

ENCLOSURE 1:

**Coastal Zone Management Act
Consistency Determination for the
Commonwealth of the Northern Mariana Islands**

**Supplemental Information to Support the U.S. Navy's Consistency Determination for
Military Training and Testing within the Coastal Zone of the Commonwealth of the Northern
Mariana Islands**

Submitted to:

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INTRODUCTION

This document provides the Commonwealth of the Northern Mariana Islands (CNMI) Bureau of Environmental and Coastal Quality (BECQ), Division of Coastal Resources Management (DCRM) with supplemental information to support the United States (U.S.) Department of the Navy's (Navy's) Consistency Determination under the Coastal Zone Management Act (CZMA) § 307(c)(1) and 15 C.F.R. Part 930, Subpart C, for the Commonwealth of the Northern Mariana Islands (CNMI) portion of the Proposed Action described in the Mariana Islands Training and Testing (MITT) Draft Environmental Impact Statement/Overseas Environmental Impact Statement (DEIS/OEIS).

Supplemental information contained in this document is provided in response to comments received from the CNMI dated October 7, 2014. The CNMI DCRM raised concerns regarding the following regulations cited from the CNMI administrative code:

- Part 300 – § 15-10-305, Standards for CRM Permit Issuance: General Criteria,
- Part 300 – § 15-10-310, Standards for CRM Permit Issuance: Specific Criteria/Area of Particular Concern,
- Part 500- Standards for Determining Major Siting: Specific Criteria, and,
- DEQ Water Quality Standards: Classification and Establishment of Water Use Areas and Specific Water Quality Criteria.

This document provides the CNMI DCRM conclusions presented in the 7 October 2014 letter with the Navy's responses, presented in the context of the CNMI administrative code language.

Part 300 – § 15-10-305, Standards for CRM Permit Issuance: General Criteria

(a) Cumulative impacts. *"The CRM Administrator and CRM agency officials shall determine the impact of existing uses and activities on coastal resources and determine whether the added impact of the proposed project seeking a CRM permit will result, when added to the existing use, in a significant degradation of the coastal resources. Consideration shall include potential coastal nonpoint source pollution, watershed setting, and receiving waters of the watershed in which a project is situated."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The added impact of the MITT activities, when added to the existing uses, will not result in a significant degradation of the coastal resources. It should be noted that significant changes in activity levels within the CNMI coastal zone are not being proposed in the MITT EIS/OEIS. DCRM asks the Navy to consider the cumulative impacts of MITT in combination of other military activities within the Study Area, including Guam and CNMI Military Relocation EIS/OEIS and CNMI Joint Military Training EIS/OEIS. While these proposed activities are not appropriate for discussion under this standard as they are not "existing uses and activities", the Navy has considered the Guam and CNMI Military Relocation EIS/OEIS and CNMI Joint Military Training EIS/OEIS in the cumulative effects analysis in the MITT DEIS. Subsequent sections of this response do address existing activities, with particular attention to point and nonpoint source pollution, watershed setting, and receiving waters.

(b) Compatibility. *"The CRM Administrator and CRM agency officials shall determine, to the extent practicable, whether the proposed project is compatible with existing adjacent uses and is not contrary to designated land and water uses being followed or approved by the Commonwealth government, its departments or agencies."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: DCRM asks for further information on the effects of MITT activities on Rota's Areas of Particular Concern. Rota is not a primary training and testing area. Most military readiness activities described in the MITT EIS/OEIS would occur on Guam and to a lesser extent within the Tinian military leased area (MLA). The military readiness activities proposed for Rota are shown in Figure 1 and are listed in Table 1 of the Navy's original CD submission. Figure 1 illustrates that proposed military readiness activities on Rota would be restricted to developed areas, outside the critical habitats and conservation areas. All military readiness activities conducted on Rota are coordinated with CNMI and local authorities (e.g., local mayor's office, local law enforcement). Additional communication is provided to the CNMI Military Integration Management Committee (MIMC) via the DoD Joint Region Marianas (JRM).

In addition, the Navy is consulting with U.S. Fish and Wildlife Service (USFWS) under Section 7 of the Endangered Species Act (ESA) on potential impacts of the proposed military readiness activities on threatened and endangered species. Conservation measures resulting from the ESA Section 7 consultations to minimize, avoid, or offset impacts associated with military readiness activities will be implemented. These conservation measures will be formalized in the USFWS Biological Opinion and will be included in the Final MITT EIS/OEIS and Record of Decision (ROD).

(c) Alternatives. *"The CRM Administrator and CRM agency officials shall determine whether or not a reasonable alternative site exists for the proposed project."*

CNMI Conclusion: *Inconsistent – the Navy should consolidate activities to fewer areas in order to minimize environmental impact.*

Navy Response to CNMI: Rota and Saipan are not primary training locations and are infrequently used; however, they do provide unique capabilities due to the close proximity of the Marpi Maneuver Area to Saipan based reserve units and Rota's capability to support Special Forces and Humanitarian Relief training. As discussed above, Figure 1 shows that proposed military readiness activities on Rota would be restricted to developed areas, outside the critical habitats and conservation areas. In addition, pre-coordination with local authorities and the CNMI as well as adherence to conditions outlined in the pending USFWS Biological Opinion will ensure that training events can be conducted without any adverse environmental impacts.

(d) Conservation. *"The CRM Administrator and CRM agency officials shall determine, to the extent practicable, the extent of the impact of the proposed project, including construction, operation, maintenance and intermittent activities, on its watershed and receiving waters, marine, freshwater, wetland, and terrestrial habitat, and preserve, to the extent practicable, the physical and chemical characteristics of the site necessary to support water quality and living resources."*

CNMI Conclusion: *Inconsistent – the Navy should consider localized and long-term effects of water quality contamination, and provide baseline and monitoring data.*

Navy Response to CNMI: DCRM expresses concern over long term effects to water quality standards and spillover effects from FDM. Spillover effects into the CNMI's coastal zone from military readiness activities are highly unlikely. Military readiness activities that result in expended materials or involve explosives are conducted offshore or at FDM and Guam, outside of the CNMI coastal zone. Surface currents around the Mariana Archipelago are heavily influenced by the Northern Equatorial Current, driven by the northeast and southeast trade winds and predominantly westward, and would generally carry expended materials away from the archipelago. Other information that limits the potential for spillover effects into the CNMI coastal zone are discussed below.

The Navy has conducted annual marine ecological surveys of near shore marine resources at FDM between 1999 and 2012 (no survey was conducted in 2011). A report detailing the findings of these marine ecological surveys and providing baseline monitoring information specific to FDM is available at: <http://mitt-eis.com/DocumentsandReferences/EISDocuments/SupportingTechnicalDocuments.aspx>. This information has also been added to the Final EIS/OEIS in Section 3.1.3.1.5.3 (FDM Specific Impacts).

This area of marine habitat has been utilized for many years for military readiness activities. The conclusions for FDM water quality impacts do not rely on assumptions of dilution and settling; rather, the conclusions are drawn from direct observations of the marine environment surrounding FDM.

Based on these surveys, there is no evidence that long-term adverse impacts to the nearshore environment have taken place as a result of military readiness activities. These findings are based on the number of detectable impacts, the size of those impacts, and the apparent recovery time for the resource to recover. Impacts to the physical environment clearly attributable to military readiness activities were noted in 2007, 2008, 2010, and 2012. Indirect impacts, such as ordnance skipping or eroding off of FDM and rock and ordnance fragments blasted off of the island, were detected in every survey year:

“Although some damage can be directly attributed to ordnance impacts, natural factors also contribute to the changes. Examination of photographs from 1944 indicates that changes in the geologic structure of the island by erosion and mass wasting have been going on for decades.”¹

The ecological surveys completed in 2004 were completed shortly after Typhoon Ting Ting, which passed through the Mariana Islands in June 2004 and afforded an opportunity to observe damage to the island and nearshore environment of FDM from typhoons. Observations of fresh coral branch breakages, fresh boulder/rock slides, and submerged exposure of bright yellow-

¹ U.S. Department of the Navy. (2013). Calendar year 2012 assessment of near shore marine resources at Farallon de Medinilla, Commonwealth of the Northern Mariana Islands. Prepared by Stephen H. Smith, Donald E. Marx, Jr., & Lee H. Shannon. Project Number: 16940-57-001001

orange patches of underlying rock were attributed to concussive force of waves generated by Typhoon Ting Ting. Ecological surveys completed in 2005 noted that disturbed sites in 2004 showed no color differences with surrounding undamaged areas and new small (less than 3 cm) scattered colonies of coral and crustose coralline algae. By 2006 and observed again through 2012, no visual evidence of abnormalities, damaged, or diseased coral could be detected.

Further, no new submerged cliff blocks were observed between 2005 and 2012. Small to medium size fresh rock fragments (generally less than 1 ft. [30 cm]) have been observed yearly and are attributed to detonation impacts. In 2007, the first clear indication of a detonation of a bomb on the seafloor was observed. The impact area was measured to be approximately 100 square feet (9 square meters). During the subsequent survey in 2008, the impact area supported new growth of stony corals and crustose algae; by 2009, no trace of the disturbance could be detected by the surveyors. It should be noted that the vast majority of unexploded ordnance observed in the water lacked fins and tail assemblies, which indicates that the ordnance either skipped or ricocheted off of the island or were eroded or washed off of FDM at a later date.

Based on these direct observations of impacts off the coast of FDM, the majority of disturbances to the seafloor sediments, substrates, and mass wasting of FDM can be attributed to typhoons and storm surges. Further, damage attributed to military readiness activities was temporary as evidenced by recovery within 2 to 3 years at the same rate of damage associated with natural phenomenon. The ecological surveys have also monitored water quality indicators that have been associated with diminished water quality in other locations. For instance, high densities of macrobioeroders (e.g., boring sponges), bleaching of corals, surface lesions, or dead patches on stony corals or stony coral mucus production have been associated with sedimentation, pollutants, or other stressors that diminish water quality.^{2,3,4} A moderate bleaching event was noted in 2007 and a barnacle infestation was noted in 2012 (U.S. Department of the Navy 2013a). The bleaching event was regional and extended from southern Japan through the Mariana Islands and south through waters surrounding Palau. Subsequent surveys observed soft and fire corals had recovered completely and 75 percent of the stony corals had recovered by 2008.

Throughout all ecological surveys, the coral fauna at FDM were observed to be healthy and robust. The nearshore physical environment and basic habitat types at FDM have remained unchanged over the 13 years of survey activity. These conclusions are based on (1) a limited amount of physical damage, (2) very low levels of partial mortality and disease (less than 1 percent of all species observed), (3) absence of excessive mucus production, (4) good coral recruitment, (5) complete recovery by 2012 of the 2007 bleaching event, and (6) a limited number of macrobioeroders and an absence of invasive crown of thorns starfish (*Acanthaster*

² Riegl B. M. (1995). Effects of sand deposition on Scleractinian and Alcyonacean corals. *Marine Biology*, 121, 517-526.

³ Wild, C. (2005). Influence of Coral Mucus on Nutrient Fluxes in Carbonate Sands. *Mar Ecol Prog Ser*, 287, 87-98.

⁴ Cooper, T. F. (2008). Temporal Dynamics in Coral Bioindicators for Water Quality on Coastal Reefs of the Great Barrier Reef. *Marine Freshwater Resource*, 59, 703-716.

planci). **These factors suggest that sedimentation that may result from military use of FDM is not sufficient as to adversely impact water quality or fish habitat.**

Further, Navy protective measures in place on FDM protect against the loss of migratory bird habitat. Measures that require avoidance of targeting cliffs and restricting naval ship gunnery from firing towards the eastern cliff face are specifically designed to minimize impact to migratory bird habitat.

(e) Compliance with Local and Federal Laws. *"The CRM Administrator and CRM agency officials shall require compliance with federal and CNMI laws, including, but not limited to, air and water quality standards, land use, federal and CNMI constitutional standards, and applicable permit processes necessary for completion of the proposed project."*

CNMI Conclusion: *Inconsistent – MITT activities do not comply with local laws as outlined throughout this letter.*

Navy Response to CNMI: The Navy is in compliance with all applicable federal and CNMI law and will continue to be in compliance of federal and CNMI law with the implementation of MITT activities. The Navy is confident that the information provided in this document will assure CNMI that the Navy is consistent to the maximum extent practicable with the enforceable policies of the CNMI Coastal Management Program.

