



DEPARTMENT OF THE NAVY

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JUN 15 2010

Department of Land Management  
Time: 9:30a Int: [Signature]

Mr. Christopher Duenas  
Director  
Guam Department of Land Management  
PO Box 2950  
Hagatna, GU 96932

Dear Mr. Duenas:

SUBJECT: MARIANA ISLANDS RANGE COMPLEX (MIRC) FINAL ENVIRONMENTAL  
IMPACT STATEMENT/OVERSEAS ENVIRONEMNTAL IMPACT STATEMENT  
(EIS/OEIS)

The MIRC EIS/OEIS (enclosed) has been filed with the U.S. Environmental Protection Agency. The final EIS/OEIS addresses the comments received on the draft EIS/OEIS that was released on January 30, 2009. All public comments (written and oral) received during the draft EIS/OEIS public review period as well as the responses to these comments are included in Chapter 11 of the final EIS/OEIS. The Department of Defense Representative Guam, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia and Republic of Palau will make his decision and it will be recorded in the Record of Decision after the 30 day waiting period.

Written comments may be submitted to:

Naval Facilities Engineering Command, Pacific  
258 Makalapa Drive, Suite 100  
Pearl Harbor, HI 96860-3134  
Attn: MIRC EIS/OEIS Project Manager  
Facsimile (808) 474-5419  
E-Mail: [marianas.tap.eis@navy.mil](mailto:marianas.tap.eis@navy.mil)

Written comments must be postmarked or received by July 6, 2010, to ensure they become part of the official record.

Thank you for your participation in the EIS/OEIS process.

30-10-0552

Office of the Speaker  
Judith T. Won Pat, Ed. D.

Date: June 15, 2010  
Time: 3:57 PM  
Received by: [Signature]

Sincerely,

*Larry M. Foster*

L. M. FOSTER  
Director, Fleet Environmental  
By direction

Enclosure: 1. Executive Summary and MIRC Final EIS/OEIS (CD)

Prepared for  
Commander, U.S. Pacific Fleet, Executive Agent

In accordance with  
The National Environmental Policy Act and  
Executive Order 12114

**MARIANA ISLANDS RANGE COMPLEX  
ENVIRONMENTAL IMPACT STATEMENT/  
OVERSEAS ENVIRONMENTAL IMPACT  
STATEMENT**

Executive Summary

May 2010

Final

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Please contact the following person with comments and questions:

Mariana Islands Range Complex EIS/OEIS  
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## ES 1 EXECUTIVE SUMMARY

### ES 1.1 INTRODUCTION

This Environmental Impact Statement (EIS)/Overseas Environmental Impact Statement (OEIS) analyzes the potential environmental consequences that may result from the Proposed Action and Alternatives, which address ongoing and proposed military training activities within the Mariana Islands Range Complex (MIRC). For the purposes of this EIS/OEIS, the MIRC and the Study Area are the same geographical areas. The MIRC consists of the ranges, airspace, and ocean areas surrounding the ranges that make up the Study Area. The Study Area does not include the sovereign territory (including waters out to 12 nautical miles [nm]) of the Federated States of Micronesia (FSM).

This EIS/OEIS has been prepared by the Department of the Navy (DoN) in compliance with the National Environmental Policy Act (NEPA) of 1969 (42 United States Code [U.S.C.] Section [§] 4321 et seq.); the Council on Environmental Quality [CEQ] Regulations for Implementing the Procedural Provisions of NEPA (Title 40 Code of Federal Regulations [C.F.R.] §§ 1500-1508); Department of the Navy Procedures for Implementing NEPA (32 C.F.R. 775); and Executive Order 12114 (EO 12114), Environmental Effects Abroad of Major Federal Actions. The Navy is the lead agency for the EIS/OEIS because of its role as executive agent, and the EIS/OEIS has been prepared for the Department of Defense (DoD) Representative Guam, Commonwealth of the Northern Mariana Islands (CNMI), Federated States of Micronesia and Republic of Palau (DoD REP). This EIS/OEIS satisfies the requirements of NEPA and EO 12114, and will be filed with the U.S. Environmental Protection Agency (USEPA) and made available to appropriate Federal, State, local, and private agencies, organizations, and individuals for review and comment.

