of mitigation area requirements
Hawaii Island Mitigation Area (year-round)
• Navy personnel must not conduct more than 300 hours of MF1 surface ship hull-mounted mid-frequency active sonar or 20 hours of MF4 dipping sonar, or use explosives that could potentially result in takes of marine mammals during training and testing.[1]
4-Islands Region Mitigation Area (November 15–April 15 for active sonar; year-round for explosives)
• Navy personnel must not use MF1 surface ship hull-mounted mid-frequency active sonar or explosives that could potentially result in takes of marine mammals during training and testing.[1]
Humpback Whale Special Reporting Areas (December 15–April 15)
• Navy personnel must report the total hours of surface ship hull-mounted mid-frequency active sonar used in the special reporting areas in its annual training and testing activity reports submitted to NMFS.
San Diego Arc, San Nicolas Island, and Santa Monica/Long Beach Mitigation Areas (June 1–October 31)
• Navy personnel must not conduct more than a total of 200 hours of MF1 surface ship hull-mounted mid-frequency active sonar in the combined areas, excluding normal maintenance and systems checks, during training and testing.[1]
• Within the San Diego Arc Mitigation Area, Navy personnel must not use explosives that could potentially result in the take of marine mammals during large-caliber gunnery, torpedo, bombing, and missile (including 2.75'' rockets) activities during training and testing.[1]
• Within the San Nicolas Island Mitigation Area, Navy personnel must not use explosives that could potentially result in the take of marine mammals during mine warfare, large-caliber gunnery, torpedo, bombing, and missile (including 2.75'' rockets) activities during training.[1]
• Within the Santa Monica/Long Beach Mitigation Area, Navy personnel must not use explosives that could potentially result in the take of marine mammals during mine warfare, large-caliber gunnery, torpedo, bombing, and missile (including 2.75'' rockets) activities during training and testing.[1]
Santa Barbara Island Mitigation Area (year-round)
• Navy personnel must not use MF1 surface ship hull-mounted mid-frequency active sonar during training and testing, or explosives that could potentially result in the take of marine mammals during medium-caliber or large-caliber gunnery, torpedo, bombing, and missile (including 2.75″ rockets) activities during training.[1]
Awareness Notification Message Areas (seasonal according to species)
• Navy personnel must issue spring awareness notification messages to alert ships and aircraft to the possible presence of large whales during a period based on predicted oceanographic conditions for a given year. The message must emphasize to personnel on vessels that when a marine mammal is spotted, this may be an indicator that additional marine mammals are present and nearby, and increased vigilance and awareness of Navy personnel is warranted. Navy personnel must also issue awareness notification messages to alert ships and aircraft to the possible presence of gray whales (November–March) and fin whales (November–May).

[1] If Naval units need to conduct more than the specified amount of training or testing, they will obtain permission from the appropriate designated Command authority prior to commencement of the activity. The Navy will provide NMFS with advance notification and include the information in its annual activity reports submitted to NMFS.

Mitigation Conclusions

NMFS has carefully evaluated the Navy's mitigation measures from the 2020 rule—many of which were developed with NMFS' input during the previous phases of Navy training and testing authorizations and none of which have changed since our evaluation during the 2018 HSTT rulemaking, with the exception of the changes described herein—and considered a broad range of other measures (*i.e.,* the measures considered but eliminated in the 2018 HSTT FEIS/OEIS, which reflect many of the comments that have arisen via NMFS or public input 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 stocks and their habitat. Our evaluation of potential measures included consideration of the following factors in relation to one another: 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 stocks and their habitat; the proven or likely efficacy of the measures; and 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. After considering all new information, including consideration of new information regarding vessel strike, NMFS is requiring two additional mitigation measures and revision of two existing mitigation measures as described above.

Based on our evaluation of the Navy's current mitigation measures (which are being implemented under the 2020 HSTT regulations), as well as modified and new measures described above, NMFS has determined that the mitigation measures are appropriate means of effecting the least practicable adverse impact on marine mammal species or stocks 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, as described in more detail below, the 2020 HSTT final rule includes an adaptive management provision, which NMFS has included in this final rule, which ensures that mitigation is regularly assessed and

provides a mechanism to improve the mitigation, based on the factors above, through modification as appropriate.

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 incidental take authorizations 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.

In its 2022 application, the Navy proposed no changes to the monitoring described in the 2018 HSTT final rule and 2020 HSTT final rule. They would continue implementation of the robust Integrated Comprehensive Monitoring Program and Strategic Planning Process described in the 2018 HSTT final rule. The Navy's monitoring strategy, currently required by the 2018 HSTT regulations, is well-designed to work across Navy ranges to help better understand the impacts of the Navy's activities on marine mammals and their habitat by focusing on learning more about marine mammal occurrence in different areas and exposure to Navy stressors, marine mammal responses to different sound sources, and the consequences of those exposures and responses on marine mammal populations. Similarly, these modified regulations would include identical adaptive management provisions and reporting requirements as the 2018 HSTT regulations. There is no new information that would indicate that the monitoring measures put in place under the 2018 HSTT final rule would not remain applicable and appropriate for the 7-year period of this rule. See the *Monitoring* section of the 2018 HSTT final rule for more details on the monitoring program that would be required under this rule. In addition, please see the 2019 Navy application, which references chapter 13 of the 2017 Navy application for full details on the monitoring and reporting proposed by the Navy.

Within the SOCAL portion of HSTT, the Navy has been primarily focused on beaked whale monitoring since 2018 through two separate ongoing projects that are expected to continue until 2025. These projects use passive acoustic devices, visual surveys, satellite tagging, genetic analysis, photoID, and response to anthropogenic sounds to refine population status of beaked whales in SOCAL. There is also one concurrent project with fin whales using visual surveys, satellite tagging, and photoID to gather additional data on fin whale populations in Southern California. Finally, the Navy continues to fund marine mammal sighting data collected during California Cooperative Oceanic Fisheries Investigations (CALCOFI) *https://calcofi.org/.* These data are collected on a much more frequent basis than NMFS' West Coast visual survey which typically occur once every 5 years in the summer. CALCOFI surveys occur quarterly every year to include winter and spring seasons NMFS does not survey. Sufficient marine mammal sightings have been accumulated since the Navy started funding in 2004 for the data to be incorporated into ongoing NMFS spatial habitat models, including new models for select species. The Navy also annually funds continued NMFS spatial habitat model improvements as new data and techniques become available. These models benefit the Navy and other Federal partners such as the Bureau of Ocean Energy Management and NMFS, for use in future regional marine mammal density derivation. For additional information, please see the Navy's Marine Species Monitoring program website, *https://www.navymarinespeciesmonitoring.us/regions/pacific/current-projects/.*

Adaptive Management

The 2020 HSTT regulations governing the take of marine mammals incidental to Navy training and testing activities in the HSTT Study Area contain an adaptive management component. Our understanding of the effects of Navy training and testing 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 2022 Navy application proposed no changes to the adaptive management component included in the 2020 HSTT final rule.

The reporting requirements associated with this 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 Navy 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 will publish a notice of the planned LOA 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 exercises reports, as required by MMPA authorizations; (2) compiled results of Navy funded R&D 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 incidental take authorization 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: *http://www.navymarinespeciesmonitoring.us.* The 2019 Navy application and 2022 Navy application proposed no changes to the reporting requirements, though as noted above, the Navy has since proposed to report changes to Lookout SOPs to NMFS. Except as discussed below, reporting requirements would remain identical to those described in the 2018 HSTT final rule and 2020 HSTT final rule, and there is no new information that would indicate that the reporting requirements put in place under the 2020 HSTT final rule would not remain applicable and appropriate for the remaining duration of the 7-year period of this rule. See the *Reporting* section of the 2018 HSTT final rule for more details on the reporting that would be required under this rulemaking. In addition, the 2018 HSTT proposed and final rules unintentionally failed to

include the requirement for the Navy to submit a final activity ''close out'' report at the end of the regulatory period. That oversight was corrected through the 2020 HSTT final rule. Please see the 2020 HSTT final rule for the detailed requirements for that report.

In addition to the reporting requirements included in the 2020 HSTT final rule, in 2023, we proposed requiring the Navy to report changes in its Lookout policies to NMFS as soon as practicable after a change is made. This final rule requires the Navy to implement that reporting measure, as well as two new measures that were not included in the 2023 HSTT proposed rule, described below.

The Navy's annual HSTT Training Exercise Report and Testing Activity Report must include information that tracks the Navy's implementation of the new SOCAL large whale aggregation real-time reporting mitigation measure. The report must include the following information for each instance that an aggregation of large whales is reported: (1) the date, time and general location (*e.g.,* approximately 10–12 nmi (18.5 to 22.2 km) SE of San Clemente Island) of the whales when the aggregation was first sighted; (2) the total number of whales observed within 1 nmi (1.8 km) of a Navy vessel that make up the aggregation; and (3) the approximate distance (or distances if more than one group of whales is sighted) of the vessel from the whales in the aggregation when the whales were first sighted. To the extent practicable, this information should be provided in the Navy's unclassified version of these reports.

The Navy's annual HSTT Training Exercise Report and Testing Activity Report must include a confirmation 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 U.S. Navy's 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, which formed the basis of the acoustic impacts effects analysis used to estimate take in this final rule. The purpose of this new reporting measure is for the Navy to confirm annually that the Navy has accounted for foreign military participation in its annual report, without requiring the Navy to quantitatively account for foreign military activity. The Navy informed NMFS that it would be difficult for the Navy to quantify foreign military activities as a subset of its total activities because the Navy does not track activities conducted by foreign vessels in this manner. Furthermore, the annual reported takes from Navy activities are calculated the same regardless of whether the activity was conducted by a foreign military or not.

Analysis and Negligible Impact Determination

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). While this final rule consists of a modification of take by M/SI by vessel strike, NMFS considers the impacts of the entire specified activity and the total taking in the negligible impact determination. 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 through mortality, serious injury, and Level A or Level B harassment (as presented in tables 11 and 12 of the 2020 HSTT final rule), NMFS considers other factors, such as the likely nature of any responses (*e.g.,* intensity, duration), 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 (including foreign military 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, ambient noise levels, and specific consideration of take by Level A harassment or M/SI previously authorized for other NMFS activities).

In the Estimated Take of Marine Mammals sections of this final rule and the 2020 HSTT final rule (where the activities, species and stocks, potential effects, and mitigation measures (except as modified above) are the same as for this rulemaking), 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 this rulemaking and then identified the number of each of those mortality takes that we believe could occur or the maximum number of harassment takes that are reasonably expected to occur 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, *etc.*). For this final rule, we evaluated the likely impacts of the enumerated maximum number of harassment takes that were reasonably expected to occur and are authorized, in the context of the specific circumstances surrounding these predicted takes. We also assessed M/SI takes that could occur, as well as considering 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 Navy's 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).

The Navy proposed no changes to the nature or level of the specified activities or the boundaries of the HSTT Study Area, and therefore, the training and testing activities (*e.g.,* equipment and sources used, exercises conducted) are the same as those analyzed in the 2020 HSTT final rule. In addition, the mitigation, monitoring, and nearly all reporting measures are identical to those described and analyzed in the 2018 HSTT final rule with the exception of changes to mitigation measures and the additional reporting requirements described previously. There is no new information since the publication of the 2020 HSTT final rule regarding the impacts of the specified activities on marine mammals, the status and distribution of any of the affected marine mammal species or stocks, or the effectiveness of the mitigation and monitoring measures that would change the content of our analyses, with the exception of that described below. First, naval vessel strikes have occurred in the HSTT and Atlantic Fleet Training and Testing (AFTT) Study Areas since

publication of the 2020 HSTT final rule (one fin or sei whale struck by the U.S. Navy in the HSTT Study Area (2023), two unidentified large whales struck by the U.S. Navy in the HSTT Study Area (2021), two fin whales struck by a foreign navy in the HSTT Study Area (2021), and one dolphin struck by the U.S. Navy in the AFTT Study Area (2021)). Second, for gray whales, we have considered the latest effects of the recently closed UME on the west coast of North America along with the effects of the Navy's activities in the negligible impact analysis. Third, a new study suggests that Lookout detection of marine mammals is less certain than previously assumed (Oedekoven and Thomas, 2022). Fourth, stock assessments have been updated for multiple stocks in the 2023 Pacific and Alaska SARs (Carretta *et al.* 2024; Young *et al.* 2024).

As described above, since publication of the 2023 HSTT proposed rule, NMFS has updated our Technical Guidance (NMFS, 2024) containing updated acoustic criteria for auditory injury (89 FR 36762, October 24, 2024). The Technical Guidance provides updated auditory injury thresholds, where appropriate, as well as revised weighting functions, in some cases. For impulsive sources, the Updated Technical Guidance's auditory injury thresholds generally remain identical or are higher compared to our 2018 Technical Guidance, meaning that received levels would need to be higher in order for marine mammals to be expected to incur auditory injury. The exceptions are for phocid pinnipeds (PW), where the cumulative SEL threshold, in the Updated Technical Guidance, is 2 dB lower and for otariid pinnipeds (OW) where the peak sound pressure level threshold is 2 dB lower and the cumulative SEL threshold is 18 dB lower. As for the Updated Technical Guidance's weighting functions, for MF cetaceans (now called HF cetaceans in the updated document) and HF cetaceans (now called VHF cetaceans in the updated document), the weighting functions reflect a higher susceptibility to auditory injury at frequencies below 10 kHz, as compared to the 2018 Technical Guidance. Other minor changes/shifts to weighting functions (*e.g.,* for LF cetaceans, PW pinnipeds, OW pinnipeds) were also included. This new information was not available in a timeframe in which NMFS could have incorporated it into the quantitative analysis supporting this final rulemaking; however, NMFS did consider the information qualitatively. While these changes in the auditory injury thresholds and weighting functions could result in minor increases in PTS exposure estimates for some species, given the conservative assumptions built into the take estimate methodology, they would not be expected to result in meaningful, if any, changes in take estimates and would not be expected to change any of the findings.

Harassment

As described in the Estimated Take of Marine Mammals section, the annual number of takes authorized and reasonably expected to occur by Level A harassment and Level B harassment (based on the maximum number of activities per 12-month period) are identical to those presented in tables 41 and 42 in the *Take Requests* section of the 2018 HSTT final rule, with the exception of humpback whale, which are presented in tables 2 and 3 herein. As such, the negligible impact analyses and determinations of the effects of the estimated Level A harassment and Level B harassment takes on annual rates of recruitment or survival for each species and stock are nearly identical to and substantively unchanged from those presented in the 2020 HSTT final rule. The differences in the analysis is our removal of consideration of California Sea Lion UME and gray whale UME, which have been closed since publication of the 2020 HSTT final rule and 2023 HSTT proposed rule, respectively, and incorporation of the revised stock structure for humpback whales. This does not affect the results of the analyses or our determinations. For detailed discussion of the impacts that affected individuals may experience given the specific characteristics of the specified activities and required mitigation (*e.g.,* from behavioral disruption, masking, and temporary or permanent threshold shift), along with the effects of the expected Level A harassment and Level B harassment take on reproduction and survival, see the applicable subsections in the *Analysis and Negligible Impact Determination* section of the 2018 HSTT final rule (83 FR 66977–67018; also incorporated by reference in the 2020 HSTT final rule).

Serious Injury or Mortality

Based on the information and methods discussed in the Estimated Take of Marine Mammals section (which are identical to those used in the 2018 HSTT final rule for explosives and revised for vessel strike), NMFS is authorizing five mortalities of large whales due to vessel strike over the 7-year period of this rulemaking, two more strikes than what was authorized in the 2018 HSTT final rule and 2020 HSTT final rule. Across the 7-year duration of the rule, take of an annual average of 0.57 gray whales (Eastern North Pacific stock) and fin whales (CA/OR/WA stock), an annual average of 0.29 humpback whales (Hawaii stock) and an annual average of 0.14 blue whales (Eastern North Pacific stock), sei whales (Eastern North Pacific stock) and humpback whales (Mainland Mexico-CA/OR/WA stock, Mexico DPS), as described in table 7 (*i.e.,* one, two, or four take(s) over 7 years divided by seven to get the annual number) could occur and are authorized.

TABLE 10—SUMMARY INFORMATION RELATED TO MORTALITIES REQUESTED FOR VESSEL STRIKE, 2018–2025

Species (stock)	Stock abundance (Nbest) *	Annual authorized take by serious injury or mortality [1]	Total annual M/SI *[2]	Fisheries interactions (Y/N); annual rate of M/SI from fisheries interactions *	Annual rate of M/SI from vessel collision *	PBR *	Residual PBR (PBR minus annual M/SI) [3]	Stock trend *[4]	Recent UME (Y/N); number and year (since 2007)
Fin whale (CA/OR/WA stock).	11,065	0.57	≥43.4	Y; ≥0.41	Y, 43	80	36.6	↑	N
Gray whale (Eastern North Pacific stock).	26,960	0.57	131	Y, 9.3	Y, 1.8	801	670	[5]↑	Y; 690; 2019
Humpback whale (Mainland Mexico-CA/OR/WA stock, Mexico DPS).	3,477	0.14	22	Y; 11.4	[6]Y, 10.15	65	[7]43	Unknown	N
Humpback whale (Hawaii stock).	11,278	0.29	27.09	Y; 8.39	[8]Y, 10.59	127	99.91	Unknown	Y; 52; 2015

TABLE 10—SUMMARY INFORMATION RELATED TO MORTALITIES REQUESTED FOR VESSEL STRIKE, 2018–2025—Continued

Species (stock)	Stock abundance (Nbest) *	Annual authorized take by serious injury or mortality [1]	Total annual M/SI * [2]	Fisheries interactions (Y/N); annual rate of M/SI from fisheries interactions *	Annual rate of M/SI from vessel collision *	PBR *	Residual PBR (PBR minus annual M/SI) [3]	Stock trend * [4]	Recent UME (Y/N); number and year (since 2007)
Blue whale (Eastern North Pacific Stock).	1,898	0.14	≥18.6	Y; ≥0.61	Y, 18	4.1	−14.5	Unknown	Y; 3, 2007
Sei whale (Eastern North Pacific Stock).	864	0.14	≥0	N; 0	Y, 0	1.25	1.25	Unknown	N

* Presented in the 2023 final SARs.
[1] This column represents the annual take by serious injury or mortality (M/SI) by vessel collision and was calculated by the number of mortalities authorized divided by 7 years (the length of the rule and LOAs).
[2] This column represents the total number of incidents of M/SI that could potentially accrue to the specified species or stock. This number comes from the SAR, but deducts the takes accrued from either Navy strikes or NMFS' Southwest Fisheries Science Center (SWFSC) takes in the SARs to ensure not double-counted against PBR. However, for these species, there were no takes from either other Navy activities or SWFSC in the SARs to deduct that would be considered double-counting.
[3] This value represents the calculated PBR less the average annual estimate of ongoing anthropogenic mortalities (*i.e.,* total annual human-caused M/SI, which is presented in the SARs).
[4] See relevant SARs for more information regarding stock status and trends.
[5] The Pacific 2023 SAR indicates that the stock trend is increasing. However, recent (2023–2024) surveys conducted by NMFS' Southwest Fisheries Science Center indicated that the estimated total abundance of gray whales during the 2023–2024 southbound migration was 19,260, though the authors note that this stock has historically shown a pattern of population growth and decline that has not impacted the population in the long term (Eguchi *et al.* 2024).
[6] Vessel strike of the Mainland Mexico-CA/OR/WA stock was calculated by applying a prorated portion of humpback whale strikes modeled by Rockwood *et al.* (2017) to this stock.
[7] For this stock, PBR is currently set at 43 for U.S. waters and 65 for the stock's entire range. As the HSTT Study Area extends beyond U.S. waters and activities have the potential to impact the entire stock, we present the analysis using the PBR for the stock's entire range.
[8] Annual vessel strike for this stock reported in the 2023 final SAR was calculated by summing vessel strike data from Hawaii, Alaska, and Washington. All observed strikes in Hawaii were assigned to the Hawaii stock, and a portion of observed strikes in Alaska were assigned to the Hawaii stock. Vessel strike of the Hawaii stock in Washington waters was calculated by applying a prorated portion of humpback whale strikes modeled by Rockwood *et al.* (2017) to the Hawaii stock.

