DEPARTMENT OF DEFENSE

Department of the Navy

Record of Decision for the Mariana Islands Training and Testing Final Environmental Impact Statement/Overseas Environmental Impact Statement (EIS/OEIS)

AGENCY: Department of the Navy, DoD

ACTION: Record of Decision

SUMMARY: The U.S. Department of the Navy (Navy), after carefully weighing the strategic and operational readiness and environmental consequences of the proposed action, announces its decision to implement Alternative 1, the Navy's preferred alternative, as described in the Mariana Islands Training and Testing (MITT) Final EIS/OEIS. Under Alternative 1, the Navy will be able to meet current and future Navy and DoD training and testing requirements. Implementation of this alternative will allow the Navy to continue training and testing activities, to include the use of active sonar and explosives within the MITT Study Area. The MITT study area is composed of established sea-based (at-sea) ranges and land-based training areas on Guam and the Commonwealth of the Mariana Islands (CNMI), and operating areas and special use airspace in the regions of the Mariana Islands that are part of the Mariana Islands Range Complex (MIRC). The Study Area also includes a transit corridor that connects the MIRC and the Hawaiian Islands Range Complex (HRC) and pierside sonar maintenance and testing alongside Navy piers located in Inner Apra Harbor.

The MITT Final EIS/OEIS reassesses the environmental analyses of Navy at-sea training and testing activities described and analyzed in the 2010 MIRC EIS/OEIS and expands those analyses to include the in-water areas within the MITT study area where Navy training and testing activities are known to occur. The MITT Final EIS/OEIS also reassesses the environmental analyses of continued military training activities that occur on Guam, Rota, Tinian, Saipan, and Farallon de Medina (FDM).

The MITT Final EIS/OEIS accounts for other activities and sound sources not addressed in the previous analyses. The MITT Final EIS/OEIS analyzes the potential environmental impacts of training and testing activities in additional areas not analyzed in previous environmental studies and documents where training and testing historically occur, including the Navy port at Apra Harbor and the transit corridor between the MIRC and the HRC. The at-sea environmental impact analyses for military activities in the previous document 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 2020, and the establishment of danger zones pursuant to 33 CFR 334. 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 and terrestrial environment.

The MITT Final EIS/OEIS analyses also supports the National Marine Fisheries Service (NMFS) decision to issue a Marine Mammal Protection Act (MMPA) incidental take authorization (issued because of the potential effects of some training and testing activities on species protected by federal law). The current MIRC incidental take authorization, completed in May 2010, will expire in August 2015. The MITT Final EIS/OEIS updates the analyses for the MIRC and surrounding waters to assist NMFS' decision on issuing a

new incidental take authorization under MMPA and incidental takes of threatened and endangered marine species under the Endangered Species Act (ESA).

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A. SUPPLEMENTARY INFORMATION: Pursuant to §102(2)(c) of the National Environmental Policy Act (NEPA) of 1969, §§4321 *et seq.* of Title 42 USC, Council on Environmental Quality regulations (parts 1500–1508 of Title 40 CFR), Department of Navy regulations (part 775 of Title 32 CFR), and Executive Order (E.O.) 12114, the Navy announces its decision to implement the Navy's preferred alternative, Alternative 1, as described in the MITT Final EIS/OEIS. The Navy identified its need to support and conduct current, emerging, and future training and testing activities in the MITT Study Area, which is composed of existing training areas on Guam, Rota, Tinian, Saipan, and FDM, air and sea space (operating areas [OPAREAS] and surrounding seas) around the Commonwealth of the Northern Mariana Islands (CNMI) and Guam, that are part of the Mariana Islands Range Complex (MIRC). The Study Area also includes the air and sea space along a transit corridor that connects the MIRC and the HRC, as well as pierside sonar maintenance and testing alongside Navy piers located in Inner Apra Harbor. A detailed description of Alternative 1 is provided in Chapter 2 of the MITT Final EIS/OEIS. This decision will enable the DoD, through its military departments (Army, Navy, Marine Corps, and Air Force) and the Coast Guard to meet changing military readiness requirements to achieve the levels of operational readiness required under Title 10 USC §5062.

B. BACKGROUND AND ISSUES: The Navy and the other Services have historically used the areas on and around the Mariana Islands to conduct training and testing. The types of training and testing activities, the level of activity, and the specific locations where activities occur have evolved over the years to meet changing threats and to incorporate improved technology. Activities will continue to evolve to meet the military's mission requirements; however, the general types of activities and the geographic areas where the military has trained and tested for decades have not appreciably changed, nor will they change as a result of this proposed action. The geographic regions where military training and testing activities occur have been designated by the Navy as "range complexes." A range complex (e.g., the MIRC) 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 personnel, including ship, submarine, and aircraft crews, can train in realistic conditions and test platforms (e.g., vessels) and systems (e.g., sonar systems) as they will be used by the military to conduct operations.

Military readiness training must be as realistic as possible to provide the experiences so critical to success and survival. While simulators and synthetic training are important elements of training that provide early skill repetition and enhance teamwork, there is no substitute for live training in a realistic environment. 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 Navy also requires access to a realistic environment to conduct testing of ships, submarines, aircraft, and weapon systems. New or modified platforms and systems must be evaluated in the environment in

which they will be used to ensure performance, reliability, and endurance criteria are met before the platform or system is delivered to the military for operational use. The military conducts tests on fleet training range complexes and uses fleet assets to support the testing. As there are no dedicated test ranges located in the MITT Study Area, the MIRC and other areas used for military activities in the Study Area must be flexible to meet diverse testing requirements.

Due to the strategic location of Guam and the CNMI, and the DoD ongoing reassessment of the Western Pacific military alignment, there has been an increase in the importance of the MIRC as a training and testing venue and its capabilities to support required military training. The MITT Study Area is characterized by a unique combination of attributes that make it a strategically important range complex for the services. These attributes include the following:

- Location within and adjacent to a U.S. territory.
- Presence of existing ranges and training areas on the islands of Guam, Rota, Saipan, Tinian, and FDM.
- Expansive airspace, surface sea space, and underwater sea space.
- Authorized use of multiple types of explosive and non-explosive ordnance on FDM.
- Support for all Navy warfare areas and numerous other military service roles, missions, and tactical tasks.
- Support for homeported and homebased service units based at military installations on Guam and the CNMI.
- Training support for deployed forces.
- Western Pacific Theater training venue for special warfare forces.
- Ability to conduct joint and combined force exercises.
- Rehearsal area for Western Pacific contingencies.