(f) Ensuring Access to Clean and Healthful Environment. *"Projects shall be undertaken and completed so as to maintain and, where appropriate, enhance and protect the Commonwealth's inherent natural beauty and natural resources, so as to ensure the protection of the people's constitutional right to a clean and healthful environment."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The Navy's determination regarding subsection (f) was inadvertently left out of the Navy's CD submission. As discussed above, the military readiness activities included in the MITT EIS/OEIS will not spillover into the coastal zone and will not restrict citizens' access to a clean and healthy environment on the CNMI. Further, these activities would not harm the aesthetic value of the environment as most activities would be short on duration, occur far offshore, occur on leased lands within the CNMI, or in locations coordinated with local authorities and the CNMI via the MIMC. **(g) Effect on Existing Public Services.** *"Activities and uses which would place excessive pressure on existing facilities and services to the detriment of the Commonwealth's interests, plans and policies, shall be discouraged."*

CNMI Conclusion: *Consistent.*

(h) Adequate Access. *"The CRM Administrator and CRM agency officials shall determine whether the proposed project would provide adequate public access to and along the shoreline."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The military will avoid restricting public access to popular beaches and historic areas on Tinian as much as practicable without impacting military readiness activities. For example, during the recently completed training exercises within the Tinian MLA, Able Runway was avoided and training activities were concentrated on the Baker Runway. This was done to continue public access to the historical areas within the lease area. The military coordinates with the local mayor (e.g., Tinian mayor) if closure cannot be avoided. Military readiness activities that occur within the CNMI but outside of military lease areas are conducted in cooperation with local authorities and the MIMC. All other military readiness activities are conducted on federal lands not within the CNMI coastal zone or in coastal waters that would not be closed from public access.

(i) Setbacks. *"The CRM Administrator and CRM agency officials shall determine whether the proposed project provides adequate space between the project and identified hazardous lands including floodplains, erosion-prone areas, storm wave inundation areas, air installation crash and sound zones and major fault lines unless it can be demonstrated that such development does not pose unreasonable risks to the health safety, and welfare of the people of the Commonwealth, and complies with applicable laws."*

CNMI Conclusion: *Consistent.*

(j) Management Measures for Control of Nonpoint Source Pollution. *"The CRM Administrator and CRM agency officials shall determine if the selected management measures are adequate for the control of nonpoint source pollution resulting from project construction, operations and maintenance, including intermittent activities such as repairs, routine maintenance, resurfacing, road or bridge repair, cleaning, and grading, landscape maintenance, chemical mixing, and other nonpoint sources."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The Navy provides guidance to commanders and exercise planners to ensure that hazardous materials and solid wastes are handled in an environmentally responsible and sustainable manner. Environmental staff personnel from JRM, Naval Base Guam, and Andersen AFB support proper materials handling during the planning and execution phases of planned exercises. All Navy shore installations, ships, and air detachments comply with hazardous materials and hazardous waste management requirements of OPNAVINST 5090.1 series of instructions⁵.

Major exercises within the Marianas are required to reduce the use of hazardous materials, and storage of hazardous materials must occur in proper storage areas lined with impervious barriers within a central storage areas away from catch basins, storm drains, and waterways with clear label protocols. Spill prevention and control measures are also required, which include spill prevention and control plans, collection points, assurance of final disposition by host commands, segregation and labeling at collection points, accountability of hazardous

⁵ The most recent iteration of OPNAVIST 5090.1 series instruction is M-5090.1D, dated 10 January 2014. The instruction may be accessed at: <http://doni.daps.dla.mil/SECNAV%20Manuals1/5090.1.pdf>

materials through the use of applicable Material Safety Data Sheets (MSDS) or Hazardous Material Information Sheets (HMIS) for each material, handling and packaging protocols for personnel and training requirements. Exercise planners are also required to include provisions for wastewater (black water)/human waste, such as portable toilets or field facilities accessible at all training sites. Solid waste generated during exercises is deposited in waterproofed containers (such as tri-wall containers) with collection points determined prior to the initiation of the exercise. Lithium batteries are considered dangerous at all times and are handled as hazardous waste with proper disposal protocols (burying is prohibited and batteries are transported to the Conforming Storage Facility on Naval Base Guam). Before leaving a training site, units are required to ensure that all occupied areas have been inspected for cleanliness including proper closing and marking of field latrines and drainage systems, and training areas have been cleared of all stores, equipment and refuse.

As demonstrated by the above summary of the various requirements for units to reduce the potential for point and non-point source pollution, the Navy is consistent to the maximum extent practicable with this regulation.

Part 300 – § 15-10-310, Standards for CRM Permit Issuance: Specific Criteria/Area of Particular Concern

Lagoon and Reef APC (general).

CNMI Conclusion: *Inconsistent due to discharge of hazardous materials and military expended materials.*

Navy Response to CNMI: As stated above (see discussions in item (d) Conservation), spillover effects into the CNMI's coastal zone from military readiness activities are unlikely. Military readiness activities that result in expended materials are conducted offshore, are widely dispersed throughout the Study Area, and are outside of the APCs and CNMI coastal zone. Furthermore, the unlikelihood of spillover effects is supported by the dynamics of the Northern Equatorial Current. Also, at-sea and ashore environmental protections limit or avoid the potential for hazardous materials to enjoin with sediments and be deposited as non-point source and point source pollution. Discussions on direct observations of reef conditions surrounding FDM are also included above. In summary, these factors reduce to the maximum extent practicable any potential impacts on the Lagoon and Reef APC within the CNMI coastal zone.

Lagoon and Reef APC (Anjota Island).

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The activities that would occur within the Lagoon and Reef APC (Anjota Island) would be infrequent and would not be intrusive or impair this APC. If the Navy schedules amphibious raid exercises within this APC, it is done so in cooperation with the Mayor's Office on Rota, local law enforcement, and the CNMI MIMC.

An amphibious raid on Rota would be a short event lasting 4 to 8 hours, occurring day or night (typically during the darkest part of the night), and would be characterized by its speed, stealth, and the minimum number of forces required to carry out the mission. A well planned and executed raid on Rota would typically go unnoticed and undetected. A typical amphibious raid carried out on Rota may involve a limited number of small craft in the near shore area that would come ashore under cover of darkness. Amphibious Raid for Rota would not involve the use of LCAC, LCU, or amphibious assault vehicles (AAV) to conduct beach landings.

Raid forces for Rota would typically involve few personnel (e.g., enough to fill a rubber raiding craft) and will not involve live fire munitions. Although exercises are designed with the minimum number of personnel to meet training requirements, larger raid exercises are possible. For example, a company-size amphibious group would include approximately 150 personnel, but this level of training would be extremely infrequent and would require careful coordination with the municipality during the exercise planning stage. Since it is standard operating procedure to avoid underwater obstructions such as coral, and highly illuminated areas, raid forces would avoid any landing area where coral cannot be avoided or where landings are highly illuminated. Anjota Island offers one potential site on Rota that may support amphibious raid events as described above.

Port and Industrial APC (Rota).

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The Navy's CD and Figure 1 (included in this document) include a list of activities that could occur on Rota. Activities that could occur within the Port and Industrial APC (Rota) include amphibious raids (described above), as well as other activities that involve very few personnel in pedestrian reconnaissance activities. These are non-intrusive activities that are limited to potential training areas shown in Figure 1. If the Navy schedules amphibious raid exercises within this APC, it is done so in cooperation with the Mayor's Office on Rota, local law enforcement, and the CNMI MIMC.

Part 500- Standards for Determining Major Siting: Specific Criteria

(a) Project Site Development. *The proposed project site development shall be planned and managed so as to ensure compatibility with existing and projected uses of the site and surrounding area.*

CNMI Conclusion: *Consistent.*

(b) Minimum Site Preparation. *Proposed projects shall, to the extent practicable, be located at sites with pre-existing infrastructure, or which require a minimum of site preparation.*

CNMI Conclusion: *Consistent.*

(c) Adverse Impact on Fish and Wildlife. *"The proposed project shall not adversely impact fragile fish and wildlife habitats, or other environmental sensitive areas."*

CNMI Conclusion: *Inconsistent due to effects on marine mammals, sea turtles, marine birds, vegetation, marine invertebrates, fish, and terrestrial species.*

Navy Response to CNMI: As demonstrated below, MITT activities will not adversely impact fragile fish and wildlife habitats, or other environmentally sensitive areas.

Marine Mammals: The Navy is requesting a letter of authorization (LOA) from the NMFS under MMPA for potential impacts on marine mammals. The Navy is also consulting with NMFS and FWS under Section 7 of the ESA for potential impacts on threatened and endangered marine species from military readiness activities. The Navy implements mitigation measures during military readiness activities to reduce or avoid potential impacts on marine resources (e.g., marine mammals, sea turtles). Table 1 provides a summary of the mitigation measures implemented by the Navy to reduce or avoid potential impacts on marine resources.

The Navy has been implementing a marine species monitoring plan for military readiness activities since 2010 which is comprised of marine mammal and sea turtle monitoring throughout the MITT Study Area. The Navy annually reports these monitoring efforts to National Marine Fisheries Service. Marine species monitoring efforts are designed to track compliance with take authorizations, evaluate the effectiveness of mitigation measures, and improve the understanding of the effects of military readiness activities on marine resources. Marine species monitoring reports explaining annual efforts conducted in the MITT Study Area are posted on www.navymarinespeciesmonitoring.us/reading-room/pacific/.

Sea Turtles: The Navy is consulting with NMFS (for marine species) and USFWS (for terrestrial species) under Section 7 of the ESA for potential impacts on threatened and endangered species from military readiness activities. Conservation measures specific to beach monitoring or other training restrictions resulting from these consultations to minimize, avoid, or offset impacts associated with military readiness activities will be included in the Final EIS/OEIS and ROD. Navy will ensure all measures outlined in the NMFS and USFWS Biological Opinions are implemented.

Birds: Activities on Saipan that may occur within the Saipan Marpi Maneuver Area would not occur within limestone forest areas (habitat for the Micronesian megapode). During the ESA Section 7 consultation between the Navy and the USFWS, the Navy requested, and received, locations of megapodes observed within the Marpi area. These detections were located just below Suicide Cliffs in intact limestone forest to the south and west of the Marpi Maneuver Area. This same habitat extends across the road into the southwestern portion of the maneuver area; however, this area is not used for training. On Rota, aircraft operations are prohibited within a 1,000 ft. horizontal and vertical buffer on the surface and coastline of Rota, with the exception of normal approaches and takeoffs that may occur at the Rota International Airport and combat search and rescue training activities based out of the airport.

The Navy has designed conservation measures in cooperation with USFWS for ESA-listed species, as well as for non-ESA listed seabird species to minimize the effects on FDM. These measures are listed below:⁶

- The Navy will continue to implement targeting and access restrictions, such as: (1) no targeting of the northern Special Use Area (north of the No Fire Line shown in Figures 2 and 3) and no targeting of the narrow land bridge, (2) only targeting Impact Areas 1, 2, and 3 during air-to-ground bombing exercises and air-to-ground missile and gunnery exercises and Impact Area 1 (closest to the northern Special Use Area) is for inert ordnance only, and (3) personnel are not authorized on FDM without approval from JRM Operations.
- There are six Naval Surface Firing Support (NSFS) targets on the western cliffs and flats of the island, no other cliff locations are targeted.
- Naval surface vessels only fire on FDM from the west to the east, avoiding impacts to roosting birds along the eastern cliff face.
- The Navy prohibits use of live cluster weapons/scatterable munitions, fuel air explosives, incendiary munitions, depleted uranium rounds, or bombs greater than 2,000 pounds. It should be noted that some spotting charges use small amounts of phosphorous and smoke markers will be used during some direct action activities for targeting.
- The Navy maintains brown treesnake interdiction and control protocols specific for FDM.

Marine Vegetation: CNMI requests a plan to identify and address any serious damage that may occur, survey the recovery of marine vegetation, and provide mitigation for damage to seagrass beds. However, the Navy's activities do not occur within seagrass beds. Seagrass beds are located in waters off of Tinian, but do not coincide with amphibious assault/raid approaches. Marine vegetation, including seagrass, surrounding Tinian, Saipan, and FDM from the National Oceanic and Atmospheric Administration (NOAA) satellite surveys are shown in Figures 3-38, 3-39, and 3-40 of the MITT EFH Assessment, respectively. The MITT EFH Assessment is available at: <http://mitt-eis.com/DocumentsandReferences/EISDocuments/SupportingTechnicalDocuments.aspx>.

Marine Invertebrates: As stated above (see discussions in item (d) Conservation), coral damage associated with military readiness activities on FDM has been noted, along with damage attributed to natural causes. But, the impacts are temporary and localized, with complete recovery witnessed within 2 to 3 years, with no significant long-term impacts to the nearshore marine environment. This is substantiated by the continued robust health of the coral communities surrounding FDM, with a lack of indicators attributed to diminished water quality.

