

DEPARTMENT OF DEFENSE

Department of the Navy

Record of Decision for the Hawaii-Southern California Training and Testing Final Environmental Impact Statement/Overseas Environmental Impact Statement

AGENCY: Department of the Navy, Department of Defense

ACTION: Record of Decision

SUMMARY: The United States (U.S.) Department of the Navy (Navy) proposes to conduct training and testing activities—that will include the use of active sonar and explosives—primarily within existing range complexes and training and testing areas located along the coast of Southern California and around the Hawaiian Islands. The Navy, after carefully weighing the strategic and operational readiness and environmental consequences of the Proposed Action, announces its decision to implement Alternative 2, the Navy’s Preferred Alternative, as described in the Hawaii-Southern California Training and Testing (HSTT) Final Environmental Impact Statement (EIS)/Overseas EIS (OEIS). Under Alternative 2, the Navy will be able to meet current and future Navy and Department of Defense (DoD) training and testing requirements.

After thoroughly reviewing its environmental compliance requirements, the Navy instituted a policy in the year 2000 designed to comprehensively address these requirements. That policy, the Navy’s At-Sea Policy, resulted in part in a series of EIS/OEISs on training and testing activities in U.S. at- sea range complexes and operating areas. These EIS/OEISs served to support the National Oceanic and Atmospheric Administration’s (NOAA) issuances of Marine Mammal Protection Act (MMPA) incidental take authorizations (issued because of the potential effects of some training and testing activities on species protected by federal law). The incidental take authorizations, completed since 2008, will begin to expire in early 2014. This EIS/OEIS updates the analyses for several range complexes and supports issuance of new incidental take authorizations.

Previous Navy EIS/OEISs were developed for single range complexes. This EIS/OEIS combines multiple range complexes into one document, which allows for a more comprehensive analysis of the impacts across multiple range complexes and testing areas.

This EIS/OEIS reassessed the environmental analyses of Navy at-sea training and testing activities contained in three separate EIS/OEISs and consolidated these analyses into a single environmental planning document. This reassessment supports authorization of marine mammal incidental take permits under the MMPA and incidental takes of threatened and endangered marine species under the Endangered Species Act (ESA). The three EIS/OEIS documents that were consolidated are:

- Hawaii Range Complex (HRC) Final EIS/OEIS
- Southern California (SOCAL) Range Complex Final EIS/OEIS
- Silver Strand Training Complex (SSTC) Final EIS

The analysis adjusted baseline training and testing activities from current levels to the levels needed to support Navy training and testing requirements beginning December 2013. As part of these adjustments, the Navy accounts for other activities and sound sources not addressed in the previous analyses. The study analyzed the potential environmental impacts of training and testing activities in additional areas (areas not covered in previous environmental analysis) and documented where training and testing historically occur, including Navy ports, naval shipyards, Navy-contractor shipyards, and the transit corridor between Hawaii and Southern California. The at-sea environmental impact analyses for Navy activities in the previous documents were updated to account for force structure changes, including those resulting from the development, testing, and use of weapons, platforms, and systems that will be operational by 2018, and enhanced range capabilities. Finally, the environmental analyses were updated with the best available science and most current acoustic analysis methods to evaluate the potential effects of training and testing activities on the marine environment.

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SUPPLEMENTARY INFORMATION: Pursuant to § 102(2)(c) of NEPA of 1969, §§ 4321 *et seq.* of Title 42 United States Code (U.S.C.), Council on Environmental Quality regulations (Parts 1500–1508 of Title 40 Code of Federal Regulations [C.F.R.]), Department of Navy regulations (Part 775 of Title 32 C.F.R.), and Executive Order 12114, *Environmental Effects Abroad of Major Federal Actions*, the Navy announces its decision to implement the Navy's Preferred Alternative, Alternative 2, as described in the HSTT Final EIS/OEIS. The Navy identified its need to support and conduct current, emerging, and future training and testing activities in the Study Area, which is made up of air and sea space off Southern California, around the Hawaiian Islands, and the air and sea space connecting them. A detailed description of Alternative 2 is provided in Chapter 2 (Description of Proposed Action and Alternatives) of the Final EIS/OEIS. This decision will enable the Navy to meet changing military readiness requirements to achieve the levels of operational readiness required under Title 10 U.S.C. § 5062.

BACKGROUND AND ISSUES: The Navy historically uses areas around the Hawaiian Islands, as well as those areas near San Diego and off the coast of Southern California for training and testing. While specific training and testing activities, activity levels, and locations have evolved over the years to meet changing threats and incorporate improved technology, and will continue to evolve for these purposes, the overall types of activities and geographic areas the Navy has trained and tested in have not appreciably changed in several decades. These areas have been designated by the Navy into geographic regions and named "range complexes." A range complex is a set of adjacent areas of sea space, undersea space, land ranges, and

overlying airspace delineated for military training and testing activities. Range complexes provide controlled and safe environments where military ship, submarine, and aircraft crews can train in realistic conditions. The combination of undersea ranges and operating areas (OPAREAs) with land training ranges, safety landing fields, and nearshore amphibious landing sites is critical to realistic training, and allows instruments on the range to capture data on the effectiveness of tactics and equipment—data that provide a feedback mechanism for training evaluation.

Military readiness training must be as realistic as possible to provide the experiences so important to success and survival. While simulators and synthetic training are critical elements of training – to provide early skill repetition and enhance teamwork – there is no substitute for live training in a realistic environment. The range complexes, test ranges, and OPAREAs have these realistic environments, with sufficient sea and airspace vital for safety and mission success. Just as a pilot would not be ready to fly solo after simulator training, a Navy commander cannot allow military personnel to engage in real combat activities based merely on simulator training.

The proximity of HRC, SOCAL, and SSTC complexes to naval homeports is strategically important to the Navy because close access allows for efficient execution of training and testing activities. The proximity of training to homeports also ensures that Sailors and Marines do not have to routinely travel far from their families. For example, the Hawaii and San Diego areas are home to thousands of military families. The Navy is required to track and, where possible, limit the amount of time Sailors and Marines spend deployed from home. Less time away from home is an important factor in military readiness, morale, and retention. The proximate availability of the HRC, SOCAL, and SSTC complexes is critical to Navy efforts in these areas.

The Navy also requires access to a realistic environment to conduct testing of ships, submarines, aircraft, and weapon systems. The Navy frequently conducts tests on fleet training range complexes and uses fleet assets to support the testing, while fleet assets alternately support testing activities on test ranges. The Navy operates a test range (Point Mugu Sea Range) adjacent to the HSTT Study Area's northern boundary, but there are no dedicated test ranges within the Study Area. However, testing activities are conducted in Southern California and Hawaii to support the wide range of various advanced platforms and systems that require test and evaluation, thus, the range complexes in the Study Area must provide flexibility to meet diverse testing requirements. The range complexes analyzed in this Final EIS/OEIS have each existed for many decades, dating back to the 1930s. Range use and infrastructure have developed over time as training and testing requirements in support of modern warfare have evolved. The Navy has not proposed, and is not proposing, to create new range complexes or OPAREAs. Further, the activities analyzed within this Final EIS/OEIS are the same or are similar to those that historically occur within the at-sea portions of the current range complexes. Land-based activities were analyzed in prior EIS/OEISs and are not proposed to change, and therefore are not re-addressed within this document. Thus, for example, the on shore training

beach lanes of the SSTC and activities on San Clemente Island are not included in this Final EIS/OEIS.

The Navy's ability to conduct testing on range complexes in close proximity to naval homeports and research and acquisition community field activities is strategically important since close access allows for efficient execution of testing activities. Test range locations and field activities were originally established to support specific Navy at-sea testing objectives with consideration of testing requirements and access to shore-based support, infrastructure, and logistical support. These same principles also apply to pierside and at-sea testing that must occur in close proximity to naval shipyards and Navy-contractor shipyards to support construction and maintenance testing requirements.

Purpose and Need

The purpose of the Proposed Action is to conduct training and testing activities to ensure that the Navy meets its mission under Title 10 U.S.C. § 5062, which is to maintain, train, and equip combat-ready naval forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. This mission is achieved in part by conducting training and testing within the Study Area.

Public Involvement

The Navy published a Notice of Intent for this EIS/OEIS in the *Federal Register* (FR) (75 FR 41162) and several newspapers on 15 July 2010. In addition, a Notice of Intent/Notice of Scoping Meetings was distributed on 14 July 2010, to 230 federal, state, and local elected officials and government agencies. The Notice of Intent provided an overview of the Proposed Action and the scope of the EIS/OEIS, and initiated the 60-day scoping period. During the development of the Draft EIS/OEIS, the Navy initiated a mutual exchange of information through early and open communications with interested stakeholders. This mutual exchange began in 2010 with six scoping meetings, which were held on 4 August 2010 (San Diego, CA), 5 August 2010 (Lakewood, CA), 24 August 2010 (Lihue, HI), 25 August 2010 (Honolulu, HI), 26 August 2010 (Hilo, HI), and 27 August 2010 (Kahului, HI). The meetings were held in an open house format, presenting informational posters and written information, with Navy staff and project experts available to answer participants' questions. Additionally, a digital voice recorder was available to participants who requested to provide oral comments. In total, the Navy received scoping comments from 228 individuals, agencies, and organizations. Because many of the comments addressed either the same issues or more than one issue within a single letter or comment, the comments were grouped by issues of concern, whereby 26 issues were identified. Scoping comments were received as letters submitted through mail, as written or oral comments received at the public meetings, and via the project website.

The 60-day public comment period on the Draft EIS/OEIS began with the issuance of the Notice of Availability (NOA) (77 FR 27771) and a Notice of Public Meetings (77 FR 27743) in the *Federal Register* on 11 May 2012. The original 45-day public comment period was extended by 15 days (77 FR 29637) to allow the public additional time to review and comment on the Draft EIS/OEIS.