Use of OPAREAs and infrastructure in the MIRC has developed over time as training and testing requirements in support of modern warfare have evolved. The military has not proposed, and is not proposing, to create new range complexes or OPAREAs under this proposed action in the MITT Study Area. Furthermore, the activities analyzed within the MITT Final EIS/OEIS are the same or are similar to those that historically occur within the at-sea portions of the MIRC.

Purpose and Need

The purpose of the proposed action is to conduct training and testing activities to ensure that the Navy and other Services meet their mission under Title 10 USC §5062, which is to maintain, train, and equip combat-ready military 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 MITT Study Area.

Public Involvement

The Navy published a Notice of Intent for the MITT EIS/OEIS in the Federal Register on September 8, 2011 (76 FR 55653). This notice included a project description and scoping meeting dates and locations. In addition, a Notice of Intent/Notice of Scoping Meetings was distributed on September 9, 2011, to federal, state, and local elected officials and government agencies. The scoping period lasted 60 days, concluding on November 7, 2011. During the development of the Draft EIS/OEIS, the Navy initiated an

exchange of information through early and open communications with interested stakeholders. This mutual exchange began in 2011 with five scoping meetings, which were held on September 22 and 23, 2011 (Guam), September 26, 2011 (Saipan, CNMI), September 27, 2011 (Tinian, CNMI), and September 29, 2011 (Rota, CNMI). 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 34 individuals and groups. Because many of the comments addressed more than one issue, 135 total comments resulted. Scoping comments were received as electronic mail, letters submitted through mail, as written or oral comments received at the public meetings, and via the project website.

The Draft EIS/OEIS was completed in September 2013 and released for public review and comment. The 90-day public comment period on the Draft EIS/OEIS began on September 13, 2013 with the issuance of the Notice of Availability (NOA) (78 FR 56695) and a Notice of Public Meetings (77 FR 27743). The public comment period concluded on December 12, 2013. The comment period allowed a variety of opportunities for the public to comment on the Draft EIS/OEIS. Copies of the Draft EIS/OEIS were provided to five public libraries on Guam and the CNMI (Robert F. Kennedy Memorial Library, Government Documents Room at the University of Guam; Nieves M. Flores Memorial Public Library on Guam; Joeten-Kiyu Public Library on Saipan; Tinian Public Library on Tinian; and the Rota Public Library on Rota). In addition, the document was available on the project website (http://mitt-eis.com/) for download, review and commenting. Public meetings were held in November 2013 from 5 to 8 p.m. at the following locations: Guam (12 November); Saipan, CNMI (13 November); Tinian, CNMI (14 November); and Rota, CNMI (15 November). Comments were received from 8 federal agencies, 13 state/local/regional agencies, 3 non-governmental organizations, and approximately 230 private individuals (approximation due to duplicate comments received).

The NOA for the MITT Final EIS/OEIS was published in the Federal Register on May 22, 2015 (80 FR 29701) and in the *Marianas Variety*, *Pacific Daily News*, and *Saipan Tribune* 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 and elected or public officials in the governments of Guam and the CNMI. The MITT Final EIS/OEIS also was made available on the project website and at the same five public libraries on Guam and the CNMI where the Draft EIS/OEIS was made available.

Alternatives Considered

NEPA requires the identification, consideration, and analysis of alternatives that 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 a No Action Alternative) to the proposed action (40 C.F.R. §1502.14). The range of alternatives 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.

The Navy developed the alternatives considered in the MITT 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. Input was also considered from elected officials, local, state, and federal agencies, and the public. Alternatives considered but eliminated were:

- Alternative Training and Testing Locations.
- Reduced Training and Testing.
- Mitigations Including Temporal or Geographic Constraints within the MITT Study Area.
- Simulated Training and Testing.

After a thorough consideration of each of these alternatives, the Navy determined that they did not meet the purpose of and need for the proposed action.

Three alternatives are analyzed in the MITT EIS/OEIS.

- No Action Alternative: Baseline training and testing activities, as well as airspace and sea space reconfigurations, as defined by existing environmental planning documents including the 2010 MIRC EIS/OEIS, the 2011 Office of Naval Research *Acoustic Impact Analysis for the North Pacific Acoustic Laboratory Philippine Sea 2010 through 2011 Experiment,* and the 2013 MIRC Airspace EA/OEA. The baseline training and testing activities include those events that have historically occurred in the MITT Study Area and have been subject to previous analyses pursuant to NEPA/EO 12114.

- Alternative 1 (Preferred Alternative): Overall expansion of the MITT Study Area and adjustments to range capabilities, location, type, and level of activities from the baseline as necessary to support current and planned training and testing requirements. This Alternative considers:

    - Analysis of areas where training and testing would continue as in the past, but were not considered in previous environmental analyses. This Alternative does not expand the area where the Navy trains and tests, but simply expands the area 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.
    - Establishment of Danger Zones pursuant to 33 CFR 334 for existing shore-based small arms and explosive ordnance disposal ranges and a nearshore small arms training area.
    - An increase in net explosive weight (NEW) for underwater detonations from 10 lb. to 20 lb. at the Agat Bay Mine Neutralization Site.

    As a result of Endangered Species Act (ESA) consultations, the landing of mechanized amphibious vehicles (e.g., Landing Craft Air Cushion and tracked Amphibious Assault Vehicles) at Unai Chulu, Unai Babui, and Unai Dankulo on Tinian will be deferred in order to avoid and minimize effects to sea turtles. These activities may be reconsidered in the future but would require appropriate environmental analysis including reinitiation and successful completion of ESA consultations.

- Alternative 2: Consists of Alternative 1 plus adjustments to the type and levels of training and testing.

While the No Action Alternative is the environmentally preferable alternative as it results in the fewest impacts, it fails to meet the Purpose and Need of the proposed action because it does not support future military readiness requirements. Alternatives 1 and 2 meet the Purpose of and Need for the proposed action. Alternative 1 has a slightly smaller environmental impact than Alternative 2, due to fewer total proposed activities than Alternative 2; however, the difference in the overall potential for environmental impacts is insignificant. The Navy identified Alternative 1 as the preferred alternative in the MITT Final EIS/OEIS because it meets the Purpose of and Need for the proposed action and provided sufficient flexibility to allow the military to meet current and planned training and testing requirements without appreciably increasing potential environmental impacts. The Navy is choosing to implement Alternative 1.