Amphibious training activities that would occur on Tinian within the Tinian MLA use defined approaches that avoid corals. Avoidance of these areas protects personnel and amphibious

⁶ Some of the conservation measures may be subject to change, depending on the final Biological Opinion, expected to be released in 2015. The measures listed are existing conservation measures under the MIRC 2010 Biological Opinion.

vehicles, as well as avoids impacts on corals in nearshore environments surrounding Tinian. If impacts on corals cannot be avoided, additional mitigation measure and consultation with NMFS would be considered as appropriate before the activity would be conducted.

During offshore activities, where impacts to coral reefs are possible, the Navy maintains a 350 yard (320 meter) mitigation zone for coral reefs to avoid impacts to these habitats (see Table 1).

Scheduling of military readiness activities and locations inevitably overlaps a wide array of marine species habitats, including foraging habitats, reproductive areas, migration corridors, and seasonal coral spawning. Training schedules are based on deployment schedules and evolving events. Training schedules cannot be tailored to avoid seasonal coral spawning. Limiting activities to avoid certain seasons would adversely impact the effectiveness of the training or testing activity, and would therefore result in an unacceptable increased risk to achieving the purpose and need of the proposed action in the MITT EIS/OEIS. However, impact to coral larvae associated with an increase in ambient sound levels would be short-term and localized to the activity location. The noise levels would be restored to normal levels immediately following the completion of the training or testing activity. There is no anticipated effect of non-impulsive acoustic sources, including sonar, on benthic substrates and biogenic habitats.

These conclusions were included in the Navy's EFH consultation with NMFS, with no anticipated effects to coralline EFH or Habitats of Particular Concern (HAPC). FDM, the areas used for amphibious training activities on Tinian, and offshore areas used for activities that may impact coral reef areas, are outside of the CNMI coastal zone. Based on the protective measures and observations during long-term monitoring of FDM's nearshore environment, the likelihood of spillover effects into the CNMI coastal zone is considerably low; therefore, military activities proposed in the MITT EIS/OEIS are consistent to the maximum extent practicable with this regulation.

Fish: The Navy completed consultation with NMFS for potential impacts of military readiness activities on Essential Fish Habitat (EFH) under the MSA. The Navy has addressed NMFS concerns and EFH recommendations. Enclosed are copies of the NMFS EFH recommendations and the Navy's response to the recommendations. A copy of the MITT EFH Assessment is available on the MITT website at: <http://mitt-eis.com/DocumentsandReferences/EISDocuments/SupportingTechnicalDocuments.aspx>.

Mitigation measures that the Navy implements to avoid or reduce impacts to marine mammals and sea turtles may indirectly benefit EFH and HAPCs. Mitigation measures that have designated stand offs from benthic habitats will have a direct positive impact on EFH and HAPCs. Table 1 provides a crosswalk for mitigation measures that are relevant for fish and fish habitat impact minimization.

Research and monitoring efforts mentioned in Section 3.9.4 of the EIS/OEIS refer to the marine species monitoring plan the Navy has been implementing since 2010 throughout the MITT Study Area. As earlier mentioned, marine species monitoring efforts are designed to track compliance with take authorizations, evaluate the effectiveness of mitigation measures, and improve the understanding of the effects of military readiness activities on protected marine resources.

Marine species monitoring reports explaining annual efforts conducted in the MITT Study Area are posted on <http://www.navymarinespeciesmonitoring.us/reading-room/pacific/>.

Terrestrial Species: As shown in Figure 1, proposed military readiness activities on Rota would be restricted to developed areas, outside the critical habitats and conservation areas. In addition, all military readiness activities conducted on Rota will be coordinated with local and CNMI authorities (e.g., local mayor's office, local law enforcement). Additional communication will be provided to the CNMI MIMC via the JRM.

The Navy is consulting with USFWS under Section 7 of the ESA for potential impacts on threatened and endangered species from military readiness activities. Conservation measures resulting from these consultations to minimize, avoid, or offset impacts will be implemented. These measures exclude training activities from fruit bat habitat areas and maintaining a 1,000 ft. vertical and horizontal flight restriction on the island, with the exception of normal approaches and takeoffs at Rota International Airport (not part of training activities) and for combat search and rescue trainings that may occur at the airport.

(d) Cumulative Environmental Impact. *"The proposed project site shall be selected in order to minimize adverse primary, secondary, or cumulative environmental impacts."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: Please see the discussion presented under Part 300 – § 15-10-305(a) for cumulative impacts in the context of CNMI's coastal zone regulation. Cumulative impacts are evaluated in a NEPA context in the MITT EIS/OEIS.

As presented under Part 300 – § 15-10-305(a), the contribution to cumulative impacts is minimal. The planning, coordination, and siting efforts ensure that the military readiness activities described in the MITT EIS/OEIS is consistent to the maximum extent practicable with this regulation.

(e) Future Development Options. *"The proposed project site shall not unreasonably restrict the range of future development options in the adjacent area."*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: CNMI expressed concern that MITT activities could negatively affect the tourism industry which relies on CNMI's natural resources. As discussed above, the proposed activities on Saipan (where most tourism infrastructure is expected to occur) and on Rota are conducted in coordination with local authorities and the MIMC. On Tinian, training activities would only occur within the military lease area. It is unlikely that these activities would impact wildlife on adjacent lands, and thereby constrain development. Coupled with the conservation measures designed to reduce or avoid impacts to wildlife, the potential impacts to adjacent lands and consequential constraining effects on tourism development are minimal; therefore, MITT-proposed military readiness activities that may occur within the CNMI are consistent to the maximum extent practicable with this regulation.

(f) Mitigation of Adverse Impacts. *“Whenever practicable, adverse impact of the proposed project on the environment shall be mitigated. Mitigation shall include the incorporation of management measures for control of nonpoint source pollution.”*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: The Navy has various training restrictions within the leased areas to reduce or avoid potential impacts to wildlife resources. For example, no training occurs within Hagoi or within intact limestone forest regions within the Tinian MLA. On FDM, various targeting and ordnance restrictions are in place to reduce impacts on the Mariana fruit bats, Micronesian megapodes, and non-ESA listed seabird species. As part of the natural resources management effort within the leased lands, the Navy has engaged in periodic long-term monitoring of natural resources. The Navy also maintains protections for training activities that occur outside of the leased areas. For example, on Rota, training is limited to previously developed areas and conducted in coordination with local authorities and the MIMC. On Saipan, training also avoids limestone forests within the Marpi Maneuver Area.

As mentioned above, the Navy is consulting with the following federal agencies:

- NMFS for potential impacts on: (1) marine mammals under the MMPA; (2) threatened and endangered marine species under Section 7 of the ESA; and (3) EFH under the MSA
- USFWS for potential impacts on threatened and endangered terrestrial species under Section 7 of the ESA

Conservation measures resulting from these consultations to minimize, avoid, or offset impacts associated with military readiness activities will be implemented. While CNMI states that “Current mitigation measures do not do enough to protect the habitats and wildlife within the MITT Study Area”, the Navy is confident that the mitigations and measures that result from our NMFS and FWS consultations will in fact provide adequate protections to habitats and wildlife.

(g) Cultural-Historic/Scenic Value. *“Consider siting alternatives that promote the Commonwealth’s goals with respect to cultural-historic and scenic values.”*

CNMI Conclusion: *Consistent.*

(h) Watershed Conservation. *“In regard to site development (including roads, highways, and bridges), avoid development, to the extent practicable, of areas that are particularly susceptible to erosion and sediment loss; preserve areas that provide important water quality benefits and/or are necessary to maintain riparian and aquatic biota and/or protect to the extent practicable the natural integrity of waterbodies and natural drainage systems.”*

CNMI Conclusion: *Insufficient information has been provided for DCRM to agree that the MITT activities are consistent with this regulation.*

Navy Response to CNMI: CNMI expressed concern that MITT will include activities that could increase erosion and sediment loss. Only activities on FDM have the potential for sediment loss due to military readiness activities. But, targeting restrictions are in place to reduce this potential. These measures include the establishment of impact areas and particular targets, and

restricting targeting to only those areas as well as restricting the types of munitions used within these impact areas (see discussions in item (c) Adverse Impact on Fish and Wildlife: Birds). Further, long term monitoring studies of the surrounding reef zone are summarized in this document (see discussions in item (d) Conservation).

Direct observations of damage off the coast of FDM indicated that the majority of disturbances to the seafloor sediments, substrates, and mass wasting of FDM can be attributed to typhoons and storm surges and damage attributed to military readiness activities. However, the damage attributed to military readiness activities was temporary and evidence shows that any damage recovered within the same time frame as natural disturbances (2 to 3 years). Other indicators of diminished water quality attributed to sedimentation were absent from waters off of FDM. These indicators include a lack of high densities of macrobioeroders (e.g., boring sponges), bleaching of corals, surface lesions, or dead patches on stony corals' or stony coral mucus production. These factors, coupled with the minimization measures in place on FDM (targeting and ordnance restrictions) and the unlikely potential of spillover into the CNMI coastal zone, ensure that MITT activities are consistent to the maximum extent practicable with this regulation.

DEQ Water Quality Standards: Classification and Establishment of Water Use Areas and Specific Water Quality Criteria

CNMI Conclusion: *Inconsistent – the Navy should consider localized and long-term effects of water quality contamination, and provide baseline and ongoing monitoring data.*

Navy Response to CNMI:

The Navy, when assessing the potential for localized and long-term effects of water quality contamination from military activities considers a number of factors in the assessments of water ranges around the world. These considerations include munitions distribution, corrosion and constituent release rates, fate and transport of munitions constituents in the marine environment, and marine organism exotoxicity.

Munitions are distributed over a wide area during training and testing activities, with only the potential for concentrated munitions in waters surrounding FDM. Discussions on direct observations of reef conditions surrounding FDM are also included above. Once munitions are deposited in benthic environments, they tend to progress through rotation cycles, depending on the energy of the environment and shape of the munitions, followed by burying. In coral coasts, few munitions bury upon impact (approximately 10 percent), but scouring and colonization act to cover the munitions.⁷ For observations of colonization of munitions surfaces in waters surrounding FDM, see discussion above. Underwater corrosion has been the subject of considerable research over the years. Beaubien et al. (1972) provide an annotated bibliography

⁷ Inman, D.L. and Douglas, S.A. (2002). Scour and Burial of Bottom Mines: a Primer for Fleet Use. Integrative Oceanography Division, Scripps Institution of Oceanography, University of California, San Diego, La Jolla, CA 92093-0209. Scripps Institution of Oceanography (SIO) Reference Series No. 02-8.

summarizing research completed prior to 1972.⁸ Additional testing has been performed, both in the laboratory and under real world conditions. One of the most extensive test programs has focused on understanding corrosion of the USS Arizona, which was sunk by the Japanese in Pearl Harbor and is now maintained as a memorial.^{9,10} The objective of this program was to understand the current state of the ship's structure and to predict how it could degrade in the future as a result of continued corrosion. These studies and others suggest that, in seawater, corrosion decreases to a steady rate after approximately 2 to 3 years. Further, the rate of corrosion generally decreases with depth and increases as the water flow increases. The Navy Research Laboratory (1972) presented information on the deterioration of materials, including munitions, based on published and unpublished studies, and on authoritative opinions. In general, the resistance of munitions to seawater depends on the following characteristics: type of packaging and packing; structural strength of the assembly; materials of construction; rate of corrosion; tightness of seals; and susceptibility of the propellant, explosives, and associated devices to water damage.

Munitions detonation is a fairly complete process based on the low levels of explosives contamination identified in range fate studies and range assessment characterizations.¹¹ In general, an average high-order detonation rate of 97 percent may be assumed for munitions used during military readiness activities in the Marianas, with a dud rate of 3 percent, and a low-order detonation rate (partial detonation) of 0.06 percent.¹² As a result, release rates of explosive materials due to in-water detonations would not be expected to be great. These low levels would lead to minimal environmental impacts.

Studies of munitions impacts on nearshore and deep waters off of Oahu Island, Hawaii, are available and support Navy conclusions for MITT. In the shallow water environment, Cox, De Carlo, and Overfield (2007)¹³ collected samples along Ordinance Reef, off of Wai'anae on Oahu.

⁸ Beaubien, L. A., Wolock, I., and Buchanan, C. L. (1972) Behavior of Materials in a Subsurface Ocean Environment, NRL Report 7447, Naval Research Laboratory, Washington, D. C., 1972.