The Navy also requested a small number of takes by M/SI from explosives in the 2017 Navy application. To calculate the annual average of mortalities for explosives in table 11, we used the same method as described for vessel strikes. The annual average is the total number of takes over 7 years divided by seven. Specifically, NMFS is authorizing the following M/SI takes from explosives: five California sea lions and eight short-beaked common dolphins over the 7-year period (therefore 0.71 mortalities annually for California sea lions and 1.14 mortalities annually for short-beaked common dolphin), as described in table 11. As this annual number is the same as that analyzed and authorized in the 2020 HSTT final rule, and no other relevant information about the status, abundance, or effects of mortality on each species or stock has changed, the analysis of the effects of explosives is identical to that presented in the 2020 HSTT final rule.

TABLE 11—SUMMARY INFORMATION RELATED TO MORTALITIES FROM EXPLOSIVES, 2018–2025

Species (stock)	Stock abundance (nbest) *	Annual authorized take by serious injury or mortality [1]	Total annual M/SI * [2]	Fisheries interactions (Y/N); annual rate of M/SI from fisheries interactions *	PBR *	SWFSC authorized take (annual) [3]	Residual PBR-PBR minus annual M/SI and SWFSC [4]	Stock trend * [5]	UME (Y/N); number and year
California sea lion (U.S. stock)	257,606	0.71	≥321	Y; ≥197	14,011	6	13,684	↑	N
Short-beaked common dolphin (CA/OR/WA stock).	1,056,308	1.14	≥30.5	Y; ≥30.5	8,889	2.8	8,855.7	unknown	N

* Presented in the 2023 SARs.
[1] This column represents the annual take by serious injury or mortality (M/SI) during explosive detonations and was calculated by the number of mortalities planned for authorization divided by 7 years (the length of the rule and LOAs).
[2] This column represents the total number of incidents of M/SI that could potentially accrue to the specified species or stock. This number comes from the SAR.
[3] This column represents annual take authorized through NMFS' SWFSC rulemaking/LOAs (86 FR 3840, January 15, 2021).
[4] This value represents the calculated PBR less the average annual estimate of ongoing anthropogenic mortalities (*i.e.,* total annual human-caused M/SI column and the annual authorized take from the SWFSC column. In the case of California sea lion the M/SI column (321) and the annual authorized take from the SWFSC (6) were subtracted from the calculated PBR of 14,011. In the case of short-beaked common dolphin the M/SI column (30.5) and the annual authorized take from the SWFSC (2.8) were subtracted from the calculated PBR of 8,889.
[5] See relevant SARs for more information regarding stock status and trends.

See the *Serious Injury or Mortality* subsection in the *Analysis and Negligible Impact Determination* section of the 2018 HSTT final rule (83 FR 66985–66993, December 27, 2018) for detailed discussions of the impacts of M/SI, including a description of how the agency uses the PBR metric and other factors to inform our analysis and an analysis of the impacts on each species and stock for which M/SI is authorized, including the relationship of potential mortality for each species to the insignificance threshold and residual PBR, except as updated below.

Stocks With M/SI Below the Insignificance Threshold

As noted in the *Serious Injury or Mortality* subsection of the *Analysis and Negligible Impact Determination* section in the 2018 HSTT final rule and 2020 HSTT final rule, for a species or stock with incidental M/SI less than 10 percent of residual PBR, we consider M/SI from the specified activities to represent an 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 10 and table 11, the following species or stocks have potential or estimated M/SI from vessel strike and explosive takes, respectively, and authorized below their insignificance threshold: fin whale (CA/OR/WA stock), gray whale (Eastern North Pacific stock), humpback whale (Hawaii stock and Mainland Mexico-CA/OR/WA stock), California sea lion (U.S stock), and short-beaked common dolphin (CA/OR/WA stock). While the authorized M/SI of gray whales (Eastern North Pacific stock) is below the insignificance threshold, because of the recent UME, we further address how the authorized M/SI and the UME inform the negligible impact determination immediately below. For the other five 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. For the remaining stocks with anticipated potential M/SI above the insignificance threshold, how that M/SI compares to residual PBR, as well as additional factors, as appropriate, are discussed below as well.

Gray Whales (Eastern North Pacific Stock)

The estimated and authorized lethal take of gray whale (Eastern North Pacific stock) is well below the insignificance threshold (0.57 as compared to a residual PBR of 670). Nonetheless, we consider here how the 2019–2023 West Coast Gray Whale UME informs our negligible impact determination. Strandings of eastern North Pacific gray whales occurred in the United States, Canada and Mexico along the west coast of North America. They occurred in wintering, migratory, and feeding areas. Stranding rates have returned back to normal and expected levels, and the prevalence of thin live or thin dead whales has also decreased. The Investigative Team concluded localized ecosystem changes, including both access to and quality of prey, in the northern Bering and Chukchi seas caused the UME. These changes contributed to the poor nutritional condition observed in live whales in the wintering areas of Mexico and dead stranded gray whales in all three countries. This malnutrition led to increased mortality during the whales' annual northward migration (from Mexico to Alaska) and decreased production of calves. This resulted in an overall decline in population abundance. Because of the abundance and residual PBR of this stock, as well as the fact that the UME is closed and increased mortality stopped in late 2023 (with peak strandings ending in December 2020), this UME is not expected to have any impacts on individuals during the period of this final rule, nor is it thought to have had impacts on the population rate when it was occurring that would influence our evaluation of the effects of the mortality authorized on the stock.

Stocks with M/SI Above the Insignificance Threshold

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. This is slightly higher than the 2020 HSTT final rule (−16.7) and 2023 HSTT proposed rule (−15.4). NMFS authorizes one M/SI for the Navy 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), which means that residual PBR is exceeded by 14.5. However, as described in the 2018 and 2020 rules, 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 impact of the authorized take from a specified activity to be negligible even if total human-caused mortality exceeds PBR 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). When those considerations are applied here, the authorized lethal take (0.14 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 Navy is conducting (as discussed below). Perhaps more importantly, the available data suggests that the current number of vessel strikes is not likely to have an adverse impact on the population, despite the fact that it exceeds PBR, with the Navy's minimal additional mortality of one whale in the 7 years not creating the likelihood of adverse impact. Immediately below, we explain the information that supports our finding that the Navy's 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 stock-specific conclusion sections.

As discussed in the 2018 HSTT final rule and the 2020 HSTT final rule, 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 18 annual mortalities of blue whales from vessel strikes, which, with the additional M/SI of 1.54 from fisheries interactions, results in the current estimate of residual PBR being −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 Navy's 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. The Channel Islands NMS staff coordinates, collects, and monitors whale sightings in and around the Vessel Speed Reduction (VSR) zones and the Channel Islands NMS region. 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. 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. Vessels transiting the area from May 1 through December 15, 2023 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. (Note this is an expanded timeframe from the Whale Advisory Zone discussed in the 2020 HSTT final rule, which spanned June through November, though the effective period could change in future years.) 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 Office of Protected Resources, 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.

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 Navy 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 a blue whale were to be struck, 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 strike 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 strike 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.'' 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, potential (and 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 Navy 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.

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 estimated at greater than or equal to 0 in the 2023 SAR, yielding a residual PBR of 1.25. NMFS authorizes one M/SI for the Navy 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), which means that residual PBR is 1.11.

We acknowledge that the 2023 vessel strike by the U.S. Navy could have been of a sei whale or a CA/OR/WA fin whale, and this strike is not quantitatively included in this PBR analysis (nor is it quantitatively included in the PBR analysis for CA/

OR/WA fin whale if both of the 2021 U.S. Navy strikes were fin whales) which relies on the 2023 SARs. However, consideration of the 2023 strike would not change the total M/SI which NMFS compares to PBR, as the 2023 U.S. Navy strike occurred outside of the time period considered in the vessel strike analysis in the 2023 SAR. Therefore, while we acknowledge the 2023 U.S. Navy strike, in the quantitative analysis it is treated the same as other non-U.S. Navy strikes that occurred outside of the timeframe reflected in the total M/SI.

Immediately below, we explain the information that supports our finding that the Navy's 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 stock-specific conclusion sections.

Of note, management measures are in place to address M/SI caused by other activities. 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. Vessels transiting the area from May 1 through December 15, 2023 are recommended to exercise caution and voluntarily reduce speed to 10 kn (18.5 km per hour) or less. While the VSR zone is aimed at reducing risk of fatal vessel strike of blue, humpback, and fin whales, this measure is also anticipated to reduce risk to sei whales (note, this is an expanded timeframe from the Whale Advisory Zone discussed in the 2020 HSTT final rule, which spanned June through November, though the effective period could change in future years). 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 Office of Protected Resources, 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.

Further, 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 1990–2021 across 9,246 observed fishing sets (Carretta *et al.* (2022)). NMFS established the Pacific Offshore Cetacean Take Reduction Team in 1996 and prepared an associated Plan (PCTRP) to reduce the risk of M/SI via fisheries interactions. In 1997, NMFS published final regulations formalizing the requirements of the PCTRP, including the use of pingers following several specific provisions and the employment of Skipper education workshops.

In this case, 0.14 M/SI means one authorized mortality in 1 of the 7 years and zero authorized mortalities in 6 of those 7 years. Therefore, the Navy's authorized take 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 a sei whale were to be struck, 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 strike 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 strike 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.'' Even after qualitatively considering the possibility that the whale struck by Navy in 2023 was a sei whale, and based on the presence of the factors described above, we do not expect one authorized lethal take from Navy activities, alone, to adversely affect Eastern North Pacific sei whales through effects on annual rates of recruitment or survival. 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 addition to broader analyses of the impacts of the Navy's activities on mysticetes, odontocetes, and pinnipeds, the 2018 HSTT final rule contained detailed analyses of the effects of the Navy's activities in the HSTT Study Area on each affected species and stock and was updated, as appropriate, in the 2020 HSTT final rule. All of that information and analyses remain applicable and valid for our analyses of the effects of the same Navy activities on the same species and stocks, with the exception of humpback whale, for which the stock structure has been revised, and NMFS has updated its analyses accordingly for this final rule. See the *Group and Species-Specific Analyses* subsection in the *Analysis and Negligible Impact Determination* section of the 2018 HSTT final rule (83 FR 66993–67018). In addition, apart from the additional authorized incidental take by vessel strike of two large whales, the resulting changes to the average annual mortality estimates discussed above, and the revised humpback whale stock structure, no new information has been received since the publication of the 2020 HSTT final rule that significantly changes the analyses of the effects of the Navy's activities on each species and stock presented in the 2020 HSTT final rule (new information regarding vessel strike, the potential impact of the gray whale UME (now closed), and the revised humpback whale stock structure were discussed earlier in the rule).

In the discussions below, the estimated Level B harassment takes 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 many cases, some individuals are expected to be taken more than one time while in other cases, a portion of individuals will not be taken at all. Below, we compare the total take numbers (including PTS, TTS, and behavioral disturbance) for species or stocks to their associated abundance estimates to evaluate the magnitude of impacts across the species or stock and to individuals. Specifically, when an abundance percentage comparison is below 100, it means that percentage or less of the individuals in the stock will be affected (*i.e.,* some individuals will not be taken at all), that the average for those taken is 1 day per year, and that we would not expect any individuals to be taken more than a few times in a year. When it is more than 100 percent, it means there will definitely be some number of repeated takes of individuals. For example, if the percentage is 300, the average would be each individual is taken on 3 days in a year if all were taken, but it is more likely that some number of individuals will be taken more than three times and some number of individuals fewer times or not at all. While it is not possible to know the maximum number of days across which individuals of a stock might be taken, in acknowledgement of the fact that it is more than the average, for the purposes of this analysis, we assume a number approaching twice the average. For example, if the percentage of take compared to the abundance is 800, we estimate that some individuals might be taken as many as 16 times. Those comparisons are included in the sections below. For some stocks, these numbers have been adjusted slightly (with these adjustments being in the single digits) so as to more consistently apply this approach, but these minor changes did not change the analysis or findings.

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 a PTS or TTS take may sometimes, for example, also be subject to behavioral disturbance at the same time. As described in the *Harassment* subsection of the *Analysis and Negligible Impact Determination* section of the 2018 HSTT final rule, the degree of PTS, 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 PTS 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 jeopardized (as discussed below in the stock-specific summaries). Accordingly, in analyzing the number of takes and the likelihood of repeated and sequential takes (which could result in reproductive impacts), we consider the total takes, not just the Level B harassment takes by behavioral disturbance, so that individuals potentially exposed to both threshold shift and behavioral disturbance are appropriately considered. We note that the same reasoning applies with the potential addition of behavioral disturbance to tissue damage from explosives, the difference being that we do already consider the likelihood of reproductive impacts whenever tissue damage occurs. Further, the number of Level A harassment takes by either PTS or tissue damage are so low compared to abundance numbers that it is considered highly unlikely that any individual would be taken at those levels more than once.

Having considered all of the information and analyses previously presented in the 2018 HSTT final rule, including the *Group and Species-Specific Analyses* discussions organized by the different groups and species, below we present tables showing instances of total take as a percentage of stock abundance for each group, updated with the new vessel strike calculations and humpback stock structure. We then summarize the information for each species or stock, considering the analysis from the 2018 HSTT final rule, 2020 HSTT final rule, and any new analysis. The analyses below in some cases address species collectively if they occupy the same functional hearing group (*i.e.,* low, mid, and high-frequency cetaceans and pinnipeds in water), 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 or stock. In addition, animals belonging to each stock within a species typically have the same hearing capabilities and behaviorally respond in the same manner as animals in other stocks within the species.

Mysticetes

In tables 12 and 13 below for mysticetes, we indicate the total annual mortality, Level A harassment, and Level B harassment, and a number indicating the instances of total take as a percentage of abundance. Tables 12 and 13 have been updated from tables 18 and 19 in the 2020 HSTT final rule, as appropriate, with the 2023 final SARs and updated information on mortality, as discussed above. For additional information and analysis supporting the negligible-impact analysis, see the *Mysticetes* discussion in the *Group and Species-Specific Analyses* section of the 2018 HSTT final rule, all of which remains applicable to this rule unless specifically noted.

TABLE 12—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR MYSTICETES IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes [a]		Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality [b]	Total takes (entire study area)	Takes (within Navy EEZ)	Total Navy abundance inside and outside of EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of Navy EEZ abundance (HRC)
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Blue whale	Central North Pacific.	15	33	0	0	0	48	40	43	33	112	121

TABLE 12—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR MYSTICETES IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE—Continued

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes [a]		Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality [b]	Total takes (entire study area)	Takes (within Navy EEZ)	Total Navy abundance inside and outside of EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of Navy EEZ abundance (HRC)
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Bryde's whale.	Hawaii	40	106	0	0	0	146	123	108	89	135	138
Fin whale	Hawaii	21	27	0	0	0	48	41	52	40	92	103
Humpback whale.	Hawaii	2,837	6,289	3	0	0.29	9,129	7,389	5,078	4,595	180	161
Minke whale.	Hawaii	1,233	3,697	2	0	0	4,932	4,030	3,652	2,835	135	142
Sei whale	Hawaii	46	121	0	0	0	167	135	138	107	121	126

Note: For the Hawaii take estimates, we compare predicted takes to abundance estimates generated from the same underlying density estimates (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule), both in and outside of the U.S. EEZ. Because the portion of the Navy's study area inside the U.S. EEZ is generally concomitant with the area used to generate the abundance estimates in the SARs, and the abundance predicted by the same underlying density estimates is the preferred abundance to use, there is no need to separately compare the take to the SARs abundance estimate.

[a] Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

[b] The annual mortality of 0.29 is the result of no more than two mortalities over the course of 7 years from vessel strikes as described above in the Estimated Take of Marine Mammals section.

TABLE 13—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR MYSTICETES IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes [a]	Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality [b]	Total takes (entire study area)	Navy abundance in action area (SOCAL)	NMFS SARs abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Blue whale	Eastern North Pacific.	792	1,196	1	0	0.14	1,989	785	1,898	253	105
Bryde's whale	Eastern Tropical Pacific.	14	27	0	0	0	41	1.3	unknown	3,154	unknown
Fin whale	CA/OR/WA	835	1,390	1	0	0.57	2,227	363	11,065	613	20
Humpback whale	Central America/ Southern Mexico-CA/OR/WA.	282	594	0	0	0	876	[c] 74	1,496	1,184	59
	Mainland Mexico- CA/ OR/WA.	198	920	1	0	0.14	1,119	[c] 173	3,477	647	32
Minke whale	CA/OR/WA	259	666	1	0	0	926	163	915	568	101
Sei whale	Eastern North Pacific.	27	52	0	0	0.14	79	3	864	2,633	9
Gray whale	Eastern North Pacific.	1,316	3,355	7	0	0.57	4,679	193	26,960	2,424	17
Gray whale	Western North Pacific.	2	4	0	0	0	6	0	290	0	2

Note: For the SOCAL take estimates, because of the manner in which the Navy study area overlaps the ranges of many MMPA stocks (*i.e.,* a stock may range far north to Washington state and beyond and abundance may only be predicted within the U.S. EEZ, while the Navy study area is limited to Southern California and northern Mexico, but extends beyond the U.S. EEZ), we compare predicted takes to both the abundance estimates for the study area, as well as the SARs (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule).

[a] Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

[b] The annual mortality of 0.14 is the result of no more than one mortality over the course of 7 years from vessel strikes as described above in the Estimated Take of Marine Mammals section. The annual mortality of 0.57 is the result of no more than four mortalities over the course of 7 years from vessel strikes.

[c] In the 2020 HSTT final rule, NMFS reported a Navy abundance in Action Area (SOCAL) of 247 CA/OR/WA humpback whales. As explained in more detail in the *Authorized Take From Vessel Strikes and Explosives by Serious Injury or Mortality* section, NMFS estimates that approximately 30 percent of the humpback whales off the coast of California may be from the Central America DPS with the remaining 70 percent are expected to be from the Mexico DPS. Therefore, of the estimated 247 humpback whales in SOCAL, NMFS anticipates that 74 would be of the Central America/Southern Mexico-CA/OR/WA stock (Central America DPS), and 173 would be of the Mainland Mexico-CA/OR/WA stock (Mexico DPS).

Below we compile and summarize the information that supports our determination that the Navy's activities will not adversely affect any species or stocks through effects on annual rates of recruitment or survival for any of the affected mysticete species and stocks.

Blue Whale (Eastern North Pacific Stock)

Blue whales are listed as endangered under the ESA, and the current population trend for the Eastern North Pacific stock is unknown. We further note that this stock was originally listed under the ESA as a result of the impacts from commercial whaling, which is no longer affecting the species. NMFS authorizes one mortality over the 7 years covered by this rulemaking or 0.14 mortality annually. With the addition of this 0.14 annual mortality, residual PBR is exceeded, resulting in the total human-caused mortality exceeding PBR by 14.5. However, as described in more detail in the *Serious Injury or Mortality* section above, when total human-caused mortality exceeds PBR, we consider whether the incremental addition of a small amount of authorized mortality from the specified activity may still result in a negligible impact, in part by identifying whether it is less than 10 percent of PBR. In this case, the authorized mortality is well below 10 percent of PBR, management measures are in place to reduce mortality from other sources, and the incremental addition of a single mortality over the course of the 7-year Navy rule is not expected to, alone, lead to adverse impacts on the stock through effects on annual rates of recruitment or survival.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 253 and 105 percent, respectively (table 13). Given the range of blue whales, this information suggests that only some portion of individuals in the stock are likely impacted, but that there will likely be some repeat exposure (maybe 5 or 6 days within a year) of some subset of individuals that spend extended time within SOCAL. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Additionally, the Navy implements time/area mitigation in SOCAL in the majority of the BIAs identified by Calambokidis *et al.* (2015). These areas overlap a portion of the blue whale feeding BIAs (parent and child; see Harrison *et al.* 2023) identified in Calambokidis *et al.* (2024) and will reduce the severity of impacts to blue whales by reducing interference in feeding that could result in lost feeding opportunities or necessitate additional energy expenditure to find other good opportunities. Regarding the severity of TTS takes, we have explained in the 2018 HSTT final rule that they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with blue whale communication or other important low-frequency cues—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For similar reasons (as described in the 2018 HSTT final rule) the single estimated Level A harassment take by PTS for this stock is unlikely to have any effect on the reproduction or survival of that one individual, even if it were to be experienced by an animal that also experiences one or more Level B harassment takes by behavioral disturbance.

Altogether, only a small portion of the stock is anticipated to be impacted and any individual blue whale is likely to be disturbed at a low-moderate level, with likely many animals exposed only once or twice and a subset potentially disturbed across 5 or 6 days but minimized in BIAs. This low magnitude and severity of harassment effects is not expected to result in impacts on the reproduction or survival of any individuals and, therefore, when combined with the authorized mortality (which our earlier analysis indicated will not, alone, have more than a negligible impact on this stock of blue whales), the total take is not expected to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Eastern North Pacific stock of blue whales.