Summary of Environmental Impacts

Environmental impacts that could result from implementation of Alternative 1 were analyzed in the MITT Final EIS/OEIS for the following resources: sediments and water quality, air quality, marine habitats, marine mammals, sea turtles, marine birds, marine vegetation, marine invertebrates, fish, terrestrial species and habitats, cultural resources, socioeconomic resources, and public health and safety. Each training and testing activity was examined to determine which environmental "stressors" could adversely impact a resource. The term "stressor" is broadly used in this analysis to refer to an agent, condition, or other stimulus that causes stress to an organism or alters physical, socioeconomic, or cultural resources.

The use of acoustic sources and explosives, and their potential impact on marine species, was a major focus of the analyses. The Navy performed a quantitative analysis to estimate the number of marine mammals and sea turtles that could be affected by acoustic sources or explosives used during military training and testing activities. To conduct this analysis, the Navy used the best available marine mammal and sea turtle density data, information describing military activities utilizing sonar or explosives, and data on the physical environment in the MITT Study Area. The quantitative estimates are calculated using the latest version of the Navy Acoustic Effects Model and a post-modeling analysis process. This new approach is built upon the basic model previously used by the Navy and reflects a more complex modeling approach as described in Section 3.4 (Marine Mammals) of the MITT Final EIS/OEIS and in the September 2013 Technical Report, *Determination of Acoustic Effects on Marine Mammals and Sea Turtles for the Mariana Islands Training and Testing Environmental Impact Statement/Overseas Environmental Impact Statement*.

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. By contrast, 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 these 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., attenuating or stopping sonar transmissions or detonations when a marine mammal is within a certain distance of a ship, sound source, or intended impact location). 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 (e.g., without accounting for likely animal avoidance). 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 analysis under Alternative 1 (Preferred Alternative) found that there would be negligible impacts on the following resource areas: sediments and water quality, air quality, marine birds, marine vegetation, cultural resources, and public health and safety. The discussion below summarizes the potential environmental impacts for other resource areas associated with implementing Alternative 1. Mitigation measures, where appropriate and necessary, are discussed later in this ROD.

- Marine Habitats: The Navy avoids conducting certain activities (e.g., precision anchoring) on shallow coral reefs and hard-bottom habitats to the greatest extent practicable. The greatest potential impact on marine habitats would be from underwater explosives near shallow coral reefs or hard-bottom habitats. Most detonations will occur at or near the surface and only bottom-laid explosives could affect substrates and seafloor marine habitats. Those underwater explosive activities that do occur on the seafloor would be located primarily in previously disturbed areas. Changes to marine substrates could include localized disturbance of the seafloor and cratering of soft-bottom sediments. Impacts on soft-bottom habitats would be short-term; however, impacts on hard-bottom habitats would be long-term. The proposed training and testing activities would not impact the ability of marine substrates to serve their function as habitat.

- Marine Mammals: The use of sonar and other active acoustic sources, and underwater explosives, may result in harassment of certain marine mammal species under the MMPA. The Navy does not predict any mortality to marine mammals from the use of sonar, other active acoustic sources, or underwater explosives.

  Weapons firing, launch, and impact noise; vessel noise; aircraft noise; electromagnetic devices; in-water devices; military expended materials; seafloor devices; fiber optic cables and guidance wires; and decelerators/parachutes may result in minor and temporary behavioral reactions by marine mammals; however, these reactions would not rise to the level of a "take" by harassment under the MMPA. Any 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.

ESA-listed marine mammals that may be affected by the proposed training and testing activities include the humpback whale (*Megaptera novaeangliae*), sei whale (*Balaenoptera borealis*), fin whale (*Balaenoptera physalus*), blue whale (*Balaenoptera musculus*), and sperm whale (*Physeter macrocephalus*). There is no marine mammal critical habitat in the MITT Study Area. Pursuant to the ESA, the use of sonar and other active acoustic sources may affect, and are likely to adversely affect ESA-listed marine mammals. Underwater explosives; vessel strike, weapons firing, launch, and impact noise; vessel noise; aircraft noise; electromagnetic devices; in-water devices; military expended materials; fiber optic cables and guidance wires; and decelerators/parachutes may affect, but are not likely to adversely affect ESA-listed marine mammals. The use of swimmer defense airguns and seafloor devices would have no effect on any ESA-listed marine mammals.

To account for the accidental nature of vessel strikes on large whales in general, and the potential risk from any vessel movement within the MITT Study Area, the Navy conservatively requested authorization for large whale mortalities (no more than 5 mortalities over 5 years) that might potentially result from vessel strike during MITT training and testing activities over the 5-year period of NMFS' final authorization. However, after further consideration of the Navy's ship strike analysis, the unlikelihood of a ship strike to occur and the fact that there has never been a marine mammal ship strike in the MITT Study Area, and following consultation with the Navy, NMFS does not anticipate that a ship strike is reasonably likely to occur and therefore has not authorized takes (by injury or mortality) from ship strikes during the 5-year period of the MITT regulations. The Navy has proposed measures (see Mitigation) to prevent vessel strikes during training and testing activities in the MITT Study Area.

Similarly, the Navy conservatively requested authorization for beaked whale mortality (no more than 10 mortalities over 5 years) that might potentially result from exposure to active sonar, based on the few, rare instances where sonar has been associated with strandings in other areas. However, after decades of the Navy conducting similar activities in the MITT Study Area without incident, neither the Navy nor NMFS expect stranding, injury, or mortality of beaked whales as a result of Navy training and testing activities. Therefore, following consultation with the Navy, NMFS assessed that mortality as result of exposure to active sonar is not reasonably likely to occur and, therefore, has not authorized any mortality takes of beaked whales.

- Sea Turtles: Sea turtles that may be affected by the proposed training and testing activities include green (Chelonia mydas), hawksbill (Eretmochelys imbricata), loggerhead (Caretta caretta), leatherback (Dermochelys coriacea), and olive ridley sea turtle (Lepidochelys olivacea). These species are all ESA-listed. 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. However, based on the results predicted by the Navy Acoustic Effects Model, the use of sonar and other active acoustic sources may result in exposure of sea turtles to behavioral effects or a temporary threshold, but not permanent, shift in hearing sensitivity. These predictions were conservatively based on criteria developed for mid-frequency marine mammals and any exposures are expected to be substantially less those predicted by the Navy's model. 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 other military sources, such as weapons firing, launch, and impact noise; vessel noise; and aircraft noise, which may result in minor and temporary behavioral reactions. Most sound sources are used well

offshore, beyond nesting beaches and coastal waters where sea turtles are more commonly found in the MITT Study Area, reducing the potential exposure of sea turtles to noise effects.