⁹ Russell, M. A. (2006). A Minimum-Impact Method for Measuring Corrosion Rate of Steel-Hulled Shipwrecks in Seawater. *The International Journal of Nautical Archaeology*:35, pp. 310-318.

¹⁰ National Park Service. (2008). Long Term Management Strategies for USS Arizona, A Submerged Cultural Resource in Pearl Harbor, Submerged Resources Center Technical Report 27, Santa Fe, New Mexico, 2008.

¹¹ Naval Research Laboratory. (1972). Behavior of Materials in a Subsurface Ocean Environment. NRL Report 7447. Washington, D.C. July 14, 1972.

¹² Dauphin and Doyle. (2000). *Report of Findings For: Study of Ammunition Dud and Low Order Detonation Rates*. Prepared by U.S. Army Defense Ammunition Center, Technical Center for Explosives Safety, McAlester, Oklahoma. Prepared for the U.S. Army Environmental Center, ATTN: SFIM-AEC-ETD, Aberdeen Proving Ground, Maryland. July.

¹³ Cox, E., De Carlo, E., Overfield, M. (2007). Ordinance Reef, Wai'anae, HI.: Remote Sensing Survey and Sampling at Discarded Military Munitions Site. Marine Sanctuaries Conservation Series NMSP-07-01. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Sanctuary Program, Silver Spring, MD. 112 pp.

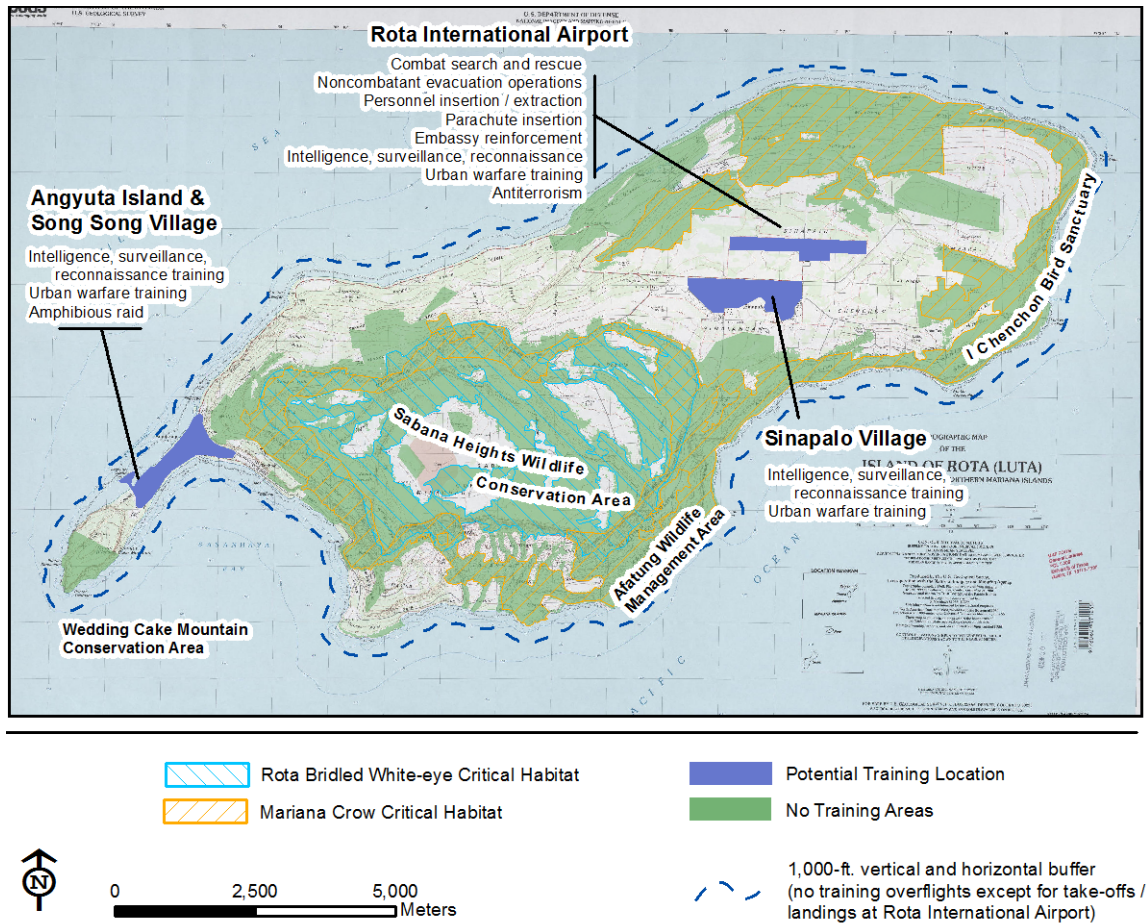
This study was overseen by the NOAA National Marine Sanctuaries Program to collect screening level data to support the DoD's evaluation of potential explosive and human health hazards posed by military munitions. The objectives of the Ordnance Reef Project were to independently collect data to define the extent of a discarded military munitions sea disposal site and determine through biological, sediment and water column sampling whether munitions constituents, such as explosives, metals, may potentially impact human health and the environment. The discarded munitions off of Wai'anae ranged from small arms munitions to large caliber projectiles and naval gun ammunition. The results showed "very low" trace metal enrichment of marine sediments. There were no detections of the explosive materials cyclonite (RDX), trinitrotoluene (TNT), or tetryl in the sampling effort, although dinitrofluorene (DNF) was detected in 4 of the 47 sample sites. Of these 4 samples, 3 were associated with munitions (due to proximity to munitions). One sample was located near shore and not associated with munitions. It should be noted that DNF compounds are used in flexible polyurethane foams (bedding and furniture), as well as in dyes and air bags of automobiles. No explosives or related compounds were detected in any of the 49 fish samples. Overall, the results indicated that there was no significant impact from munitions disposal on the water quality of shallow waters off the Wai'anae Coast, and little evidence of contamination of sediments as a result of munitions disposal. With few exceptions, the overall ranges of concentrations of trace elements found in this study's samples were found to be consistent with those observed in uncontaminated settings. This study is applicable to FDM because the sediments off the Wai'anae coast are primarily carbonate sediments, similar to sediments surrounding FDM.

The University of Hawaii investigated 3 deepwater munitions dump sites 5 miles south of Pearl Harbor to see if any of the dumped munitions posed a threat to human health or the environment. Two of the sites are in waters 6,000 feet or more deep, while the third site was in water as deep as 1,500 feet. The data do not indicate any adverse effects on ecological health or human health from the consumption of fish and shrimp collected near the dump sites.

As stated above, spillover effects into the CNMI's coastal zone from military readiness activities are unlikely. Military readiness activities that result in expended materials are conducted offshore, outside of the CNMI coastal zone. In part, the low potential for spillover effects is due to the dispersed nature of most activities that involve expended materials and the dynamics of the Northern Equatorial Current. In summary, these factors ensure that activities described in the MITT EIS/OEIS are consistent to the maximum extent practicable with DEQ water quality standards.

Conclusion

As stated in the Navy's CD, the Navy has analyzed the MITT Proposed Action in reference to the enforceable policies of the CNMI Coastal Management Program and concludes the Proposed Action is consistent to the maximum extent practicable with those policies. The additional information provided in this document should effectuate CNMI's concurrence with that determination.



Note: Potential training locations (shaded in red) show where training activities may occur. Intelligence, surveillance, reconnaissance training and urban warfare training locations are not exact and are arranged in coordination with the Rota Mayor's office. These training activities occur in developed areas. No training activity would occur within designated critical habitat for the Mariana crow or Rota bridled white-eye, local conservation areas, or other any other area considered to be habitat for ESA-listed species. Green shaded areas represent all areas that could be occupied by ESA-listed species at any time throughout the year. These areas are not proposed for training. Mariana fruit bat colonies are not depicted in the map as they fall within designated critical habitat or conservation areas.

Figure 1: Rota Training Areas and Restricted Areas

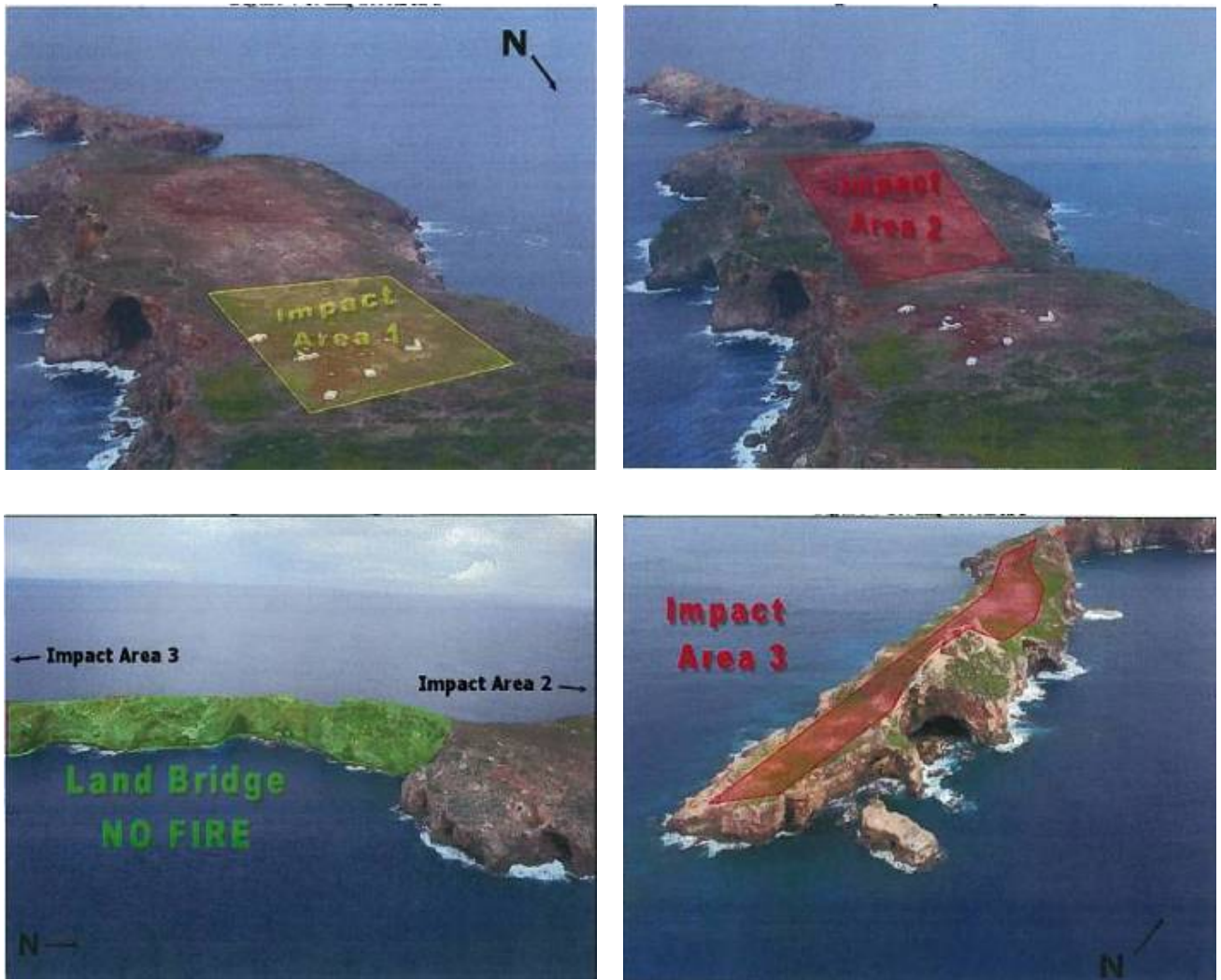
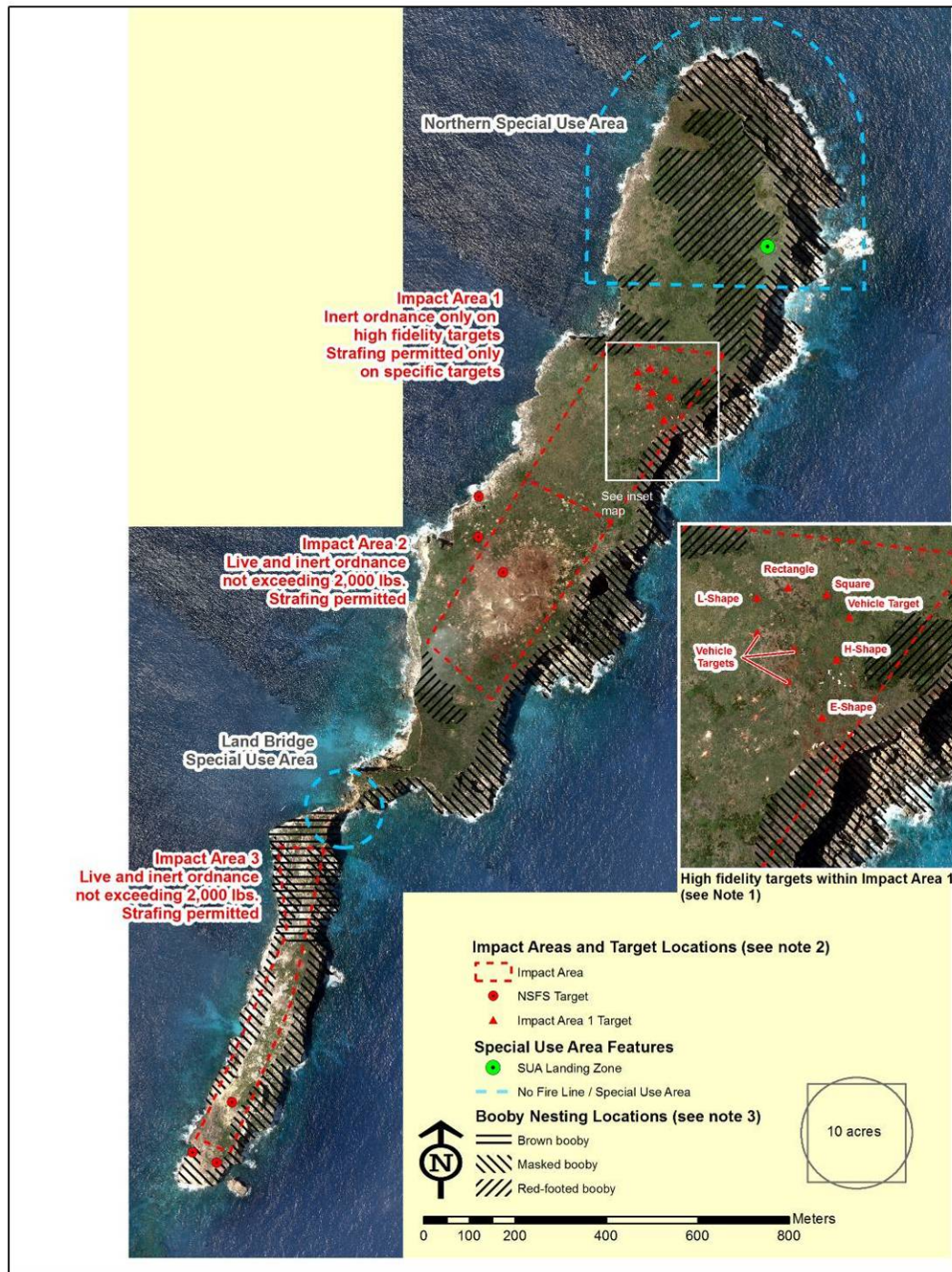