The public comment period began on 11 May 2012 and concluded on 10 July 2012. The Navy made significant efforts to notify the public to ensure maximum public participation during the public comment period, including using letters, postcards, press releases, and newspaper display advertisements (San Diego Union-Tribune, Long Beach Press Telegram, Maui News, Honolulu Star-Advertiser, The Garden Island, and the Hawaii Tribune-Herald).

The Notice of Public Meetings included a project description and the dates and locations of five public meetings. The comment period allowed a variety of opportunities for the public to comment on the Draft EIS/OEIS (77 FR 27743). Copies of the Draft EIS/OEIS were provided to seven public libraries in Hawaii and Southern California (Lihue, Kahului, Wailuku, Hilo, Hawaii State, San Diego Central, and Long Beach Main public libraries), and the document was available on the project website (<http://hstteis.com/>) for review. During five open house public meetings, which were held on 12 June 2012 (Lihue, HI), 13 June 2012 (Kahului, HI), 14 June 2012 (Hilo, HI), 15 June 2012 (Honolulu, HI), and 20 June 2012 (San Diego, CA), Navy representatives were available to provide information and answer questions one-on-one. Comment sheets were made available to attendees.

Commenters provided their input on the Draft EIS/OEIS in letters submitted through mail, written or oral comments received at the public meetings, and via the project website. The Navy also received form letters from one non-governmental organization and an online petition from another non-governmental organization. Approximately 76,000 copies of the form letter were received, and the online petition generated approximately 477,000 signatures.

The Navy made minor changes to the HSTT EIS/OEIS after the public notice and comment period closed for the Draft HSTT EIS/OEIS. The changes include: (1) refinement to the modeling inputs for training and testing; (2) use of an emergent and more accurate winter season density for the species (short-beaked common dolphins) having the highest abundance of any marine mammal in the Study Area; and (3) additional post-model analysis of acoustic effects and implementation of mitigation. The Navy concluded that these changes did not rise to substantial changes to the proposed action nor did the changes contain significant new information relevant to environmental concerns or impacts, and thus, determined that supplementation of the EIS/OEIS was not necessary. However, the Navy provided the public with the opportunity to review and comment on the changes before the issuance of the Final EIS/OEIS via the MMPA Proposed Rule in the Federal Register. At the Navy's request, the National Marine Fisheries Service (NMFS) identified and summarized the changes made after the publication of the DEIS/OEIS and invited the public to specifically comment on these changes. NMFS, at the request of Navy, informed the public that all comments received on the MMPA Proposed Rule that addressed any of the three above listed changes would be considered and addressed by the Navy in the Final EIS/OEIS (78 FR 6977; January 31, 2013). In addition to this notification via the MMPA Proposed Rule, the Navy directly notified stakeholders and interested parties via letters and emails, and posted a link to the Proposed Rule on the public web site (www.HSTTEIS.com). NMFS received comments from a federal and a non-governmental organization and the Navy addressed those comments in the FEIS/OEIS.

Furthermore, some comments requested additional detail, and the Navy responded by adding content detail and discussion to the FEIS and publishing a new technical report on the public web site (www.HSTTEIS.com) entitled “The Analysis of Animal Avoidance Behavior and Mitigation Effectiveness Technical Report.” This additional detailed material provided in-depth numerical information on the changes and the impacts of the changes on estimated exposures to marine mammals, and confirms that these changes were not significant.

The Notice of Availability (NOA) for the Final EIS/OEIS was published in the *Federal Register* on 30 August 2013 (78 FR 53754) and in the San Diego Union-Tribune, Long Beach Press-Telegram, Maui News, Honolulu Star-Advertiser, The Garden Island, and Hawaii Tribune-Herald at the same time and for three consecutive days. Notices were also mailed to individuals, agencies, associations, and other interested parties who asked to be notified during the scoping and Draft EIS/OEIS public comment periods, as well as members of Congress, the governors of Hawaii and California, and other elected or public officials. The HSTT Final EIS/OEIS also was made available on the project website and at seven public libraries in Hawaii and Southern California (Lihue, Kahului, Hilo, Kailua-Kona, Hawaii State, Coronado, and Long Beach Main public libraries).

Following the distribution of the Final EIS/OEIS, the Department of the Navy revised Appendix E of the FEIS to include a new section, Section E.5. This new section included public comments (and Navy responses) applicable to the HSTT EIS/OEIS that were received by NMFS (as described above) during the public review of the MMPA Proposed Rule for takes of marine mammals incidental to U.S. Navy Training and Testing Activities in the Hawaii-Southern California Training and Testing Study Area. A revised NOA was published in the *Federal Register* on 27 September 2013 (78 FR 59659) to advise the public of this new material and to extend the wait period from 30 September to 28 October 2013, an additional 30 days, to allow the public to review this new information. The revised document was provided to seven public libraries (as described above, except a copy was delivered to the Kapaa Public Library due to a temporary closure of the Lihue Library). In addition, more than 2,000 letters were mailed to HSTT stakeholders, advising them of the revised Final EIS/OEIS.

Alternatives Considered

The identification, consideration, and analysis of alternatives are important aspects of the NEPA process and contribute to the goal of objective decision-making. The Council on Environmental Quality requires and provides guidance on the development of alternatives. The regulations implementing NEPA require the decision maker to consider the environmental effects of the Proposed Action and a range of alternatives (including the No Action Alternative) to the Proposed Action (40 C.F.R. § 1502.14). The range of alternatives (including the No Action Alternative) include reasonable alternatives, which must be rigorously and objectively explored, as well as other alternatives that were considered but eliminated from detailed study. To be reasonable, an alternative must meet the stated purpose of and need for the Proposed Action.

An EIS must explore all reasonable mitigation measures for a Proposed Action. The Navy developed the alternatives considered in this EIS/OEIS after careful assessment by subject matter experts, including military units and commands that utilize the ranges, military range management professionals, and Navy environmental managers and scientists.

Alternatives eliminated from further consideration were:

- Alternative Training and Testing Locations
- Reduced or No Training and Testing
- Temporal or Geographic Constraints within the Study Area
- Simulated Training and Testing

The Navy determined that these alternatives did not meet the purpose of and need for the Proposed Action after a thorough consideration of each.

Three alternatives are analyzed in this EIS/OEIS.

- **No Action Alternative:** Baseline training and testing activities, as defined by existing Navy environmental planning documents, including the HRC EIS/OEIS, the SOCAL Range Complex EIS/OEIS, and the SSTC EIS. The baseline testing activities also include those testing events that historically occur in the Study Area and have been subject to previous analyses pursuant to NEPA and Executive Order 12114.
- **Alternative 1:** Overall expansion of the Study Area plus adjustments to types and levels of activities, from the baseline as necessary to support current and planned Navy training and testing requirements. This Alternative considers all activities analyzed in the No Action Alternative plus:
 - analysis of areas where Navy training and testing would continue as in the past, but were not considered in previous environmental analyses. This Alternative would not expand the area where the Navy trains and tests, but would simply expand the area that is to be analyzed.
 - mission requirements associated with force structure changes, including those resulting from the development, testing, and ultimate introduction of new platforms (vessels and aircraft) and weapon systems into the fleet.
- **Alternative 2 (Preferred Alternative):** Consists of Alternative 1 plus the establishment of new range capabilities, modifications of existing capabilities, and adjustments to type and levels of training and testing. Specifically, Alternative 2 includes the following training activities as detailed in Section 2.8 and Table 2.8-1 of the Final EIS/OEIS: additional air-to-surface and surface-to-surface missile training; anti-submarine warfare activities during training, which will be required to support an increased or accelerated delivery of surface ships and submarines; introduce surface ships outfitted with kinetic energy weapon capability and train with this new weapon system; perform additional training with

unmanned vehicles during Maritime Patrol Aircraft anti-submarine warfare training and civilian port defense missions in Navy and civilian port locations (events would occur within San Diego Bay and Pearl Harbor). Alternative 2 also includes the following testing activities as detailed in Section 2.8 and Tables 2.8-2 – 2.8-5 of the Final EIS/OEIS: Naval Sea Systems Command new ship construction testing including an increase in the number of mission package testing events; life cycle activities, including post home-porting and ship signature test events; kinetic energy weapon testing on vessels at sea; mine warfare testing; shipboard protection systems and swimmer defense testing, including the flexibility to conduct chemical and biological simulant testing in either location identified; and increased flexibility to conduct all underwater deployed unmanned aerial vehicle testing in either location identified. Naval Air Systems Command testing activities would include the introduction of the MQ-4C Triton Unmanned Aircraft Systems and their use during maritime patrol aircraft anti-submarine warfare testing events; increased flexibility to conduct all at-sea explosive testing in either location identified; and an overall 10 percent increase in the tempo of all proposed Naval Air Systems Command testing activities. Space and Naval Warfare Systems Command testing activities would include testing of anti-terrorism/force protection mine countermeasures and underwater surveillance systems tests; testing and evaluating passive mobile intelligence, surveillance, and reconnaissance sensor systems; and testing of autonomous undersea vehicles .

While the No Action Alternative is the environmentally preferable alternative, it fails to meet the Purpose and Need of the Proposed Action, and therefore could not be selected. Alternative 1 and Alternative 2 remain as viable alternatives that both meet the Purpose and Need of the Proposed Action. Although Alternative 1 has a slightly smaller environmental impact than Alternative 2, due to fewer total proposed activities than Alternative 2, the difference in the overall potential for environmental impacts is insignificant. Therefore, the Navy has selected Alternative 2 as it provides greater flexibility in allowing the Navy and DoD to meet current and future training and testing requirements without appreciably increasing environmental impacts.

Summary of Environmental Impacts

The evaluation of the impacts from acoustic sources or explosives was a major piece of the analysis. The Navy performed a quantitative analysis to estimate the number of marine mammals that could be affected by acoustic sources or explosives used during Navy training and testing activities. To conduct this analysis, the Navy developed a set of data and new software tools for quantification of estimated marine mammal impacts from Navy activities. This new approach is the resulting evolution of the basic model previously used by Navy and reflects a more complex modeling approach as described at Section 3.4 of the EIS/OEIS.