Bryde's Whale (Eastern Tropical Pacific Stock)

Little is known about this stock or its status, and it is not listed under the ESA. No mortality or Level A harassment is anticipated or authorized. Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance is 3,154 percent; however, the abundance upon which this percentage is based (1.3 whales from the Navy estimate, which is extrapolated from density estimates based on very few sightings) is clearly erroneous and the SAR does not include an abundance estimate because all of the survey data is outdated (table 13). However, the abundance in the early 1980s was estimated as 22,000 to 24,000, a portion of the stock was estimated at 13,000 in 1993, and the minimum number in the Gulf of California was estimated at 160 in 1990. Given this information and the fact that 41 total takes of Bryde's whales were estimated, this information suggests that only a small portion of the individuals in the stock are likely impacted, and few, if any, are likely taken over more than 1 day. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Regarding the severity of TTS takes, they are expected to be low-level, of short duration, 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 and capabilities are not at a level that will impact reproduction or survival.

Altogether, only a small portion of the stock is anticipated to be impacted and any individual Bryde's whale is likely to be disturbed at a low-moderate level, with few, if any, individuals exposed over more than 1 day in the year. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, much less annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Eastern Tropical Pacific stock of Bryde's whales.

Fin Whale (CA/OR/WA Stock)

The SAR identifies this stock as ''increasing,'' even though the larger species is listed as endangered under the ESA. NMFS authorizes four mortalities over the 7 years covered by this rulemaking, or 0.57 mortality annually. The addition of this 0.57 annual mortality still leaves the total human-caused mortality well under residual PBR.

We acknowledge the 2021 vessel strike of two fin whales by the Royal Australian Navy, and that the 2021 and 2023 vessel strikes by the U.S. Navy could have been CA/OR/WA fin whales. While the Royal Australian Navy strikes are not quantitatively included in the estimated take by vessel strike, even if they were, and if we presumed that the 2021 and 2023 U.S. Navy strikes were all fin whales, M/SI of this stock would still fall well below PBR (80).

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 613 and 20 percent, respectively (table 13). This information suggests that only some portion (less than 25 percent) of individuals in the stock are likely impacted but that there is likely some repeat exposure (perhaps up to 12 days within a year) of some subset of individuals that spend extended time within the SOCAL complex. Some of these takes could occur on a few sequential days for some small number of individuals, for example, if they resulted from a multi-day exercise on a range while individuals were in the area for multiple days feeding. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Additionally, Calambokidis *et al.* (2024) identifies feeding BIAs for fin whales in SOCAL. The Navy implements time/area mitigation in SOCAL in blue whale BIAs identified by Calambokidis *et al.* (2015), and fin whales are known to sometimes feed in some of the same areas. Additionally, these mitigation areas designed for blue whales overlap a portion of the fin whale feeding BIAs (parent and child; see Harrison *et al.* 2023) identified by Calambokidis *et al.* (2024) which means fin whales could potentially accrue some benefits from the mitigation. Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with fin whale communication or other important low-frequency cues—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For similar reasons (as described in the 2018 HSTT final rule) the single estimated Level A harassment take by PTS for this stock is unlikely to have any effects on the reproduction or survival of that one individual.

Altogether, this population is increasing, only a small portion of the stock is anticipated to be impacted, and any individual fin whale is likely to be disturbed at a low-moderate level, with the taken individuals likely exposed between 1 and 12 days, with a few individuals potentially taken on a few sequential days. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, and therefore, when combined with the authorized mortality (which our earlier analysis indicated will not, alone, have more than a negligible impact on this stock of fin whales), the total take is not expected to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the CA/OR/WA stock of fin whales.

Humpback Whale (Central America/Southern Mexico-CA/OR/WA Stock)

The SAR identifies this stock as increasing, though the growth rate is uncertain. Animals in this stock are of the Central America DPS which is designated as endangered under the ESA.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 1,184 and 59 percent, respectively (table 13). Given the range of humpback whales, this information suggests that only some portion of individuals in the stock are likely impacted but that there is likely some repeat exposure (perhaps up to 23 days within a year) of some subset of individuals that spend extended time within the SOCAL complex. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Some of these takes could occur on several sequential days for some small number of individuals, for example, if they resulted from a multi-day exercise on a range while individuals were in the area for multiple days feeding. However, these amounts are still not expected to adversely impact reproduction or survival of any individuals.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with humpback whale communication or other important low-frequency cues—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. Altogether, only a small portion of the stock is anticipated to be impacted and any individual humpback whale is likely to be disturbed at a low-moderate level, with likely many animals exposed only once or twice and a subset potentially disturbed up to 23 days, but with no reason to think that more than a few of those days would be sequential. This low magnitude and severity of harassment effects is not expected to result in impacts on the reproduction or survival of any individuals and, therefore, the total take is not expected to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Central America/Southern Mexico-CA/OR/WA stock of humpback whales.

Humpback Whale (Mainland Mexico-CA/OR/WA Stock)

The status of this stock is unknown. Animals in this stock are of the Mexico DPS which is designated as threatened under the ESA. NMFS authorizes one mortality over the 7 years covered by this rulemaking, or 0.14 mortality annually. The addition of this 0.14 annual mortality still leaves the total human-caused mortality well under residual PBR.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 647 and 32 percent, respectively (table 13). Given the range of humpback whales, this information suggests that only some portion of individuals in the stock are likely impacted but that there is likely some repeat exposure (perhaps up to 13 days within a year) of some subset of individuals that spend extended time within the SOCAL complex. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between

minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Some of these takes could occur on several sequential days for some small number of individuals, for example, if they resulted from a multi-day exercise on a range while individuals were in the area for multiple days feeding. However, these amounts are still not expected to adversely impact reproduction or survival of any individuals.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with humpback whale communication or other important low-frequency cues—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For similar reasons (as described in the 2018 HSTT final rule) the single estimated Level A harassment take by PTS for this stock is unlikely to have any effects on the reproduction or survival of that one individual.

Altogether, only a small portion of the stock is anticipated to be impacted and any individual humpback whale is likely to be disturbed at a low-moderate level, with likely many animals exposed only once or twice and a subset potentially disturbed up to 13 days, but with no reason to think that more than a few of those days would be sequential. This low magnitude and severity of harassment effects is not expected to result in impacts on the reproduction or survival of any individuals and, therefore, when combined with the authorized mortality (which our earlier analysis indicated will not, alone, have more than a negligible impact on this stock of humpback whales), the total take is not expected to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the CA/OR/WA stock of humpback whales.

Minke Whale (CA/OR/WA Stock)

The status of this stock is unknown and it is not listed under the ESA. No mortality from vessel strike or tissue damage from explosive exposure is anticipated or authorized for this species. Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 568 and 101 percent, respectively (table 13). Based on the behaviors of minke whales, which often occur along continental shelves and sometimes establish home ranges along the West Coast, this information suggests that only a portion of individuals in the stock are likely impacted but that there is likely some repeat exposure (perhaps up to 11 days within a year) of some subset of individuals that spend extended time within the SOCAL complex. Some of these takes could occur on a few sequential days for some small number of individuals, for example, if they resulted from a multi-day exercise on a range while individuals were in the area for multiple days feeding. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Regarding the severity of TTS takes, they are expected to be low-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—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For similar reasons (as described in the 2018 HSTT final rule) the single estimated Level A harassment take by PTS for this stock is unlikely to have any effects on the reproduction or survival of that individual.

Altogether, only a portion of the stock is anticipated to be impacted and any individual minke whale is likely to be disturbed at a low-moderate level, with the taken individuals likely exposed between 1 and 11 days, with a few individuals potentially taken on a few sequential days. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, much less annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the CA/OR/WA stock of minke whales.

Sei Whale (Eastern North Pacific Stock)

The status of this stock is unknown, and sei whales are listed under the ESA. NMFS authorizes one mortality over the 7 years covered by this rulemaking or 0.14 mortality annually. The addition of this 0.14 annual mortality still leaves the total human-caused mortality under residual PBR. After additionally considering several qualitative factors described above, including that the 2023 strike could have been a sei whale (or fin whale), we do not expect one authorized lethal take from Navy activities, alone, to adversely affect Eastern North Pacific sei whales through effects on annual rates of recruitment or survival. No Level A harassment is anticipated or authorized.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 2,633 and 9 percent, respectively (table 13), however, the abundance upon which the Navy percentage is based (3 from the Navy estimate, which is extrapolated from density estimates based on very few sightings) is likely an underestimate of the number of individuals in the HSTT study Area, resulting in an overestimated percentage. Given this information and the large range of sei whales, and the fact that only 79 total Level B harassment takes of sei whales were estimated, it is likely that some very small number of sei whales would be taken repeatedly, potentially up to 15 days in a year (typically 2,633 percent would lead to the estimate of 52 days/year, however, given that there are only 79 sei whale total takes, we used the conservative assumption that five individuals might be taken up to 15 times, with the few remaining takes distributed among other individuals). Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Some of these takes could occur on a few sequential days for some small number of individuals, for example, if they resulted from a multi-day exercise on a range while individuals were in the area for multiple days feeding, however, these amounts are still not expected to adversely impact reproduction or survival of any individuals. Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with sei whale communication or other important low-frequency cues—and that

the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival.

Altogether, only a small portion of the stock is anticipated to be impacted and any individual sei whale is likely to be disturbed at a low-moderate level, with only a few individuals exposed over one to 15 days in a year, with no more than a few sequential days. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, and therefore, when combined with the authorized mortality (which our earlier analysis indicated will not, alone, have more than a negligible impact on this stock of sei whales), the total take is not expected to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Eastern North Pacific stock of sei whales.

Gray Whale (Eastern North Pacific Stock)

The Eastern North Pacific stock of gray whale is not ESA-listed and the SAR indicates that the stock is increasing. However, recent (2021–2022) surveys conducted by NMFS' Southwest Fisheries Science Center estimated that the population has declined to 16,650 whales, though the authors note that this stock has historically shown a pattern of population growth and decline that has not impacted the population in the long term (Eguchi *et al.* 2022). NMFS is authorizing four mortalities over the 7 years covered by this rulemaking, or 0.57 mortality annually. The addition of this 0.57 annual mortality still leaves the total human-caused mortality well under the insignificance threshold of residual PBR (670). We acknowledge that the 2021 vessel strikes by the U.S. Navy could have been Eastern North Pacific gray whales. If we presumed that the 2021 U.S. Navy strikes were both gray whales, M/SI of this stock would still fall well below PBR (801).

We also consider here how the 2019–2023 West Coast Gray Whale UME informs our negligible impact determination. Because of the abundance and residual PBR of this stock, as well as the fact that the UME is closed and increased mortality stopped in late 2023 (with peak strandings ending in December 2020), this UME is not expected to have any impacts on individuals during the period of this final rule, nor is it thought to have had impacts on the population rate when it was occurring that would influence our evaluation of the effects of the mortality authorized on the stock.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 2,424 and 17 percent, respectively (table 13). (Note that in comparison to the recent Eguchi *et al.* 2024 abundance estimate, the number of estimated total instances of take compared to the abundance would be 24 percent.) This information suggests that only some small portion of individuals in the stock are likely impacted (less than 17 percent) but that there is likely some level of repeat exposure of some subset of individuals that spend extended time within the SOCAL complex. Typically 2,424 percent would lead to the estimate of 48 days/year, however, given that a large number of gray whales are known to migrate through the SOCAL complex and the fact that there are 4,679 total takes, we believe that it is more likely that a larger number of individuals will be taken one to a few times, while a small number staying in an area to feed for several days may be taken on 5–10 days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Some of these takes could occur on a couple of sequential days for some small number of individuals; however, these amounts are still not expected to adversely impact reproduction or survival of any individuals.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with gray whale communication or other important low-frequency cues and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For these same reasons (low level and frequency band), while a small permanent 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 the seven estimated Level A harassment takes by PTS for gray whales are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals.

Altogether, we have considered the impacts of the recent (now closed) gray whale UME, the Eastern North Pacific stock of gray whales is not endangered or threatened under the ESA. The SAR indicates that the stock is increasing. However, recent (2023–2024) surveys conducted by NMFS' Southwest Fisheries Science Center estimated that the population has declined since the most recent Eastern North Pacific gray whale SAR was published (Eguchi *et al.* 2024). Only a small portion of the stock is anticipated to be impacted and any individual gray whale is likely to be disturbed at a low-moderate level, with likely many animals exposed only once or twice and a subset potentially disturbed across 5 to 10 days. This low magnitude and severity of harassment effects is not expected to result in impacts to reproduction or survival for any individuals and, therefore, when combined with the authorized mortality of four whales over the 7 year period (which our earlier analysis indicated will not, alone, have more than a negligible impact on this stock of gray whales), the total take is not expected to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Eastern North Pacific stock of gray whales.

Gray Whale (Western North Pacific Stock)

The Western North Pacific stock of gray whales is reported as increasing in the 2023 final SAR but is listed as endangered under the ESA. No mortality or Level A harassment is anticipated or authorized. This stock is expected to incur the very small number of 6 Level B harassment takes (2 behavioral disruption and 4 TTS) to a stock with a SAR-estimated abundance of 290 (table 13). These takes will likely accrue to different individuals, the behavioral disturbances will be of a low-moderate level, and the TTS instances will be at a low level and short duration. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, much less to adversely affect this stock through impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Western North Pacific stock of gray whales.

Humpback Whale (Hawaii Stock)

The status of this stock is unknown. Animals in this stock are of the Hawaii DPS which is not listed under the ESA. No Level A harassment by tissue damage is authorized. NMFS authorizes two mortalities over the 7 years covered by this rulemaking, or 0.29 mortalities annually. The addition of this 0.29 annual mortality still leaves the total human-caused mortality well under the insignificance threshold for residual PBR.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated instances of take compared to the abundance, both throughout the HSTT Study Area and within the U.S. EEZ, respectively, is 180 and 161 percent (table 12). This information and the complicated far-ranging nature of the stock structure suggests that some portion of the stock (but not all) are likely impacted, over 1 to several days per year, with little likelihood of take across sequential days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Additionally, as noted above, there are two mitigation areas implemented by the Navy that span a large area of the important humpback reproductive areas (BIA, parent and child; see Harrison *et al.* 2023) identified in Kratofil *et al.* (2023) and minimize impacts by limiting the use of MF1 active sonar and explosives, thereby reducing both the number and severity of takes of humpback whales. Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with humpback whale communication or other important low-frequency cues, and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For these same reasons (low level and frequency band), while a small permanent 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 the 3 estimated Level A harassment takes by PTS for humpback whales are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals.

Altogether, this stock's status is unknown and the DPS is not listed as endangered or threatened under the ESA. Only a small portion of the stock is anticipated to be impacted and any individual humpback whale is likely to be disturbed at a low-moderate level, with the taken individuals likely exposed between 1 to several days per year, with little likelihood of take across sequential days. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, and therefore, when combined with the authorized mortality (which our earlier analysis indicated will not, alone, have more than a negligible impact on this stock of humpback whales), the total take is not expected to adversely affect this stock through effects on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Hawaii stock of humpback whales.

Blue Whale (Central North Pacific Stock) and the Hawaii Stocks of Bryde's Whale, Fin Whale, Minke Whale, and Sei Whale

The status of these stocks are not identified in the SARs. Blue whale (Central North Pacific stock) and the Hawaii stocks of fin whale and sei whale are listed as endangered under the ESA; the Hawaii stocks of minke whales and Bryde's whales are not listed under the ESA. No mortality or Level A harassment by tissue damage is anticipated or authorized for any of these stocks.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated instances of take compared to the abundance, both throughout the HSTT Study Area and within the U.S. EEZ, respectively, is 92–135 and 103–142 percent (table 12). This information suggests that some portion of the stocks (but not all) are likely impacted, over 1 to several days per year, with little likelihood of take across sequential days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with mysticete communication or other important low-frequency cues—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For similar reasons (as described in the 2018 HSTT final rule) the two estimated Level A harassment takes by PTS for the Hawaii stock of minke whales are unlikely to have any effects on the reproduction or survival of any individuals.

Altogether, only a portion of these stocks are anticipated to be impacted and any individuals of these stocks are likely to be disturbed at a low-moderate level, with the taken individuals likely exposed between 1 and several days, with little chance that any are taken across sequential days. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, much less have impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on these stocks.

Odontocetes

Sperm Whale, Dwarf Sperm Whale, and Pygmy Sperm Whale

In table 14 and table 15 below for sperm whale, dwarf sperm whale, and pygmy sperm whale, we indicate the total annual mortality (0 for all stocks; the 2020 HSTT final rule included 0.14 annual takes by mortality of the Hawaii stock of sperm whale), Level A and Level B harassment, and a number indicating the instances of total take as a percentage of abundance. Table 14 and table 15 are unchanged from tables 20 and 21 in the 2020 HSTT final rule, except for updated information on mortality for the Hawaii stock of sperm whales, as discussed above. For additional information and analysis supporting the negligible-impact analysis, see the *Odontocetes* discussion as well as the *Sperm Whales, Dwarf Sperm Whales, and Pygmy Sperm Whales* discussion in the *Group and Species-Specific Analyses* section of the 2018 HSTT final rule, all of which remains applicable to this rule unless specifically noted.

TABLE 14—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR SPERM WHALES, DWARF SPERM WHALES, AND PYGMY SPERM WHALES IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes		Abundance		Instances of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Takes (within NAVY EEZ)	Total Navy abundance inside and outside EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of EEZ abundance (HRC)
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Dwarf sperm whale.	Hawaii	5,870	14,550	64	0	0	20,484	15,310	8,218	6,379	249	240
Pygmy sperm whale.	Hawaii	2,329	5,822	29	0	0	8,180	6,098	3,349	2,600	244	235
Sperm whale.	Hawaii	2,466	30	0	0	0	2,496	1,317	1,656	1,317	151	147

Note: For the Hawaii take estimates, we compare predicted takes to abundance estimates generated from the same underlying density estimates (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule), both in and outside of the U.S. EEZ. Because the portion of the Navy's study area inside the U.S. EEZ is generally concomitant with the area used to generate the abundance estimates in the SARs, and the abundance predicted by the same underlying density estimates is the preferred abundance to use, there is no need to separately compare the take to the SARs abundance estimate.
Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

TABLE 15—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR SPERM WHALES, DWARF SPERM WHALES, AND PYGMY SPERM WHALES IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes	Abundance		Instances of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in action area	NMFS SARS abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Kogia whales ...	CA/OR/WA	2,779	6,353	38	0	0	9,170	757	4,111	1,211	223
Sperm whale ...	CA/OR/WA	2,437	56	0	0	0	2,493	273	2,606	913	96

Note: For the SOCAL take estimates, because of the manner in which the Navy study area overlaps the ranges of many MMPA stocks (*i.e.,* a stock may range far north to Washington state and beyond and abundance may only be predicted within the U.S. EEZ, while the Navy study area is limited to Southern California and northern Mexico, but extends beyond the U.S. EEZ), we compare predicted takes to both the abundance estimates for the study area, as well as the SARs (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule).
Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

Below we compile and summarize the information that supports our determination that the Navy's activities will not adversely affect any species or stocks through effects on annual rates of recruitment or survival for any of the affected species and stocks addressed in this section. Sperm Whale, Dwarf Sperm Whale, and Pygmy Sperm Whale (CA/OR/WA Stocks)

The SAR identifies the CA/OR/WA stock of sperm whales as ''stable'', and the species is listed as endangered under the ESA. The status of the CA/OR/WA stocks of pygmy and dwarf sperm whales is unknown and neither are listed under the ESA. Neither mortality nor Level A harassment by tissue damage from exposure to explosives is expected or authorized for any of these three stocks.