Figure 2: FDM Impact Areas and No Targeting Areas (Oblique View)



Source: Aerial photography provided by U.S. Department of the Navy (2014).

Note 1: Target vehicles, rectangular target, square target, and L-shaped target receive only lightweight inert ordnance not exceeding 100 lbs. Strafing prohibited. The H-shaped target may be targeted with inert ordnance not exceeding 500 lbs. Strafing prohibited. The E-shaped target may be targeted with inert ordnance not exceeding 2,000 lbs. Strafing authorized.

Note 2: Areas outside of designated Impact Areas are considered "No Fire Areas" in accordance with COMNAVMARIANASINST 3500.4A.

Note 3: Booby nesting locations are updated based on (1) observations of booby nesting during periodic aerial surveys, (2) species specific habitat preferences, and (3) information provided by Lusk et al. 2000.

Figure 3: FDM Impact Areas and No Targeting Areas (Plan View)

Table 1: Summary of Recommended Mitigation Measures

| Activity Category or Mitigation Area | Recommended Lookout Procedural Measure | Recommended Mitigation Zone and Protection Focus | Indirect or Direct Beneficial Effects on EFH |
|--|--|--|--|
| Acoustic (Non-Impulsive Stressors) | | | |
| Low-Frequency and Hull-Mounted Mid-Frequency Active Sonar during Anti-Submarine Warfare and Mine Warfare | 2 Lookouts (general) 1 Lookout (minimally manned, moored, or anchored) | Low-Frequency: 200 yd. (183 m) shutdown for marine mammals and sea turtles Hull-Mounted Mid-Frequency: 1,000 yd. (914 m) and 500 yd. (457 m) power downs and 200 yd. (183 m) shutdown for marine mammals and sea turtles. | Indirect |
| Acoustic (Explosive/Impulsive Stressors) | | | |
| Improved Extended Echo Ranging Sonobuoys | 1 Lookout | 600 yd. (549 m) for marine mammals and sea turtles. | Indirect |
| Explosive Sonobuoys using 0.6–2.5 lb. NEW | 1 Lookout | 350 yd. (320 m) for marine mammals and sea turtles. | Indirect |
| Anti-Swimmer Grenades | 1 Lookout | 200 yd. (183 m) for marine mammals and sea turtles. | Indirect |
| Mine Countermeasures and Mine Neutralization using Positive Control Firing Devices | General: 1 or 2 Lookouts (NEW dependent) Diver-placed: 2 Lookouts Lookouts will survey the mitigation zone for seabirds prior to and after the detonation event. | NEW dependent for marine mammals and sea turtles and flocks of seabirds. | Indirect |
| Mine Neutralization Activities Using Diver-Placed Time-Delay Firing Devices | 4 Lookouts Lookouts will survey the mitigation zone for seabirds prior to and after the detonation event. | Up to 10 min. time-delay using up to 29 lb. NEW: 1,000 yd. (915 m) for marine mammals and sea turtles. | Indirect |
| Gunnery Exercises – Small- and Medium-Caliber using a Surface Target | 1 Lookout | 200 yd. (183 m) for marine mammals and sea turtles. | Indirect |
| Gunnery Exercises – Large-Caliber using a Surface Target | 1 Lookout | 600 yd. (549 m) for marine mammals and sea turtles. 70 yd. (64 m) within 30 degrees on either side of the gun target line on the firing side for marine mammals and sea turtles. | Indirect |

Table 1: Summary of Recommended Mitigation Measures (continued)

| Activity Category or Mitigation Area | Recommended Lookout Procedural Measure | Recommended Mitigation Zone and Protection Focus | Indirect or Direct Beneficial Effects on EFH |
|--|--|--|---|
| Missile Exercises (Including Rockets) up to 250 lb. NEW using a Surface Target | 1 Lookout | 900 yd. (823 m) for marine mammals and sea turtles. 350 yd. (320 m) for surveyed shallow coral reefs. | Direct |
| Missile Exercises (Including Rockets) from 251 to 500 lb. NEW using a Surface Target | 1 Lookout | 2,000 yd. (1.8 km) for marine mammals and sea turtles. 350 yd. (320 m) for surveyed shallow coral reefs. | Direct |
| Bombing Exercises, Explosive and Non-Explosive | 1 Lookout | Explosive: 2,500 yd. (2.3 km) for marine mammals and sea turtles. Non-Explosive: 1,000 yd. (914 m) for marine mammals and sea turtles. Both: 350 yd. (320 m) for surveyed shallow coral reefs. | Direct |
| Torpedo (Explosive) Testing | 1 Lookout | 2,100 yd. (1.9 km) for marine mammals and sea turtles and jellyfish aggregations. | Indirect |
| Sinking Exercises | 2 Lookouts | 2.5 nm for marine mammals and sea turtles and jellyfish aggregations. | Indirect |
| At-Sea Explosive Testing | 1 Lookout | 1,600 yd. (1.4 km) for marine mammals and sea turtles. | Indirect |
| Physical Strike and Disturbance | | | |
| Vessel Movements | 1 Lookout | 500 yd. (457 m) for whales. 200 yd. (183 m) for all other marine mammals (except bow riding dolphins). | Indirect |
| Towed In-Water Device Use | 1 Lookout | 250 yd. (229 m) for marine mammals | Indirect |
| Precision Anchoring | No Lookouts in addition to standard personnel standing watch | Avoidance of precision anchoring within the anchor swing diameter of shallow coral reefs, live hardbottom, artificial reefs, and shipwrecks. | Direct |

Table 1: Summary of Recommended Mitigation Measures (continued)

| Activity Category or Mitigation Area | Recommended Lookout Procedural Measure | Recommended Mitigation Zone and Protection Focus | Indirect or Direct Beneficial Effects on EFH |
|---|--|--|--|
| Shallow Coral Reefs, Hardbottom Habitat, Artificial Reefs, and Shipwrecks | No Lookouts in addition to standard personnel standing watch | <p>The Navy will not conduct precision anchoring within the anchor swing diameter, or explosive mine countermeasure and neutralization activities (except in existing anchorages and near-shore training areas around Guam and within Apra Harbor) within 350 yd. (320 m) of surveyed shallow coral reefs, live hardbottom, artificial reefs, and shipwrecks.</p> <p>No explosive or non-explosive small-, medium-, and large-caliber gunnery exercises using a surface target, explosive or non-explosive missile exercises using a surface target, explosive and non-explosive bombing exercises, or at-sea explosive testing within 350 yd. (320 m) of surveyed shallow coral reefs</p> | Direct |

Notes: EFH = Essential Fish Habitat, NEW = Net Explosive Weight, lb. = pounds, yd. = yards, m = meters, km = kilometers

NMFS ESSENTIAL FISH HABITAT RECOMMENDATIONS

AND

NAVY RESPONSE TO NMFS ESSENTIAL FISH HABITAT RECOMMENDATIONS



U.S. DEPARTMENT OF COMMERCE
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NATIONAL MARINE FISHERIES SERVICE
Pacific Islands Regional Office
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L.M. Foster
U.S. Pacific Fleet
250 Makalapa Drive,
JBPHH, Hawaii 96860-3134

July 21, 2014

Dear Mr. Foster:

The National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) Pacific Islands Regional Office, Habitat Conservation Division (PIRO HCD) has reviewed the Essential Fish Habitat (EFH) Assessment for training and testing activities in the Mariana Islands Training and Testing Study Area. We appreciate the opportunity to provide the following comments in accordance with the EFH provision §305(b) of the Magnuson-Stevens Fishery Conservation and Management Act (MSA; 16 USC §1855).

The proposed action includes two categories of military readiness activities, training and testing, within the Mariana Islands Range Complex (MIRC). These training and testing activities are fully described in Alternative 1 (Preferred Alternative) in the Mariana Islands Training and Testing (MITT) EIS/OEIS. The Navy, U.S. Air Force, U.S. Marine Corps, and U.S. Coast Guard routinely train in the Action Area in preparation for national defense missions. Typical training and testing activities and exercises covered in the EIS include the detonation of underwater explosives; weapons firing; the use of active sonar, acoustics and electromagnetic devices; deployment of seafloor devices and other in-water devices (remotely operated vehicles); vessel movement; and ship to shore transport of personnel, equipment and supplies. In addition, sonar maintenance and gunnery exercises may also be conducted during ship transits that occur outside of the MIRC. The MITT EIS/OEIS also describes a number of major training exercises such as Joint Expeditionary Exercises, Joint Multi-Strike Group Exercises, and Marine Air Ground Task Force Exercise (Amphibious)-Battalion expected to take place within the MIRC.

The Action Area for the Essential Fish Habitat Assessment (EFHA) is the MITT Study Area excluding the land-based training areas. The Action Area is composed of established at-sea ranges



that encompass waters surrounding Guam and the Commonwealth of the Northern Mariana Islands (CNMI), operating areas (OPAREAs), and special use airspace in the region of the Mariana Islands that includes the existing Mariana Islands Range Complex (MIRC) (497,469 square nautical miles [nm^2]), additional areas on the high seas (487,132 nm^2), and a transit corridor between the MIRC and the Hawaii Range Complex (HRC). The at-sea components of the MIRC include nearshore and offshore training and testing areas, ocean surface and subsurface areas, and special use airspace. These areas extend from the waters south of Guam to north of Pagan (CNMI), and from the Pacific Ocean east of the Mariana Islands to the Philippine Sea to the west.