In summary, the Navy Acoustic Effects Model improves upon previous modeling efforts in several ways. First, unlike earlier methods that modeled sources individually, the Navy Acoustic Effects Model has the capability to run all sources within a scenario simultaneously, providing a more realistic depiction of the potential effects of an activity. Second, previous models calculated sound received levels within set volumes of water and spread animals uniformly

across the volumes; in the Navy Acoustic Effects Model, animats (virtual animals) are distributed non-uniformly based on higher resolution species-specific density, depth distribution, and group size information and animats serve as dosimeters, recording energy received at their location in the water column. Third, a fully three-dimensional environment is used for calculating sound propagation and animat exposure in the Navy Acoustic Effects Model, rather than a two-dimensional environment where the worst case sound pressure level across the water column is always encountered. Finally, current efforts incorporate site-specific bathymetry, sound speed profiles, wind speed, and bottom properties into the propagation modeling process rather than the flat-bottomed provinces used during earlier modeling.

Although this more complex computer modeling approach accounts for various environmental factors affecting acoustic propagation, the current software tools do not consider the likelihood that a marine mammal would attempt to avoid repeated exposures to a sound or avoid an area of intense activity where a training or testing event may be focused. Additionally, the software tools do not consider the implementation of mitigation (e.g., stopping sonar transmissions when a marine mammal is within a certain distance of a ship or mitigation zone clearance prior to detonations). In both of these situations, naval activities are modeled as though an activity would occur regardless of proximity to marine mammals and without any horizontal movement by the animal away from the sound source or human activities. Therefore, the final step of the quantitative analysis of acoustic effects is to consider the implementation of mitigation and the possibility that marine mammals would avoid continued or repeated sound exposures.

The Navy's environmental analysis addressed the potential environmental impacts of implementing Alternative 2 (Preferred Alternative) and found that there would be only negligible impacts on the following resource areas: sediments and water quality, air quality, marine vegetation, cultural resources, socioeconomic resources, and public health and safety. The discussion below summarizes the remaining potential environmental impacts associated with implementing Alternative 2:

- Marine Habitats: The greatest potential impact to marine habitats would be from underwater explosives near shallow coral reefs or hardbottom habitats. The Navy avoids shallow coral reefs and hardbottom habitats to the greatest extent practicable. Additionally, most detonations will occur at or near the surface, and those that do occur on the seafloor would be located in primarily soft-bottom habitat. Changes to marine substrates could include localized disturbance of the seafloor and cratering of soft bottom sediments. Any impacts on soft bottom habitats would be short-term, and impacts on hardbottom would be long-term. Activities as proposed under Alternative 2 would not impact the ability of marine substrates to serve their function as habitat. In cases where potential impacts rise to the level that warrants mitigation, mitigation measures designed to reduce the potential impacts will be implemented.
- Marine Mammals: The use of sonar and other active acoustic sources may result in exposures of certain marine mammals to Level B or Level A harassment under the

MMPA. The Navy does not predict any mortality to marine mammals from the use of sonar and other active acoustic sources; however, the Navy has asked for and received authorization under the MMPA for two mortality takes of beaked whales per year. The use of explosives may result in exposure of certain marine mammals to Level B or Level A harassment, or mortality, under the MMPA. Pile driving and the use of swimmer defense airguns may result in exposure of certain marine mammal species to Level B harassment under the MMPA. Vessel strike could result in Level A harassment, or mortality under the MMPA, including the mortality or injury of certain large whale species. Although a few individual marine mammals may experience long-term impacts such as potential injury or mortality, population-level impacts are not expected for any species. No effects are expected on the translocated colony of Southern Sea Otters at San Nicolas Island.

Weapons firing noise, vessel noise, aircraft noise, electromagnetic devices, in-water devices, military expended materials, and seafloor devices may result in exposures of marine mammals to only minor and temporary behavioral reactions, which do not rise to the level of a take under the MMPA. Impacts are expected to be short-term and not result in significant changes in behavior, growth, survival, annual reproductive success, lifetime reproductive success (fitness), or species recruitment. In cases where potential impacts may rise to the level that warrants mitigation, mitigation measures designed to reduce the potential impacts will be implemented.

Pursuant to the ESA, sonar and other acoustic sources, explosives, and vessel strikes are likely to adversely affect (by way of harassment or harm) some ESA listed marine mammals which include the humpback whale (*Megaptera novaeangliae*), sei whale (*Balaenoptera borealis*), fin whale (*Balaenoptera physalus*), blue whale (*Balaenoptera musculus*), Western North Pacific gray whale (*Eschrichtius robustus*), sperm whale (*Physeter macrocephalus*), Main Hawaiian Islands insular stock of false killer whale (*Pseudorca crassidens*), Hawaiian monk seal (*Monachus schauinslandi*), and Guadalupe fur seal (*Arctocephalus townsendi*). The Navy's activities would have no effect on critical habitat for the Hawaiian monk seal which is the only designated marine mammal critical habitat in the Study Area.

Other stressors such as swimmer defense air guns, weapon firing noise, vessel noise, aircraft noise, energy sources, entanglement sources, ingestion sources, and secondary stressors would have either no effect or are not likely to adversely affect ESA-listed marine mammals.

- **Sea Turtles:** The use of sonar and other active acoustic sources may result in exposure of sea turtles to behavioral effects, temporary threshold shift, or injury. Permanent and temporary threshold criteria for sea turtles are conservatively based on criteria developed for mid-frequency marine mammals; whereas most sonar and other active acoustic sources used during training and testing use frequency ranges that are higher

than the estimated hearing range of sea turtles. Therefore, any exposures to these sources resulting in temporary or permanent thresholds shifts are expected to be substantially less than the model predicted quantities. The use of explosives may result in behavioral effects, temporary threshold shift, injury, or mortality. Sea turtles could be exposed to sound in the water from a number of Navy sources, but most Navy sound sources occur well offshore, beyond the Hawaii nesting beaches and Southern California coastal waters where sea turtles are commonly found in the Study Area. Vessel strike could result in mortality or injury of sea turtles. Although a few individual sea turtles may experience long-term impacts such as potential injury and mortality, population-level impacts are not expected.

Pile driving, swimmer defense airguns, weapons firing noise, vessel noise, aircraft noise, electromagnetic devices, in-water devices, military expended materials, and seafloor devices may result in exposures of sea turtles to only minor and temporary behavioral reactions. Impacts are expected to be short-term and will not result in significant changes in behavior, growth, survival, annual reproductive success, lifetime reproductive success (fitness), or species recruitment. In cases where potential impacts may rise to the level that warrants mitigation, mitigation measures designed to reduce the potential impacts will be implemented.

Pursuant to the ESA, sonar and other active acoustic sources, explosives, and vessel strikes are likely to adversely affect threatened and endangered sea turtle species present in the HSTT Study Area –green sea turtle (*Chelonia mydas*), hawksbill sea turtle (*Eretmochelys imbricate*), olive ridley sea turtle (*Lepidochelys olivacea*), loggerhead sea turtle (*Caretta caretta*), and leatherback turtle (*Dermochelys coriacea*). There is no sea turtle critical habitat within the Study Area.

Other stressors such as swimmer defense air guns, weapon firing noise, vessel noise, aircraft noise, entanglement sources, ingestion sources, and secondary stressors would have either no effect or are not likely to adversely affect ESA-listed sea turtles.

- Seabirds: There are currently no acoustic or explosive thresholds and criteria for seabirds in the HSTT Study Area to complete a quantitative analysis of acoustic sources; however, a qualitative analysis was done to describe the potential impacts. Seabirds could be exposed to a number of in-air and in-water sound sources resulting from proposed Navy activities. The use of sonar and other active acoustic sources may result in a behavioral disturbance to diving seabirds; however, physiological impacts, such as hearing loss, would likely only occur if a bird was close to an intense sound source for an extended period of time, which is highly unlikely. Additionally, due to the limited duration and typically wide dispersal of training and testing events, any sound exposures would be minimal and are unlikely to have a long-term impact on an individual or a population. The use of explosives may result in behavioral disturbance, physiological impacts, or mortality. Aircraft strike could result in mortality or injury of

seabirds. Although a few individual seabirds may experience long-term impacts such as potential injury and mortality, population-level impacts are not expected.

Pile driving, swimmer defense airguns, weapons firing noise, vessel noise, aircraft noise, electromagnetic devices, in-water devices, military expended materials, and seafloor devices may result in exposures of seabirds to only minor and temporary behavioral reactions. Impacts are expected to be short-term and would not result in significant changes in behavior, growth, survival, annual reproductive success, lifetime reproductive success (fitness), or species recruitment. In cases where potential impacts may rise to the level that warrants mitigation, mitigation measures designed to reduce the potential impacts will be implemented.

Pursuant to the ESA, the Navy's activities may affect, but are not likely to adversely affect threatened and endangered seabird species present in the HSTT Study Area – Hawaiian petrel (*Pterodroma sandwichensis*), short-tailed albatross (*Phoebastria albatrus*), Newell's shearwater (*Puffinus auricularis newelli*), California least tern (*Sterna antillarum browni*), and marbled murrelet (*Brachyramphus marmoratus*). There is no critical habitat for listed seabird species within the Study Area.

- **Marine Invertebrates:** There are currently no acoustic or explosive thresholds and criteria for invertebrates in the HSTT Study Area to complete a quantitative analysis of acoustic sources; however a qualitative analysis was done to describe the potential impacts. Sonar and other active sources, pile driving, swimmer defense airguns, weapons firing noise, vessel noise, and aircraft noise are not expected to cause more than a short-term behavioral disturbance or startle reaction to some marine invertebrates capable of detecting nearby sound (e.g., cephalopods and crustaceans). Underwater explosions, vessels and in-water devices, military expended materials, and seafloor devices may result in behavioral disturbance, physiological impacts, or mortality to some marine invertebrates.