Due to their pelagic distribution, small size, and cryptic behavior, pygmy sperm whales and dwarf sperm whales are rarely sighted during at-sea surveys and are difficult to distinguish between when visually observed in the field. Many of the relatively few observations of *Kogia* spp. off the U.S. West Coast were not identified to species. All at-sea sightings of *Kogia* spp. have been identified as pygmy sperm whales or *Kogia* spp. Stranded dwarf sperm and pygmy sperm whales have been found on the U.S. West Coast, however dwarf sperm whale strandings are rare. NMFS SARs suggest that the majority of *Kogia* sighted off the U.S. West Coast were likely pygmy sperm whales. As such, the stock estimate in the NMFS SAR for pygmy sperm whales is the estimate derived for all *Kogia* spp. in the region (Barlow, 2016), and no separate abundance estimate can be determined for dwarf sperm whales, though some low number likely reside in the U.S. EEZ. Due to the lack of abundance estimate, it is not possible to predict the take of dwarf sperm whales and take estimates are identified as *Kogia* spp. (including both pygmy and dwarf sperm whales). We assume only a small portion of those takes are likely to be dwarf sperm whales as the density and abundance in the U.S. EEZ is thought to be low.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is, respectively, 913 and 96 for sperm whales and 1,211 and 223 for *Kogia* spp., with a large proportion of these anticipated to be pygmy sperm whales due to the low abundance and density of dwarf sperm whales in the HSTT Study Area (table 15). Given the

range of these stocks (which extends the entire length of the West Coast, as well as beyond the U.S. EEZ boundary), this information suggests that some portion of the individuals in these stocks will not be impacted but that there is likely some repeat exposure (perhaps up to 24 days within a year for *Kogia* spp. and 18 days a year for sperm whales) of some small subset of individuals that spend extended time within the SOCAL Range. Additionally, while interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options in the relative vicinity. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB (*i.e.,* of a lower, to occasionally moderate, level and less likely to evoke a severe response). However, some of these takes could occur on a fair number of sequential days for some number of individuals.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with sperm whale communication or other important low-frequency cues, and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For these same reasons (low level and frequency band), while a small permanent loss of hearing sensitivity (PTS) may include some degree of energetic costs for compensating or may mean some small loss of opportunities or detection capabilities, at the expected scale the estimated Level A harassment takes by PTS for the dwarf and pygmy sperm whale stocks are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals. Thus, the 38 total Level A harassment takes by PTS for these 2 stocks are unlikely to affect rates of recruitment and survival for the stocks.

Altogether, most members of the stocks will likely be taken by Level B harassment (at a low to occasionally moderate level) over several days a year, and some smaller portion of the stocks are expected to be taken on a relatively moderate to high number of days (up to 18 or 24) across the year, some of which could be sequential days. Though the majority of impacts are expected to be of a lower to sometimes moderate severity, the larger number of takes for a subset of individuals makes it more likely that a small number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year. 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. As discussed in the 2020 HSTT final rule, however, foregone reproduction (especially for 1 year, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality, and a small number of instances of foregone reproduction are not expected to adversely affect these stocks through effects on annual rates of recruitment or survival. We also note that residual PBR is 19 for pygmy sperm whales and 3.5 for sperm whales. Both the abundance and PBR are unknown for dwarf sperm whales, however, we know that take of this stock is likely significantly lower in magnitude and severity (*i.e.,* lower number of total takes and repeated takes any individual) than pygmy sperm whales. For these reasons, in consideration of all of the effects of the Navy's activities combined, we have determined that the authorized take will have a negligible impact on the CA/OR/WA stocks of sperm whales and pygmy and dwarf sperm whales.

Sperm Whale (Hawaii Stock)

The SAR does not identify a trend for this stock and the species is listed as endangered under the ESA. No mortality or Level A harassment by PTS or tissue damage is expected or authorized.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated instances of take compared to the abundance, both throughout the HSTT Study Area and within the U.S. EEZ, respectively, is 151 and 147 percent (table 14). This information and the sperm whale stock range suggest that likely only a smaller portion of the stock will be impacted, over 1 to several days per year, with little likelihood of take across sequential days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB (*i.e.,* of a lower, to occasionally moderate, level and less likely to evoke a severe response). Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with sperm whale communication or other important low-frequency cues, and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival.

Altogether, a relatively small portion of this stock is anticipated to be impacted and any individuals are likely to be disturbed at a low-moderate level, with the taken individuals likely exposed between 1 and several days, with little chance that any are taken across sequential days. This low magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, much less annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Hawaii stock of sperm whales.

Pygmy and Dwarf Sperm Whales (Hawaii Stocks)

The SAR does not identify a trend for these stocks and the species are not listed under the ESA. No Level A harassment by tissue damage is anticipated or authorized. Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated instances of take compared to the abundance, both throughout the HSTT Study Area and within the U.S. EEZ, respectively, is 244–249 and 235–240 percent (table 14). This information and the pygmy and dwarf sperm whale stock ranges (at least throughout the U.S. EEZ around the entire Hawaiian Islands) suggest that likely a fair portion of each stock is not impacted, but that a subset of individuals may be taken over one to perhaps 5 days per year, with little likelihood of take across sequential days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB (*i.e.,* of a lower, to occasionally moderate, level and less likely to evoke a severe response). Additionally, as discussed earlier, within the Hawaii Island Mitigation

Area, explosives are not used and the use of MF1 and MF4 active sonar is limited, greatly reducing the severity of impacts within the small and resident population BIA for dwarf sperm whales (Kratofil *et al.*2023), which is entirely contained within this mitigation area.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with sperm whale communication or other important low-frequency cues—and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival. For these same reasons (low level and frequency band), while a small permanent 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, estimated Level A harassment takes by PTS for dwarf and pygmy sperm whales are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals, even if it were to be experienced by an animal that also experiences one or more instances of Level B harassment by behavioral disturbance. Thus the 29 and 64 total Level A harassment takes by PTS for dwarf and pygmy sperm whales, respectively, are unlikely to affect rates of recruitment and survival for these stocks.

Altogether, a portion of these stocks are likely to be impacted and any individuals are likely to be disturbed at a low-moderate level, with the taken individuals likely exposed between 1 and 5 days, with little chance that any are taken across sequential days. This low magnitude and severity of Level A and Level B harassment effects is not expected to result in impacts on individual reproduction or survival, much less impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the expected and authorized take will have a negligible impact on the Hawaii stocks of pygmy and dwarf sperm whales.

Beaked Whales

In table 16 and table 17 below for beaked whales, we indicate the total annual mortality, Level A and Level B harassment, and a number indicating the instances of total take as a percentage of abundance. Table 16 and table 17 are unchanged from table 22 and table 23 in the 2020 HSTT final rule, with the exception of a correction to a rounding error as noted. For additional information and analysis supporting the negligible-impact analysis, see the *Odontocetes* discussion as well as the *Beaked Whales* discussion in the *Group and Species-Specific Analyses* section of the 2018 HSTT final rule, all of which remains applicable to this rule unless specifically noted.

TABLE 16—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR BEAKED WHALES IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes		Abundance		Instances of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Takes (within Navy EEZ)	Total Navy abundance inside and outside EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of EEZ abundance (HRC)
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Blainville's beaked whale.	Hawaii	5,369	16	0	0	0	5,385	4,140	989	768	[a] 544	539
Goose-beaked whale.	Hawaii	1,792	4	0	0	0	1,796	1,377	345	268	521	514
Longman's beaked whale.	Hawaii	19,152	81	0	0	0	19,233	14,585	3,568	2,770	539	527

Note: For the Hawaii take estimates, we compare predicted takes to abundance estimates generated from the same underlying density estimates (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule), both in and outside of the U.S. EEZ. Because the portion of the Navy's study area inside the U.S. EEZ is generally concomitant with the area used to generate the abundance estimates in the SARs, and the abundance predicted by the same underlying density estimates is the preferred abundance to use, there is no need to separately compare the take to the SARs abundance estimate.

Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

[a] The 2020 final rule unintentionally presented this percentage as 545. The correct value is provided here. This error does not affect the conclusions in the 2020 HSTT final rule.

TABLE 17—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR BEAKED WHALES IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes	Abundance		Instances of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in action area	NMFS SARs abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Baird's beaked whale.	CA/OR/WA	2,030	14	0	0	0	2,044	74	1,363	2,762	150
Goose-beaked whale.	CA/OR/WA	11,373	127	1	0	0	11,501	520	5,454	2,212	211

TABLE 17—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR BEAKED WHALES IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE—Continued

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes	Abundance		Instances of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in action area	NMFS SARs abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Mesoplodon species.	CA/OR/WA	6,125	68	1	0	0	6,194	89	3,044	6,960	203

Note: For the SOCAL take estimates, because of the manner in which the Navy study area overlaps the ranges of many MMPA stocks (*i.e.,* a stock may range far north to Washington state and beyond and abundance may only be predicted within the U.S. EEZ, while the Navy study area is limited to Southern California and northern Mexico, but extends beyond the U.S. EEZ), we compare predicted takes to both the abundance estimates for the study area, as well as the SARs (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule).

Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

Below we compile and summarize the information that supports our determination that the Navy's activities will not adversely affect any species or stocks through effects on annual rates of recruitment or survival for any of the affected species or stocks addressed in this section.

Blainville's, Goose-Beaked, and Longman's Beaked Whales (Hawaii Stocks)

The SAR does not identify a trend for these stocks and the species are not listed under the ESA. No mortality or Level A harassment are expected or authorized for any of these three stocks. Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated instances of take compared to the abundance, both throughout the HSTT Study Area and within the U.S. EEZ, respectively, is 521–544 and 514–539 percent (table 16). This information and the stock ranges (at least of the small, resident island associated stocks around Hawaii) suggest that likely a fair portion of the stocks (but not all) will be impacted, over 1 to perhaps 11 days per year, with little likelihood of much take across sequential days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 160 dB, though with beaked whales, which are considered somewhat more sensitive, this could mean that some individuals will leave preferred habitat for a day or 2 (*i.e.,* moderate level takes). However, while interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options nearby. Additionally, as noted earlier, within the Hawaii Island mitigation area (which overlaps a large portion of the BIAs for goose-beaked and Blainville's beaked whales identified in Kratofil *et al.* 2023), explosives are not used and the use of MF1 and MF4 active sonar is limited, greatly reducing the severity of impacts within these two small resident populations.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere with beaked whale communication or other important low-frequency cues, and that the associated lost opportunities and capabilities are not at a level that will impact reproduction or survival.

Altogether, a fair portion of these stocks are anticipated to be impacted and any individuals are likely to be disturbed at a moderate level, with the taken individuals likely exposed between 1 and 11 days, with little chance that individuals are taken across more than a few sequential days. This low, to occasionally moderate, magnitude and severity of harassment effects is not expected to result in impacts on individual reproduction or survival, much less have impacts on annual rates of recruitment or survival. For these reasons, we have determined, in consideration of all of the effects of the Navy's activities combined, that the authorized take will have a negligible impact on the Hawaii stocks of beaked whales.

Baird's Beaked Whale, Goose-Beaked Whale and *Mesoplodon* Species (All CA/OR/WA Stocks)

The species are not listed under the ESA and their populations have been identified as ''increasing,'' ''decreasing,'' and ''increasing,'' respectively. No mortality is expected or authorized for any of these three stocks and only two takes by Level A harassment (PTS) are authorized.

No methods are available to distinguish between the six species of *Mesoplodon* beaked whale CA/OR/WA stocks (Blainville's beaked whale (*M. densirostris*), Perrin's beaked whale (*M. perrini*), Lesser beaked whale (*M. peruvianus*), Stejneger's beaked whale (*M. stejnegeri*), Gingko-toothed beaked whale (*M. gingkodens*), and Hubbs' beaked whale (*M. carlhubbsi*)) when observed during at-sea surveys (Carretta *et al.* 2018a). Bycatch and stranding records from the region indicate that the Hubbs' beaked whale is most commonly encountered (Carretta *et al.* 2008, Moore and Barlow, 2013). As indicated in the SAR, no species-specific abundance estimates are available, the abundance estimate includes all CA/OR/WA *Mesoplodon* spp, and the six species are managed as one unit. Due to the lack of species-specific abundance estimates, it is not possible to predict the take of individual species and take estimates are identified as *Mesoplodon* spp.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance for these stocks is 2,762, 2,212, and 6,960 percent (measured against Navy-estimated abundance) and 150, 211, and 203 percent (measured against the SAR) for Baird's beaked whales, goose-beaked beaked whales, and *Mesoplodon* spp., respectively (table 17). Given the ranges of these stocks, this information suggests that some smaller portion of the individuals of these stocks will be taken, and that some subset of individuals within the stock will be taken repeatedly within the year (perhaps up to 20–25 days, and potentially more for goose-beaked)—

potentially over a fair number of sequential days, especially where individuals spend extensive time in the SOCAL Range. Note that we predict lower days of repeated exposure for these stocks than their percentages might have suggested because of the number of overall takes—*i.e.,* using the higher percentage would suggest that an unlikely portion of the takes are taken up by a small portion of the stock incurring a very large number of repeat takes, with little room for take resulting from few or moderate numbers of repeats, which is unlikely. While interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options in the relative vicinity. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, we have explained that the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 160 dB, though with beaked whales, which are considered somewhat more sensitive, this could mean that some individuals will leave preferred habitat for a day or 2 (*i.e.,* of a moderate level). In addition, as noted, some of these takes could occur on a fair number of sequential days for these stocks.

The severity of TTS takes is expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere significantly with conspecific communication, echolocation, or other important low-frequency cues. Therefore, the associated lost opportunities and capabilities are not expected to impact reproduction or survival. For similar reasons (as described in the 2020 HSTT final rule) the single estimated Level A harassment take by PTS for this stock is unlikely to have any effects on the reproduction or survival of any individuals.

Altogether, a portion of these stocks will likely be taken (at a moderate or sometimes low level) over several days a year, and some smaller portion of the stock is expected to be taken on a relatively moderate to high number of days across the year, some of which could be sequential days. Though the majority of impacts are expected to be of a moderate severity, the repeated takes over a potentially fair number of sequential days for some individuals makes it more likely that a small number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year. 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. As noted previously, however, foregone reproduction (especially for 1 year, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality and a small number of instances of foregone reproduction are not expected to adversely affect these stocks through effects on annual rates of recruitment or survival, especially given the residual PBR of these three beaked whale stocks (8.7, 41.9, and 19.9, respectively).

Further, Navy activities have been conducted in SOCAL for many years at similar levels and the SAR considers *Mesoplodon* spp. and Baird's beaked whales as increasing. While NMFS' SAR indicates that goose-beaked whales on the U.S. West Coast are declining based on a Bayesian trend analysis of NMFS' survey data collected from 1991 through 2014, results from passive acoustic monitoring and other research have estimated regional goose-beaked whale densities that were higher than indicated by NMFS' broad-scale visual surveys for the U.S. West Coast (Debich *et al.* 2015a; Debich *et al.* 2015b; Falcone and Schorr, 2012, 2014; Hildebrand *et al.* 2009; Moretti, 2016; Širović *et al.* 2016; Smultea and Jefferson, 2014). Research also indicates higher than expected residency in the Navy's instrumented Southern California Anti-Submarine Warfare Range in particular (Falcone and Schorr, 2012) and photo identification studies in the SOCAL have identified approximately 100 individual goose-beaked whale individuals with 40 percent having been seen in one or more prior years, with re-sightings up to 7 years apart (Falcone and Schorr, 2014). The documented residency by many goose-beaked whales over multiple years suggests that a stable population may exist in that small portion of the stock's overall range (Falcone *et al.* 2009; Falcone and Schorr, 2014; Schorr *et al.* 2017).

For these reasons, in consideration of all of the effects of the Navy's activities combined, we have determined that the authorized take will have a negligible impact on the CA/OR/WA stocks of Baird's and goose-beaked whales, as well as all six species included within the *Mesoplodon* spp.

Small Whales and Dolphins

In tables 18 and 19 below for dolphins and small whales, we indicate the total annual mortality, Level A and Level B harassment, and a number indicating the instances of total take as a percentage of abundance. Tables 18 and 19 are updated from tables 24 and 25 in the 2020 HSTT final rule as appropriate with the 2023 final SARs. For additional information and analysis supporting the negligible-impact analysis, see the *Odontocetes* discussion as well as the *Small Whales and Dolphins* discussion in the *Group and Species-Specific Analyses* section of the 2018 HSTT final rule, all of which remains applicable to this rule unless specifically noted.

TABLE 18—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR DOLPHINS AND SMALL WHALES IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes		Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Takes (within Navy EEZ)	Total Navy abundance inside and outside of EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of Navy EEZ abundance (HRC)
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Bottlenose dolphin.	Hawaii Pelagic.	3,196	132	0	0	0	3,328	2,481	1,528	1,442	218	172

TABLE 18—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR DOLPHINS AND SMALL WHALES IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE—Continued

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes		Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Takes (within Navy EEZ)	Total Navy abundance inside and outside of EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of Navy EEZ abundance (HRC)
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Bottlenose dolphin.	Kauai & Niihau.	534	31	0	0	0	565	264	184	184	307	143
Bottlenose dolphin.	Oahu	8,600	61	1	0	0	8,662	8,376	743	743	[a] 1,166	[a] 1,127
Bottlenose dolphin.	4-Island ...	349	10	0	0	0	359	316	189	189	190	167
Bottlenose dolphin.	Hawaii	74	6	0	0	0	80	42	131	131	61	32
False killer whale.	Hawaii Pelagic.	999	42	0	0	0	1,041	766	645	507	161	151
False killer whale.	Main Hawaiian Islands Insular.	572	17	0	0	0	589	476	147	147	[b] 401	324
False killer whale.	Northwestern Hawaiian Islands.	365	16	0	0	0	381	280	215	169	177	166
Fraser's dolphin.	Hawaii	39,784	1,289	2	0	0	41,075	31,120	5,408	18,763	760	166
Killer whale.	Hawaii	118	6	0	0	0	124	93	69	54	180	172
Melon-headed whale.	Hawaii Islands.	3,261	231	0	0	0	3,492	2,557	1,782	1,782	196	143
Melon-headed whale.	Kohala Resident.	341	9	0	0	0	350	182	447	447	78	41
Pantropical spotted dolphin.	Hawaii Island.	3,767	227	0	0	0	3,994	2,576	2,405	2,405	166	107
Pantropical spotted dolphin.	Hawaii Pelagic.	9,973	476	0	0	0	10,449	7,600	5,462	4,637	191	164
Pantropical spotted dolphin.	Oahu	4,284	45	0	0	0	4,329	4,194	372	372	1,164	1,127
Pantropical spotted dolphin.	4-Island ...	701	17	0	0	0	718	634	657	657	109	96
Pygmy killer whale.	Hawaii	8,122	402	0	0	0	8,524	6,538	4,928	3,931	173	166
Pygmy killer whale.	Tropical ...	710	50	0	0	0	760	490	159	23	478	2,130
Risso's dolphin.	Hawaii	8,950	448	0	0	0	9,398	7,318	1,210	4,199	777	174
Rough-toothed dolphin.	Hawaii	6,112	373	0	0	0	6,485	4,859	3,054	2,808	212	173
Short-finned pilot whale.	Hawaii	12,499	433	0	0	0	12,932	9,946	6,433	5,784	201	172
Spinner dolphin.	Hawaii Island.	279	12	0	0	0	291	89	629	629	46	14
Spinner dolphin.	Hawaii Pelagic.	4,332	202	0	0	0	4,534	3,491	2,885	2,229	157	157
Spinner dolphin.	Kauai & Niihau.	1,683	63	0	0	0	1,746	812	604	604	289	134
Spinner dolphin.	Oahu & 4-Island.	1,790	34	1	0	0	1,825	1,708	354	354	516	482
Striped dolphin.	Hawaii	7,379	405	0	0	0	7,784	6,034	4,779	3,646	163	165

Note: For the Hawaii take estimates, we compare predicted takes to abundance estimates generated from the same underlying density estimates (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule), both in and outside of the U.S. EEZ. Because the portion of the Navy's study area inside the U.S. EEZ is generally concomitant with the area used to generate the abundance estimates in the SARs, and the abundance predicted by the same underlying density estimates is the preferred abundance to use, there is no need to separately compare the take to the SARs abundance estimate.

Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

[a] The 2020 final rule unintentionally presented these percentages as 1,169 and 1,130. The correct values are provided here. These errors do not affect the conclusions in the 2020 HSTT final rule.
[b] The 2020 final rule unintentionally presented this percentage as 400. The correct value is provided here. This rounding error does not affect the conclusions in the 2020 HSTT final rule.