The Action Area also includes pierside locations in the Apra Harbor Naval Complex, including channels and routes to and from the Navy port in the Apra Harbor Naval Complex, and associated wharves and facilities within the Navy port and shipyard. Nearshore training and testing areas including the small arms ranges on Guam, the Agat and Piti Mine Neutralization Sites, the Apra Harbor UNDET Site, and the Pati Point Explosive Ordnance Disposal Range, are also included.

Magnuson-Stevens Act

Pursuant to the Magnuson-Stevens Act, the Secretary of Commerce, through NMFS, is responsible for the conservation and management of fishery resources found off the coasts of the United States. See 16 U.S.C. 1801 et seq. Section 1855(b)(2) of the Magnuson Act requires federal agencies to consult with NMFS, with respect to "any action authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken, by such agency that may adversely affect any essential fish habitat identified under this Act." The statute defines EFH as "those waters and substrates necessary to fish for spawning, breeding, feeding or growth to maturity." 16 U.S.C. 1802(10). Adverse effects on EFH are defined further as "any impact that reduces the quality and/or quantity of EFH," and may include "site-specific or habitat-wide impacts, including individual, cumulative or synergistic consequences of actions." 50 C.F.R. § 600.810(a). The consultation process allows NMFS to make a determination of the project's effects on EFH and provide Conservation Recommendations to the lead agency on actions that would adversely affect such habitat. See 16 U.S.C. 1855(b)(4)(A).

Essential Fish Habitat

In the Mariana Archipelago, the marine water column from the shoreline to the EEZ to depths of 1,000m and the seafloor to depths of 700m are classified as EFH. This EFH supports various life stages for the management unit species (MUS) identified under the Western Pacific Regional Fishery Management Council's Pelagic and Mariana Archipelago Fishery Ecosystem Plans (FEPs). The MUS and life stages that may be found in these waters include: eggs, larvae, juveniles and adults of Coral Reef Ecosystem Management Unit Species (CRE-MUS), Bottomfish MUS(BMUS), Pelagic MUS(PMUS), and the Crustacean MUS (CMUS).

Areas designated as Habitat Area of Particular Concern are found within the study area and include all slopes and escarpments between 40m-280m depth, the water column down to 1,000m that lies above seamounts and banks with summits shallower than 2,000m within the EEZ, the Orote and Haputo Ecological Reserve Areas, Guam National Wildlife Refuge at Ritidian, Jade Shoals, Cocos Lagoon, and Saipan Lagoon.

NMFS PIRO is concerned that the land-based portions of the MITT study area have been excluded from analysis within the EFH Assessment. Without an understanding of the land based activities, we are unable to fully evaluate the effect of these activities on EFH, and hence are unable to provide conservation recommendations for these land based activities as required. We are also concerned that the Navy's definition of impact as defined in the MITT EFH Assessment does not accurately describe the effects a "stressor" may have on EFH. For example, "stressor" duration of a few hours, days, or weeks can result in adverse effects to EFH that are more than temporary or minimal in nature. In addition, the analysis fails to consider the recovery time necessary between impacts. For example, if an activity such as landing an AAV requires 2-7 months for recovery, but is repeated more than six times a year at the same location, it may have a significant, if not permanent, effect on EFH over the long-term (MITT Section 3.8). Further, the repeated assumption in the EIS that impacts from training activities are similar to those of a natural storm and therefore not significant, is insufficient as a rationale for not mitigating the impacts from these activities. This analysis fails to recognize the impacts of storms on reef systems, particularly areas protected from natural storm impacts, and also does not account for the significant increase in frequency of these events under the MITT Preferred Alternative.

In discussions regarding the CNMI Joint Military Training EIS, it has been clearly stated that the designated landing craft beaches on Tinian require significant modification or "homogenization" to facilitate safe landing activities. This process if carried out will have substantial impacts to EFH. Landing craft including RHIB in most of the sites described in this EFHA will have significant impacts to coral due to the high density of corals along the extremely shallow reef crests at these sites. We strongly recommend that this analysis be updated for the FEIS to clarify the sites that will be used or reflect the actual number of landings that will take place given the abovementioned constraints. In addition, please provide an analysis of potential impacts of Unmanned Undersea Vehicles. The information provided in the EIS and EFHA is insufficient to determine the impacts of these activities.

Navy has also determined throughout the document that adverse effect to EFH will be minimal due to calculation that the impact area from an individual stressor only represents a small proportion of the entire range complex. For example, the assessment indicates that expended materials from training activities will affect 158,208m² and expended materials from testing activities will affect an additional 12,588m² for a total area impacted of 170,796m²(Page 4-44). It is impossible to calculate the exact impact on EFH based on the information provided, but if only

10% of the expended materials fall within EFH for CREMUS or BMUS, it would have substantial adverse effect on the limited EFH available for these MUS.

NMFS PIRO finds that the proposed activities **Would Affect EFH**. As such, we offer the following Conservation Recommendations in accordance with the EFH provision of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) (50 C.F.R. § 600.905 – 930) to avoid and minimize these impacts to EFH:

1. Evaluate the impacts to EFH from the land-based portions of the MITT study area such as any activities occurring on Farallon de Medinilla, as well as Andersen Air Force Base, Naval Base Guam, Saipan, Tinian, and Rota, and work together with NMFS to implement measures to mitigate any identified adverse effects to EFH.
2. Avoid, to the greatest extent practicable, conducting any training and testing activities in the MITT study areas that have been designated as Habitat Area of Concern (HAPC) for CREMUS. Also, avoid conducting activities that have impact to seafloor in areas designated as HAPC for BMUS. Avoidance of these areas will eliminate risk of impact to these important habitats. (Please refer to the Western Pacific Regional Fishery Management Council's Mariana Archipelago FEP for these EFH designations).
3. Develop and implement a protocol for immediate clean-up of unexploded ordinance also for floating debris such as parachutes in areas designated as EFH for juvenile and adult life stages for CREMUS (all seafloor around the Mariana Islands shallower than 100 m depth). Unexploded ordinance may cause direct impacts to EFH if triggered after use, and parachutes become marine debris that may move with currents, tides and waves and trap fish and abrade corals in their path.
4. Conduct further analysis to assess the impacts of amphibious landings and over the beach insertions/extractions by small boats and unmanned vehicles. Due to the fragile nature of the coral reef habitats in the proposed training and testing sites and the proposed frequency of these events, the impacts are likely to be additive and cumulative in nature. Recent discussions regarding the CNMI Joint Military Training EIS suggest that the landing beaches on Tinian are physically unable to accommodate AAV landings and would need substantial modification for use as landing craft beaches. Please clarify DoD's expected use of these beaches and provide analysis of potential impacts.
5. Conduct landing craft and small boat insertions only during high tide and avoid sensitive reef habitat and operate the vessels in ways that minimize turbidity and sedimentation and avoid abrasion impact to corals and dense seagrass beds. We recommend that DoD further constrain the areas of landing operations to minimize impacts. Many of the areas listed on page 4-32, specifically San Luis Beach, Gab Gab Beach, Haputo Beach, Unai Chulu, Unai

Dankulo, and Unai Babui, have relatively high coral cover along the very shallow reef margin. The use of these areas for landing craft and small boats is highly likely to result in significant damage to corals. The EFHA and Draft EIS/OEIS do not fully assess the potential impacts of these activities and do not adequately describe the mitigation actions that DoD will take to address this.

6. To the extent possible, avoid activities that cause sedimentation and explosions, including landing craft exercises, during the 21 day primary coral spawning period each year. This is typically a 21 day period beginning around the full moon in July.
7. Limit precision anchoring activities to avoid all hard substrate in Apra Harbor and at the Saipan Anchorage, not just "surveyed" reef areas. Either set precision anchoring zone in soft habitat greater than 350m from hard areas per the hard-soft maps (i.e. Figure 3-28) or conduct surveys to delineate an area free of coral habitat to ensure that this activity avoids damage to EFH.
8. Plan training activities that include expended materials (e.g. GUNEX, TORPEX, etc) to avoid all areas where the seafloor is less than 700m deep, including offshore banks, shoals, and seamounts within the MIRC. Discharging expended materials in depths greater than 700m will avoid impacts to seafloor EFH. Materials may affect EFH in the water column, however, these will be limited to temporary impacts as the materials fall to the bottom. Efforts should be made to mitigate for expended materials discharged in depths less than 700 m. Include EFH maps for offshore banks, shoals, and seamounts that fall within the training zones in your analysis of impacts and provide these maps to naval forces through the PMAP system to facilitate impact avoidance during training activities.
9. Re-analyze the explosive impacts scenario to include the smaller, more sensitive fish sizes. According to the EFHA, the worst case scenario uses the 30lb fish for the analysis, yet this size class has the smallest range and therefore does not reflect a worst case scenario.
10. DoD should not increase the amount of explosive used at the Apra Harbor UNDET site. The Apra Harbor UNDET site is more confined and relatively close to high coral cover areas (see Figure 4-4). Doubling the current explosive charge increases the likelihood of impacts to coral reef habitat and CREMUS using the area. Ideally, use of the Apra Harbor UNDET site should be discontinued in favor of the openwater sites outside of the harbor.

Please be advised that regulations (Section 305(b)(4)(B) of the MSA) to implement the EFH provisions of the MSA require that Federal action agencies provide a written response to this letter within 30 days of its receipt and at least 10 days prior to final approval of the action. A preliminary response is acceptable if final action cannot be completed within 30 days. The final

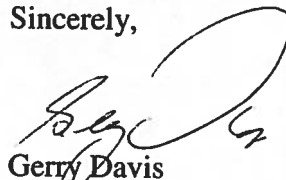
response must include a description of measures to be required to avoid, mitigate, or offset the adverse impacts of the activity. If the response is inconsistent with our EFH Conservation Recommendations, an explanation of the reason for not implementing the recommendations must be provided.

Conclusion

In conclusion, NMFS greatly appreciates the Navy's efforts to effectively coordinate with us on the proposed Mariana Islands Training and Testing EIS/OEIS, and the efforts to and minimize adverse effect to EFH including coral reef resources for this large scale project. We determine that adverse affect to EFH will occur without minimization measures such as the EFH Conservation Recommendations listed above. The information provided in the EIS and EFH Assessment suggests that there may be significant impacts to marine resources, particularly EFH, associated with this action as currently described.

We greatly appreciate the opportunity to review and comment on this project. Should you have any questions, comments, or require additional technical assistance, please contact Valerie Brown in our Guam Field Office valerie.brown@noaa.gov or 671-646-1904.

Sincerely,



Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division

cc by e-mail:

Ryan Winn, US ACOE, Honolulu District
Amelia DeLeon, GCMP, BSP
Celestino Aguon, DAWR, DoAg



DEPARTMENT OF THE NAVY

COMMANDER
UNITED STATES PACIFIC FLEET
250 MAKALAPA DRIVE
PEARL HARBOR, HAWAII 96860-3131

IN REPLY REFER TO:
5090
N465/0851
August 19, 2014

Mr. Gerry Davis
Assistant Regional Administrator
Habitat Conservation Division
National Marine Fisheries Service
Pacific Islands Regional Office
1845 Wasp Blvd., Building 176
Honolulu, HI 96818

Dear Mr. Davis:

SUBJECT: ESSENTIAL FISH HABITAT (EFH) ASSESSMENT FOR THE MARIANA
ISLANDS TRAINING AND TESTING (MITT) STUDY AREA

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act (MSA) and regulations governing conservation of EFH, this letter responds to the National Marine Fisheries Service's (NMFS) July 21, 2014, conservation recommendations for proposed military training and testing activities in the Marina Islands Training and Testing (MITT) Study Area.

We acknowledge your concerns outside of the conservation recommendations regarding activities on the land-based portions of the MITT Study Area, amphibious landings, expended materials in areas designated as EFH, and the associated analysis within the EFH Assessment. The MITT Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) include land-based activities on Guam and the Commonwealth of the Northern Mariana Islands (CNMI) (including Farallon de Medinilla [FDM]) (refer to Enclosure 1). The only land-based activities that could impact EFH are those conducted on FDM. Proposed activities on FDM may impact surrounding marine habitats; however, these impacts are expected to be minimal and, therefore, will not require mitigation.