The National Marine Fisheries Service (NMFS), United States (U.S.) Department of the Interior (Office of Insular Affairs), U.S. Department of Agriculture Wildlife Services (USDA WS), Federal Aviation Administration (FAA), U.S. Army, U.S. Marine Corps (USMC), U.S. Air Force (USAF), and U.S. Coast Guard (USCG) were invited as cooperating agencies. The NMFS, U.S. Department of Interior (Office of Insular Affairs), FAA, USMC, and USAF have agreed to be cooperating agencies.

The Proposed Action would result in critical enhancements to increase training capabilities (especially in the undersea and air warfare areas) that are necessary if the military services are to maintain a state of military readiness commensurate with the national defense mission. The Proposed Action does not involve extensive changes to the MIRC facilities, activities, or training capabilities, nor does it involve an expansion of the existing MIRC boundaries or airspace requirements. The Proposed Action does not involve the redeployment of U.S. Army, USN, USMC, USAF, or US Coast Guard personnel or assets, carrier berthing capability, or deployment of strategic missile defense assets to the Marianas. The Proposed Action focuses on the development and improvement of existing training capabilities in the MIRC and does not include any military construction projects.

This EIS/OEIS focuses on the achievement of Service readiness activities while the separate Guam and CNMI Marine Relocation EIS/OEIS focuses on the relocation of forces to the Marianas with its associated infrastructure and military construction requirements, Army Ballistic Missile Defense System, and construction of a new pier to support more frequent visits from transient Nuclear Aircraft Carrier (CVN) Berthing. The Intelligence, Surveillance, and Reconnaissance/Strike (ISR/Strike) EIS analyzes the force structure changes and associated support personnel and infrastructure requirements for new and increased aircraft events. Cumulative impact is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions and can result from individually minor but collectively significant actions taking place over a

period of time. Along with other cumulative effects, the cumulative impacts associated with the Marine relocation and ISR/Strike actions are analyzed within this EIS/OEIS.

The Proposed Action is to use the MIRC to support and conduct current, emerging, and future training and Research, Development, Test, and Evaluation (RDT&E) activities, while enhancing training resources through investment in the ranges. Training and RDT&E activities do not include combat operations, operations in direct support of combat, or other activities conducted primarily for purposes other than training. Three alternatives have been analyzed to determine environmental impacts. The No Action Alternative consists of the current training that occurs in the MIRC. Alternative 1 includes current training and additional training as a result of new major exercises and ISR/Strike actions. Alternative 2 consists of additional training above and beyond Alternative 1.

The MIRC Study Area is located in the Western Pacific (WestPac) and consists of three primary components: ocean surface and undersea areas, special use airspace (SUA), and training land areas. The ocean surface and undersea areas extend from the international waters south of Guam to north of Pagan (CNMI), and from the Pacific Ocean east of the Mariana Islands to the middle of the Philippine Sea to the west, encompassing 501,873 square nautical miles (nm<sup>2</sup>) (1,299,851 square kilometers [km<sup>2</sup>]) of open ocean and littorals (coastal areas). The MIRC Study Area includes ocean areas in the Philippine Sea, Pacific Ocean, and exclusive economic zones (EEZs) of the United States and FSM. Portions of the Marianas Trench Marine National Monument, which was established in January 2009 by Presidential Proclamation under the authority of the Antiquities Act (16 U.S.C. 431), lie within the Study Area. The range complex includes land ranges and training area/facilities on Guam, Rota, Tinian, Saipan, and Farrallon de Medinilla (FDM), encompassing 64 nm<sup>2</sup> (220 km<sup>2</sup>) of land. SUA consists of Warning Area 517 (W-517), restricted airspace over FDM (R-7201), and Air Traffic Control Assigned Airspace (ATCAA) encompassing 63,000 nm<sup>2</sup> (216,000 km<sup>2</sup>) of airspace. For range management and scheduling purposes, the MIRC is divided into training areas under different controlling authorities. MIRC-supported activities and training, RDT&E of military hardware, personnel, tactics, munitions, explosives, and electronic combat (EC) systems are described in Chapter 2. Figures ES-1 through ES-13, located at the end of this Executive Summary, depicts the MIRC Study Area and its components covered in this EIS/OEIS.