TABLE 19—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR DOLPHINS AND SMALL WHALES IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes	Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in action area (SOCAL)	NMFS SARs abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Bottlenose dolphin.	California Coastal.	1,771	38	0	0	0	1,809	238	453	760	399
Bottlenose dolphin.	CA/OR/WA Offshore.	51,727	3,695	3	0	0	55,425	5,946	3,477	932	1,594
Killer whale	ENP Offshore	96	11	0	0	0	107	4	300	2,675	36
Killer whale	ENP Transient/ West Coast Transient.	179	20	0	0	0	199	30	349	663	57
Long-beaked common dolphin.	California	233,485	13,787	18	2	0	247,292	10,258	83,379	2,411	297
Northern right whale dolphin.	CA/OR/WA	90,052	8,047	10	1	0	98,110	7,705	29,285	1,273	335
Pacific white-sided dolphin.	CA/OR/WA	69,245	6,093	5	0	0	75,343	6,626	34,999	1,137	215
Risso's dolphin	CA/OR/WA	116,143	10,118	9	0	0	126,270	7,784	6,336	1,622	1,993
Short-beaked common dolphin.	CA/OR/WA	1,374,048	118,525	79	10	1.14	1,492,664	261,438	1,056,308	571	141
Short-finned pilot whale.	CA/OR/WA	1,789	124	1	0	0	1,914	208	836	920	229
Striped dolphin	CA/OR/WA	163,640	11,614	3	0	0	175,257	39,862	29,988	440	584

Note: For the SOCAL take estimates, because of the manner in which the Navy study area overlaps the ranges of many MMPA stocks (*i.e.,* a stock may range far north to Washington state and beyond and abundance may only be predicted within the U.S. EEZ, while the Navy study area is limited to Southern California and northern Mexico, but extends beyond the U.S. EEZ), we compare predicted takes to both the abundance estimates for the study area, as well as the SARs (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule).
Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.
For mortality takes there is an annual average of 1.14 short-beaked common dolphins (*i.e.,* where eight takes could potentially occur divided by 7 years to get the annual number of mortalities/serious injuries).

Below we compile and summarize the information that supports our determination that the Navy's activities will not adversely affect any species or stocks through effects on annual rates of recruitment or survival for any of the affected species or stocks addressed in this section.

Long-Beaked Common Dolphin (California Stock), Northern Right Whale Dolphin (CA/OR/WA Stock), and Short-Beaked Common Dolphin (CA/OR/WA Stock)

None of these stocks are listed under the ESA and their stock statuses are considered ''increasing,'' ''unknown,'' and ''increasing,'' respectively. Eight mortalities or serious injuries of short-beaked common dolphins are authorized over the 7-year rule, or 1.14 M/SI annually. The addition of this 1.14 annual mortality still leaves the total human-caused mortality well under the insignificance threshold for residual PBR. The 3 stocks are expected to accrue 2, 1, and 10 Level A harassment takes from tissue damage resulting from exposure to explosives, respectively. As described in detail in the 2018 HSTT final rule, the impacts of a Level A harassment take by tissue damage could range in impact from minor to something just less than M/SI that could seriously impact fitness. However, given the Navy's procedural mitigation, exposure closer to the source and more severe end of the spectrum is less likely and we cautiously assume some moderate impact for these takes that could lower the affected individual's fitness within the year such that a female (assuming a 50 percent chance of it being a female) might forego reproduction for 1 year. As noted previously, foregone reproduction has less of an impact on population rates than death (especially for only 1 year in 7, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low), and 1 to 10 instances would not be expected to impact annual rates of recruitment or survival for these stocks.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 2,411, 1,273, and 571 percent (respective to the stocks listed in the heading) and 297, 335, and 141 percent (respective to the stocks listed in the heading) (table 19). Given the range of these stocks, this information suggests that likely some portion (but not all or even the majority) of the individuals in the northern right whale dolphin and short-beaked common dolphin stocks are likely impacted while it is entirely possible that most or all of the range-limited long-beaked common dolphin is

taken. All three stocks likely will experience some repeat Level B harassment exposure (perhaps up to 48, 25, or 11 days within a year, respective to the stocks listed in the heading) of some subset of individuals that spend extended time within the SOCAL range complex. While interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options in the relative vicinity. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB with a portion up to 178 dB (*i.e.,* of a moderate or lower level, less likely to evoke a severe response). However, some of these takes could occur on a fair number of sequential days for long-beaked common dolphins or northern right whale dolphins, or even some number of short-beaked common dolphins, given the high number of total takes (*i.e.,* the probability that some number of individuals get taken on a higher number of sequential days is higher, because the total take number is relatively high, even though the percentage is not that high).

The severity of TTS takes is expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere significantly with conspecific communication, echolocation, or other important low-frequency cues, and the associated lost opportunities and capabilities are not expected to impact reproduction or survival. For these same reasons (low level and frequency band), while a small permanent loss of hearing sensitivity may include some degree of energetic costs for compensating or may mean some small loss of opportunities or detection capabilities, as discussed in the 2020 HSTT final rule, it is unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals.

Altogether and as described in more detail above, 1.14 annual lethal takes of short-beaked common dolphins are authorized, all three stocks may experience a very small number of takes by tissue damage or PTS (relative to the stock abundance and PBR), and a moderate to large portion of all three stocks will likely be taken (at a low to occasionally moderate level) over several days a year, and some smaller portion of these stocks is expected to be taken on a relatively moderate to high number of days across the year, some of which could be sequential days. Though the majority of impacts are expected to be of a lower to sometimes moderate severity, the larger number of takes (in total and for certain individuals) makes it more likely (probabilistically) that a small number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year. 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. As noted previously, however, foregone reproduction (especially for only 1 year out of 7, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality and a small number of instances of foregone reproduction (including in combination with that which might result from the small number of tissue damage takes) are not expected to adversely affect the stocks through effects on annual rates of recruitment or survival, especially given the very high residual PBRs of these stocks (638.3, 156.4, and 8,858.5, respectively). For these reasons, in consideration of all of the effects of the Navy's activities combined (mortality, Level A harassment, and Level B harassment), we have determined that the authorized take will have a negligible impact on these three stocks of dolphins.

All Other SOCAL Dolphin Stocks (Except Long-Beaked Common Dolphin, Northern Right Whale Dolphin, and Short-Beaked Common Dolphin)

None of these stocks are listed under the ESA and their stock statuses are considered ''unknown,'' except for the bottlenose dolphin (California coastal stock) and killer whale (Eastern North Pacific stock), which are considered ''stable.'' No M/SI or Level A harassment via tissue damage from exposure to explosives is expected or authorized for these stocks.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is from 440 to 2,675 percent and 36 to 1,993 percent, respectively (table 19). Given the range of these stocks (along the entire U.S. West Coast, or even beyond, with some also extending seaward of the HSTT Study Area boundaries), this information suggests that some portion (but not all or even the majority) of the individuals of any of these stocks will be taken, with the exception that most or all of the individuals of the more range-limited California coastal stock of bottlenose dolphin may be taken. It is also likely that some subset of individuals within most of these stocks will be taken repeatedly within the year (perhaps up to 10–15 days within a year) but with no more than several potentially sequential days, although the CA/OR/WA stocks of bottlenose dolphins, Pacific white-sided dolphins, and Risso's dolphins may include individuals that are taken repeatedly within the year over a higher number of days (up to 57, 22, and 40 days, respectively) and potentially over a fair number of sequential days, especially where individuals spend extensive time in the SOCAL range complex. Note that though percentages are high for the Eastern North Pacific stock of killer whales and short-finned pilot whales, given the low overall number of takes, it is highly unlikely that any individuals would be taken across the number of days their percentages would suggest. While interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options in the relative vicinity. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, we have explained that the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB (*i.e.,* of a lower, or sometimes moderate level, less likely to evoke a severe response). However, as noted, some of these takes could occur on a fair number of sequential days for the three stocks listed earlier.

The severity of TTS takes is expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere significantly with conspecific communication, echolocation, or other important low-frequency cues. For these same reasons (low level and frequency band), while a small permanent loss of hearing sensitivity may include some degree of energetic costs for compensating or may mean some small loss of opportunities or detection capabilities, it is unlikely to impact

behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals.

Altogether, a portion of all of these stocks will likely be taken (at a low to occasionally moderate level) over several days a year, and some smaller portion of CA/OR/WA stocks of bottlenose dolphins, Pacific white-sided dolphins, and Risso's dolphins, specifically, are expected to be taken on a relatively moderate to high number of days across the year, some of which could be sequential days. Though the majority of impacts are expected to be of a lower to sometimes moderate severity, the larger number of takes (in total and for certain individuals) for the CA/OR/WA stocks of bottlenose dolphins, Pacific white-sided dolphins, and Risso's dolphins makes it more likely (probabilistically) that a small number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year. 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. As noted previously, however, foregone reproduction (especially for only 1 year in 7, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality and a small number of instances of foregone reproduction are not expected to adversely affect the stocks through effects on annual rates of recruitment or survival, especially given the residual PBRs of the CA/OR/WA stocks of bottlenose dolphins, Pacific white-sided dolphins, and Risso's dolphins (18.9, 272, and 42.3, respectively). For these reasons, in consideration of all of the effects of the Navy's activities combined, we have determined that the authorized take will have a negligible impact on these stocks of dolphins.

All HRC Dolphin Stocks

With the exception of the Main Hawaiian Island stock of false killer whales (listed as endangered under the ESA, with the MMPA stock identified as ''decreasing''), none of these stocks are listed under the ESA and their stock statuses are considered ''unknown.'' No M/SI or Level A harassment via tissue damage from exposure to explosives is expected or authorized for these stocks.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is from 46 to 1,166 percent and 14 to 2,130 percent, respectively (table 18). Given the ranges of these stocks (many of them are small, resident, island-associated stocks), this information suggests that a fairly large portion of the individuals of many of these stocks will be taken but that most individuals will only be impacted across a smaller to moderate number of days within the year (1–15), and with no more than several potentially sequential days, although two stocks (the Oahu stocks of bottlenose dolphin and pantropical spotted dolphin) have a slightly higher percentage, suggesting they could be taken up to 23 days within a year, with perhaps a few more of those days being sequential. We note that although the percentage is higher for the tropical stock of pygmy killer whale within the U.S. EEZ (2,130), given (1) the low overall number of takes (760) and (2) the fact that the small within-U.S. EEZ abundance is not a static set of individuals, but rather individuals moving in and out of the U.S. EEZ making it more appropriate to use the percentage comparison for the total takes versus total abundance—it is highly unlikely that any individuals would be taken across the number of days the within-U.S. EEZ percentage suggests (42). While interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options in the relative vicinity. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB (*i.e.,* of a lower, or sometimes moderate level, less likely to evoke a severe response). However, as noted, some of these takes could occur on a fair number of sequential days for the Oahu stocks of bottlenose dolphin and pantropical spotted dolphins.

Within the Hawaii Island mitigation area (which overlaps a large portion of the BIAs for common bottlenose dolphin, dwarf sperm whale, false killer whale, melon-headed whale, pantropical spotted dolphin, pygmy killer whale, rough-toothed dolphin, short-finned pilot whale, and spinner dolphin identified in Kratofil *et al.* 2023), the Navy will not use explosives and will limit the use of MF1 and MF4 active sonar. The 4-Islands mitigation area overlaps a portion of the BIAs identified in Kratofil *et al.* (2023) for common bottlenose dolphin, false killer whale, pantropical spotted dolphin, rough-toothed dolphin, and spinner dolphin. Within the 4-Islands mitigation area (November 15–April 15), the Navy will not use MF1 surface ship hull-mounted mid-frequency active sonar or explosives that could potentially result in takes of marine mammals. The mitigation required in these two areas will reduce the severity of impacts within these small and resident populations.

Regarding the severity of TTS takes, they are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere significantly with conspecific communication, echolocation, or other important low-frequency cues. For these same reasons (low level and frequency band), while a small permanent loss of hearing sensitivity may include some degree of energetic costs for compensating or may mean some small loss of opportunities or detection capabilities, they are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals, even if accrued to individuals that are also taken by behavioral harassment at the same time.

Altogether, most of these stocks (all but the Oahu stocks of bottlenose dolphin and pantropical spotted dolphins) will likely be taken (at a low to occasionally moderate level) over several days a year, with some smaller portion of the stock potentially taken on a more moderate number of days across the year (perhaps up to 15 days for Fraser's dolphin, though others notably less), some of which could be across a few sequential days, which is not expected to affect the reproductive success or survival of individuals. For the Oahu stocks of bottlenose dolphin and pantropical spotted dolphins, some subset of individuals could be taken up to 23 days in a year, with some small number being taken across several sequential days, such that a small number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year. 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. As noted previously, however, foregone reproduction (especially for 1 year, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality and a small number of instances of foregone reproduction are not expected to adversely affect these two stocks through effects on annual rates of recruitment or survival. For these reasons, in consideration of all of the effects of the Navy's activities combined, we have determined that the authorized take will have a negligible impact on all of the stocks of dolphins found in the vicinity of the HRC.

Dall's Porpoise

In table 20 below for porpoises, we indicate the total annual mortality, Level A harassment and Level B harassment, and a number indicating the instances of total take as a percentage of abundance. Table 20 is updated from table 26 in the 2020 HSTT final rule with the 2023 final SARs. For additional information and analysis supporting the negligible-impact analysis, see the *Odontocetes* discussion as well as the *Dall's Porpoise* discussion in the *Group and Species-Specific Analyses* section of the 2018 HTT final rule, all of which remains applicable to this rule unless specifically noted.

TABLE 20—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR PORPOISES IN THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes	Abundance		Instances of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in Action Area	NMFS SARs abundance	Total take as percentage of total Navy abundance in Action Area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Dall's porpoise	CA/OR/WA	14,482	29,891	209	0	0	44,582	2,054	16,498	2,170	270

Note: For the SOCAL take estimates, because of the manner in which the Navy study area overlaps the ranges of many MMPA stocks (*i.e.,* a stock may range far north to Washington state and beyond and abundance may only be predicted within the U.S. EEZ, while the Navy study area is limited to Southern California and northern Mexico, but extends beyond the U.S. EEZ), we compare predicted takes to both the abundance estimates for the study area, as well as the SARs (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule).

Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

Below we compile and summarize the information that supports our determination that the Navy's activities will not adversely affect Dall's porpoises through effects on annual rates of recruitment or survival.

Dall's porpoise is not listed under the ESA and the stock status is considered ''unknown.'' No M/SI or Level A harassment via tissue damage from exposure to explosives is expected or authorized for this stock.

Most Level B harassments to Dall's porpoise from hull-mounted sonar (MF1) in the HSTT Study Area will result from received levels between 154 and 166 dB SPL (85 percent). While harbor porpoises have been observed to be especially sensitive to human activity, the same types of responses have not been observed in Dall's porpoises. Dall's porpoises are typically notably longer than and weigh more than twice as much as harbor porpoises making them generally less likely to be preyed upon and likely differentiating their behavioral repertoire somewhat from harbor porpoises. Further, they are typically seen in large groups and feeding aggregations or exhibiting bow-riding behaviors, which is very different from the group dynamics observed in the more typically solitary, cryptic harbor porpoises, which are not often seen bow-riding. For these reasons, Dall's porpoises are not treated as especially sensitive species (as compared to harbor porpoises, which have a lower threshold for Level B harassment by behavioral disturbance and more distant cutoff) but, rather, are analyzed similarly to other odontocetes. Therefore, the majority of Level B harassment takes are expected to be in the form of milder responses compared to higher level exposures. As discussed more fully in the 2018 HSTT final rule, we anticipate more severe effects from takes when animals are exposed to higher received levels.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 2,170 and 270 percent, respectively (table 20). Given the range of this stock (up the U.S. West Coast through Washington and sometimes beyond the U.S. EEZ), this information suggests that some smaller portion of the individuals of this stock will be taken, and that some subset of individuals within the stock will be taken repeatedly within the year (perhaps up to 42 days)—potentially over a fair number of sequential days, especially where individuals spend extensive time in the SOCAL range complex. While interrupted feeding bouts are a known response and concern for odontocetes, we also know that there are often viable alternative habitat options in the relative vicinity. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB (*i.e.,* of a lower, or sometimes moderate level, less likely to evoke a severe response). However, as noted, some of these takes could occur on a fair number of sequential days for this stock.

The severity of TTS takes is expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere significantly with conspecific communication, echolocation, or other important low-frequency cues. Therefore, the associated lost opportunities and capabilities are not expected to impact reproduction or survival. For these same reasons (low level and the likely frequency band), while a small permanent loss of hearing sensitivity may include some degree of energetic costs for compensating or may

mean some small loss of opportunities or detection capabilities, the estimated 209 takes by Level A harassment by PTS for Dall's porpoise are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival for most individuals. Because of the high number of PTS takes, however, we acknowledge that a few animals could potentially incur permanent hearing loss of a higher degree that could potentially interfere with their successful reproduction and growth. Given the status of the stock, even if this occurred, it would not adversely impact rates of recruitment or survival.

Altogether, a portion of this stock will likely be taken (at a low to occasionally moderate level) over several days a year, and some smaller portion of the stock is expected to be taken on a relatively moderate to high number of days across the year, some of which could be sequential days. Though the majority of impacts are expected to be of a lower to sometimes moderate severity, the larger number of takes (in total and for certain individuals) for the Dall's porpoise makes it more likely (probabilistically) that a small number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year. 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. Similarly, we acknowledge the potential for this to occur to a few individuals out of the 209 total that might incur a higher degree of PTS. As noted previously, however, foregone reproduction (especially for only 1 year in 7, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality. Further, the small number of instances of foregone reproduction that could potentially result from PTS and/or the few repeated, more severe Level B harassment takes by behavioral disturbance are not expected to adversely affect the stock through effects on annual rates of recruitment or survival, especially given the status of the species (not endangered or threatened; minimum population of 10,286 just within the U.S. EEZ) and residual PBR of Dall's porpoise (98.3). For these reasons, in consideration of all of the effects of the Navy's activities combined, we have determined that the authorized take will have a negligible impact on Dall's porpoise.

Pinnipeds

In tables 21 and 22 below for pinnipeds, we indicate the total annual mortality, Level A harassment and Level B harassment, and a number indicating the instances of total take as a percentage of abundance. Tables 21 and 22 have been updated from tables 27 and 28 in the 2020 HSTT final rule with the 2023 final SARs. For additional information and analysis supporting the negligible-impact analysis, see the *Pinnipeds* discussion in the *Group and Species-Specific Analyses* section of the 2018 HSTT final rule, all of which remains applicable to this rule unless specifically noted.

TABLE 21—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR PINNIPEDS IN THE HRC PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total takes		Abundance		Instance of total take as percent of abundance	
	Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Takes (within Navy EEZ)	Total Navy abundance inside and outside of EEZ (HRC)	Within EEZ Navy abundance (HRC)	Total take as percentage of total Navy abundance (HRC)	EEZ take as percentage of Navy EEZ abundance (HRC)
	Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage							
Hawaiian monk seal.	143	62	1	0	0	206	195	169	169	122	115

Note: For the Hawaii take estimates, we compare predicted takes to abundance estimates generated from the same underlying density estimates (as described in the *Estimated Take of Marine Mammals* section of the 2018 HSTT final rule), both in and outside of the U.S. EEZ. Because the portion of the Navy's study area inside the U.S. EEZ is generally concomitant with the area used to generate the abundance estimates in the SARs, and the abundance predicted by the same underlying density estimates is the preferred abundance to use, there is no need to separately compare the take to the SARs abundance estimate.

Total takes inside and outside U.S. EEZ represent the sum of annual Level A and Level B harassment from training and testing activities.

TABLE 22—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR PINNIPEDS IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total Takes	Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in action area (SOCAL)	NMFS SARs abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
California sea lion.	U.S.	113,419	4,789	87	9	0.71	118,305	4,085	257,606	2,896	46
Guadalupe fur seal.	Mexico	1,442	15	0	0	0	1,457	1,171	34,187	124	4

TABLE 22—ANNUAL ESTIMATED TAKES BY LEVEL B HARASSMENT, LEVEL A HARASSMENT, AND MORTALITY FOR PINNIPEDS IN THE SOCAL PORTION OF THE HSTT STUDY AREA AND NUMBER INDICATING THE INSTANCES OF TOTAL TAKE AS A PERCENTAGE OF STOCK ABUNDANCE—Continued

Species	Stock	Instances of indicated types of incidental take (not all takes represent separate individuals, especially for disturbance)					Total Takes	Abundance		Instance of total take as percent of abundance	
		Level B harassment		Level A harassment		Mortality	Total takes (entire study area)	Navy abundance in action area (SOCAL)	NMFS SARs abundance	Total take as percentage of total Navy abundance in action area	Total take as percentage of total SAR abundance
		Behavioral disturbance	TTS (may also include disturbance)	PTS	Tissue damage						
Northern fur seal.	California	15,167	124	1	0	0	15,292	886	14,050	1,726	109
Harbor seal	California	2,450	2,994	8	0	0	5,452	321	30,968	1,698	18
Northern elephant seal.	California	42,916	17,955	97	2	0	60,970	4,108	187,386	1,484	33

Note: For the SOCAL take estimates, because of the manner in which the Navy action area overlaps the ranges of many MMPA stocks (*i.e.,* a stock may range far north to Washington state and beyond and abundance may only be predicted within the U.S. EEZ, while the Navy action area is limited to Southern California and northern Mexico, but extends beyond the U.S. EEZ), we compare predicted takes to both the abundance estimates for the action area, as well as the SARs.