In regards to the stressor analysis and impacts, the term stressor is broadly used in the EIS and EFHA to refer to an agent, condition, or other stimulus that causes stress to an organism or alters physical, socioeconomic, or cultural resources. Further information on the approach to analysis is provided in Section 3.0.5 of the MITT EIS/OEIS. The EFH Assessment is based on best available data regarding location of habitat within the Study Area and, when available, the condition of habitat. The analysis considers data from annual marine ecological surveys of near shore marine resources at FDM between 1999 and 2012 (no survey was performed in 2011). This area of marine habitat has been utilized for many years for military

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activities, activities which are much more impactful than the remaining activities proposed throughout the MITT Study Area. Although minor ecological impacts which could be attributed to military training were detected in 2012 and previous surveys, no significant or substantial impacts to the physical or biological environment have been detected between 1999 and 2012. This conclusion was reached by all the investigators (1999 - 2012) and was based upon four criteria: 1) very few areas of disturbance have been detected, 2) most of the disturbed areas have been located in natural rubble environments, 3) the size of the disturbed areas were generally less than two square meters, and 4) substantial or complete recovery has occurred within one year. Therefore, the analysis reflects that similar (or reduced) impacts and recovery times would be expected in other portions of the MITT Study Area from the proposed actions.

Amphibious landings using LCAC, LCU, AAV or other large amphibious craft over beaches are addressed in the MITT EIS/OEIS and EFH Analysis programmatically. Amphibious landings identified in the MITT EIS/OEIS are potential locations where these activities could occur. The few amphibious landings proposed would only be conducted after additional assessments are made to 1) ensure the activity could be conducted in such a way as to avoid impacts, or 2) if impacts cannot be avoided, additional mitigation measures and consultation would be considered as appropriate.

Unmanned Underwater Vehicles (UUVs) consist of two categories: remotely operated vehicles and autonomous underwater vehicles. Within these two categories are many sub-types and designs meeting differing requirements. In general, free-swimming UUV, both remotely operated or autonomous, are by design equipped with depth/mapping sensors and operated in such a way as to avoid all contact with obstructions or bottom, and avoid areas of high surge such as the surf zone. Some UUVs, such as crawlers, are by design able to operate in areas of high current/surge found in shallow waters, nearshore, and the surf zone. Crawlers which can operate in this environment are typically autonomous, battery-powered amphibious vehicles typically used for functions such as reconnaissance missions in the nearshore and the surf zone. These devices are used to classify and map underwater mines in shallow water areas. They are capable of traveling 2 ft. (0.61 m) per second along the seafloor and can avoid obstacles. Crawlers move over the surface of the seafloor and would not harm or alter any hard substrates encountered; therefore the hard bottom habitat would not be impaired. In soft substrates, they may leave a trackline of depressed sediments approximately 24 in. (62 cm) wide (the width of the device) in their wake. However, since they operate in shallow water, any disturbed sediments would be redistributed by wave and tidal action shortly following the disturbance. Any disturbance to the soft sediments would not impair their ability to function as a habitat.

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Finally, in regards to military expended materials, most activities that expend materials are not scheduled consistently in the same location and mostly occur within deeper offshore areas. Because expended materials occur over a vast area in deeper waters, there are minimal impacts to EFH. The Navy has conducted monitoring in the coastal areas around FDM since 1999. Based on the findings from these studies, impacts to the marine habitats from military expended materials have shown to be insignificant. Therefore, impacts to EFH throughout the Study Area from military expended materials would be minimal and would not require further mitigation.

The following provides Navy's responses to the ten EFH conservation recommendations offered in your letter:

Recommendation 1:

Evaluate the impacts to EFH from the land-based portions of the MITT Study Area such as any activities occurring on Farallon de Medinilla, as well as Andersen Air Force Base, Naval Base Guam, Saipan, Tinian, and Rota, and work together with NMFS to implement measures to mitigate any identified adverse effects to EFH.

Navy response:

MITT activities that could potentially cause erosion and sedimentation of nearshore habitats discussed in the Draft EIS/OEIS are limited to those occurring on FDM. There are no land-based activities that involve construction or other ground disturbing activities. In response to your comments on the Draft EIS, information regarding potential sediment runoff from military use of FDM has been added to Section 3.1 (Sediments and Water Quality) of the Final EIS/OEIS, and information regarding how erosion on FDM may impact specific resources has been added to relevant resource sections in the Final EIS/OEIS (e.g., marine communities, marine invertebrates, fish, sea turtles, and marine mammals). The analysis concludes that impacts from erosion caused by land-based activities on sediment and water quality would be indirect, short term, and local. Any increase in turbidity that may impact surrounding biological communities would be minimal and not expected to result in long-term adverse impacts to EFH. A copy of the MITT Preliminary FEIS Version 2 was provided to NMFS Headquarters and Hawaii offices for review on 24 June 2014.

Recommendation 2:

Avoid, to the greatest extent practicable, conducting any training and testing activities in the MITT Study Area that have been designated as Habitat Area of Particular Concern (HAPC) for Coral Reef Ecosystem Management Unit Species (CREMUS). Also, avoid conducting activities that have impact to seafloor in areas designated as HAPC for

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Bottomfish Management Unit Species (BMUS). Avoidance of these areas will eliminate risk of impact to these important habitats. (Please refer to the Western Pacific Regional Fishery Management Council's Mariana Archipelago FEP for EFH designations.)

Navy response:

The Navy cannot practicably avoid all designated EFH areas for all activities, but proposes to implement certain measures to avoid and minimize impacts to EFH. For example:

- The Navy conducts underwater detonations in designated locations where they have historically occurred and have been previously analyzed in the MIRC EIS/OEIS (e.g., Agat Bay Mine Neutralization Site, Outer Apra Harbor Underwater Detonation Site, and Piti Floating Mine Neutralization Site);
- The Navy conducts precision anchoring primarily in locations where this activity has historically occurred, (e.g., established and regulated anchorages in Apra Harbor see attached figure); and
- Prior to conducting any amphibious landing using LCAC, LCU, AAV or other large amphibious craft over beaches that may contain bottom obstructions or coral, site-specific assessments will be conducted to determine conditions and if additional consultations or NEPA are required.

Recommendation 3:

Develop and implement a protocol for immediate clean-up of unexploded ordnance also for floating debris such as parachutes in areas designated as EFH for juvenile and adult life stages of CREMUS (all seafloor around the Mariana Islands shallower than 100 m depth). Unexploded ordnance may cause direct impacts to EFH if triggered after use, and parachutes become marine debris that may move with currents, tides and waves and trap and abrade corals in their path.

Navy response:

Navy considers emergency actions associated with unexploded ordnance outside the scope of the proposed action and states that there are already operating procedures in place depending on the type of emergency. Navy reiterates that the majority of training items would be expended in the open ocean, where substrates would be primarily clays and silts. Navy will, however, remove associated debris (plastic for wrapping C4 charges, some targets, torpedoes and non-

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expendable materials) to the extent practicable as is related to training and testing activities.

Recommendation 4:

Conduct further analysis to assess the impacts of amphibious landings and over the beach insertions/extractions by small boats and unmanned vehicles. Due to the fragile nature of the coral reef habitats in the proposed training and testing sites and the proposed frequency of these events, the impacts are likely to be additive and cumulative in nature. Recent discussions regarding the CNMI Joint Military Training EIS suggest that the landing beaches in Tinian are physically unable to accommodate AAV landings and would need substantial modifications for use as landing craft beaches. Please clarify DOD's expected use of the beaches and provide analysis of potential impacts.

Navy response:

Hydrographic and beach surveys would not be necessary for beach landings that involve small boats, such as rigid hull inflatable boats (RHIBs). Small craft follow standard operating procedures and use a combination of shallow draft, small footprint, inherent maneuverability, or depth sensors to avoid damage to themselves, obstructions (e.g. hard substrates), and the seafloor.

Unmanned vehicles are not proposed for use during amphibious landings and over the beach insertions/extractions.

As previously discussed, amphibious landings using LCAC, LCU, AAV or other large amphibious craft over beaches are addressed in the MITT EIS/OEIS and EFH Analysis programmatically. The few Amphibious landings proposed would only be conducted after additional assessments are made to 1) ensure the activity could be done in such a way as to avoid impacts, or 2) if impacts cannot be avoided, would not be conducted in these areas without further studies and a site-specific analysis to determine potential impacts as well as additional mitigation measures and consultation as appropriate.

Recommendation 5:

Conduct landing craft and small boat insertions only during high tide and avoid sensitive reef habitat and operate the vessels in ways that minimize turbidity and sedimentation and avoid abrasion impacts to corals and dense seagrass beds. We recommend that DoD further constrain the areas of landing operations to minimize impacts. Many of the areas listed on page 4-32, specifically San Luis Beach, Gab Gab Beach, Haputo Beach, Unai Chulu, Unai Dankulo, and Unai Babui, have relatively high coral cover along the very shallow reef margin. The EFHA and Draft EIS/OIS do not fully assess the potential impacts of

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these activities and do not adequately describe the mitigation actions that DoD will take to address this.

Navy response:

Navy protocol is that amphibious landing activities would only be scheduled within designated boat lanes and beach landing areas. Standard operating procedure is to conduct beach landings and departures at high tide, and for constrained beaches (e.g., Unai Babui). Commander, Naval Forces Marianas [COMNAVMAR] Instruction 3500.4A requires that AAVs land at high tide one vehicle at a time over a designated approach lane.

Based on surveys prior to conducting landing activities, if the beach landing area and boat lane is clear, the activity could be conducted, and crews would follow procedures to avoid obstructions to navigation, including coral reefs; however, if there is any potential for impacts on corals or hard bottom substrate, the Navy would coordinate with applicable resource agencies before conducting the activity. Evaluation of cumulative and additive impacts from the proposed activities based on the surveys would be conducted at that time.

As previously mentioned, small craft follow standard operating procedures and use a combination of shallow draft, small footprint, inherent maneuverability, or depth sensors to avoid damage to themselves, obstructions, and the bottom. Hydrographic and beach surveys would not be necessary for beach landings with small boats, such as rigid hull inflatable boats (RHIBs).

Recommendation 6:

To the extent possible, avoid activities that cause sedimentation and explosions, including landing craft exercises, during 21 day primary coral spawning period each year. This is typically a 21 day period beginning around the full moon in July.

Navy response:

While training activities may overlap coral spawning periods during some years and some mobile larvae may be affected, due to the dispersed nature, frequency and duration of most activities proposed in the MITT Study Area the impacts from these activities are considered temporary and minimal. Scheduling of training activities and locations inevitably overlaps a wide array of marine species habitats, including foraging habitats, reproductive areas, migration corridors, and seasonal coral spawning. Training schedules are based on deployment schedules and evolving events. Training schedules cannot be tailored to avoid seasonal coral spawning. Limiting activities to avoid certain seasons would adversely impact the

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effectiveness of the training or testing activity, and would therefore result in an unacceptable increased risk to achieving the purpose and need for the proposed action in the MITT EIS/OEIS. Refer to Chapter 5, Section 5.3.4.1.11 (Avoiding Marine Species Habitats) of the MITT EIS for details.

Recommendation 7:

Limit precision anchoring activities to avoid all hard substrate in Apra Harbor and at the Saipan Anchorage, not just "surveyed" reef areas. Either set precision anchoring zone in soft habitat greater than 350m from hard areas per the hard-soft maps (i.e., Figure 3-28) or conduct surveys to delineate an area free of coral habitat to ensure that this activity avoids damage to EFH.

Navy response:

The Navy conducts precision anchoring primarily in locations where this activity has historically occurred per pre-existing federal recognition and regulation (e.g., the federally established, charted, and regulated anchorages in Apra Harbor, see Enclosure 2). These locations in Apra Harbor inevitably overlap both hard and soft bottom habitats, however since these areas are previously disturbed the impacts are anticipated to be minimal. Limiting activities to avoid these habitats would adversely impact the effectiveness of the training or testing activity.

Recommendation 8:

Plan training activities that include expended materials (e.g. GUNEX, TORPEX, etc.) to avoid all areas where the seafloor is less than 700m deep, including offshore banks, shoals, and seamounts within the Mariana Islands Range Complex (MIRC). Discharging expended materials in depths greater than 700m will avoid impacts to seafloor EFH. Materials may affect EFH in the water column, however, these will be limited to temporary impacts as the materials fall to the bottom. Efforts should be made to mitigate for expended materials discharged in depths less than 700m. Include EFH maps for offshore banks, shoals, and seamounts that fall within the training zones in your analysis of impacts and provide these maps to naval forces through the PMAP system to facilitate impact avoidance during training activities.

Navy response:

The Navy cannot practicably avoid discharging expended materials in all designated EFH areas at depths less than 700 m. However, in heavily used coastal areas around FDM, monitoring since 1999 has determined that impacts to the marine habitats from military expended materials have been insignificant. This was based on few areas of

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disturbance detected in the monitoring; most of the observed disturbance areas have been located in natural rubble environments, the size of disturbed areas was less than 2 square meters, and substantial or complete recovery was observed within 1 year (Smith et al. 2013). Therefore, impacts to EFH areas within the Study Area located in water depths less than 700 m are expected to be minimal and temporary, and would not require mitigation.