Title 10 § 3062, 5062, and 8062 of the U.S.C. directs each of the U.S. Military Services (Services) to organize, train, and equip forces for combat. To fulfill their statutory missions, each of the Services needs combat-capable forces ready to deploy worldwide. U.S. military forces must have access to the ranges, operating areas (OPAREAs), and airspace needed to develop and maintain skills for the conduct of military activities. Ranges, OPAREAs, and airspace must be sustained to support the training needed to ensure a high state of military readiness. Activities involving RDT&E for military systems are an integral part of this readiness mandate.

## **ES 2 PURPOSE AND NEED FOR THE PROPOSED ACTION**

The mission of the MIRC is to serve as the principal military training and basing venue in the WestPac with the unique capability and capacity to support required current, emerging, and future training.

The purpose of the Proposed Action is to achieve and maintain Service readiness using the MIRC to support and conduct current, emerging, and future training and RDT&E activities, while enhancing training resources through investment in the ranges. The decision to be made by the DoD REP is to determine both the scope of training and RDT&E to be conducted and the nature of range enhancements to be made within the MIRC. In making this decision, the DoD REP will consider the information and environmental impact analysis presented in this EIS/OEIS when deciding whether to implement Alternative 1, Alternative 2, or the No Action Alternative.

The need for the Proposed Action is to enable the Services to meet their statutory responsibility to organize, train, equip, and maintain combat-ready forces and to successfully fulfill their current and future global mission of winning wars, deterring aggression, and maintaining freedom of the seas. Activities involving RDT&E are an integral part of this readiness mandate.

The existing MIRC plays a vital part in the execution of this readiness mandate. Because of its close location to forward-deployed forces in WestPac, it provides the best economical alternative for forward-deployed U.S. forces to train on U.S.-owned lands. U.S. forces also train in SUA and sea space outside of U.S. territorial boundaries. The Proposed Action is a step toward ensuring the continued vitality of this essential military training resource.

This EIS/OEIS provides an assessment of environmental effects associated with current and proposed training activities, force structure (to include new weapons systems and platforms), and range investments in the MIRC.

In summary, the Military Services propose to implement actions within the MIRC to support current, emerging, and future training and RDT&E in the MIRC. The Proposed Action focuses on the development and improvement of existing training capabilities in the MIRC and does not include any military construction projects. The actions evaluated in this EIS/OEIS include:

- Maintaining baseline training and RDT&E at mandated levels;
- Increasing training exercises from current levels;
- Accommodating force structure changes (human resources, new platforms, and additional weapons systems); and
- Developing range complex investment strategies that sustain, upgrade, modernize, and transform the MIRC to accommodate increased use and more realistic training scenarios.

To support an informed decision, the EIS/OEIS identifies objectives and criteria for military activities in the MIRC Study Area. The core of the EIS/OEIS is the development and analysis of different alternatives for achieving the Services' objectives. Alternatives development is a complex process, particularly in the dynamic context of military training. The touchstone for this process is a set of criteria that respond to the Services' readiness mandate, as it is implemented in the MIRC. The criteria for developing and analyzing alternatives to meet these objectives are set forth in Section 2.2.1. These criteria provide the basis for the statement of the Proposed Action and Alternatives and selection of alternatives for further analysis (Chapter 2), as well as analysis of the environmental effects of the Proposed Action and Alternatives (Chapter 3).