For mortality takes there is an annual average of 0.71 California sea lions (*i.e.,* where five takes could potentially occur divided by 7 years to get the annual number of mortalities/serious injuries).

Below we compile and summarize the information that supports our determination that the Navy's activities would not adversely affect any pinnipeds through effects on annual rates of recruitment or survival for any of the affected species or stocks addressed in this section.

Five M/SI takes of California sea lions are authorized and when this mortality is combined with the other human-caused mortality from other sources, it still falls well below the insignificance threshold for residual PBR (13,684). A small number of Level A harassment takes by tissue damage are also authorized (nine and two for California sea lions and northern elephant seals, respectively), which, as discussed in the 2020 HSTT final rule, could range in impact from minor to something just less than M/SI that could seriously impact fitness. However, given the Navy's mitigation, exposure at the closer to the source and more severe end of the spectrum is less likely. Nevertheless, we cautiously assume some moderate impact on the individuals that experience these small numbers of take that could lower the individual's fitness within the year such that a female (assuming a 50 percent chance of it being a female) might forego reproduction for 1 year. As noted previously, foregone reproduction has less of an impact on population rates than death (especially for only one within 7 years, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) and these low numbers of instances (especially assuming the likelihood that only 50 percent of the takes would affect females) are not expected to impact annual rates of recruitment or survival, especially given the population sizes of these species.

Regarding the magnitude of Level B harassment takes (TTS and behavioral disturbance), for Hawaiian monk seals and Guadalupe fur seals, the two species listed under the ESA, the estimated instances of takes as compared to the stock abundance does not exceed 124 percent, which suggests that some portion of these two stocks would be taken on 1 to a few days per year. For the remaining stocks, the number of estimated total instances of take compared to the abundance (measured against both the Navy-estimated abundance and the SAR) is 1,484 to 2,896 percent and 18 to 46 percent, respectively (table 22). Given the ranges of these stocks (*i.e.,* very large ranges, but with individuals often staying in the vicinity of haulouts), this information suggests that some very small portion of the individuals of these stocks will be taken, but that some subset of individuals within the stock will be taken repeatedly within the year (perhaps up to 58 days)—potentially over a fair number of sequential days. Regarding the severity of those individual Level B harassment takes by behavioral disturbance, the duration of any exposure is expected to be between minutes and hours (*i.e.,* relatively short) and the received sound levels largely below 172 dB, which is considered a relatively low to occasionally moderate level for pinnipeds. However, as noted, some of these takes could occur on a fair number of sequential days for this stock.

As described in the 2018 HSTT final rule and 2020 HSTT final rule, the Hawaii and 4-Islands mitigation areas protect (by not using explosives and limiting MFAS within) a significant portion of the designated critical habitat for Hawaiian monk seals in the Main Hawaiian Islands, including all of it around the islands of Hawaii and Lanai, most around Maui, and good portions around Molokai and Kaho'olawe. As discussed, this protection reduces the overall number of takes and further reduces the severity of effects by minimizing impacts near pupping beaches and in important foraging habitat.

The severity of TTS takes are expected to be low-level, of short duration, and mostly not in a frequency band that would be expected to interfere significantly with conspecific communication, echolocation, or other important low-frequency cues that would affect the individual's reproduction or survival. For these same reasons (low level and frequency band), while a small permanent loss of hearing sensitivity may include some degree of energetic costs for compensating or may mean some small loss of opportunities or detection capabilities, the one to eight estimated Level A harassment takes by PTS for monk seals, northern fur seals, and harbor seals are unlikely to impact behaviors, opportunities, or detection capabilities to a degree that would interfere with reproductive success or survival of any individuals. Because of the high number of PTS takes for California sea lions and northern elephant seals (87 and 97, respectively), we acknowledge that a few animals could potentially incur permanent hearing loss of a higher degree that could potentially interfere with their successful reproduction and growth. Given the status of the stocks, even if this occurred, it would not adversely impact rates of recruitment or

survival (residual PBR of 13,684 and 5,108, respectively).

Altogether, an individual Hawaiian monk seal and Guadalupe fur seal would be taken no more than a few days in any year with none of the expected take anticipated to affect individual reproduction or survival, let alone annual rates of recruitment and survival. With all other stocks, only a very small portion of the stock will be taken in any manner. Of those taken, some individuals will be taken by Level B harassment (at a moderate or sometimes low level) over several days a year, and some smaller portion of those taken will be on a relatively moderate to high number of days across the year (up to 58), a fair number of which will likely be sequential days. Though the majority of impacts are expected to be of a lower to sometimes moderate severity, the repeated takes over a potentially fair number of sequential days for some individuals makes it more likely that some number of individuals could be interrupted during foraging in a manner and amount such that impacts to the energy budgets of females (from either losing feeding opportunities or expending considerable energy to find alternative feeding options) could cause them to forego reproduction for a year (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). As noted previously, however, foregone reproduction (especially for only 1 year within 7, which is the maximum predicted because the small number anticipated in any 1 year makes the probability that any individual would be impacted in this way twice in 7 years very low) has far less of an impact on population rates than mortality and a relatively small number of instances of foregone reproduction (as compared to the stock abundance and residual PBR) are not expected to adversely affect the stock through effects on annual rates of recruitment or survival, especially given the status of these stocks. Accordingly, we do not anticipate the relatively small number of individual northern fur seals or harbor seals that might be taken over repeated days within the year in a manner that results in 1 year of foregone reproduction to adversely affect the stocks through effects on rates of recruitment or survival, given the status of the stocks, which are respectively increasing and stable with abundances and residual PBRs of 14,050/30,968 and 449/1,598.

For California sea lions, given the very high abundance and residual PBR (257,606 and 13,684, respectively), as well as the increasing status of the stock in the presence of similar levels of Navy activities over past years—the impacts of 0.71 annual mortalities, potential foregone reproduction for up to nine individuals in a year taken by tissue damage, and some relatively small number of individuals taken as a result of repeated behavioral harassment over a fair number of sequential days are not expected to adversely affect the stock through effects on annual rates of recruitment or survival. Similarly, for northern elephant seals, given the very high abundance and residual PBR (187,386 and 5,108, respectively), as well as the increasing status of the stock in the presence of similar levels of Navy activities over past years, the impacts of potential foregone reproduction for up to 2 individuals in a year taken by tissue damage and some relatively small number of individuals taken as a result of repeated behavioral harassment over a fair number of sequential days are not expected to adversely affect the stock through effects on annual rates of recruitment or survival. For these reasons, in consideration of all of the effects of the Navy's activities combined (M/SI, Level A harassment, and Level B harassment), we have determined that the authorized take will have a negligible impact on all pinniped species and stocks.

Determination

The 2018 HSTT final rule included a detailed discussion of all of the anticipated impacts on the affected species and stocks from serious injury or mortality, Level A harassment, and Level B harassment; impacts on habitat; and how the Navy's mitigation and monitoring measures reduce the number and/or severity of adverse effects. We have evaluated how these impacts as well as additional take of two large whales by serious injury or mortality by vessel strike, and the required mitigation measures are expected to combine, annually, to affect individuals of each species and stock. Those effects were then evaluated in the context of whether they are reasonably likely to impact reproductive success or survivorship of individuals and then, if so, further analyzed to determine whether there would be effects on annual rates of recruitment or survival that would adversely affect the species or stock.

As described above, the basis for the negligible impact determination is the assessment of effects on annual rates of recruitment and survival. Accordingly, the analysis included in the 2018 HSTT final rule and 2020 HSTT final rule used annual activity levels, the best available science, and approved methods to predict the annual impacts to marine mammals, which were then analyzed in the context of whether each species or stock would incur more than a negligible impact based on anticipated adverse impacts to annual rates of recruitment or survival. As we have described above, none of the factors upon which the conclusions in the 2020 HSTT final rule were based have changed, with the exception of estimated take by vessel strike. Therefore, even though this final rule includes two additional takes by vessel strike, little has changed that would change our 2018 HSTT final rule and subsequent 2020 HSTT final rule analyses, and it is appropriate to rely on those analyses, as well as the new information and analysis discussed above, for this final rule.

Based on the applicable information and analysis from the 2018 HSTT final rule and 2020 HSTT final rule, as updated with the information and analysis contained herein on the potential and likely effects of the specified activities on the affected marine mammals and their habitat, and taking into consideration the implementation of the monitoring and mitigation measures, NMFS finds that the incidental take from the specified activities will have a negligible impact on all affected marine mammal species and stocks.

Subsistence Harvest of Marine Mammals

There are no subsistence uses or harvest of marine mammals in the geographic area affected by the specified activities. Therefore, NMFS has determined that the total taking affecting species or stocks would 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 nine marine mammal species under NMFS jurisdiction that are listed as endangered or threatened under the ESA with confirmed or possible occurrence in the HSTT Study Area: blue whale, fin whale, gray whale (Western North Pacific DPS), humpback whale (Mexico and Central America DPSs), sei whale, sperm whale, false killer whale (Main Hawaiian Islands Insular DPS), Hawaiian monk seal, and

Guadalupe fur seal. There is also ESA-designated critical habitat for Hawaiian monk seals and Main Hawaiian Islands Insular false killer whales. The Navy consulted with NMFS pursuant to section 7 of the ESA for HSTT activities. NMFS also consulted internally on the issuance of the 2018 HSTT regulations and LOAs under section 101(a)(5)(A) of the MMPA.

NMFS issued a Biological Opinion on December 10, 2018 concluding that the issuance of the 2018 HSTT final rule and subsequent LOAs are not likely to jeopardize the continued existence of the threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of critical habitat in the HSTT Study Area. The 2018 Biological Opinion included specified conditions under which NMFS would be required to reinitiate section 7 consultation. NMFS reviewed these specified conditions for the 2020 HSTT rulemaking and determined that reinitiation of consultation was not warranted. The incidental take statement that accompanied the 2018 Biological Opinion was amended to cover the 7-year period of the 2020 HSTT rule. The 2018 Biological Opinion for this action is available at *https://www.fisheries.noaa.gov/national/marine-mammal-protection/incidental-take-authorizations-military-readiness-activities*.

The 2018 Biological Opinion reinitiation clause (2), states that formal consultation should be reinitiated if ''new information reveals effects of the agency action that may affect ESA-listed species or critical habitat in a manner or to an extent not previously considered.'' Given the new information regarding the recent occurrence of large whale strikes by naval vessels in the southern California portion of the HSTT Study Area, as described herein, the Navy reinitiated consultation with NMFS pursuant to section 7 of the ESA for HSTT Study Area activities, and NMFS also reinitiated consultation internally on the issuance of these revised regulations and LOAs under section 101(a)(5)(A) of the MMPA.

NMFS issued a reinitiated Biological and Conference Opinion on June 3, 2024 concluding that the issuance of the 2024 HSTT final rule and subsequent LOAs are not likely to jeopardize the continued existence of the threatened and endangered species under NMFS' jurisdiction and are not likely to result in the destruction or adverse modification of critical habitat in the HSTT Study Area. The opinion is available at *https://doi.org/10.25923/7y9x-vw84*.

National Marine Sanctuaries Act

Federal agency actions that are likely to injure national marine sanctuary resources are subject to consultation with the Office of National Marine Sanctuaries (ONMS) under section 304(d) of the National Marine Sanctuaries Act (NMSA). There are two national marine sanctuaries in the HSTT Study Area, the Hawaiian Islands Humpback Whale National Marine Sanctuary and the Channel Islands National Marine Sanctuary. NMFS has fulfilled its responsibilities and completed all requirements under the NMSA.

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 evaluate our proposed actions and alternatives with respect to potential impacts on the human environment. NMFS participated as a cooperating agency on the 2018 HSTT FEIS/OEIS (published on October 26, 2018, *http://www.hstteis.com*) which evaluated impacts from Navy training and testing activities in the HSTT Study Area for the reasonably foreseeable future (including through 2025). In accordance with 40 CFR 1506.3, NMFS independently reviewed and evaluated the 2018 HSTT FEIS/OEIS and determined that it was adequate and sufficient to meet our responsibilities under NEPA for the issuance of the 2018 HSTT final rule and associated LOAs. NMFS therefore adopted the 2018 HSTT FEIS/OEIS.

In accordance with 40 CFR 1502.9 and the information and analysis contained in this final rule, NMFS has determined that this final rule and any subsequent LOAs will not result in impacts that were not fully considered in the 2018 HSTT FEIS/OEIS. As indicated in this final rule, the Navy has made no substantial changes to the activities that are relevant to environmental concerns nor are there substantial new circumstances or information about the significance of adverse effects that bear on the analysis. Therefore, NMFS has determined that the 2018 HSTT FEIS/OEIS remains valid, and there is no need to supplement the document for this rulemaking. NOAA therefore, has adopted the 2018 HSTT FEIS/OEIS. NMFS has prepared a separate Record of Decision. NMFS' Record of Decision for adoption of the 2018 HSTT FEIS/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

The Office of Management and Budget has determined that this rule is not significant for purposes of Executive Order 12866.

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.

Waiver of Delay in Effective Date Under the Administrative Procedure Act

NMFS has determined that there is good cause under the Administrative Procedure Act (5 U.S.C. 553(d)) to waive the 30-day delay of the effective date for this rule. This rule relieves the Navy from the restrictions of the take prohibitions under the MMPA by granting the Navy's request for incidental take authorization under MMPA section 101(a)(5)(A). In addition, there is good cause to waive the 30-day effective date period because a delay would be contrary to the public interest and unnecessary. A delay in effectiveness is contrary to public interest because this rule allows the Navy to continue training and testing activities that are necessary for national security in compliance with the MMPA. Further, a delay is unnecessary because this rule is not generally applicable to the public. The Navy is the only entity affected by the regulations, the Navy specifically requested the modification to the regulations, and the Navy has fully agreed to the requirements included herein. The Navy is anticipating finalization of the rule and, as such, is ready to comply immediately upon publication. As such, there is good cause to waive the 30-day delay in effective date.

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 23, 2024.

Samuel D. Rauch III,

Deputy Assistant Administrator for Regulatory Programs, National Marine Fisheries Service.

For reasons set forth in the preamble, 50 CFR part 218 is amended 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; U.S. Navy's Hawaii-Southern California Training and Testing (HSTT)

Sec.

Subpart H—Taking and Importing Marine Mammals; U.S. Navy's Hawaii-Southern California Training and Testing (HSTT)

§ 218.70 Specified activity and geographical region.

(a) Regulations in this subpart apply only to the U.S. Navy (Navy) 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.

(b) The taking of marine mammals by the Navy under this subpart may be authorized in Letters of Authorization (LOAs) only if it occurs within the Hawaii-Southern California Training and Testing (HSTT) Study Area, which includes established operating and warning areas across the north-central Pacific Ocean, from the mean high tide line in Southern California west to Hawaii and the International Date Line. The HSTT Study Area includes the at-sea areas of three existing range complexes, the Hawaii Range Complex (HRC), the Southern California Range Complex (SOCAL), and the Silver Strand Training Complex, and overlaps a portion of the Point Mugu Sea Range (PMSR). Also included in the HSTT 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 sonar training and testing may occur.

(c) The taking of marine mammals by the Navy is only authorized if it occurs incidental to the Navy conducting training and testing activities:

(1) *Training.* (i) Amphibious warfare;

(ii) Anti-submarine warfare;

(iii) Electronic warfare;

(iv) Expeditionary warfare;

(v) Mine warfare;

(vi) Surface warfare; and

(vii) Pile driving.

(2) *Testing.* (i) Naval Air Systems Command Testing Activities;

(ii) Naval Sea System Command Testing Activities;

(iii) Office of Naval Research Testing Activities; and

(iv) Naval Information Warfare Systems Command.

§ 218.71 Effective dates.

This subpart is effective from January 16, 2025, through December 20, 2025.

§ 218.72 Permissible methods of taking.

(a) Under LOAs issued pursuant to §§ 216.106 of this chapter and 218.76, the Holder of the LOAs (hereinafter ''Navy'') 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 these regulations in 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*
Blue whale	Central North Pacific
Blue whale	Eastern North Pacific
Bryde's whale	Eastern Tropical Pacific
Bryde's whale	Hawaii
Fin whale	CA/OR/WA
Fin whale	Hawaii
Humpback whale	Central America/Southern Mexico-CA/OR/WA
Humpback whale	Mainland Mexico-CA/OR/WA
Humpback whale	Hawaii
Minke whale	CA/OR/WA
Minke whale	Hawaii
Sei whale	Eastern North Pacific
Sei whale	Hawaii
Gray whale	Eastern North Pacific
Gray whale	Western North Pacific
Sperm whale	CA/OR/WA
Sperm whale	Hawaii
Dwarf sperm whale	Hawaii
Pygmy sperm whale	Hawaii
Kogia whales	CA/OR/WA
Baird's beaked whale	CA/OR/WA
Blainville's beaked whale	Hawaii
Goose-beaked whale	CA/OR/WA
Goose-beaked whale	Hawaii
Longman's beaked whale	Hawaii
Mesoplodon spp.	CA/OR/WA

TABLE 1 TO PARAGRAPH (b)—Continued

Species	Stock
Bottlenose dolphin	California Coastal
Bottlenose dolphin	CA/OR/WA Offshore
Bottlenose dolphin	Hawaii Pelagic
Bottlenose dolphin	Kauai & Niihau
Bottlenose dolphin	Oahu
Bottlenose dolphin	4-Island
Bottlenose dolphin	Hawaii
False killer whale	Hawaii Pelagic
False killer whale	Main Hawaiian Islands Insular
False killer whale	Northwestern Hawaiian Islands
Fraser's dolphin	Hawaii
Killer whale	Eastern North Pacific (ENP) Offshore
Killer whale	ENP Transient/West Coast Transient
Killer whale	Hawaii
Long-beaked common dolphin	California
Melon-headed whale	Hawaiian Islands
Melon-headed whale	Kohala Resident
Northern right whale dolphin	CA/OR/WA
Pacific white-sided dolphin	CA/OR/WA
Pantropical spotted dolphin	Hawaii Island
Pantropical spotted dolphin	Hawaii Pelagic
Pantropical spotted dolphin	Oahu
Pantropical spotted dolphin	4-Island
Pygmy killer whale	Hawaii
Pygmy killer whale	Tropical
Risso's dolphin	CA/OR/WA
Risso's dolphin	Hawaii
Rough-toothed dolphin	Hawaii
Short-beaked common dolphin	CA/OR/WA
Short-finned pilot whale	CA/OR/WA
Short-finned pilot whale	Hawaii
Spinner dolphin	Hawaii Island
Spinner dolphin	Hawaii Pelagic
Spinner dolphin	Kauai & Niihau
Spinner dolphin	Oahu & 4-Island
Striped dolphin	CA/OR/WA
Striped dolphin	Hawaii
Dall's porpoise	CA/OR/WA
California sea lion	U.S.
Guadalupe fur seal	Mexico
Northern fur seal	California
Harbor seal	California
Hawaiian monk seal	Hawaii
Northern elephant seal	California

Note to Table 1: CA/OR/WA = California/Oregon/Washington.

§ 218.73 Prohibitions.

Except for incidental takings contemplated in § 218.72(a) and authorized by LOAs issued under §§ 216.106 of this chapter and 218.76, it is unlawful for any person to do any of the following in connection with the activities listed in § 218.70(c):

(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 218.76;

(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 stocks of such marine mammal.

§ 218.74 Mitigation requirements.

When conducting the activities identified in § 218.70(c), the mitigation measures contained in any LOAs issued under §§ 216.106 of this chapter and 218.76 must be implemented. These mitigation measures include, but are not limited to:

(a) *Procedural mitigation.* Procedural mitigation is mitigation that the Navy must implement whenever and wherever an applicable training or testing activity takes place within the HSTT Study Area for each applicable activity category or stressor category and includes acoustic stressors (*i.e.,* active sonar, air guns, pile driving, weapons firing noise), explosive stressors (*i.e.,* sonobuoys, torpedoes, medium-caliber and large-caliber projectiles, missiles and rockets, bombs, sinking exercises, mines, anti-swimmer grenades, and mat weave and obstacle loading), and physical disturbance and strike stressors *(i.e.,* vessel movement; towed in-water devices; small-, medium-, and large-caliber non-explosive practice munitions; non-explosive missiles and rockets; and non-explosive bombs and mine shapes).