Vessel strike could result in injury or mortality of sea turtles. Although a few individual sea turtles may experience long-term impacts such as potential injury or mortality, population level impacts are not expected.

Sea turtles may also be exposed to electromagnetic devices, in-water devices, military expended materials, and seafloor devices, which may result in minor and temporary behavioral reactions. Impacts on sea turtles 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, measures designed to reduce the potential impacts will be implemented, such as establishment of a mitigation zone for explosives.

There is no critical habitat for these ESA-listed sea turtles in the MITT Study Area. The use of sonar and other active acoustic sources may affect, and is likely to adversely affect the ESA-listed green, hawksbill, loggerhead, and leatherback sea turtles. The use of acoustic stressors may affect, but is not likely to adversely affect the ESA-listed olive ridley sea turtle. The use of explosives may affect, and is likely to adversely affect green and hawksbill sea turtles, but is not likely to adversely affect loggerhead, leatherback, and olive ridley sea turtles. Weapons firing, launch, and impact noise; vessel noise; and aircraft noise may affect, but are not likely to adversely affect sea turtles. Physical disturbance and strike stressors from an object moving through the water (except for vessel strike), entanglement and ingestion stressors, and the use of electromagnetic devices may effect, but are not likely to adversely affect sea turtles. There would be no effect on sea turtles from swimmer defense airguns or secondary stressors (sediment and water quality).

In consultation with NMFS, one annual mortality each for green and hawksbill sea turtles from explosive sources and one annual green sea turtle mortality resulting from a vessel strike was authorized.

- Marine Invertebrates: There are currently no acoustic or explosive thresholds and criteria available to complete a quantitative analysis of effects to marine invertebrates ; however, a qualitative analysis was done to evaluate the potential impacts. Sonar and other active sources; swimmer defense airguns; weapons firing, launch, and impact 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). Physical disturbance from underwater explosions, vessels and in-water devices, military expended materials, and seafloor devices may result in behavioral disturbances, physiological impacts, or mortality to some marine invertebrates. Therefore, impacts on invertebrates are not expected to result in detectable changes to growth, survival, or propagation, and are not expected to result in population-level impacts.

Only the use of military expended materials has the potential to result in physical impacts on 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 reduce potential impacts. Electromagnetic

devices may cause temporary disruptions to navigation and orientation for susceptible invertebrates.

ESA-listed coral species analyzed in the MITT EIS/OEIS that may be affected by the proposed training and testing activities include the staghorn corals, *Acropora globiceps, Acropora retusa,* and *Acropora tenella;* the leaf coral, *Pavona diffluens*; and the bird nest coral, *Seriatopora aculeata*. The Navy requested consultation for these five species; however, NMFS determined that *Acropora tenella* and *Pavona diffluens* do not occur within the MITT Study Area. In addition, *Acropora retusa and Seriatopora aculeata* are not likely to occur in areas that would be affected by training and testing activities. Pursuant to the ESA, the use of sonar and other active acoustic sources may affect, but is not likely to adversely affect coral species listed under the ESA. The use of explosives may affect, and is likely to adversely affect, one ESA-listed coral species (*Acropora* globiceps), however, these impacts are not expected to decrease the overall fitness or result in long-term population-level impacts of any given population. Physical disturbance and strike from the use of vessels and in-water devices may affect, but is not likely to adversely affect ESA-listed corals. The use of military expended materials may affect, and is likely to adversely affect one ESA-listed coral species (*Acropora globiceps*) found in the MITT Study Area, however, these impacts are not expected to decrease the overall fitness or result in long-term population-level impacts of any given population. The use of electromagnetic devices and seafloor devices; and entanglement, ingestion, and secondary stressors would have no effect on ESA-listed coral species.

In consultation with NMFS and pursuant to the ESA, mortality and injury of reef area around FDM was authorized up to 6.78 square meters and 20.24 square meters, respectively, from explosive bombs, annually and continuing into the reasonably foreseeable future.

Pursuant to the Essential Fish Habitat (EFH) requirements of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations, the use of sonar and other acoustic sources; vessel noise; swimmer defense airguns; weapons firing noise; vessel movement; in-water devices; and metal, chemical, or other material byproducts will have no adverse effect on sedentary invertebrate beds or reefs that constitute EFH or Habitat Areas of Particular Concern. The use of explosives, electromagnetic sources, military expended materials, seafloor devices, and explosives and explosive byproducts may have an adverse effect on EFH by reducing the quality and quantity of sedentary invertebrate beds or reefs that constitute EFH or Habitat Areas of Particular Concern.

- Fish: There are currently no acoustic or explosive thresholds and criteria available to complete a quantitative analysis of effects to fish in the MITT Study Area; however, a qualitative analysis was done to evaluate the potential impacts. Sonar and other active sources; weapons firing, launch, and impact 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 and swimmer defense 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) that are known to be sensitive to electromagnetic energy. Physical disturbance and strike from 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 on fish species are not expected to result in detectable changes to growth, survival, or propagation, and are not expected to result in population-level impacts.

The single ESA-listed fish species that may be affected by the proposed training and testing activities is the Indo-West Pacific distinct population segment of the scalloped hammerhead shark (*Sphyrna lewini*). There is no critical habitat for the scalloped hammerhead shark in the MITT Study Area. Pursuant to the ESA, the use of sonar and other acoustic sources, non-impulse sound sources other than explosives, electromagnetic devices, military expended materials, fiber optic cables, guidance wires, and parachutes may affect, but is not likely to adversely affect the ESA-listed scalloped hammerhead shark. Additionally, secondary stressors may affect, but are not likely to adversely affect the ESA-listed scalloped hammerhead shark. The use of explosive and other impulse sources may affect, and is likely to adversely affect the ESA-listed scalloped hammerhead sharks. The use of vessels, in-water devices, and seafloor devices would have no effect on the ESA-listed scalloped hammerhead sharks.

Pursuant to the EFH requirements of the Magnuson-Stevens Fishery Conservation and Management Act and implementing regulations, the use of sonar and other active acoustic sources, explosives, and electromagnetic devices may have a minimal and temporary adverse effect on the fishes that occupy water column EFH.