## **ES 2.1 WHY THE MILITARY TRAINS**

The United States military is maintained to uphold the U.S. constitution and to defend it from all enemies, foreign and domestic. In order to do so, Title 10 of the U.S.C. requires the Services to maintain, train, and equip combat-ready forces capable of winning wars, deterring aggression, and maintaining freedom of the seas. Modern war and security operations are complex. Modern weaponry has brought both unprecedented opportunity and innumerable challenges to the military. Smart weapons, used properly, are very accurate and actually allow the military to accomplish their mission with greater precision and far less destruction than in past conflicts. But these modern smart weapons are very complex to use. U.S. military personnel must train regularly with them to understand their capabilities, limitations, and operation. Modern military actions require teamwork between hundreds or thousands of people, and their various equipment, vehicles, ships, and aircraft, all working individually and as a coordinated unit to achieve success. Military training addresses all aspects of the team, from the individual to joint and

coalition teamwork. To do this, the military employs a building block approach to training. Training doctrine and procedures are based on operational requirements for deployment of forces. Training proceeds on a continuum, from teaching basic and specialized individual military skills, to intermediate skills or small-unit training, to advanced, integrated training events, culminating in multi-Service (Joint) exercises or predeployment certification events. In order to provide the experience so important to success and survival, training must be as realistic as possible. The military often employs simulators and synthetic training to provide early skill repetition and enhance teamwork, but live training in a realistic environment is vital to success. This requires: sufficient land, sea, and airspace to maneuver tactically; realistic targets and objectives; simulated opposition that creates a realistic enemy; and instrumentation to objectively monitor the events and learn to correct errors.

Range complexes provide a controlled and safe environment with threat-representative targets that enable military forces to conduct realistic combat-like training as they undergo all phases of the graduated buildup needed for combat-ready deployment. Ranges and operating areas provide the space necessary to conduct controlled and safe training scenarios representative of those that the military would have to face in actual combat. The range complexes are designed to provide the most realistic training in the most relevant environments, replicating to the best extent possible the operational stresses of warfare. The integration of undersea ranges, with land training areas, safety landing fields, and amphibious landing sites, are critical to this realism, allowing execution of multidimensional exercises in complex scenarios. They also provide instrumentation that captures the performance of tactics and equipment in order to provide the feedback and assessment that is essential for constructive criticism of personnel and equipment. The live-fire phase of training facilitates assessment of the military's ability to place weapons on target with the required level of precision while under a stressful environment. Live training will remain the cornerstone of readiness.

### **ES 2.1.1 The Strategic Importance of the MIRC**

The MIRC is characterized by a unique combination of attributes that make it a strategically important range complex for the Services. These attributes include the following:

- Location within U.S. territory
- Live-fire ranges on the islands of Guam, Tinian, and FDM
- Expansive airspace, surface sea space, and underwater sea space
- Authorized use of multiple types of live and inert ordnance on FDM
- Support for all Navy warfare areas and numerous other Service roles, missions, and tactical tasks
- Support to homeported Navy, Army, USCG, and USAF units based at military installations on Guam and CNMI
- Training support for deployed forces
- WestPac Theater training venue for Special Warfare forces
- Ability to conduct Joint and combined force exercises
- Rehearsal area for WestPac contingencies

Due to Guam and CNMI's strategic location and DoD's ongoing reassessment of the WestPac military alignment, there has been a dramatic increase in the importance of the MIRC as a training venue and its capabilities to support required military training.

## ES 3 SCOPE AND CONTENT OF THE EIS

In its analysis under NEPA, the Navy includes areas of the MIRC Study Area<sup>1</sup> that lie within 12 nm (22 kilometers [km]) of the shoreline, or the territorial seas. Environmental effects in the areas that are outside of U.S. territorial seas are analyzed under EO 12114 and associated implementing regulations.

### ES 3.1 NEPA

This EIS/OEIS provides an assessment of environmental effects associated with current and proposed training activities, force structure (to include new weapons systems and platforms), and range investments in the MIRC.

This EIS/OEIS incorporates the 1999 *EIS for Military Training in the Marianas* and supersedes the *Overseas Environmental Assessment Notification for Air/Surface International Warning Areas* (2002). In addition, this EIS/OEIS addresses the environmental impacts of future at-sea training events such as the Valiant Shield Exercise (last held in the summer of 2007), which was previously analyzed under separate environmental documentation. This expanded EIS/OEIS also gives the Navy an opportunity to review its procedures and ensure the benefits of recent scientific and technological advances are applied toward assessing environmental effects.