Only the use of military expended materials has the potential to result in physical impacts to coral reefs; all other activities and sources are either not expected to have any impacts on coral reefs or mitigation measures will be implemented to avoid potential impacts. Electromagnetic devices may cause temporary disruptions to navigation and orientation for susceptible invertebrates. Impacts are not expected to result in detectable changes to their growth, survival, or propagation, and are not expected to result in population-level impacts. In cases where potential impacts rise to the level that warrants mitigation, mitigation measures designed to reduce the potential impacts will be implemented.

Pursuant to the ESA, the Navy's activities may affect, but are not likely to adversely affect threatened and endangered invertebrate species present in the HSTT Study Area – black abalone (*Haliotis cracherodii*) and white abalone (*Haliotis sorenseni*). The Navy's

activities would have no effect on black abalone critical habitat in the Study Area. There is no white abalone critical habitat in the Study Area.

- **Fish:** There are currently no acoustic or explosive thresholds and criteria for fish in the HSTT Study Area to complete a quantitative analysis of acoustic sources; however, a qualitative analysis was done to describe the potential impacts. Sonar and other active sources, weapons firing noise, vessel noise, and aircraft noise are not expected to cause more than a short-term mild startle reaction to fish capable of detecting the frequencies of the sound. Underwater explosions, pile driving, and airguns may result in behavioral disturbance, physiological impacts or mortality of some fish (or larvae) close to the source. Electromagnetic devices may cause brief behavioral or physiological responses for certain types of fish (primarily sharks and rays). Vessels and in-water devices may result in injury or mortality to some fish that are large, slow-moving, and may occur near the surface (e.g., ocean sunfish, whale sharks, basking sharks, and manta rays); however, the risk of a strike from vessels and in-water devices used in training and testing activities would be extremely low. Military expended materials and seafloor devices are not expected to cause more than a short-term behavioral disturbance or startle reaction to fish. Impacts are not expected to result in detectable changes to their growth, survival, or propagation, and are not expected to result in population-level impacts.

Pursuant to the ESA, the Navy's activities may affect, but are not likely to adversely affect threatened and endangered fish species present in the HSTT Study Area – steelhead trout (*Oncorhynchus mykiss*). The Navy's activities would have no effect on steelhead trout critical habitat near the Study Area.

Recent Scientific Information

The scientific community is always generating new studies in an effort to improve understanding of the marine environment. The Navy is a strong advocate for marine research and vigilant in our review of new information that may inform our analyses or affect our conclusions. Since the publication of the Final EIS/OEIS, the Navy has identified three studies that contain information that the Navy considered in making its final decision. These three studies, authored by Claridge (2013), Houser et al. (2013), and New et al. (2013) are summarized below, with the Navy's conclusions on their applicability to our HSTT FEIS/OEIS determinations.

The first study, Claridge (2013), was a Ph.D. thesis which investigated the potential effects exposure to mid-frequency active sonar could have on beaked whale demographics. Claridge (2013) used photo-recapture methods at two study sites in the Bahamas – one a control site (Abaco) and the other located within the Navy's Atlantic Undersea Test and Evaluation Center (AUTEK) – to compare if turnover rates, age composition, and abundance of Blainville's beaked whales (*Mesoplodon densirostris*) were affected by exposure to sonar. The thesis reported similar turnover rates at each site, but a lower annual abundance of Blainville's beaked whales

and a higher female to calf ratio at AUTEK. The author hypothesized that the results suggest lower recruitment through births at AUTEK contributing to a lower overall abundance. The author preliminarily attributed the lower reproductive rates at AUTEK to the exposure of adult females to stressors associated with frequent and repeated use of Navy sonars. However, the author acknowledged that there may be other unknown differences between the sites - in particular, that prey availability may be lower at AUTEK than at Abaco— that could explain the results. The author concluded that the hypothesis that population level effects could be occurring due to regular exposure Blainville’s beaked whales to sonar should be tested further.

The Navy identified at least two major areas in which relevant shortcomings diminish the study’s application to our analysis. First, all of the re-sighted whales during the five-year study at both sites were female. Claridge acknowledged that this can lead to a negative bias in the abundance estimation. The results at AUTEK were also biased by a reduced effort and a shorter overall study period that did not capture some of the emigration/immigration trends Claridge identified at Abaco. For these reasons among others, it is unclear whether there are significant differences in the abundances between the two sites. Second, Claridge assumed that the two sites were identical and therefore should have equal potential abundances; Abaco was a “control” site with the difference being the use of sonar at AUTEK. Although the sample boundaries at each location were drawn to create samples “of comparable size” there were differences between the two sample area locations that potentially affect the rigor of the study: the Abaco site is along a leeward shore, AUTEK is windward; the Abaco sample area is a long narrow margin along a canyon wall, the rectangular AUTEK sample site is a portion of a deep and landlocked U-shaped trough. In addition to the physical differences, Claridge noted that it remains unclear whether variation in productivity between sites influenced what she referred to as substantial differences in abundance. Because Claridge reported that a study investigating prey distributions at her sample locations was unable to sample prey at the beaked whale foraging depth, she dismissed the possibility of differences in prey availability as a factor influencing difference in abundance since there is no supporting evidence that prey availability actually differed between the two sites. This illustrates that there are often multiple and complex factors that may influence trends in species abundance, and that all factors require a comprehensive assessment in order for supportable cause and effect determinations to be made.

Despite these noted weaknesses, the Navy considered the preliminary determinations made by Claridge (2013) on our existing findings within the HSTT FEIS/OEIS on the effects of sonar to beaked whales. The applicability of the study to training and testing activities conducted within the HSTT Study Area is limited primarily because the factors that potentially contributed to the purported results in Claridge (2013) do not occur within the HSTT Study Area. In particular, the training and testing activities within the HSTT Study Area are generally short-term and transitory in nature which would therefore not result in chronic exposures to the same population of beaked whales. Additionally, Claridge’s results are not supported by marine mammal monitoring data of beaked whales on other Navy training ranges. For instance, three decades of training and testing activities at the Navy’s instrumented training range west of San

Clemente Island off Southern California have not precluded beaked whales from continuing to inhabit the area nor have there been documented declines or beaked whale mortalities associated with Navy training and testing activities in that area. In fact, data documenting the presence and long term residence of Cuvier's beaked whales in the ocean basin west of San Clemente Island (Falcone et al. 2009; 2012) and results from passive acoustic monitoring by the Navy show estimated regional Cuvier's beaked whale densities higher than indicated by the NMFS's broad scale visual surveys for the west coast of the United States (Hildebrand and McDonald 2009). Therefore, based on the above evidence as well as the existing analysis contained within the FEIS/OEIS regarding long-term impacts, noise impacts, habitat deterioration, and beaked whale responses to various stressors the Navy determined that the findings in Claridge (2013) did not alter our conclusions regarding the potential effects of sonar on beaked whales.

The second study considered was Houser et al. (2013), a controlled exposure study involving California sea lions exposed to a simulated mid-frequency sonar signal. The purpose of this Navy-sponsored study was to determine the probability and magnitude of behavioral responses by California sea lions exposed to differing intensities of simulated mid-frequency sonar signals. The findings from Houser et al. (2013) were consistent with current scientific studies and criteria development concerning marine mammal reactions to mid-frequency sonar sounds.

Three independent and 28 response variables were scored during trials. After completion of the trials, a correlation analysis was conducted to determine which variables had a significant relationship (i.e., contributed to behavioral responses during exposure trials). Only four responses were deemed to be good indicators of possible behavioral change during the exposure trials: 1) refusal to participate in exposure trials, 2) hauling out of water within the test enclosure, 3) increase in respiration rate, and 4) increase in the time spent submerged. The dose response relationships presented in Houser et al. (2013) included all of the four behavioral reactions that were deemed to contribute to behavioral changes from exposure to the mid-frequency source. However, not all behavioral responses meet the definition of "harassment" under the MMPA, in particular for military readiness activities. As a result, in order for this data to be applied in an MMPA permitting context, proper analysis requires an assessment of which responses would meet the definition of harassment. Once the behaviors are identified, it would be necessary to determine the levels at which those responses occurred, and for this data to either be integrated into the existing dose response curves, or for a new function to be developed. Any new dose response function that is developed for estimating takes would need to be agreed upon by the NMFS, and would require a public review period prior to implementation.

The Navy's preliminary assessment is that of the four behaviors, only refusal to participate and hauling out are likely to qualify as harassment under the MMPA definition for military readiness activities. Houser et al. (2013) found that more severe reactions (i.e., refusal to participate in the experiment and hauling out of the test enclosure) were more prominent at received sound pressure levels of 170 dB re 1 μ Pa and higher. At sound pressure levels of 155 dB re 1 μ Pa and

below, the majority of responses seen were changes in respiration rate. The authors state that “changes in respiration indicate perception of the acoustic signal, but in the absence of other responses, the behavior suggests that the perceived signal is neither imminently threatening nor intolerable.” The Behavioral Response Function used to predict behavioral reactions in pinnipeds in the HSTT FEIS/OEIS has the mean probability of a significant behavioral reaction (50% probability) at 165 dB re 1 μ Pa which is very similar to the Houser et al. (2013) results that demonstrated that significant reactions were not prominent until sound pressure levels equal to 170 dB re 1 μ Pa or higher. Therefore, the Navy anticipates that the incorporation of these data would likely have predicted similar numbers of Level B harassment takes to pinnipeds. While Houser et al. (2013) advances the state of science in the field of behavioral response, its publication does not change the Navy’s conclusions for whether significant impact exists in the HSTT FEIS/OEIS when Navy mitigations, and the acoustic modeling’s conservative assumptions (as explained in the HSTT FEIS/OEIS) are taken into account.

As stated above all thresholds and methodologies for assessing harassment under the MMPA must be coordinated with NMFS. Therefore, the Navy and NMFS will consider this study, and its potential to be incorporated into existing dose response functions for pinnipeds, through the adaptive management process outlined for HSTT.

The third study considered was New et al. (2013) who developed a mathematical model simulating a functional link between feeding energetic and a species’ requirements for survival and reproduction for 21 species of beaked whales. New et al. (2013) reported “reasonable confidence” in their model, despite the fact the model relies on assumptions that do not accurately represent the biological attributes for all 21 species of beaked whales.