- Terrestrial Species and Habitats: Most of the impacts on terrestrial species and habitats will occur on FDM. This island supports seabird rookeries, as well as small numbers of the ESA-listed Micronesian megapode (*Megapodius laperouse laperouse*) and the ESA-listed Mariana fruit bat (*Pteropus mariannus mariannus*). Acoustic and physical stressors may affect, and likely adversely affect these ESA-listed species on FDM. Acoustic and physical stressors may affect, but not likely adversely affect other ESA-listed species within terrestrial habitats on Guam, Rota, Tinian, and Saipan. These ESA-listed species are the Mariana fruit bat, Micronesian megapode, Mariana crow (*Corvus kubaryi*), Mariana common moorhen (*Gallinula chloropus guami*), Mariana swiftlet (*Aerodramus bartschi*), and nightingale reed-warbler (*Acrocephalus luscinia*). The Rota bridled white-eye (*Zosterops rotensis*), *Serianthes nelsonii, Nesogenes rotensis,* and *Osmoxylon mariannense* will not be affected by the activities described in the MITT EIS/OEIS. Although potential impacts on certain species from the proposed action could include injury or mortality, impacts are not expected to decrease the overall fitness or result in long-term population-level impacts of any given population.

- Socioeconomic Impacts: Potential for reduced accessibility may result in impacts on commercial and recreational fishing, subsistence use, or tourism when areas of co-use are temporarily inaccessible to ensure public safety during military training and testing activities. No impacts on commercial transportation and shipping are anticipated. The military will continue to collaborate with local communities to enhance existing means of communication with the public that are intended to reduce the potential effects of limiting accessibility to areas designated for use by the military. Impacts on socioeconomic resources from physical disturbance and strike, airborne acoustics, and secondary stressors are not anticipated.

Recent Scientific Information

The scientific community continues to conduct and publish new research to improve understanding of the marine environment. The Navy is a strong advocate for marine research and keeps abreast of new information that may inform this analysis or affect these conclusions. Since the publication of the Draft EIS/OEIS, the Navy has reviewed numerous publications relevant to the environmental resources analyzed in the Final EIS/OEIS and has identified over 50 additional references, many of them published within the last year, for inclusion in the Final EIS/OEIS. These additional references did not result in changes to the impact analyses or conclusions presented in the Final EIS/OEIS.

The majority of these references are peer-reviewed journal articles and present the results of ongoing and new research on the topics of effects of vessel noise and sonar on marine mammals, distribution and density of marine mammals, hearing sensitivity in fishes and sea turtles, behavioral analysis of sea turtles, hearing thresholds and the effects of sonar on fish species, as well as other topics. The Navy will continue to monitor and review the results of new research and evaluate how the results apply to the Navy's assessment of marine resources.

The Navy has been collaborating with NOAA (National Oceanic and Atmospheric Administration) on the development of acoustic criteria and is aware that previously, in December 2013, NOAA released for public comment a "Draft Guidance for Assessing the Effects of Anthropogenic Sound on Marine Mammals: Acoustic Threshold Levels for Onset of Permanent and Temporary Threshold Shifts" (NOAA 2013, 78 FR 78822). The Draft Guidance was generally consistent with the Navy's criteria and thresholds used in the MITT EIS/OEIS and detailed within Finneran and Jenkins (2012).

Prior to the finalization of this Draft Guidance by NOAA, the Navy suggested revisions to the auditory weighting functions and PTS/TTS thresholds based on newly available data. In January 2015, the Navy submitted a draft proposal (Finneran 2015) to NOAA staff for their consideration.

Finneran (2015) proposed new weighting functions and thresholds for predicting PTS/TTS in marine mammals. The methodologies presented within Finneran (2015) build upon the methodologies and thresholds used within the MITT EIS/OEIS and incorporate relevant auditory research made available since 2012. While Finneran and Jenkins (2012) presented a conservative approach to development of auditory weighting functions where data was limited, Finneran (2015) synthesizes a wide range of auditory data, including newly available studies, to predict refined auditory weighting functions and corresponding TTS thresholds across the complete hearing ranges of functional hearing groups. Finneran (2015) also developed updated threshold shift growth functions to facilitate the development of new PTS thresholds.

NOAA determined that it would be appropriate to incorporate this new information into its Draft Guidance prior to its finalization. As a result, the proposal (Finneran 2015) was submitted for peer review to external subject matter experts, in accordance with the process previously conducted for NOAA's Draft Guidance. Peer review comments were received by NOAA in April 2015. NOAA is in the process of incorporating this information into a revised Draft Guidance which will be published in the Federal Register for public review and comment in the near future. The auditory weighting functions and PTS/TTS thresholds will not be adopted by NOAA or applied to applicants until the public review process is completed and the Final Guidance is issued. At the time of publication of this ROD, all of these steps have not been completed; therefore, the Navy has not adopted these proposed thresholds in this

document. However, the underlying science contained within Finneran 2015 has been addressed qualitatively within the MITT Final EIS/OEIS (Section 3.4).

If and when adopted, the proposed changes in criteria and thresholds will not result in any significant change in predicted PTS/TTS effects. In fact, they will result in some reduction of auditory impacts to marine mammals present in the MITT Study Area. Consequently, it is the Navy's assessment that the new criteria and thresholds, if adopted, would not be significant new information triggering any need to further supplement the EIS pursuant to 40 CFR 1502.9(c)(ii).

Agency Consultation and Coordination

NMFS served as a cooperating agency throughout the EIS/OEIS process. NMFS is a cooperating agency pursuant to 40 CFR 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 the U.S. Fish and Wildlife Service (USFWS), in conjunction with actions addressed in the MITT 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 a 5-year incidental take authorization on April 17, 2013 to NMFS Office of Protected Resources. The Navy determined three stressors could potentially result in the incidental taking of marine mammals from training and testing activities within the MITT Study Area: (1) non-impulse acoustic stressors (sonar and other active acoustic sources); (2) impulse acoustic stressors (explosives and swimmer defense airguns); and (3) vessel strikes, as described under the Preferred Alternative (Alternative 1). The effective date of NMFS' Final Rule will be August 3, 2015. The Final Rule concludes that the Navy's training and testing activities will have a negligible impact on the marine mammal species and stocks present in the MITT Study Area. NMFS is also issuing an LOA for Navy training and testing activities on August 3, 2015. The LOA authorizes the taking of marine mammals incidental to Navy training and testing activities conducted in the MITT Study Area pursuant to Section 101 (a)(5)(A) of the MMPA. The LOA specifies 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 LOA was coordinated by NMFS with the Incidental Take Statement the Navy received for the incidental take of threatened and endangered marine mammals pursuant to Section 7 of the ESA. The Final Rule will be published in the Federal Register and both the Final Rule and LOA will be posted to NMFS' web site.