(1) *Environmental awareness and education.* Navy personnel (including civilian personnel) involved in mitigation and training or testing activity reporting under the specified activities will complete one or more modules identified in their career path training plan, as specified in the LOAs.

(2) *Active sonar.* Active sonar includes low-frequency active sonar, mid-frequency active sonar, and high-frequency active sonar. For vessel-based

activities, mitigation applies only to sources that are positively controlled and deployed from manned surface vessels (*e.g.,* sonar sources towed from manned surface platforms). For aircraft-based activities, mitigation applies only to sources that are positively controlled and deployed from manned aircraft that do not operate at high altitudes (*e.g.,* rotary-wing aircraft). Mitigation does not apply to active sonar sources deployed from unmanned aircraft or aircraft operating at high altitudes (*e.g.,* maritime patrol aircraft). For active sonar subject mitigation requirements:

(i) *Number of Lookouts and observation platform*—(A) *Hull-mounted sources.* One Lookout is required for hull-mounted sources for platforms with space or manning restrictions while underway (at the forward part of a small boat or ship) and for platforms using active sonar while moored or at anchor (including pierside). Two Lookouts are required for hull mounted-sources for platforms without space or manning restrictions while underway (at the forward part of the ship).

(B) *Sources that are not hull-mounted sources.* One Lookout is required on the ship or aircraft conducting the activity for sources that are not hull-mounted.

(ii) *Mitigation zone and requirements.* During active sonar use, the following requirements apply:

(A) *Powerdown for marine mammals at 1,000 yards.* At 1,000 yards (yd) (914.4 m) from a marine mammal, Navy personnel must power down by 6 decibels (dB).

(B) *Powerdown for marine mammals at 500 yards.* At 500 yd (457.2 m) from a marine mammal, Navy personnel must power down by an additional 4 dB (for a total of 10 dB).

(C) *Shutdowns for marine mammals at 200 yards.* At 200 yd (182.9 m) from a marine mammal, Navy personnel must shut down low-frequency active sonar ≥200 dB and hull-mounted mid-frequency active sonar; or Navy personnel must shut down low-frequency active sonar <200 dB, mid-frequency active sonar sources that are not hull-mounted, and high-frequency active sonar.

(D) *Prior to activity.* Prior to the start of the active sonar activity (*e.g.,* when maneuvering on station), Navy personnel must observe the 1,000 yd (914.4 m) mitigation zone for floating vegetation; if floating vegetation is observed in the mitigation zone, Navy personnel must relocate or delay the start of active sonar transmission until the mitigation zone is clear. Navy personnel must also observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of active sonar transmission.

(E) *During the activity for low-frequency active sonar at or above 200 dB and hull-mounted mid-frequency active sonar.* When using low-frequency active sonar at or above 200 dB and hull-mounted mid-frequency active sonar, Navy personnel must observe the 1,000 yd (914.4 m) mitigation zone for marine mammals and power down active sonar transmission by 6 dB if marine mammals are observed within 1,000 yd (914.4 m) of the sonar source; power down by an additional 4 dB (for a total of 10 dB total) if marine mammals are observed within 500 yd (457.2 m) of the sonar source; and cease transmission if marine mammals are observed within 200 yd (182.9 m) of the sonar source.

(F) *During the activity for low-frequency active sonar below 200 dB, mid-frequency active sonar sources that are not hull mounted, and high-frequency active sonar.* During the activity for low-frequency active sonar below 200 dB, mid-frequency active sonar sources that are not hull mounted, and high-frequency active sonar, Navy personnel must observe the 1,000 yd (914.4 m) mitigation zone for marine mammals and cease active sonar transmission if marine mammals are observed within 200 yd (182.9 m) of the sonar source.

(G) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone indicated in § 218.74(a)(2)(ii) 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) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the sonar source;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 minutes (min) for aircraft-deployed sonar sources or 30 min for vessel-deployed sonar sources;

(*4*) *Sonar source transit.* For mobile activities, the active sonar source has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting; or

(*5*) *Bow-riding dolphins.* For activities using hull-mounted sonar where a dolphin(s) is observed in the mitigation zone, the Lookout concludes that the dolphin(s) are deliberately closing in on the ship to ride the ship's bow wave, and are therefore out of the main transmission axis of the sonar (and there are no other marine mammal sightings within the mitigation zone).

(3) *Air guns.* For activities using air guns:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned on a ship or pierside.

(ii) *Mitigation zone and requirements.* The mitigation zone is 150 yd (137.2 m) around the air gun.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* when maneuvering on station), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start until the mitigation zone is clear. Navy personnel must also observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of air gun use.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease air gun use.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing air gun use) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the air gun;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 30 min; or

(*4*) *Air gun transit.* For mobile activities, the air gun has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(4) *Pile driving.* For pile driving and pile extraction sound during Elevated Causeway System training:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned on the shore, the elevated causeway, or a small boat.

(ii) *Mitigation zone and requirements.* The mitigation zone is 100 yd (91.4 m) around the pile driver.

(A) *Prior to activity.* Prior to the initial start of the activity (for 30 min), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must delay the start until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must delay the start of pile driving or vibratory pile extraction.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease impact pile driving or vibratory pile extraction.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing pile driving or pile extraction) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the pile driving location; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 30 minutes.

(5) *Weapons firing noise.* For weapons firing noise associated with large-caliber gunnery activities:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned on the ship conducting the firing. Depending on the activity, the Lookout could be the same as the one provided for under ''Explosive medium-caliber and large-caliber projectiles'' or under ''Small-, medium-, and large-caliber non-explosive practice munitions'' in paragraphs (a)(8)(i) and (a)(18)(i) of this section.

(ii) *Mitigation zone and requirements.* The mitigation zone is 30 degrees on either side of the firing line out to 70 yd (64 m) from the muzzle of the weapon being fired.

(A) *Prior to activity.* Prior to the start of the activity, Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of weapons firing until the mitigation zone is clear. Navy personnel must also observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of weapons firing.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease weapons firing.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing weapons firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the firing ship;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 30 min; or

(*4*) *Firing ship transit.* For mobile activities, the firing ship has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(6) *Explosive sonobuoys.* For explosive sonobuoys:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned in an aircraft or on a small boat. If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements.* The mitigation zone is 600 yd (548.6 m) around an explosive sonobuoy.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* during deployment of a sonobuoy field, which typically lasts 20–30 min), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of sonobuoy or source/receiver pair detonations until the mitigation zone is clear. Navy personnel must conduct passive acoustic monitoring for marine mammals and use information from detections to assist visual observations. Navy personnel also must visually observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of sonobuoy or source/receiver pair detonations.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease sonobuoy or source/receiver pair detonations.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing detonations) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the sonobuoy; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min when the activity involves aircraft that have fuel constraints (*e.g.,* helicopter), or 30 min when the activity involves aircraft that are not typically fuel constrained.

(D) *After activity.* After completion of the activity (*e.g.,* prior to maneuvering off station), when practical (*e.g.,* when platforms are not constrained by fuel restrictions or mission-essential follow-on commitments), Navy personnel must observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(7) *Explosive torpedoes.* For explosive torpedoes:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned in an aircraft. If additional platforms are participating in the activity, Navy personnel positioned in those assets *(e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements.* The mitigation zone is 2,100 yd (1,920.2 m) around the intended impact location.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* during deployment of the target), Navy personnel must observe the mitigation zone for floating vegetation and jellyfish aggregations; if floating vegetation or jellyfish aggregations are observed, Navy personnel must relocate or delay the start of firing until the mitigation zone

is clear. Navy personnel must conduct passive acoustic monitoring for marine mammals and use the information from detections to assist visual observations. Navy personnel also must visually observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of firing.

(B) *During activity.* During the activity, Navy personnel must observe for marine mammals and jellyfish aggregations; if marine mammals or jellyfish aggregations are observed, Navy personnel must cease firing.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended impact location; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min when the activity involves aircraft that have fuel constraints, or 30 min when the activity involves aircraft that are not typically fuel constrained.

(D) *After activity.* After completion of the activity (*e.g.,* prior to maneuvering off station), Navy personnel must when practical *(e.g.,* when platforms are not constrained by fuel restrictions or mission-essential follow-on commitments), observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(8) *Explosive medium-caliber and large-caliber projectiles.* For gunnery activities using explosive medium-caliber and large-caliber projectiles, the following mitigation applies to activities using a surface target:

(i) *Number of Lookouts and observation platform.* One Lookout must be on the vessel or aircraft conducting the activity. For activities using explosive large-caliber projectiles, depending on the activity, the Lookout could be the same as the one described in ''Weapons firing noise'' in paragraph (a)(5)(i) of this section. If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements*—(A) *Air-to-surface activities.* The mitigation zone is 200 yd (182.9 m) around the intended impact location for air-to-surface activities using explosive medium-caliber projectiles.

(B) *Surface-to-surface activities, medium-caliber.* The mitigation zone is 600 yd (548.6 m) around the intended impact location for surface-to-surface activities using explosive medium-caliber projectiles.

(C) *Surface-to-surface activities, large-caliber.* The mitigation zone is 1,000 yd (914.4 m) around the intended impact location for surface-to-surface activities using explosive large-caliber projectiles.

(D) *Prior to activity.* Prior to the start of the activity (*e.g.,* when maneuvering on station), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of firing until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of firing.

(E) *During activity.* During the activity, Navy personnel must observe for marine mammals; if marine mammals are observed, Navy personnel must cease firing.

(F) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended impact location;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min for aircraft-based firing or 30 min for vessel-based firing; or for activities using mobile targets, the intended impact location has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(G) *After activity.* After completion of the activity (*e.g.,* prior to maneuvering off station), Navy personnel must, when practical (*e.g.,* when platforms are not constrained by fuel restrictions or mission-essential follow-on commitments), observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(9) *Explosive missiles and rockets.* For aircraft-deployed explosive missiles and rockets. Mitigation applies to activities using a surface target:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned in an aircraft. If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements*—(A) *Missiles or rockets with 0.6–20 lb net explosive weight.* The mitigation zone is 900 yd (823 m) around the intended impact location for missiles or rockets with 0.6–20 lb net explosive weight.

(B) *Missiles with 21–500 lb net explosive weight.* The mitigation zone is 2,000 yd (1,828.8 m) around the intended impact location for missiles with 21–500 lb net explosive weight.

(C) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* during a fly-over of the mitigation zone), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of firing until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of firing.

(D) *During activity.* During the activity, Navy personnel must observe for marine mammals; if marine mammals are observed, Navy personnel must cease firing.

(E) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the

activity (by delaying the start) or during the activity (by not recommencing firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended impact location; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min when the activity involves aircraft that have fuel constraints, or 30 min when the activity involves aircraft that are not typically fuel constrained.

(F) *After activity.* After completion of the activity (*e.g.,* prior to maneuvering off station), Navy personnel must, when practical (*e.g.,* when platforms are not constrained by fuel restrictions or mission-essential follow-on commitments), observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets will assist in the visual observation of the area where detonations occurred.

(10) *Explosive bombs.* For explosive bombs:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned in an aircraft conducting the activity. If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements.* The mitigation zone is 2,500 yd (2,286 m) around the intended target.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* when arriving on station), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of bomb deployment until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of bomb deployment.

(B) *During activity.* During the activity (*e.g.,* during target approach), Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease bomb deployment.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing bomb deployment) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended target;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min; or for activities using mobile targets, the intended target has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(D) *After activity.* After completion of the activity (*e.g.,* prior to maneuvering off station), Navy personnel must, when practical (*e.g.,* when platforms are not constrained by fuel restrictions or mission-essential follow-on commitments), observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(11) *Sinking exercises.* For sinking exercises:

(i) *Number of Lookouts and observation platform.* Two Lookouts (one must be positioned in an aircraft and one must be positioned on a vessel). If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements.* The mitigation zone is 2.5 nautical miles (4.6 km) around the target ship hulk.

(A) *Prior to activity.* Prior to the initial start of the activity (90 min prior to the first firing), Navy personnel must conduct aerial observations of the mitigation zone for floating vegetation and jellyfish aggregations; if floating vegetation or jellyfish aggregations are observed, Navy personnel must delay the start of firing until the mitigation zone is clear. Navy personnel also must conduct aerial observations of the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must delay the start of firing.

(B) *During activity.* During the activity, Navy personnel must conduct passive acoustic monitoring for marine mammals and use the information from detections to assist visual observations. Navy personnel must visually observe the mitigation zone for marine mammals from the vessel; if marine mammals are observed, Navy personnel must cease firing. Immediately after any planned or unplanned breaks in weapons firing of longer than 2 hours, Navy personnel must observe the mitigation zone for marine mammals from the aircraft and vessel; if marine mammals are observed, Navy personnel must delay recommencement of firing.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the target ship hulk; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 30 minutes.

(D) *After activity.* After completion of the activity (for 2 hours after sinking the vessel or until sunset, whichever comes first), Navy personnel must observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets will assist in the visual observation of the area where detonations occurred.

(12) *Explosive mine countermeasure and neutralization activities.* For explosive mine countermeasure and neutralization activities:

(i) *Number of Lookouts and observation platform*—(A) *Smaller mitigation zone.* One Lookout must be positioned on a vessel or in an aircraft when implementing the smaller mitigation zone.

(B) *Larger mitigation zone.* Two Lookouts (one must be positioned in an aircraft and one must be on a small boat)

when implementing the larger mitigation zone.

(C) *Additional platforms.* If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements*—(A) *Activities using 0.1–5 lb net explosive weight.* The mitigation zone is 600 yd (548.6 m) around the detonation site for activities using 0.1–5 lb net explosive weight.

(B) *Activities using 6–650 lb net explosive weight.* The mitigation zone is 2,100 yd (1,920.2 m) around the detonation site for activities using 6–650 lb net explosive weight (including high explosive target mines).

(C) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* when maneuvering on station; typically, 10 min when the activity involves aircraft that have fuel constraints, or 30 min when the activity involves aircraft that are not typically fuel constrained), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of detonations until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of detonations.

(D) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals, concentrations of seabirds, and individual foraging seabirds; if marine mammals, concentrations of seabirds, or individual foraging seabirds are observed, Navy personnel must cease detonations.

(E) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity or a sighting of seabird concentrations or individual foraging seabirds during the activity.* Navy personnel must allow a sighted animal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing detonations) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to detonation site; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min when the activity involves aircraft that have fuel constraints, or 30 min when the activity involves aircraft that are not typically fuel constrained.

(F) *After activity.* After completion of the activity (typically 10 min when the activity involves aircraft that have fuel constraints, or 30 min when the activity involves aircraft that are not typically fuel constrained), Navy personnel must observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(13) *Explosive mine neutralization activities involving Navy divers.* For explosive mine neutralization activities involving Navy divers:

(i) *Number of Lookouts and observation platform*—(A) *Smaller mitigation zone.* Two Lookouts (two small boats with one Lookout each, or one Lookout must be on a small boat and one must be in a rotary-wing aircraft) when implementing the smaller mitigation zone.

(B) *Larger mitigation zone.* Four Lookouts (two small boats with two Lookouts each), and a pilot or member of an aircrew must serve as an additional Lookout if aircraft are used during the activity, when implementing the larger mitigation zone.

(C) *Divers.* All divers placing the charges on mines will support the Lookouts while performing their regular duties and will report applicable sightings to their supporting small boat or Range Safety Officer.

(D) *Additional platforms.* If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements*—(A) *Activities under positive control using 0.1–20 lb net explosive weight.* The mitigation zone is 500 yd (457.2 m) around the detonation site during activities under positive control using 0.1–20 lb net explosive weight.

(B) *Activities under positive control using 21–60 lb net explosive weight charges.* The mitigation zone is 1,000 yd (914.4 m) around the detonation site during all activities using time-delay fuses (0.1–29 lb net explosive weight) and during activities under positive control using 21–60 lb net explosive weight charges.

(C) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* when maneuvering on station for activities under positive control; 30 min for activities using time-delay firing devices), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of detonations or fuse initiation until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of detonations or fuse initiation.

(D) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals, concentrations of seabirds, and individual foraging seabirds (in the water and not on shore); if marine mammals, concentrations of seabirds, or individual foraging seabirds are observed, Navy personnel must cease detonations or fuse initiation. To the maximum extent practicable depending on mission requirements, safety, and environmental conditions, Navy personnel must position boats near the mid-point of the mitigation zone radius (but outside of the detonation plume and human safety zone), must position themselves on opposite sides of the detonation location (when two boats are used), and must travel in a circular pattern around the detonation location with one Lookout observing inward toward the detonation site and the other observing outward toward the perimeter of the mitigation zone. If used, Navy aircraft must travel in a circular pattern around the detonation location to the maximum extent practicable. Navy personnel must not set time-delay firing devices (0.1–29 lb net explosive weight) to exceed 10 minutes.

(E) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity or a sighting of seabird concentrations or individual foraging seabirds during the activity.* Navy personnel must allow a sighted animal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing detonations) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the detonation site; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min during activities under positive control with aircraft that have fuel constraints, or 30 min during activities under positive control with aircraft that are not typically fuel constrained and during activities using time-delay firing devices.

(F) *After activity.* After completion of an activity (for 30 min), the Navy must observe for marine mammals for 30 minutes. Navy personnel must observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(14) *Maritime security operations—anti-swimmer grenades*—(i) *Number of Lookouts and observation platform.* One Lookout must be positioned on the small boat conducting the activity. If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements.* 200 yd (182.9 m) around the intended detonation location.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* when maneuvering on station), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of detonations until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of detonations.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease detonations.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing detonations) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended detonation location;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 30 min; or

(*4*) *Detonation location transit.* The intended detonation location has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(D) *After activity.* After completion of the activity (*e.g.,* prior to maneuvering off station), Navy personnel must, when practical (*e.g.,* when platforms are not constrained by fuel restrictions or mission-essential follow-on commitments), observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets will assist in the visual observation of the area where detonations occurred.

(15) *Underwater demolition multiple charge—mat weave and obstacle loading exercises.* For underwater demolition multiple charge—mat weave and obstacle loading exercises:

(i) *Number of Lookouts and observation platform.* Two Lookouts (one must be positioned on a small boat and one must be positioned on shore from an elevated platform). If additional platforms are participating in the activity, Navy personnel positioned in those assets (*e.g.,* safety observers, evaluators) must support observing the mitigation zone while performing their regular duties.

(ii) *Mitigation zone and requirements.* The mitigation zone is 700 yd (640.1 m) around the intended detonation location.

(A) *Prior to activity.* Prior to the initial start of the activity, or 30 min prior to the first detonation, the Lookout positioned on a small boat must observe the mitigation zone for floating vegetation and marine mammals; if floating vegetation or marine mammals are observed, Navy personnel must delay the start of detonations until the mitigation zone is clear. For 10 min prior to the first detonation, the Lookout positioned on shore must use binoculars to observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must delay the start of detonations.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease detonations.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing detonations) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the detonation location; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min (as determined by the Navy shore observer).

(D) *After activity.* After completion of the activity (for 30 min), the Lookout positioned on a small boat must observe for marine mammals in the vicinity of where detonations occurred; if any injured or dead marine mammals are observed, Navy personnel must follow established incident reporting procedures. If additional platforms are supporting this activity (*e.g.,* providing range clearance), these Navy assets must assist in the visual observation of the area where detonations occurred.

(16) *Vessel movement.* The following requirements apply to vessel movement, except mitigation will not be applied if: the vessel's safety is threatened; the vessel is restricted in its ability to maneuver (*e.g.,* during launching and recovery of aircraft or landing craft, during towing activities, when mooring); the vessel is operated autonomously; or when impracticable based on mission requirements (*e.g.,* during Amphibious Assault—Battalion Landing exercise).

(i) *Number of Lookouts and observation platform.* One Lookout must be on the vessel that is underway.

(ii) *Mitigation zone and requirements*—(A) *Whales.* The mitigation zone is 500 yd (457.2 m) around whales.

(B) *Marine mammals other than whales.* The mitigation zone is 200 yd (182.9 m) around all other marine mammals (except bow-riding dolphins and pinnipeds hauled out on man-made navigational structures, port structures, and vessels).