For example, New et al. (2013) hypothesized that if habitat quality and “accessible energy” (derived from the availability of either plentiful prey or prey with high energy content) are both high, then survival rates are high as well. If these variables are low, then adults may survive but calves will not. However, the model failed for 29% (6 of the 21 species) of beaked whale species. For the species for which the modeled failed, one of the assumptions was a 2-year calving period (or inter-calf interval). This 2-year inter-calf interval may be too short for species with longer gestation periods, such as the 17-month gestation period of Baird’s beaked whale (*Berardius bairdii*). For another species, Blainville’s beaked whale, Claridge (2013) noted that calf age at separation is at least 3 years, and that the inter-calf interval at Abaco in the Bahamas may be 4 years. New et al. (2013) acknowledged that an assumed 2-year calving period in the modeling may not be long enough to build up the energetic resources necessary for mother and calf survival.

As another critical model assumption, prey preferences, were modeled based on stomach content analyses of stranded animals, which the authors acknowledge are traditionally poor estimates of the diets of healthy animals, as stranded animals are often sick prior to stranding. Stomach content remnants of prey species do not digest equally, as only the hard parts of some prey types remain (e.g., fish otoliths, beaks of cephalopods) and thus often provide an

incomplete or accurate picture of diet. Given these unknowns and the failure of the simulation to work for 29% of beaked whale species, the modeled survival rates of all beaked whales, particularly those modeled with prey having low energy content, may be better than simulated if higher-energy prey makes up a larger part of the diet.

In short, for the model New et al. (2013) created to correctly represent links between the species and their environment, that model must identify all the critical and relevant ecological parameters as input variables, provide the correct values for those parameters, and then the model must appropriately integrate modeling functions to duplicate the complex relationships the model intends to represent. If an assumption (model input) such as calving period or prey preferences is incorrect (and there is presently no way to know), then the model would not be representing what may actually be occurring in nature. New et al. (2013) report that their simulations suggest that adults will survive but not successfully reproduce if anthropogenic disturbances result in being displaced to areas of “impaired foraging.” Underlying this suggestion is the additional unstated assumption that habitat capable of sustaining a beaked whale is limited in proximity to where any disturbance has occurred and there are no data to indicate that this is a valid assumption. The assumption that moving to immediately adjacent habitat results in “impaired foraging” does not appear to be supported.

While the New et al. (2013) model provides a test case for future research, this pilot study has very little of the critical data necessary to form conclusions applicable to current management decisions. The authors note the need for more data on prey species and reproductive parameters including gestation and lactation duration, as the model results are particularly affected by these assumptions. Therefore, any suggestion of biological sensitivity to the simulation’s input parameters is uncertain at this time. The Navy will continue to follow developments in the mathematical modeling of energetics to estimate specific sensitivity to disturbance.

The Navy continues to review emergent science and promote research to better assess the potential effects that may result from the continuation of ongoing training and testing in the range complexes worldwide. Although there have been a few strandings associated with use of sonar in other locations (see U.S. Department of the Navy 2013), Ketten (2012) has recently summarized, “to date, there has been no demonstrable evidence of acute, traumatic, disruptive, or profound auditory damage in any marine mammal as the result of anthropogenic noise exposures, including sonar.” Therefore, based on the best available science (e.g. Barlow et al 2011; Falcone et al. 2009; Littnan 2011; Martin and Kok 2011; McCarthy et al. 2011; McSweeney et al. 2007; McSweeney et al. 2009; Moore and Barlow 2011; Tyack et al. 2011; Southall et al. 2012), including data collected and submitted to NMFS in over 70 Navy monitoring and research reports, the Navy finds that long-term consequences for individuals or populations are unlikely to result from Navy training and testing activities.

Mitigation Measures

As part of Alternative 2, the Navy will implement all practicable mitigation, monitoring, and standard operating procedures to avoid or reduce adverse environmental impacts including those identified in the Final EIS/OEIS, the 13 December 2013 NMFS Biological Opinion, the 25 April and 07 June 2013 U.S. Fish and Wildlife Service (USFWS) Biological Opinion concurrence letters, the Hawaii-Southern California Training and Testing Essential Fish Habitat Assessment Final Report (August 2013), and the NMFS Final Rule and Letters of Authorization (LOAs) issued under the MMPA on 13 December 2013 and effective on publication in the *Federal Register* (see the section on Agency Consultation and Coordination of this Record of Decision for further detail). Mitigation, monitoring, and standard operating procedures to be implemented will affect Navy activities that involve the following resources:

- Seafloor Resources. Mitigation measures reduce the potential impacts of precision anchoring or explosives on or near the bottom and near shallow coral reefs, hardbottom habitat, artificial reefs, and shipwrecks. Mitigation measures also reduce the potential impacts of military expended materials on shallow coral reefs.
- Marine Mammals and Sea Turtles. Mitigation measures and annual exercise, testing, and monitoring reporting requirements are identified in the Final EIS/OEIS, the 12 December 2013 NMFS Biological Opinion, and the two 12 December 2013 MMPA LOAs, one for training activities and one for testing activities.
- Seabirds. Mitigation measures reduce the potential impacts of mine countermeasures and mine neutralization underwater detonations on seabirds. General mitigation measures that provide protection to all seabirds are identified in the Final EIS/OEIS. In addition, measures in the USFWS Biological Opinion FWSSDG-08B0503-09F0517 will continue to be implemented, providing protection specifically to the California least tern.

Monitoring

The Navy is committed to demonstrating environmental stewardship while executing its National Defense mission and complying with the suite of federal environmental laws and regulations. As a complement to the Navy's commitment to avoiding and reducing impacts of the Proposed Action through mitigation, the Navy will undertake monitoring efforts to track compliance with take authorizations, help evaluate the effectiveness of implemented mitigation measures, and advance the understanding of the impacts of the Proposed Action on marine resources. Taken together, mitigation and monitoring comprise the Navy's integrated approach for reducing environmental impacts from the Proposed Action. The Navy's overall monitoring approach will seek to leverage and build on existing research efforts whenever possible.

The Integrated Comprehensive Monitoring Program (ICMP) was developed in coordination with NMFS, and implemented in 2010 in support of regulatory monitoring requirements to ensure the implementation of a robust and effective monitoring process. The ICMP will be relied upon for continued coordination of monitoring efforts across all regions where the Navy trains and

tests and to allocate the most appropriate level and type of effort for each range complex. The ICMP establishes top-level goals that have been developed in coordination with NMFS. The following top-level goals will become more specific with regard to identifying potential projects and monitoring field work through the Strategic Plan process as projects are evaluated and initiated in the HSTT Study Area.

- An increase in the understanding of the likely occurrence of marine mammals or ESA-listed marine species in the vicinity of the action (i.e., presence, abundance, distribution, and density of species).
- An increase in the understanding of the nature, scope, or context of the likely exposure of marine mammals and ESA-listed species to any of the potential stressor(s) associated with the action (e.g., tonal and impulsive sound), through better understanding of one or more of the following: (1) the action and the environment in which it occurs (e.g., sound source characterization, propagation, and ambient noise levels); (2) the affected species (e.g., life history or dive patterns); (3) the likely co-occurrence of marine mammals and ESA-listed marine species with the action (in whole or part) associated with specific adverse impacts; or (4) the likely biological or behavioral context of exposure to the stressor for the marine mammal and ESA-listed marine species (e.g., age class of exposed animals or known pupping, calving, or feeding areas).
- An increase in the understanding of how individual marine mammals or ESA-listed marine species respond (behaviorally or physiologically) to the specific stressors associated with the action in specific contexts, where possible (e.g., at what distance or received level).
- An increase in the understanding of how anticipated individual responses, to individual stressors or anticipated combinations of stressors, may impact either (1) the long-term fitness and survival of an individual or (2) the population, species, or stock (e.g., through impacts on annual rates of recruitment or survival).
- An increase in the understanding of the effectiveness of mitigation and monitoring measures.
- A better understanding and record of the manner in which the authorized entity complies with the Incidental Take Authorization and Incidental Take Statement.
- An increase in the probability of detecting marine mammals (through improved technology or methods), both specifically within the mitigation zone (thus allowing for more effective implementation of the mitigation) and in general, to better achieve the above goals.
- A reduction in the adverse impact of activities to the least practicable level, as defined in the MMPA.

Adaptive Management

As part of Navy's Mitigation and Monitoring efforts, NMFS has included an adaptive management component in the 5-year Final Rule. The reporting requirements associated with the rule provide NMFS with monitoring data from the previous year to allow consideration of whether any changes to mitigation are appropriate. According to the rule, NMFS, the Navy, and

the Marine Mammal Commission will meet to discuss the monitoring reports, Navy R&D developments, current science, and whether mitigation or monitoring modifications are appropriate. The use of adaptive management allows for consideration of 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 reducing adverse effects to marine mammal species and their habitat and if the measures are practicable. The following are some of the possible sources of applicable data to be considered through the adaptive management process: (1) results from monitoring, exercise and testing 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.

NMFS is currently in the process of updating, revising, and, after public notice and comment, publishing guidance for all acoustic thresholds criteria for marine mammals as they apply to all activity types (not just the Navy). This evaluation could potentially result in NMFS publishing guidance that recommends different acoustic criteria than what is currently applied by Navy in the FEIS/OEIS and NMFS ESA and MMPA documents for HSTT. While any future changes in acoustic criteria may affect the enumeration of "takes," they do not necessarily significantly change the evaluation of environmental impacts. Further, while acoustic criteria may also inform mitigation and monitoring decisions, the Navy has a robust adaptive management program that actively and regularly addresses new information and allows for modification of mitigation and/or monitoring measures if or as appropriate.