Endangered Species Act: The Navy requested formal consultation with NMFS (Headquarters, Office of Protected Resources) on ESA-listed species under their purview in a letter on March 6, 2014. Species to be addressed include the humpback whale, sei whale, fin whale, blue whale, sperm whale, green sea turtle, hawksbill sea turtle, olive ridley sea turtle, loggerhead sea turtle, leatherback sea turtle, scalloped hammerhead shark, and five coral species (*Acropora globiceps*, *Acropora retusa*, *Acropora tenella*, *Pavona Diffluens*, and *Seriatopora aculeate*).

NMFS issued their Biological Opinion on 12 June 2015, and concluded that any adverse effects on ESA-listed species as described above are not likely to jeopardize the continued existence of the threatened or endangered species included in this consultation. In addition to the Biological Opinion,

Statement was coordinated by NMFS with the issuance of a LOA the Navy received for the incidental take of marine mammals pursuant to Section 101(a) (5) of the MMPA. The Incidental Take Statement exempts Navy actions as described in the MITT EIS/OEIS from the prohibitions set forth in Section 9 of the ESA.

On April 3, 2014, the Navy requested Section 7 ESA formal consultation with the USFWS for species under their purview (generally terrestrial species) with the submission of a Biological Assessment for the Mariana fruit bat, Mariana crow, Mariana common moorhen, Mariana swiftlet, Micronesian megapode, Nightingale reed-warbler, and nesting sea turtles (green sea turtle and hawksbill sea turtle). On August 7, 2014, the USFWS advised the Navy that formal consultation could begin and that the information included in the Navy's Section 7 ESA consultation package was complete. The USFWS issued their Biological Opinion on February 20, 2015. This Biological Opinion concluded that the proposed action on FDM may affect, and likely adversely affect, the Mariana fruit bat and Micronesian megapode. The USFWS determined in the Incidental Take Statement that the level of take would not jeopardize the continued existence of the Micronesian megapode or the Mariana fruit bat. The USFWS Biological Opinion also determined that the proposed training activities on land may affect, but not likely adversely affect, the other ESA-listed species within the MITT Study Area.

Magnuson-Stevens Fishery Conservation and Management Act (MSA): The Navy determined that the proposed action could result in adverse effects on EFH and initiated consultation with NMFS by submitting an Essential Fish Habitat Assessment on May 21, 2014 to the Habitat Conservation Division, NMFS, Pacific Islands Regional Office. On July 21, 2014, NMFS Pacific Island Regional Office responded with a letter stating that the proposed activities would affect EFH and recommended conservation measures to avoid and minimize impacts on EFH. On August 19, 2014, the Navy responded to the EFH conservation recommendations and provided additional information to address NMFS concerns. In accordance with the MSA regulations, the Navy's response letter to NMFS (Habitat Conservation Division, Pacific Islands Regional Office) on August 19, 2014 completed the EFH consultations.

Coastal Zone Management Act: On June 4, 2014, the Navy submitted a Consistency Determination for activities within the Guam portion of the MITT Study Area to the Guam Bureau of Statistics and Plans (BSP). On August 29, 2014, Guam BSP concurred that the proposed training and testing activities as described in the MITT Consistency Determination are consistent to the maximum extent practicable with the enforceable policies of the Guam Coastal Management Program.

On July 2, 2014, the Navy submitted a Consistency Determination for activities within the CNMI portion of the MITT Study Area to the CNMI Division of Coastal Resources Management (DCRM). On July 27, 2014, the CNMI DCRM requested that the Navy submit an updated MITT Consistency Determination that addressed applicable sections of the CNMI regulations. Following discussions and coordination with the CNMI DCRM, an updated MITT Consistency Determination was submitted on September 9, 2014. On October 7, 2014, the CNMI DCRM found that the proposed activities within the CNMI coastal zone were consistent with five enforceable policies, not consistent with six enforceable policies, and that more information was required to assess the consistency of MITT activities with eleven enforceable policies of the CNMI Coastal Management Program. Additional discussions and coordination with the CNMI DCRM were conducted to clarify the issues and concerns raised in their letter. On December 17, 2014, the Navy provided written clarifications and additional information to the CNMI DCRM. On January 20, 2015, the CNMI DCRM issued a conditional concurrence to the Navy's MITT Consistency Determination. On March 4, 2015, the Navy further clarified to the CNMI DCRM the issues that triggered their conditional

concurrence. On March 12, 2015, the Navy provided the CNMI DCRM a follow-up letter memorializing conversations with CNMI DCRM, concluding that the MITT activities are consistent to the maximum extent practicable with CNMI's enforceable policies.

National Marine Sanctuaries Act: Within the MITT Study Area, there are no designated National Marine Sanctuaries; however, there is one National Marine Monument, the Marianas Trench Marine National Monument. The proclamation designating the Monument specifically excluded military activities from the prohibitions identified in monument regulations.

National Historic Preservation Act: As a result of the analysis conducted in the MITT 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 CFR §800.4(d)(1). For actions on Guam and in waters that may contain submerged cultural resources in the nearshore waters of Guam and actions on islands within the CNMI and in waters that may contain submerged cultural resources in the nearshore waters of the CNMI, the actions proposed in the MITT EIS/OEIS fall under the 2009 Programmatic Agreement.

Mitigation Measures

Under Alternative 1, the Navy will implement standard operating procedures and all practicable mitigation and monitoring measures to avoid or reduce adverse environmental impacts, including those identified in the MITT Final EIS/OEIS, the NMFS Biological Opinion (June 12, 2015), the USFWS Biological Opinion (February 20, 2015), and the NMFS Final Rule and Letter of Authorization (LOA) will be issued under the MMPA on August 3, 2015. Mitigation measures and monitoring requirements will be implemented for military activities that involve the following resources:

- Seafloor Resources: Mitigation measures will be implemented to reduce the potential impacts of precision anchoring or explosives on or near shallow coral reefs, hardbottom habitat, artificial reefs, and shipwrecks and military expended materials on shallow coral reefs.

- Marine Mammals, Sea Turtles, Scalloped Hammerhead Shark, ESA corals: Mitigation measures and annual exercise, testing, and monitoring reporting requirements will be implemented as identified in the MITT Final EIS/OEIS, the NMFS Biological Opinion, and the MMPA LOA for training and testing.