(iii) *During the activity.* When underway, Navy personnel must observe the mitigation zone for marine

mammals; if marine mammals are observed, Navy personnel must maneuver (which may include reducing speed as the mission or circumstances allow) to maintain distance.

(iv) *Incident reporting procedures.* If a marine mammal vessel strike occurs, Navy personnel must follow the established incident reporting procedures.

(v) *Post-strike alerts.* Navy personnel must send alerts to Navy vessels of increased risk of strike following any reported Navy vessel strike in the HSTT Study Area.

(vi) *Large whale aggregation alerts.* Navy personnel must issue real-time notifications to Navy vessels of large whale aggregations (four or more whales) within 1 nmi (1.9 km) of a Navy vessel in the area between 32–33 degrees North and 117.2–119.5 degrees West.

(17) *Towed in-water devices.* The following mitigation applies to devices that are towed from a manned surface platform or manned aircraft, except the mitigation will not be applied if the safety of the towing platform or in-water device is threatened:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned on a manned towing platform.

(ii) *Mitigation zone and requirements.* The mitigation zone is 250 yd (228.6 m) around marine mammals.

(iii) *During the activity.* During the activity (*i.e.,* when towing an in-water device), Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must maneuver to maintain distance.

(18) *Small-, medium-, and large-caliber non-explosive practice munitions.* For small-, medium-, and large-caliber non-explosive practice munitions, the following mitigation applies to activities using a surface target:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned on the platform conducting the activity. Depending on the activity, the Lookout could be the same as the one described for ''Weapons firing noise'' in paragraph (a)(5)(i) of this section.

(ii) *Mitigation zone and requirements.* The mitigation zone is 200 yd (182.9 m) around the intended impact location.

(A) *Prior to activity.* Prior to the start of the activity (*e.g.,* when maneuvering on station), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of firing until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of firing.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease firing.

(C) *Commencement/recommencement conditions after a marine mammal sighting before or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended impact location;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min for aircraft-based firing or 30 min for vessel-based firing; or

(*4*) *Impact location transit.* For activities using a mobile target, the intended impact location has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(19) *Non-explosive missiles and rockets.* For aircraft-deployed non-explosive missiles and rockets, the following mitigation applies to activities using a surface target.

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned in an aircraft.

(ii) *Mitigation zone and requirements.* The mitigation zone is 900 yd (823 m) around the intended impact location.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* during a fly-over of the mitigation zone), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of firing until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of firing.

(B) *During activity.* During the activity, Navy personnel must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must cease firing.

(C) *Commencement/recommencement conditions after a marine mammal sighting prior to or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing firing) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended impact location; or

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min when the activity involves aircraft that have fuel constraints, or 30 min when the activity involves aircraft that are not typically fuel constrained.

(20) *Non-explosive bombs and mine shapes.* For non-explosive bombs and non-explosive mine shapes during mine laying activities:

(i) *Number of Lookouts and observation platform.* One Lookout must be positioned in an aircraft.

(ii) *Mitigation zone and requirements.* The mitigation zone is 1,000 yd (914.4 m) around the intended target.

(A) *Prior to activity.* Prior to the initial start of the activity (*e.g.,* when arriving on station), Navy personnel must observe the mitigation zone for floating vegetation; if floating vegetation is observed, Navy personnel must relocate or delay the start of bomb deployment or mine laying until the mitigation zone is clear. Navy personnel also must observe the mitigation zone for marine mammals; if marine mammals are observed, Navy personnel must relocate or delay the start of bomb deployment or mine laying.

(B) *During activity.* During the activity (*e.g.,* during approach of the target or intended minefield location), Navy personnel must observe the mitigation zone for marine mammals and, if marine mammals are observed, Navy personnel must cease bomb deployment or mine laying.

(C) *Commencement/recommencement conditions after a marine mammal sighting prior to or during the activity.* Navy personnel must allow a sighted marine mammal to leave the mitigation zone prior to the initial start of the activity (by delaying the start) or during the activity (by not recommencing bomb deployment or mine laying) until one of the following conditions has been met:

(*1*) *Observed exiting.* The animal is observed exiting the mitigation zone;

(*2*) *Thought to have exited.* The animal is thought to have exited the mitigation zone based on a determination of its course, speed, and movement relative to the intended target or minefield location;

(*3*) *Clear from additional sightings.* The mitigation zone has been clear from any additional sightings for 10 min; or

(*4*) *Target transit.* For activities using mobile targets, the intended target has transited a distance equal to double that of the mitigation zone size beyond the location of the last sighting.

(b) *Mitigation areas.* In addition to procedural mitigation, Navy personnel must implement mitigation measures within mitigation areas to avoid or reduce potential impacts on marine mammals.

(1) *Mitigation areas for marine mammals in the Hawaii Range Complex for sonar, explosives, and vessel strikes*—(i) *Mitigation area requirements*—(A) *Hawaii Island Mitigation Area (year-round)*—(*1*) *MF1 surface ship hull-mounted mid-frequency active sonar, MF4 dipping sonar, or explosives.* Except as provided in paragraph (b)(1)(i)(A)(*2*) of this section, within the Hawaii Island Mitigation Area, Navy personnel must not conduct more than 300 hours of MF1 surface ship hull-mounted mid-frequency active sonar or 20 hours of MF4 dipping sonar annually, or use explosives that could potentially result in takes of marine mammals during training and testing.

(*2*) *National security exception.* Should national security require conduct of more than 300 hours of MF1 surface ship hull-mounted mid-frequency active sonar or 20 hours of MF4 dipping sonar, or use of explosives that could potentially result in the take of marine mammals during training or testing, Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* sonar hours or explosives usage) in its annual activity reports submitted to NMFS.

(B) *4-Islands Region Mitigation Area (November 15–April 15 for active sonar; year-round for explosives)*—(*1*) *MF1 surface ship hull-mounted mid-frequency active sonar or explosives.* Except as provided in paragraph (b)(1)(i)(B)(*2*) of this section, within the 4-Islands Region Mitigation Area, Navy personnel must not use MF1 surface ship hull-mounted mid-frequency active sonar from November 15–April 15 or explosives that could potentially result in takes of marine mammals at any time during training and testing.

(*2*) *National security exception.* Should national security require use of MF1 surface ship hull-mounted mid-frequency active sonar or explosives that could potentially result in the take of marine mammals during training or testing, Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* sonar hours or explosives usage) in its annual activity reports submitted to NMFS.

(C) *Humpback Whale Special Reporting Areas (December 15–April 15).* Navy personnel must report the total hours of surface ship hull-mounted mid-frequency active sonar used in the Humpback Whale Special Reporting Areas established from December 15–April 15 in its annual training and testing activity reports submitted to NMFS.

(D) *Humpback Whale Awareness Notification Message Area (November–April).* The following requirements apply in the Humpback Whale Awareness Notification Message Area established from November–April.

(*1*) *Seasonal awareness notification message.* Navy personnel must issue a seasonal awareness notification message to alert ships and aircraft operating in the area to the possible presence of concentrations of large whales, including humpback whales.

(*2*) *Vessel instruction.* To maintain safety of navigation and to avoid interactions with large whales during transits, Navy personnel must instruct vessels to remain vigilant to the presence of large whale species (including humpback whales).

(*3*) *Awareness notification message use.* Platforms must use the information from the awareness notification message to assist their visual observation of applicable mitigation zones during training and testing activities and to aid in the implementation of procedural mitigation.

(ii) [Reserved]

(2) *Mitigation areas for marine mammals in the southern California portion of the study area for sonar, explosives, and vessel strikes*—(i) *Mitigation area requirements*—(A) *San Diego Arc, San Nicolas Island, and Santa Monica/Long Beach Mitigation Areas (June 1–October 31)*—(*1*) *MF1 surface ship hull-mounted mid-frequency active sonar.* Except as provided in paragraph (b)(2)(i)(A)(*2*) of this section, within the San Diego Arc, San Nicolas Island, and Santa Monica/Long Beach Mitigation Areas from June 1–October 31, Navy personnel must not conduct more than a total of 200 hours of MF1 surface ship hull-mounted mid-frequency active sonar in the combined areas, excluding normal maintenance and systems checks, during training and testing.

(*2*) *National security exception.* Should national security require conduct of more than 200 hours of MF1 surface ship hull-mounted mid-frequency active sonar in the combined areas during training and testing (excluding normal maintenance and systems checks), Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* sonar hours) in its annual activity reports submitted to NMFS.

(*3*) *Explosives in San Diego Arc Mitigation Area.* Except as provided in paragraph (b)(2)(i)(A)(*4*) of this section, within the San Diego Arc Mitigation Area, Navy personnel must not use explosives that could potentially result in the take of marine mammals during large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training and testing.

(*4*) *National security exception.* Should national security require use of explosives that could potentially result in the take of marine mammals during large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training or testing within the San Diego Arc Mitigation Area, Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* explosives usage) in its annual activity reports submitted to NMFS.

(*5*) *Explosives in San Nicolas Island Mitigation Area.* Except as provided in paragraph (b)(2)(i)(A)(*6*) of this section, within the San Nicolas Island Mitigation Area, Navy personnel must not use explosives that could potentially result in the take of marine mammals during mine warfare, large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training.

(*6*) *National security exception.* Should national security require use of explosives that could potentially result in the take of marine mammals during mine warfare, large-caliber gunnery,

torpedo, bombing, and missile (including 2.75-inch rockets) activities during training in the San Nicolas Island Mitigation Area, Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* explosives usage) in its annual activity reports submitted to NMFS.

(*7*) *Explosives in the Santa Monica/Long Beach Mitigation Area.* Except as provided in paragraph (b)(2)(i)(A)(*8*) of this section, within the Santa Monica/Long Beach Mitigation Area, Navy personnel must not use explosives that could potentially result in the take of marine mammals during mine warfare, large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training and testing.

(*8*) *National security exception.* Should national security require use of explosives that could potentially result in the take of marine mammals during mine warfare, large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training or testing in the Santa Monica/Long Beach Mitigation Area, Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* explosives usage) in its annual activity reports submitted to NMFS.

(B) *Santa Barbara Island Mitigation Area (year-round)—*(*1*) *MF1 surface ship hull-mounted mid-frequency active sonar or explosives.* Except as provided in paragraph (b)(2)(i)(B)(*2*) of this section, within the Santa Barbara Island Mitigation Area, Navy personnel must not use MF1 surface ship hull-mounted mid-frequency active sonar during training or testing, or explosives that could potentially result in the take of marine mammals during medium-caliber or large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training.

(*2*) *National security exception.* Should national security require use of MF1 surface ship hull-mounted mid-frequency active sonar during training or testing, or explosives that could potentially result in the take of marine mammals during medium-caliber or large-caliber gunnery, torpedo, bombing, and missile (including 2.75-inch rockets) activities during training, Naval units must obtain permission from the appropriate designated Command authority prior to commencement of the activity. Navy personnel must provide NMFS with advance notification and include the information (*e.g.,* sonar hours or explosives usage) in its annual activity reports submitted to NMFS.

(C) *Spring Large Whale Awareness Notification Message—*(*1*) *Awareness notification message.* Navy personnel must issue an awareness notification message during the spring to alert ships and aircraft within the eastern Pacific to the possible presence of concentrations of large whales, including blue whales, fin whales, and humpback whales.

(*2*) *Applicable period.* This message must apply to a period that is based on predicted oceanographic conditions for a given year.

(*3*) *Marine mammals and vessel transit.* To maintain safety of navigation and to avoid interactions with large whales during transits, Navy personnel must instruct personnel on vessels that when a marine mammal is spotted, this may be an indicator that additional marine mammals are present nearby, and increased vigilance and awareness of Navy personnel is warranted.

(*4*) *Platform use of message.* Platforms must use the information from the awareness notification messages to assist their visual observation of applicable mitigation zones during training and testing activities and to aid in the implementation of procedural mitigation.

(D) *Gray Whale (November–March) and Fin Whale (November–May) Awareness Notification Message Areas.* The following requirements apply in the Gray Whale Awareness Notification Areas from November–March and Fin Whale Awareness Notification Message Areas from November–May.

(*1*) *Seasonal awareness message.* Navy personnel must issue a seasonal awareness notification message to alert ships and aircraft operating in the area to the possible presence of concentrations of large whales, including gray whales, and fin whales.

(*2*) *Marine mammals and vessel transit.* To maintain safety of navigation and to avoid interactions with large whales during transits, Navy personnel must instruct personnel on vessels to remain vigilant to the presence of large whale species.

(*3*) *Platform use of message.* Platforms must use the information from the awareness notification messages to assist their visual observation of applicable mitigation zones during training and testing activities and to aid in the implementation of procedural mitigation.

(ii) [Reserved]

§ 218.75 Requirements for monitoring and reporting.

(a) *Unauthorized take.* Navy personnel must notify NMFS immediately (or as soon as operational security considerations allow) if the specified activity identified in § 218.70 is thought to have 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 § 218.72(b).

(b) *Monitoring and reporting under the LOAs.* The Navy must conduct all monitoring and reporting required under the LOAs. Details on program goals, objectives, project selection process, and current projects are available at *www.navymarinespeciesmonitoring.us.*

(c) *Notification of injured, live stranded, or dead marine mammals.* The Navy must comply with all notification and reporting requirements under the LOAs. 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) *Changes in Lookout policies.* The Navy must report changes in its Lookout policies to NMFS as soon as practicable after a change is made.

(e) *Annual HSTT Study Area marine species monitoring report.* The Navy must submit an annual report of the HSTT Study Area monitoring describing the implementation and results from the previous calendar year. Data collection methods must be standardized across range complexes and study areas to allow for comparison in different geographic locations. The report must be submitted to the Director, Office of Protected Resources, NMFS, either within 3 months after the end of the calendar year, or within 3 months after the conclusion of the monitoring year, to be determined by the Adaptive Management process. This report will describe progress of knowledge made with respect to intermediate scientific objectives within the HSTT Study Area associated with the Integrated Comprehensive Monitoring Program (ICMP). 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 does not provide direct assessment of cumulative progress on the monitoring plan study questions. As an alternative,

the Navy may submit a multi-Range Complex annual Monitoring Plan report to fulfill this requirement. Such a report will describe progress of knowledge made with respect to monitoring study questions across multiple Navy ranges associated with the ICMP. Similar study questions must be treated together so that progress on each topic can be summarized across multiple Navy ranges. The report need not include analyses and content that does not provide direct assessment of cumulative progress on the monitoring study question. This will continue to allow the Navy to provide a cohesive monitoring report covering multiple ranges (as per ICMP goals), rather than entirely separate reports for the HSTT, Gulf of Alaska, Mariana Islands, and Northwest Study Areas.

(f) *Annual HSTT Study Area training exercise report and testing activity report.* Each year, the Navy must submit two preliminary reports (Quick Look Report) detailing the status of authorized sound sources within 21 days after the anniversary of the date of issuance of each LOA to the Director, Office of Protected Resources, NMFS. Each year, the Navy must submit detailed reports to the Director, Office of Protected Resources, NMFS, within 3 months after the 1-year anniversary of the date of issuance of the LOA. The HSTT annual Training Exercise Report and Testing Activity Report can be consolidated with other exercise reports from other range complexes in the Pacific Ocean for a single Pacific Exercise Report, if desired. The annual reports must contain information on major training exercises (MTEs), Sinking Exercise (SINKEX) events, and a summary of all sound sources used, including within specific mitigation reporting areas, as described in paragraphs (f)(3) through (5) of this section. The analysis in the detailed reports must be based on the accumulation of data from the current year's report and data collected from previous reports. The detailed reports must contain information identified in paragraphs (f)(1) through (9) of this section.

(1) *MTEs.* This section of the report must contain the following information for MTEs conducted in the HSTT Study Area.

(i) 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:

(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.,* 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. This evaluation must identify the specific observations that support any conclusions the Navy reaches about the effectiveness of the mitigation.

(2) *SINKEXs.* This section of the report must include the following information for each SINKEX completed that year.

(i) Exercise information (gathered for each SINKEX).

(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 Navy 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 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).

(J) 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.*), 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 authorized sound sources used in all training and testing events:

(i) 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 annual expended/detonated ordinance (missiles, bombs, sonobuoys, *etc.*) for each explosive bin.

(4) *Humpback Whale Special Reporting Area (December 15–April 15).* The Navy must report the total hours of operation of surface ship hull-mounted mid-frequency active sonar used in the Humpback Whale Special Reporting Area.

(5) *Mitigation areas.* The Navy must report any use of restricted acoustic and explosive sources identified in § 218.74(b). Information included in the classified annual reports may be used to inform future adaptive management of activities within the HSTT Study Area.

(6) *Geographic information presentation.* The reports must present an annual (and seasonal, where practical) depiction of training and testing bin usage (as well as pile driving activities) geographically across the HSTT Study Area.

(7) *Sonar exercise notification.* The Navy must submit to NMFS (contact as specified in the LOA) an electronic report within 15 calendar days after the completion of any MTE indicating:

(i) Location of the exercise;

(ii) Beginning and end dates of the exercise; and

(iii) Type of exercise.

(8) *Large whale aggregations.* For each instance that an aggregation of large whales (4 or more whales within 1 nmi (1.9 km)) is reported in the area between 32–33 degrees North and 117.2–119.5 degrees West, Navy personnel must report the following information and to the extent practicable, this information should be provided in the Navy's unclassified version of these reports:

(i) Date, time, and general location (*e.g.,* approximately 10–12 nmi (18.5 to 22.2 km) Southeast of San Clemente Island) of the whales when the aggregation was first sighted

(ii) Total number of whales observed within 1 nmi (1.9 km) of a Navy vessel that make up the aggregation

(iii) Approximate distance (or distances if more than 1 group of whales is sighted) of the vessel from the whales in the aggregation when the whales were first sighted.

(9) *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 U.S. Navy's 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) *7-year close-out comprehensive training and testing activity report.* This report must be included as part of the 2025 annual training and testing report. This report must provide the annual totals for each sound source bin with a comparison to the annual allowance and the 7-year total for each sound source bin with a comparison to the 7-year allowance. Additionally, if there were any changes to the sound source allowance, this report must include a discussion of why the change was made and include the analysis to support how the change did or did not result in a change in the 2018 HSTT FEIS/OEIS and final rule determinations. The draft report must be submitted within 3 months after the expiration of this subpart to the Director, Office of Protected Resources, NMFS. NMFS must submit comments on the draft close-out report, if any, within 3 months of receipt. The report will be considered final after the Navy has addressed NMFS' comments, or 3 months after the submittal of the draft if NMFS does not provide comments.

§ 218.76 Letters of Authorization (LOA).

(a) To incidentally take marine mammals pursuant to the regulations in this subpart, the Navy must apply for and obtain LOAs in accordance with § 216.106 of this chapter.

(b) LOAs, unless suspended or revoked, may be effective for a period of time not to exceed December 20, 2025.

(c) If an LOA expires prior to December 20, 2025, the Navy may apply for and obtain a renewal of the LOA.

(d) In the event of projected changes to the activity or to mitigation, monitoring, or reporting (excluding changes made pursuant to the adaptive management provision of § 218.77(c)(1)) required by an LOA issued under this subpart, the Navy must apply for and obtain a modification of the LOA as described in § 218.77.

(e) Each LOA must 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 or stocks of marine mammals and their habitat; and

(4) Requirements for monitoring and reporting.

(f) 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 in this subpart.

(g) Notice of issuance or denial of the LOA(s) must be published in the **Federal Register** within 30 days of a determination.

§ 218.77 Renewals and 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) may be renewed or modified upon request by the applicant, provided that:

(1) The planned 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 LOA(s) were implemented.

(b) For LOA modification or renewal requests by the applicant 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) that do not change the findings made for the regulations or result in no more than a minor change in the total estimated number of takes (or distribution by species or stock or years), NMFS may publish a notice of planned 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 may be modified by NMFS under the following circumstances:

(1) After consulting with the Navy regarding the practicability of the modifications, NMFS may modify (including adding or removing measures) 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.

(i) Possible sources of data that could contribute to the decision to modify the mitigation, monitoring, or reporting measures in an LOA include:

(A) Results from the Navy's monitoring 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 the regulations in this subpart or subsequent LOAs.

(ii) If, through adaptive management, the modifications to the mitigation, monitoring, or reporting measures are substantial, NMFS will publish a notice of planned LOA in the **Federal Register** and solicit public comment.

(2) If NMFS 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, an 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. 2024–31402 Filed 1–8–25; 4:15 pm]

BILLING CODE 3510–22–P