Decision

The Department of the Navy selects Alternative 2, the Preferred Alternative, to implement the Proposed Action. In making this decision, the Navy is fully aware of the comments received regarding the potential impacts to marine mammals because of the perception of a high number of estimated "takes." As described in the EIS/OEIS and this ROD, the Navy consulted with NMFS to evaluate and obtain authorization and permits to carry out our military training and testing activities. As part of that consultation, the Navy used the best available scientific information to estimate the potential for our activities to affect marine mammals. According to this analysis, the vast majority of impacts to marine mammals will be behavioral responses which will not result in any physical injury to marine mammals. In fact, the analysis estimates that fewer than 0.1% of the exposures to military activities could result in physical injury or mortality to marine mammals. The military activity that may result in this mortality is use of military explosives and it is important to note that the analytical process estimates the potential for mortality from explosives based on very conservative criteria. With the implementation of proven mitigation and decades of historical information from conducting military training and testing with explosives in the Study Area, the likelihood of mortality is very low. While the analysis did not predict any mortality from exposure to sonar, as a

precautionary measure, the Navy requested a small number of mortality takes for beaked whales which are known to be more susceptible to stranding, though none have stranded in the Study Area as a result of Navy activities. In addition, and based on historical data, the Navy requested a very small number of mortalities from ship strikes. The Navy has adopted all practicable means to avoid and minimize impacts to marine mammals. Through our robust adaptive management program, we will continue to monitor our activities and their effects on marine mammals and will make adjustments to our monitoring and/or mitigation measures based on new information as appropriate. Even assuming the predicted level of “take” would occur, the NMFS determined our proposed activities would have a negligible impact on the marine mammal species and stocks within the Study Area. In making this decision, the Navy has also considered its responsibility for the national security mission. The capability to conduct improved training and testing activities in the HSTT Study Area best serves the interest of the nation and the Navy and can be accomplished while minimizing environmental impacts.

Agency Consultation and Coordination

NMFS served as a cooperating agency throughout the EIS/OEIS process. NMFS is a cooperating agency pursuant to 40 C.F.R. § 1501.6 because of its expertise and regulatory authority over marine resources. Additionally, the EIS/OEIS will serve as NMFS’ NEPA documentation for the rule-making process under the MMPA. The early participation of NMFS in the EIS/OEIS process aided the Navy’s analysis of potential environmental impacts to marine biological resources. In addition, the Navy consulted and coordinated with other federal and state agencies, including Pacific Islands and Carlsbad, California offices of USFWS; Hawaii Office of Planning; and the California Coastal Commission in conjunction with actions addressed in the Final EIS/OEIS. A summary of the results from each consultation and coordination process is included below

- Marine Mammal Protection Act: The Navy submitted an application for 5-year incidental take authorizations on 4 April 2012 for stressors associated with certain training and testing activities (the use of sonar and other active acoustic sources, explosives, pile driving, swimmer defense airguns, and vessel movement), as described under the Preferred Alternative (Alternative 2). On 24 September 2012 a revised request for two 5-year LOAs from NMFS was submitted (one authorization to Commander, United States Pacific Fleet for training activities and one to Commander, Naval Sea Systems Command for testing activities), which also included: (1) refinement to the modeling inputs for training and testing; (2) use of an emergent and more accurate winter season density for the species (short-beaked common dolphins) having the highest abundance of any marine mammal in the Study Area; and (3) additional post-model analysis of acoustic effects and implementation of mitigation. NMFS issued its Final Rule on 13 December 2013 (effective on publication in the *Federal Register*) and concluded that the Navy’s training and testing activities will have a negligible impact on the marine mammal species and stocks present in the HSTT Study Area. On 13 December 2013, NMFS also issued two Letters of Authorization (LOA), one each for Navy training activities and testing activities. These LOAs, effective after publication of the Final Rule in the *Federal Register*, authorize the taking of marine mammals incidental to Navy training and

testing activities conducted in the HSTT Study Area pursuant to Section 101 (a)(5)(A) of the MMPA. The LOAs specify the type and amount of incidental take that is authorized, by species, as well as the Navy's specific mitigation, monitoring, and reporting requirements. The LOAs were coordinated by NMFS with the Incidental Take Statements the Navy received for the incidental take of threatened and endangered marine mammals pursuant to Section 7 of the ESA.

- Endangered Species Act: The Navy requested formal consultation with NMFS (Headquarters, Office of Protected Resources) on ESA-listed species in a letter on 24 September 2012. Species to be addressed include the humpback whale, sei whale, fin whale, blue whale, Western North Pacific gray whale, sperm whale, Main Hawaiian Islands insular stock of false killer whale, Hawaiian monk seal, Guadalupe fur seal, green sea turtle, hawksbill sea turtle, olive ridley sea turtle, loggerhead sea turtle, and leatherback sea turtle, as well as designated critical habitat for Hawaiian monk seal. The Navy requested concurrence with its Not Likely to Adversely Affect determinations for black abalone, white abalone, and steelhead trout as well as designated critical habitat for steelhead trout and black abalone. NMFS issued their Biological Opinion on 13 December 2013, and concluded that any adverse effects to ESA-listed species as described above are not likely to jeopardize the continued existence of the threatened or endangered species. In addition to the Biological Opinion, NMFS issued two Incidental Take Statements, one each for Navy training activities and for testing activities. These Incidental Take Statements were coordinated by NMFS with the issuance of Letters of Authorizations the Navy received for the incidental take of marine mammals pursuant to Section 101(a) (5) of the MMPA. The Incidental Take Statements exempt Navy actions as described in the EIS/OEIS from the prohibitions set forth in Section 9 of the ESA.

On 15 November 2012 the Navy requested informal consultation with the USFWS (Pacific Islands Fish and Wildlife Office) and requested USFWS concurrence that the training and testing activities in Alternative 2 may affect, but are not likely to adversely affect the Hawaiian petrel, short-tailed albatross, and Newell's shearwater. On 7 June 2013 the USFWS Pacific Islands Fish and Wildlife Office concurred with the Navy's determination that HSTT training and testing activities as described in Alternative 2 are not likely to adversely affect endangered short-tailed albatross, Hawaiian petrel, and the threatened Newell's shearwater for the portions of the HSTT Study Area under the Pacific Islands Fish and Wildlife Office's jurisdiction.

On 26 November 2012 the Navy requested informal consultation with the USFWS (Carlsbad Fish and Wildlife Office) and requested USFWS concurrence that the training and testing activities in Alternative 2 may affect, but are not likely to adversely affect the California least tern, short-tailed albatross, and marbled murrelet. On 25 April 2013 the USFWS Carlsbad Fish and Wildlife Office concurred with the Navy's determination

that HSTT training and testing activities as described in Alternative 2 are not likely to adversely affect the California least tern, short-tailed albatross, and marbled murrelet .

- Magnuson-Stevens Fishery Conservation and Management Act: The Navy determined that the Proposed Action could result in adverse effects to Essential Fish Habitat (EFH) and initiated consultation with NMFS by submitting an Essential Fish Habitat Assessment on 12 February 2013 to the Habitat Conservation Division, NMFS, Pacific Islands Regional Office and Southwest Regional Office.

On 8 April 2013 the Pacific Islands Regional Office requested additional information from the Navy. The Navy responded to the NMFS letter on 17 April 2013. NMFS responded to the Navy's letter asking for further clarification on which activities would potentially overlap with newly proposed bottomfish Habitat Areas of Potential Concern and precious coral EFH within the HSTT Study Area. The Navy and NMFS met to address this concern.

The consultation was completed on 26 July 2013 with the submission of a letter from the Pacific Islands Regional Office concurring that the proposed mitigation measures are sufficient to avoid, minimize or offset impacts to EFH and no additional EFH Conservation Recommendations were provided. The NMFS Southwest Regional Office consultation was completed on 3 April 2013 with its concurrence that the proposed conservation measures are sufficient to avoid, minimize, or offset impacts to EFH, and no additional EFH Conservation Recommendations were provided.

- Coastal Zone Management Act:
On 14 January 2013, the Navy (Commander, U.S. Pacific Fleet) submitted a Consistency Determination for activities within the California portion of the Study Area to the California Coastal Commission. On 14 March 2013, the California Coastal Commission notified the Commander, U.S. Pacific Fleet that it objected to the Navy's Consistency Determination based on a lack of sufficient information. On 26 March 2013, Commander, U.S. Pacific Fleet replied to the California Coastal Commission, responding to each specific objection raised in the Commission's 14 March 2013 letter. In a letter dated 18 April 2013, the Commission responded to the Navy, however, the Commission neither addressed the adequacy of the Navy's response nor clarified or requested further information. In a letter dated 31 July 2013 the Navy again responded to each specific objection raised, and has received no response from the Commission. Through additional staff discussions throughout the period following the hearing and objection, the Navy attempted to resolve the differences with the California Coastal Commission. However, the disagreement could not be resolved. In accordance with 15 C.F.R. § 930.43, on 17 December 2013 the Navy notified the Commission of its decision to proceed with the proposed activities based on the Navy conclusion that its Proposed Action is fully consistent with the enforceable policies of the California Coastal Management Program.

On 14 January 2013, the Navy (Commander, U.S. Pacific Fleet) submitted a Consistency Determination for activities within the Hawaii portion of the Study Area to the State of Hawaii Office of Planning. On 20 March 2013, the Office of Planning conditionally concurred with the Navy's Consistency Determination. The condition placed on the concurrence was that during training and testing activities, the Navy "within the State of Hawaii Coastal Zone Management area shall not harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect endangered or threatened species of aquatic life or wildlife, or cut, collect, uproot, destroy, injure, or possess endangered or threatened species of aquatic life or land plants, or attempt to engage in any such conduct." The Navy responded to the Office of Planning's letter on 12 April and further on 25 April to clarify that the Navy's activities are consistent with the enforceable policies under Hawaii Revised Statutes Chapter 195 (e) and (g) because any take would be incidental to, and not the purpose of, an otherwise lawful activity and confirmed the Navy has consulted with NMFS for take authorizations under the MMPA and ESA. Through discussions and coordination during July 2013, the Hawaii Office of Planning concurred that the Navy's activities as described in the HSTT Consistency Determination are consistent with the enforceable policies under the State of Hawaii Coastal Management Program. The Navy's 8 August 2013 letter to the HI Office of Planning documents the completion the federal consistency process.