- Terrestrial Resources: Conservation measures to minimize, avoid, or offset impacts associated with training activities on protected terrestrial species will be implemented within the MITT Study Area, including the avoidance of habitat areas such as ESA-listed species habitats and seabird rookeries within the MITT Study Area. Biosecurity measures would be continued to reduce the risk in introducing invasive species into the MITT Study Area, and to prevent the spread of the brown treesnake to areas outside Guam.

- Cultural Resources: Mitigation measures and procedures included in the 2009 Programmatic Agreement with the Guam State Historic Preservation Office; CNMI Historic Preservation Office; Advisory Council on Historic Preservation, and National Park Service will continue to be

implemented to avoid and minimize impacts on cultural resources from training and testing activities.

Monitoring

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 and terrestrial 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. For biosecurity concerns, monitoring will consist of the established protocols for United States Department of Agriculture inspections, personnel awareness during pre-event preparations, and self-inspections.

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.

Adaptive Management

As part of Navy's Mitigation and Monitoring efforts, NMFS has included an adaptive management component in the 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 annually to discuss the monitoring reports, Navy research and development (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 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 on 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. In addition, an adaptive management review of risk analyses and biosecurity protocols will be conducted periodically with the USFWS.

As explained in the Final Rule, NMFS will provide one public comment period on the Navy's monitoring program during the 5-year regulations. At this time, the public will have an opportunity (likely in the second year) to comment specifically on the Navy's MITT monitoring projects and data collection to date, as well as planned projects for the remainder of the regulations.

As previously discussed, 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 the Navy in the Final EIS/OEIS and NMFS ESA and MMPA documents for MITT. While any future changes in acoustic criteria may affect the enumeration of "takes," Navy and NMFS do not anticipate these changes in criteria will 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 or monitoring measures as appropriate.

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 publication of the NOA for the Final EIS/OEIS. Two comment letters were received, one from the U.S. Environmental Protection Agency (EPA) and one from the CNMI, Office of the Governor, Bureau of Environmental and Coastal Quality (BECQ). A summary of the comments and Navy responses are provided below.

Comment 1 (EPA): Regarding proposed increase in training and the effect on corals surrounding FDM, the EPA recommend that Navy commit to annual dive surveys to continue to monitor the marine resources and the coral barnacle infestation at FDM, and that results from these surveys be made available to government agencies and the public.

Response: The benefits of restricted access to FDM have resulted in a de facto preserve effect and clearly outweigh the minor impacts of training. During training exercises, marine vessels are restricted within a 3 mile (5 km) radius of FDM. From 1999-2012, annual marine surveys monitoring the long-term effects from the continuing use of FDM (as a live and inert firing range) have been conducted on near shore marine habitats, fisheries resources, and sea turtles. All the marine organisms within areas of disturbance/ impacts have shown recovery in subsequent surveys. There is no evidence that any of the biological resources assessed had been significantly adversely impacted by the training activities being conducted at FDM. The algae, corals, macroscopic benthic invertebrates, fish, and protected species at FDM are abundant, diverse, and healthy compared to other islands within the Mariana Archipelago. With two exceptions, the general health of the coral community at FDM has been excellent. The first exception was the moderate coral bleaching event noted in 2007 and the second was a species-specific barnacle infestation in 2012. The 2012 dive survey noted that the coral barnacles have been observed in other areas of the Mariana Archipelago by subject matter experts. A direct causal link from military activities to the barnacle infestation has not been made; therefore, neither of these occurrences of the impacts to corals appears to be directly related to DoD training activities at FDM. Since the coral species at FDM appear to be healthy and robust, as a term and condition (or requirement) of the Navy's Biological Opinion NMFS requested that coral survey to be completed not less than every 5 years. The next dive survey of FDM will be conducted no later than 2018. Future dive survey reports will be provided as an appendix to the Navy's annual marine species monitoring reports to NMFS and as such, will be available to public via the monitoring program website, www.navymarinespeciesmonitoring.us.

Comment 2 (EPA): EPA notes that rockets will be used at FDM in the future. However, this munition, not previously used at FDM, has a failure rate of almost 4%, which leaves unconsumed explosives in the environment. Given the identified increase in fishing pressure at FDM, the agency recommended that the future range condition assessments evaluate the fish consumption pathway, including potential sampling of fished species for munitions constituents, and that a commitment to this evaluation be included in the ROD.

Response: The Navy is committed to surveys of the FDM coral reef environment every five years, as well as the routine clearance of unexploded ordnance and other range debris from the FDM impact areas. These coral reef surveys would provide an indication if the waters surrounding FDM (designated Class A) were degrading in quality as evidenced by coral health. Routine clearance of the FDM training range's impact areas would remove potential sources of munition constituents, helping to protect CNMI's water quality. The Navy engaged with NMFS in extensive coral consultations under the ESA and in the Essential Fish Habitat Assessment (EFHA) which were relevant to all species of corals and essential fish habitats that are present in the MITT Study Area.

Based on the available evidence, sampling of fish species for munition constituents at FDM is not warranted. The 2008 results of a fish consumption pathway assessment by the Agency for Toxic Substance and Disease Registry (ATSDR) found that "pelagic fish caught in open water are not likely to contain high levels of explosives from the neighboring FDM bombing range and will not pose a public health hazard to people who eat them." This ATSDR assessment did not consider reef fish but did take the existing FDM exclusion zone designed for public safety and security into consideration. ATSDR was specific to FDM and military activities and did not assess any risks from non-range related pollutants.

The Navy has also provided the CNMI government with the results of another fish study focusing on the potential for environmental impacts related to military munitions disposal site off the island of Oahu as part of supplemental information supporting its Coastal Consistency Determination for military training and testing within the CNMI Coastal Zone. This study (Cox, E., De Carlo, E., Overfield, M. (2007)) found no evidence (no detection) of any explosive, or related compounds in the 49 individual representative reef fish collected throughout the designated survey area. The study selected fish species based on foraging levels in the ecosystem, long term residence time within the survey area, and their importance as local food fish to the nearby resident population. Similar results have been found at other ranges where munitions have been used, or as past practice allowed, at munitions disposal sites, such as the Hawaii Undersea Military Munitions Assessment (University of Hawaii/Environet. (2010)).

The existing studies addressing the fish consumption pathway will be considered in the scheduled update to the 2008 Range Condition Assessment, in draft as of July 2015.