Recommendation 9:

Re-analyze the explosive impacts scenarios to include the smaller more sensitive fish sizes. According to the EFHA, the worst case scenario uses the 30lb fish for the analysis, yet this size calls has the smallest range and therefore does not reflect a worst case scenario.

Navy response:

The explosive impacts scenarios for the 10 percent mortality range for fish in the EFHA include 1-ounce (oz.), 1-pound (lb.), and 30 lb. fish as shown in Table 4-5 of the EFHA. However, the text of the EFHA in the DEIS incorrectly states that the worst-case scenario is based off of the 30 lb. fish, when it was based off of the 1 oz. fish. This text will be amended in the Final EIS. Additionally, a determination on the impacts requires more information than what is currently available and, therefore, the analysis in the EFHA does not draw on any further conclusions for mortality of fish from explosives beyond what is presented in Table 4-5.

Recommendation 10:

DoD should not increase the amount of explosive used at Apra Harbor UNDET site. The Apra Harbor UNDET site is more confined and relatively close to high coral cover areas (see Figure 4-4). Doubling the current explosive charge increases the likelihood of impacts to coral reef habitats and CREMUS using the area. Ideally, use of the Apra Harbor UNDET site should be discontinued in favor of the openwater sites outside of the Harbor.

Navy response:


The Apra Harbor Underwater Detonation Site has a long history of usage and the surrounding benthic habitat is previously disturbed. The Navy does not propose to increase the frequency of activity for bottom-laid underwater explosion from what was analyzed in previous NEPA documents for the MIRC. The Navy is proposing to increase the net explosive weight (NEW) limit at this site to permit accomplishing a 20 lb. NEW training requirement. However, based on your concern regarding high coral cover areas in Apra Harbor, the Navy has re-evaluated the need for an increase in NEW utilized at the Outer Apra Harbor UNDET site

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and has determined that the 10 lb NEW limit will support current training needs and no increase is needed at this time. If the proposed increase becomes necessary at a later date, the Navy will conduct the appropriate analysis to assess potential effects on nearby coral. If and when such analysis is complete, the Navy will initiate site-specific EFH consultation with NMFS.

We appreciate your continued support in helping the U.S. Navy meet its environmental responsibilities. My point of contact for this matter is Ms. Julie Rivers. She can be reached at (808) 474-6391 or julie.rivers@navy.mil.

Sincerely,



L. M. FOSTER
Dir, Environmental Readiness
By direction

Enclosures: 1. Table 1-1. Land-Based Training Activities in the
MITT Action Area
2. Figure 1-1. Nearshore Habitat Map

Copy to: (w/o encl)

Mr. Stan Rogers, NMFS Office of Protected Resources

Mr. John Fiorentino, NMFS Office of Protected Resources

Dr. Kelly Ebert, CNO N45

Table 1-1: Land-Based Training Activities in the MITT Action Area

| Activity Name ¹ | Action Area Component Where Trainings May Occur ² | | | | | Activity Description |
|---|---|-------------------|--------|--------|-----|---|
| | Guam | Rota ³ | Tinian | Saipan | FDM | |
| Strike Warfare | | | | | | |
| Bombing Exercise Air-to-Ground | - | - | - | - | X | Fixed-wing aircraft drop of explosive and non-explosive bombs on a land target. |
| Gunnery Exercise Air-to-Ground | - | - | - | - | X | Helicopters and fixed wing aircraft fire guns at land based targets. |
| Missile Exercise | - | - | - | - | X | Missiles or rockets from aircraft launched at a land target. |
| Combat Search and Rescue | X | X | X | X | - | CSAR units use helicopters, night vision and identification systems, and insertion and extraction techniques under hostile conditions to locate, rescue, and extract personnel. |
| Amphibious Warfare | | | | | | |
| Fire Support Exercise-Land Based Target | - | - | - | - | X | Surface ship crews use large-caliber guns to fire on land-based targets in support of forces ashore. |
| Amphibious Assault | X | - | X | - | - | Forces move ashore from ships at sea for the immediate execution of inland objectives. |
| Amphibious Raid | X | X | X | - | - | Small unit forces move swiftly from ships at sea in amphibious assault craft for a specific short-term mission. Raids are quick operations with as few personnel as possible. |
| Urban Warfare Training | X | - | X | X | - | Forces sized from squad (13 personnel) to battalions (approximately 950 personnel) conduct training activities in mock urban environments. |
| Noncombatant Evacuation Operations / Humanitarian Assistance Operations / Disaster Relief Operations | X | - | X | - | - | Military units evacuate noncombatants from hostile or unsafe areas or provide humanitarian assistance in times of disaster. |
| Naval Special Warfare | | | | | | |

| Activity Name ¹ | Action Area Component Where Trainings May Occur ² | | | | | Activity Description |
|---|---|-------------------|--------|--------|-----|---|
| | Guam | Rota ³ | Tinian | Saipan | FDM | |
| Personnel Insertion/Extraction | X | X | X | - | - | Military personnel train for covert insertion and extraction into target areas using helicopters, fixed-wing aircraft (insertion only), small boats, and submersibles. |
| Parachute Insertion | X | X | X | - | - | Military personnel train for covert insertion into target areas using parachutes. |
| Embassy Reinforcement | X | X | X | - | - | Special warfare units train to provide reinforcement of an embassy under hostile conditions. |
| Direct Action (Combat Close Quarters and Breaching) | X | - | X | - | - | Military personnel train for use of force, breaching doors and obstacles, and close quarters combat. |
| Direct Action (Tactical Air Control Party/Joint Tactical Air Control) | - | - | - | - | X | Military personnel train to control combat support aircraft and designate targets for airspace de-confliction and terminal control for close air support. Teams also train to use small arms and mortars. |
| Intelligence, Surveillance, Reconnaissance | X | X | X | X | - | Special warfare units train to collect and report battlefield intelligence. |
| Urban Warfare Training | X | X | X | X | - | Special warfare units train in mock urban environments. |
| Other Training Activities | | | | | | |
| Maneuver (Convoy, Land Navigation) | X | - | X | - | - | Units conduct field maneuver training or convoy training. |
| Water Purification | X | - | X | - | - | Units conduct water purification training using water purification equipment in field conditions. |
| Field Training Exercise | X | X | X | X | - | Units train in securing an area, establishing a camp or post, and guarding and patrolling. |
| Force Protection | X | X | X | - | - | Units train in providing defensive force protection against a terror threat. |
| Anti-terrorism | X | X | X | - | - | Units train in conducting direct action against a terror threat. |

| Activity Name ¹ | Action Area Component Where Trainings May Occur ² | | | | | Activity Description |
|---|---|-------------------|--------|--------|-----|--|
| | Guam | Rota ³ | Tinian | Saipan | FDM | |
| Seize Airfield | X | - | X | - | - | Train Naval Special Warfare, Navy Expeditionary Combat Command, or Marine Corps personnel to seize control of an airfield or port for use by friendly forces. These activities only occur at DoD-controlled airfields (on owned or leased lands on Guam and Tinian). |
| Airfield Expeditionary | X | - | X | - | - | Units conduct training establishing, securing, maintaining, or operating an expeditionary airfield. These activities only occur at DoD-controlled airfields (on owned or leased lands on Guam and Tinian). |
| Land Demolitions (Improvised Explosive Device Discovery/Disposal) | X | - | X | - | - | Explosive ordnance units conduct training detecting, isolating, or securing Improvised explosive devices or unexploded ordnance. |
| Land Demolitions (Unexploded Ordnance) Discovery/Disposal | X | - | - | - | - | Explosive ordnance units conduct disposal of unexploded ordnance. Training is incidental to the emergency disposal of unexploded ordnance. Disposal occurs at Andersen AFB EOD Range. Emergency detonations may occur at Andersen AFB EOD Range and Naval Base Guam Munitions Site. |

Notes:

- Activities in **bold text** are activities that are proposed to increase in the number of occurrences per year relative to the number of exercises previously analyzed in the 2010 MIRC Biological Opinion. Activities that are not in bold text will not increase in occurrences per year.
- The major training activities discussed in the MITT EIS/OEIS that include land training components include Joint Expeditionary Exercise, Joint Multi-Strike Group Exercise, Fleet Strike Group Exercise, Marine Air Ground Task Force Exercise (Amphibious)—Battalion, Special Purpose Marine Air Ground Task Force Exercise, and Urban Warfare Exercise. The types and numbers of activities are included in the named activity descriptions for training activities. In other words, the major exercises do not add additional events, any additional training activities are included in the activity descriptions.
- All activities on Rota are expected to occur at the Rota International Airport, Anguata Island, Commonwealth Port Facility, and other developed areas.

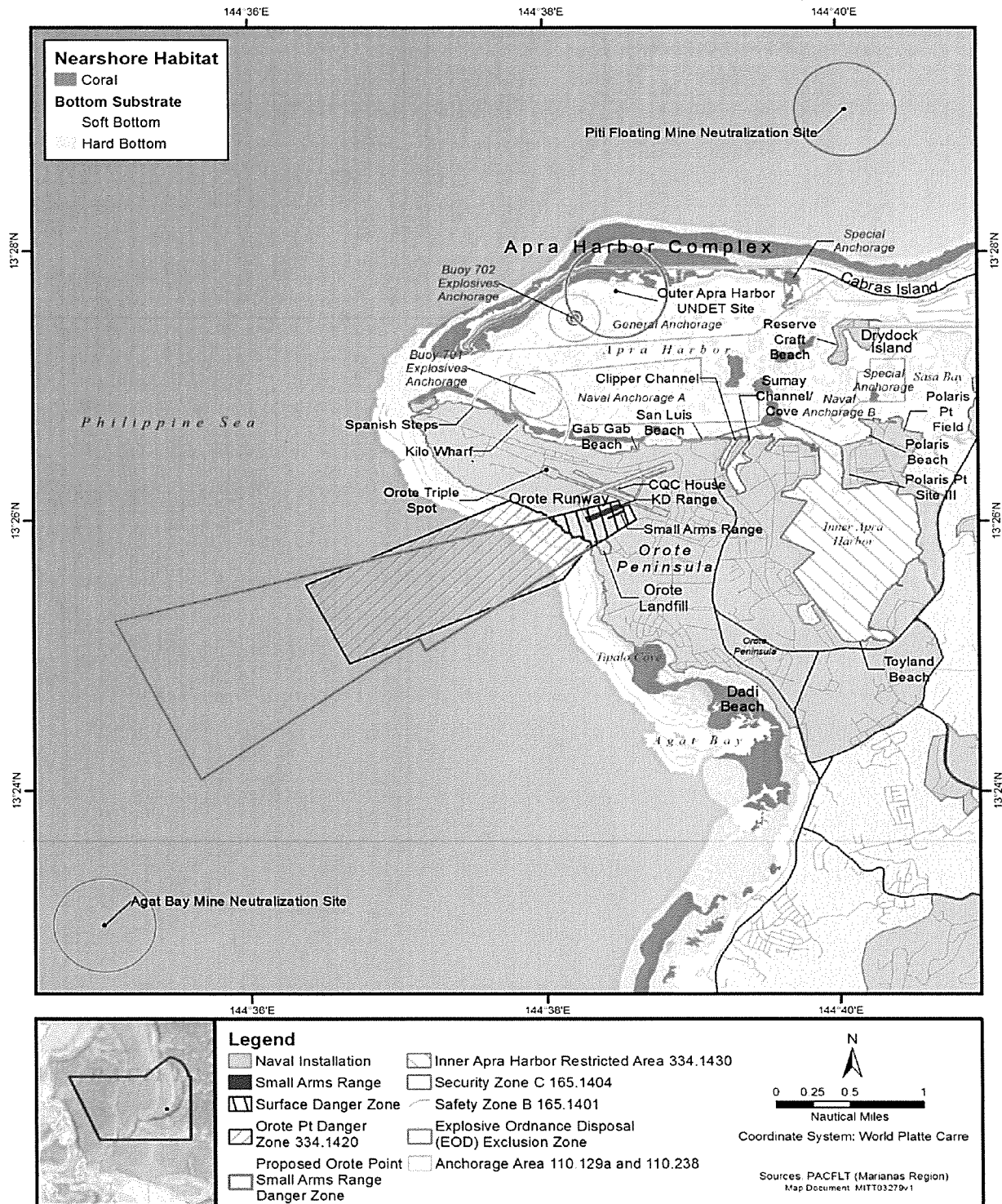


Figure 1-1. Nearshore Habitat Map