- National Marine Sanctuaries Act: Within the Study Area, there are three National Marine Sanctuary System sites (two national marine sanctuaries [Hawaiian Islands Humpback Whale National Marine Sanctuary (HIHWNMS) and Channel Islands National Marine Sanctuary (CINMS)] and one marine national monument [Papahānaumokuākea Marine National Monument]). For the two National Marine Sanctuaries, the Navy worked directly with the Office of National Marine Sanctuaries (ONMS) to clarify the Navy's activities in these sites, and the potential impacts to marine resources. HSTT activities continue to be consistent with those addressed in the HIHWNMS and CINMS management plans and the associated NOAA EISs. Based on this coordination, and the information provided in the Final EIS/OEIS, the ONMS notified the Navy, in a letter dated 16 August 2013, that sanctuary consultation pursuant to Section 304(d) of the National Marine Sanctuaries Act is not required.
- National Historic Preservation Act: As a result of the analysis conducted in the EIS/OEIS, the Navy determined that its proposed activities would result in a "no historic properties affected" determination in accordance with Section 106 implementing regulations under 36 C.F.R. § 800.4(d)(1). Accordingly, the Navy (Commander, U.S. Pacific Fleet) submitted letters to the Hawaii and California State Historic Preservation Officers in which its determination was described. In a letter dated 5 June 2013, the California State Historic Preservation Officer concurred with the Navy's finding of effect. Because no reply has been received from the Hawaii State Historic Preservation Officer, and as defined in 36 C.F.R. § 800.5(c), the Navy assumes concurrence with its finding of effect from the State of Hawaii.

Responses to Comments Received on the Final EIS/OEIS

The Navy reviewed and considered all comments received during the 30-day wait period following the issuance of the NOA for the Final EIS/OEIS including those received during the extended period. A total of six comment letters were received; three from non-governmental organizations (2 from the same organization), two from individuals, and one from the Hawaii Chamber of Commerce. The Chamber supported the proposed action, the other comments reiterated previous concerns expressed about the proposed action and its potential impact on marine mammals. Three of these letters contain comments that are substantive and, while similar to comments on the Draft EIS/OEIS that were considered and addressed in the Final EIS/OEIS, continued to express dissatisfaction with and disagreement with specific portions of the EIS analysis. A summary of the comments and Navy responses is below.

Comment 1: The Navy should consider recent research regarding the harmful effects of mid-frequency sonar on whales. Two specific studies cited were DeRuiter et al. (2013) regarding the behavioral responses by Cuvier's beaked whales to mid-frequency active sonar, and Goldbogen et al. (2013) regarding the response of blue whales to simulated mid-frequency military sonar.

Response: The Navy thoroughly reviewed and considered these two research papers, citing both in the Final EIS/OEIS in Section 3.4.3.1.2.6 (Behavioral Reactions), which describes behavioral reactions of marine mammals to sonar and other active acoustic sources.

The DeRuiter et al. (2013a) study was considered in the context of considerable scientific study being done on beaked whales on both coasts. For example, the preliminary results from a similar behavioral response study in Southern California waters (Southall 2011) and relevant studies being done with beaked whales in the Bahamas (Claridge and Durban 2009; Moretti et al. 2009; McCarthy et al. 2011; Tyack et al. 2011). As discussed in the EIS, it is important that while the studied whales showed responses to the controlled exposures, ranging from initial orientation changes to avoidance responses characterized by energetic fluking and swimming away from the source, the authors did not detect similar responses to incidental exposure to distant naval sonar exercises at comparable received levels, indicating that context of the exposures (e.g., source proximity, controlled source ramp-up) may have been a significant factor.

As discussed in the EIS/OEIS, the Navy considered Goldbogen et al. (2013) along with other relevant studies including studies of blue whales in the eastern Pacific and waters along the west coast of the United States. When viewed as a whole, the Goldbogen et al.(2013) suggestion that sonar use by the Navy "may pose significant risks to the recovery rates of endangered blue whale populations" is speculative, fails to account for other important variables, and is contradicted by other research indicating upward trends in blue whale populations in the specific areas in which Navy sonar training and testing use has been most frequent over the decades since commercial whaling ended.

The Navy considered these studies above along with numerous other behavioral response studies conducted since 2007. While both studies provide valuable research into behavioral

responses of blue whales and Cuvier's beaked whales, they must be taken in context of numerous other studies, including those showing stable whale populations in the very areas where Navy sonar training has been most concentrated for decades. Additional information and discussion is available in the EIS and appendices, technical reports, and other related documents.

Comment 2: The Navy and NMFS failed to evaluate a "no action" alternative that considers the impacts of denying the requested take authorizations.

Response: This comment was addressed in the Final EIS/OEIS at E-62. The Navy's selection and analysis of alternatives in the EIS/OEIS meets all NEPA requirements. The Alternatives carried forward meet the Navy's purpose and need to ensure that it can fulfill its obligation under Title 10. As stated in Section 2.6 (No Action Alternative), the Council on Environmental Quality "allows the No Action Alternative to be thought of in terms of continuing with the present course of action until that action is changed." Section 2 of the EIS details the Navy's purpose and need for the proposed action and explains how the Alternatives were derived.

Comment 3: The FEIS fails to take the requisite hard look at the impacts associated with the full suite of current activities. As the FEIS concedes, the "no action" alternative includes only "those training and testing activities and events as set forth in previously completed Navy environmental planning documents." It excludes analysis of several "areas where Navy training and testing would continue as in the past, but were not considered in previous environmental analyses." Areas excluded from the scope of the FEIS's so-called "no action" alternative include the portion of the Study Area to the west of the 179th meridian, the open ocean transit corridor between Southern California and Hawai'i, Navy piers and shipyards located in Hawai'i and Southern California, and San Diego Bay. Thus, nowhere in the FEIS does the Navy present a clear and complete picture of the effects, standing alone, of simply "continuing with the present course of action," contravening NEPA's intent to provide a "benchmark" for informed decision making, 46 Fed. Reg. at 18,027, and the Navy's duty to "encourage and facilitate public involvement in decisions." 40 C.F.R. § 1500.2(d)

Response: The Navy used a conservative approach in developing the no action alternative by defining and basing it only on completed existing compliance documents. This represents the lowest level of activity against which to evaluate the two action alternatives analyzed in the EIS/OEIS. Shifting ongoing, but unanalyzed actions from the Alternatives to the No Action benchmark would have reduced the impacts being considered when comparing the baseline No Action to the proposed alternatives. The method of analysis selected by the Navy has ensured both a public review of all proposed actions being considered and provided the decision maker all necessary information regarding impacts to the environment.

Comment 4: Numerous commenters on the DEIS urged the Navy to consider alternatives that would reduce impacts to marine mammals protected under the ESA and MMPA. The commenters asked the Navy to evaluate the creation of protected zones in specific areas identified as biologically important. ... NEPA requires that, in responding to public comments, the Navy must either '[d]evelop and evaluate alternatives not previously given serious consideration by the agency' or '[e]xplain why the comments do not warrant further agency response, citing the sources, authorities, or reasons which support the agency's position.' ... In the FEIS, the Navy flatly refused to 'carry forward for analysis any separate alternatives with pre-determined geographic or temporal restrictions.'

Response: Alternatives considered under the NEPA process may include mitigation measures. To allow for potential mitigation measures to be more fully developed as part of the detailed EIS/OEIS analysis and further refined and informed by applicable permitting processes, the Navy did not identify and carry forward for analysis any separate alternatives with pre-determined geographic or temporal restrictions. Rather, Chapter 5 (Standard Operating Procedures, Mitigation, and Monitoring) of the EIS/OEIS contains a detailed discussion of potential mitigation measures that were evaluated including consideration of geographic areas proposed for additional protection as alternatives. In addition, geographic restrictions were addressed in the public participation section of the Final EIS. See E-71-72, 77-79, and 94-99.

Comment 5: To comply with NEPA, it was incumbent on the Navy to address each of the biologically important areas that public comments proposed for protection and justify its refusal to analyze any alternative that would limit training or testing in that area. Once the public submitted comments suggesting that Navy explore alternatives that would protect these areas, the Navy had a duty to evaluate whether such alternatives were feasible and might be pursued with less environmental harm than the Navy's preferred alternative.

Response: Those geographic areas proposed for additional protection as alternatives were thoroughly considered by the Navy and NMFS as part of the mitigation analysis. Some comments on the Draft EIS/OEIS presented the possibility of the Navy avoiding biologically important areas (BIAs), as well as other areas. Geographic restrictions were evaluated by the Navy and NMFS and considered during the development of mitigation measures. As a first step in evaluating each area, the Navy considered the work of NOAA's CetMap project. NMFS and the Navy have discussed the published and draft BIAs, what Navy activities take place in these areas, and what measures could be implemented to reduce impacts in these areas. The method of evaluating potential mitigations, including geographic or temporal mitigations, is thoroughly described in the EIS/OEIS at Section 5.3.2. In each case, it was concluded that a time/area restriction was either not practical to implement, or would not further reduce adverse impacts on marine mammal species or stocks and is not necessary. As more is learned about marine mammal density, distribution, and habitat use, the NMFS and Navy will continue

to reevaluate appropriate mitigation measures through the Adaptive Management process outlined in the MMPA regulations.

Comment 6: Had the Navy consulted experts like Dr. Baird, who regularly conducts marine mammal research for the Navy, it would have learned that restricting activities in areas like the west side of Hawai'i Island would substantially reduce harm to vulnerable marine mammal populations. Based on research identifying an area to the west of the island of Hawaii as a biologically important area for several species of marine mammals, the commenter recommends establishing that area "as an exclusion zone for mid-frequency sonar use for training purposes."