Comments 3 and 4 (CNMI): BECQ has discussed its concerns with the Navy and was assured that there will be no mechanized amphibious vehicle landings at Tinian or Rota and that this decision will be reflected in the ROD. In addition, BECQ stated "It is our understanding that amphibious vehicles will not be used in MITT activities, as the Navy has said use of amphibious vehicles has been deferred. Use of amphibious vehicles would require, at the very least, additional monitoring and mitigation of non-point source pollution, including sources such as sedimentation, fuel, oil, herbicide, etc. The FEIS currently states that amphibious vehicles will be used in CNMI and does not sufficiently address impacts from non-point source pollution."

Response: In order to avoid and minimize effects on sea turtles, the landing of mechanized amphibious vehicles (e.g., Landing Craft Air Cushion (LCAC) and tracked Amphibious Assault Vehicles (AAV)) at Unai Chulu, Unai Babui, and Unai Dankulo on Tinian will be deferred. If LCAC and AAV beach landing activities are proposed in the future, the Navy would complete all required environmental analysis including re-initiation of required consultations with resource agencies. As discussed in the MITT Final EIS/OEIS, there will be no landings of mechanized amphibious vehicles on Rota as part of the MITT proposed action. Landings with mechanized amphibious vehicles are proposed to continue as before on Guam or within the Tinian Harbor (with prior coordination).

In areas where mechanized beach landings will be conducted, such as on Guam, and in order to avoid and minimize Non-Point Source pollution, MITT activities would employ Best Management Practices such as limiting/avoiding ground disturbance activities, utilizing containment berms and other devices to prevent petroleum/chemical spills, and restoring beach topography. Water and sediment quality impacts from amphibious warfare training as well as all other training activities are addressed in Section 3.1 (Sediments and Water Quality) and again in the Navy's CZMA Consistency Determination.

Comment 5 (CNMI): "Since the submission of these comments, DEQ's water quality standards have been adopted by EPA, further increasing the need for monitoring of designated Class AA waters to ensure no degradation occurs. Monitoring protocols are not specified sufficiently in the FEIS, and BECQ-DEQ requests that the Navy coordinate with DEQ to ensure that required water quality monitoring occurs and water quality standards are maintained. Monitoring should also include the likely addition of UXO to the terrestrial and marine environments in and adjacent to the proposed action areas."

Response: The Navy shares the BECQ-DEQ desire to protect water quality in the CNMI, especially those waters designated as Class AA. The analysis contained in Section 3.1 in the MITT Final EIS/OEIS concluded that chemical, physical, or biological changes in sediment or water quality that would occur as a result of implementing the proposed action would not be detectable. Water quality within the CNMI Coastal Zone was also discussed in greater detail in the Navy's September 2014 CZMA Consistency Determination. The conclusion of this focused analysis determined that it was unlikely that the proposed action would exceed established water quality standards. Therefore, the Navy believes that water quality monitoring related to MITT activities is not required.

Comment 6 (CNMI): The Navy's treatment of "marine habitat" in the MITT Final EIS/OEIS focuses on the ability of the bottom substrates to function as habitats. BECQ position is that marine habitat includes the benthic bottom and the water column and impacts from bottom detonations should address detonations in the water column that may cause sedimentation, acoustic, and physical disturbance as well as deposition and transport of pollutants. BECQ request enhanced monitoring and mitigation of marine habitats in and adjacent to the proposed project area to ensure that associated negative impacts to water quality and the marine habitat be appropriately assessed and addressed.

Response: The impacts of proposed training and testing activities on both the benthic bottom and water column were analyzed as Marine Habitats in the MITT Final EIS/OEIS (Sections 3.1, 3.3, 3.7, and 3.8) and in the EFHA. These sections include an analysis of potential impacts associated with explosives and explosive byproducts, metals, chemicals other than explosives, and other materials as well as acoustic and physical disturbance stressors on the marine environment. Additional in-depth analysis of marine habitats can be found in the EFHA available on the MITT EIS website: http://mitteis.com. Based on the results of these analyses as documented in the MITT Final EIS/OEIS and the EFHA, and the

mitigation and monitoring committed to, the Navy has determined there is no need for enhanced monitoring.

Comment 7 (CNMI): BECQ requested DoD's monitoring plan and all subsequent reports and data from monitoring activities be shared with the CNMI government and agencies. The agency is particularly interested in seeing monitoring plans for non-point pollution, chemical, physical, and biological changes in sediment and water quality in and near the proposed action areas, monitoring plans for heavy metals released into the ocean, monitoring plans for endangered species and their habitat, and references to previously disturbed or pre-disturbance sites in order to establish and adopt appropriate compensatory mitigation measures. BECQ also requested a map of DoD's mitigation areas.

Response: The Navy's monitoring requirements for endangered species and marine mammals are described in the recently completed Biological Opinions and Final Rule. These documents can be found at www.mitt-eis.com. The marine species monitoring reports explaining annual efforts conducted in the MITT Study Area are posted on www.navymarinespeciesmonitoring.us/reading-room/pacific/.
As discussed above, the Navy does not believe that monitoring for water and sediment quality for impacts related to MITT activities is warranted. Section 5.0 (Standard Operating Procedures, Mitigation, and Monitoring) describes all MITT mitigation measures, most of which are applicable throughout the study area and do not lend themselves to being mapped. Spatially specific measures are discussed in the USFWS Biological Opinion and NMFS' Essential Fish Habitat Assessment. These documents are available at www.mitt-eis.com.

C. CONCLUSIONS: Based on the environmental impacts and strategic and operational readiness consequences analyzed in the MITT 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 1, the Preferred Alternative, to implement the proposed action. Alternative 1 best meets current and future military training and testing requirements in the MITT Study Area.

As described in the EIS/OEIS and this Record of Decision, the Navy consulted with NMFS and the USFWS to evaluate and obtain authorization and permits to carry out military training and testing activities in the MITT Study Area. The Navy will adopt all practicable means to avoid and minimize impacts on marine species. Through a robust adaptive management program, the Navy will continue to monitor activities and their effects on marine species and will make adjustments to monitoring or mitigation measures based on new information as appropriate. With implementation of the mitigation measures identified in the MITT 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 1 will be minimized. In addition, the Navy assessed the effects of Alternative 1 in accordance with E.O. 12114 and concluded that there would be no significant harm to the environment in areas outside the U.S., its territories, and possessions.

7/23/2015
Date

Mr. Steven R. Iselin
Principal Deputy Assistant Secretary of the Navy
(Energy, Installations & Environment)