Response: The Navy considered the best available scientific data, including information from Dr. Baird. In the EIS/OEIS the Navy cites the same research that was noted in the comment as well as additional relevant material. The Navy has also specifically considered additional research dealing with long-term use of areas by small resident populations including those groups demonstrated to have high site-fidelity for periods of at least 15 years. The data from these sources, which are summarized and cited on NOAA's Cetacean and Sound Mapping website (cetsound.noaa.gov) indicate that there are likely several resident populations of odontocetes off the western side of the Big Island of Hawaii (e.g., beaked whales, melon-headed whales, dwarf sperm whales, pilot whales). NMFS has highlighted the potential presence of these resident populations in the interest of helping to support decisions that ensure that these small populations, limited to a small area of preferred habitat, are not exposed to concentrations of activities within their ranges that have the potential to impact a large portion of the stock/species over longer amounts of time that could have detrimental consequences to the stock/species. However, NMFS has reviewed the Navy's exercise reports and considered/discussed their historical level of activity in the area where these resident populations are concentrated, which is very low, and concluded that time/area restrictions would not afford much reduction of impacts in the locations identified and are therefore not necessary at this point. If future monitoring and exercise and testing reports suggest that increased operations are overlapping more significantly with these resident populations, NMFS and the Navy would revisit the consideration of temporal limitations around these populations through the Adaptive Management process.

Comment 7: The Navy made a cursory reference to the FEIS's discussion regarding avoiding locations based on bathymetry and environmental conditions to explain its refusal to consider any alternatives involving limiting training and testing in specific geographic areas. [The Navy] does not provide any explanation why alternatives that limit training and testing in some (or, for that matter, all) of the enumerated biologically important areas would preclude the Navy from accomplishing those goals or in any way result in "[t]raining with reduced realism."

Response: The Navy considered the specific areas referenced in the comment, which were already identified in public comments received on the Draft EIS and addressed in Appendix E. (See E-94.) The Navy used a thorough and scientific process in reaching conclusions in the Final EIS, including careful consideration of the recent scientific studies discussed above as well as considering all public comments provided throughout the HSTT EIS process. The method used by the Navy, in cooperation with NMFS, to carefully consider each of the geographic areas suggested for mitigation is described in the Final EIS at section 5.3.2. In addition, see Section 5.3.4 (Mitigation Measures Considered but Eliminated). The Navy's requirements dictate that much of the Navy's training and testing occur in locations proximate to shore-based facilities and infrastructure, near homeports, where instrumented ranges are located, and where environmental conditions maximize training realism and testing effectiveness. Further, in Section 5.3.4.1.6 (Limiting Access to Training and Testing Locations), the Navy explained why limiting training and testing in certain areas would have a negative impact on the realism of training and testing.

Comment 8: The Navy likewise fails to justify its refusal to consider alternatives involving limitations on training and testing in important habitat for Cuvier's beaked whales around Hawai'i Island. The only explanation given is that "[m]itigation will be implemented within the mitigation zone for all marine mammals regardless of species," and, thus, allegedly, "[m]itigation specific to beaked whales [is] not necessary." The detection probabilities for Cuvier's beaked whales are the lowest of any marine mammal and Navy lookouts will not be able to detect that species during training and testing, most of the time. There is simply no basis for the Navy's assertion that the small, resident population of Cuvier's beaked whales off the west coast of Hawai'i Island would not benefit if harmful training and testing activities were prohibited or limited in its core habitat. To comply with NEPA, the Navy was obliged to evaluate such an alternative to allow the public...to scrutinize its analysis.

Response: As explained above, the Navy did consider mitigation based on biologically important areas and other areas based on comments on the DEIS and in cooperation with NMFS. In Section 3.4.3.1.8 (Implementing Mitigation to Reduce Sound Exposures) and Section 5.3.1.2.4 (Effectiveness Assessment for Lookouts), the Navy fully considered the detection probabilities of Cuvier's beaked whales and used that information to estimate the likelihood that Navy Lookouts would detect, and thus mitigate impacts to, these species. When considering additional mitigation measures in the area referenced in the comment, the Navy and NMFS fully accounted for the likely effectiveness of the Navy's suite of other mitigation measures and determined that additional mitigation specific to this area was not necessary, particularly in light of the fact that the Navy's sonar use in these areas has been, historically, very low.

Comment 9: The Navy's excuses for failing to consider alternatives that would protect other biologically important areas are equally deficient. For example, the mere fact that the laws governing the Papahānaumokuākea Marine National Monument and Channel Islands National

Marine Sanctuary do not prohibit Navy training and testing does not explain the Navy's refusal to consider alternatives that would limit such activities to protect these areas' unique biodiversity. Likewise, the Navy's decision to establish a cautionary area in a portion of the Hawaiian Islands Humpback Whale National Marine Sanctuary does not justify its refusal to consider an alternative that would extend protections to the entirety of the Sanctuary.

Response: As explained above, the Navy in coordination with NMFS extensively considered geographic and temporal mitigation measures including potential restrictions in the areas identified. It was concluded that time/area restrictions, for the Channel Islands National Marine Sanctuary, the Papahānaumokuākea Marine National Monument, or the Hawaiian Islands Humpback Whale National Marine Sanctuary would not further reduce the likelihood or magnitude of adverse impacts on marine mammal species or stocks and is not necessary at this point. As more is learned about marine mammal density, distribution, and habitat use, the NMFS and Navy will continue to reevaluate appropriate measures through the Adaptive Management process outlined in the MMPA regulations.

Further, the Papahānaumokuākea Marine National Monument, which includes waters off the Pacific Missile Range Facility (Kauai), was established after more than 40 years of ongoing Navy training and testing. Both the Channel Islands National Marine Sanctuary and Hawaiian Islands Humpback Whale National Marine Sanctuary also have coexisted with Navy testing and training since their designations. See Chapter 6 of the EIS for additional discussion on these areas.

Comment 10: Overall, the Navy reacted to public comment urging protection for various biologically important areas by creating a straw man that characterized the comments as calling for a blanket ban on all training and testing in any marine mammal habitat and a requirement that the Navy limit its activities to only a severely constrained set of abyssal waters and surveyed offshore habitats. The Navy then declared that "avoiding *all marine species habitats* (e.g., foraging locations, reproductive locations, migration corridors, and locations of modeled takes) for the purpose of mitigation would be impractical with regard to implementation of military readiness activities, would result in unacceptable impact on readiness, and would increase safety risks to personnel" The Navy's conclusion that avoiding *all* marine species habitats and placing most ocean waters off-limits was not a reasonable alternative does not justify its refusal to evaluate in the FEIS alternatives that place restrictions on training and testing in at least *some* biologically important areas.

Response: As described above, the geographic areas proposed for additional protection as alternatives were thoroughly considered by the Navy and NMFS as part of the mitigation analysis. It is incorrect to assume that the Navy's approach was to consider, and then reject, only the alternative of avoiding all areas. Consideration of specific areas was also extensively considered by the Navy and NMFS as part of the MMPA rulemaking process. The Navy determined that it was more appropriate to consider specific geographic areas for potential additional mitigation to allow more specific analysis and consideration of each area rather than

creating an alternative which included a geographic mitigation component. For each proposed area, it was separately concluded that time/area restrictions would either be impractical to implement, or would not further reduce the likelihood or magnitude of adverse impacts on marine mammal species or stocks and is not necessary at this point. As more is learned about marine mammal density, distribution, and habitat use, the NMFS and Navy will continue to reevaluate appropriate measures through the Adaptive Management process outlined in the MMPA regulations.

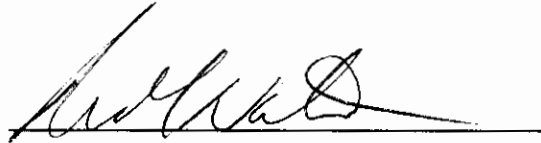
Comment 11: While responding to comments regarding avoiding “hot spots” for marine mammals, the EIS/OEIS largely dismisses setting aside mitigation areas “based on two principles (1) mitigations will be effective at reducing potential impacts on the resource; and (2) from an operational perspective, the mitigations are practicable and executable while not compromising safety and readiness.” The first point, that mitigations will be effective is not supported by the best available scientific evidence, given the long dive times and cryptic behavior of many of the species involved, particularly beaked whales, dwarf sperm whales, and pygmy killer whales, and the fact that Navy operations may occur at night or in rough conditions where the species are even less likely to be detected visually, even when they are at surface. The EIS/OEIS inaccurately assumes that, if training and testing in this area is limited, the small resident populations of marine mammals found there will not suffer harm from infrequent exposure to MFA sonar. In fact the best available science indicates the opposite is true. Marine Mammal individuals and populations that are only rarely exposed to MFA sonar exposure are likely more vulnerable than populations that regularly are exposed to MFA sonar.

Response: As stated in Comment 6, the Navy fully considered the best available scientific data, including information regarding the specific species identified in the comment. All of Navy training and testing activities are transient and occur over large areas so even in heavily used areas exposure to most individual animals would be infrequent.

CONCLUSION: Based on the environmental impacts and strategic and operational readiness consequences analyzed in the Final EIS/OEIS, comments from regulatory agencies as well as those received from members of the public, mitigation, and other factors discussed above, the Navy selects Alternative 2, the Preferred Alternative, to implement the Proposed Action. Alternative 2, the Navy's Preferred Alternative, is the alternative that will fully meet Navy and DoD current and future training and testing requirements in the HSTT Study Area. Under Alternative 2, the Navy analyzed areas where training and testing will continue as in the past, but were not considered in previous environmental analysis; the establishment of new range capabilities, as well as modification of existing capabilities; adjustments to type and tempo of training and testing and the establishment of additional locations to conduct activities between the range complexes. With implementation of the mitigation measures identified in the Final EIS/OEIS and associated regulatory documents developed in consultations with NMFS and USFWS, and adherence to standard operating procedures, management plans, and monitoring requirements described herein, environmental impacts associated with implementing Alternative 2 will be minimized. In addition, the Navy assessed the effects of Alternative 2 in accordance with EO 12114 and concluded that there would be no significant harm to the environment of places outside the U.S., its territories, and possessions.

12/20/13

Date



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