The first step in the NEPA process is preparation of a notice of intent (NOI) to develop the EIS. The NOI provides an overview of the Proposed Action and the scope of the EIS. The NOI for this project was published in the *Federal Register* on June 1, 2007 (*Federal Register* Volume 72, No. 105, pp 30557-59). A newspaper notice was placed in two local newspapers, *Pacific Daily News* (Guam) and *Saipan Tribune* (Saipan/Tinian). The NOI and newspaper notices included information about comment procedures, a list of information repositories (public libraries), the dates and locations of the scoping meetings, and the project website address ([www.MarianasRangeComplexEIS.com](http://www.MarianasRangeComplexEIS.com)).

Scoping is an early and open process for developing the “scope” of issues to be addressed in the EIS and for identifying significant issues related to a Proposed Action. The scoping process for this EIS/OEIS was initiated by the publication of the NOI in the *Federal Register* and local newspapers noted above. During scoping, the public is given an opportunity to help define and prioritize issues and convey these issues to the Navy through written comments. Scoping meetings were held at three locations: Hilton Guam (Tumon Bay, Guam) on June 18, 2007; Hyatt Regency Saipan (Garapan Village, Saipan) on June 20, 2007; and Tinian Dynasty Hotel (San Jose Village, Tinian) on June 21, 2007. There were 135 total attendees, including 65 in Guam, 48 in Saipan, and 22 in Tinian. As a result of the scoping process, the Navy received comments from the public, which have been considered in the preparation of this EIS/OEIS.

Comments from the public were received through public comment forms, which were available at each information station and were collected during the meeting. The forms could also be mailed to the address or e-mail address provided on the form. For people who wanted to submit oral comments, there were two options: a tape recorder was available for people wanting to dictate their comments directly into the recorder and a Navy representative was also available to transcribe public comments using a laptop

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<sup>1</sup> For the purposes of this EIS, the MIRC and the Study Area are the same geographical areas. The complex consists of the ranges and the ocean areas surrounding the ranges that make up the Study Area. The Study Area does not include the sovereign territory (including waters out to 12 nm) of the Federated States of Micronesia (FSM).



computer. During scoping, the Marianas EIS/OEIS team set up and allowed the public to submit comments electronically via an e-mail address, marianas.tap.eis@navy.mil, which, at that time, was the preferred electronic method to offer the public for submitting comments. A total of 25 individual public comments were received, including written and oral comments from the public meetings and written comments via mail and e-mail.

Subsequent to the scoping process, the Navy and Federal and local regulators met quarterly to discuss additional scoping issues of concerns prior to development of this EIS/OEIS. A Draft EIS/OEIS was prepared to assess the potential effects of the Proposed Action and Alternatives on the environment. It was then provided to the U.S. Environmental Protection Agency (EPA) for review and comment. A notice of availability was published in the Federal Register on January 30, 2009. Notices were placed in local newspapers announcing the availability of the Draft EIS/OEIS. The Draft EIS/OEIS was available for general review and was circulated for review and comment. Public meetings were advertised and held in similar venues as the scoping meetings to receive public comments on the Draft EIS/OEIS.

The DoD REP published a combined Notice of Availability (NOA)/Notice of Public Hearings (NOPH) newspaper display advertisement in the *Pacific Daily News*, the *Saipan Tribune* and the *Marianas Variety* announcing the dates, times and locations of the public hearings. The NOA/NOPH ad also included information on how to comment on the Draft EIS/OEIS. An overview of additional notification efforts, from postcards to fliers, and a list of information repositories that received copies of the Draft EIS/OEIS are included in Chapter 11.

Public hearings were held at five locations, two on Guam and one each on Saipan, Tinian, and Rota. There were 129 total attendees, including 52 in Guam, 40 in Saipan, 22 in Tinian, and 15 in Rota as shown in Table ES-1.

**Table ES-1: Meeting Locations, Dates, and Attendees—Public Hearings**

Location	Date	Public Attendees
Jesus & Eugenia Leon Guerrero School of Business and Public Administration Building, University of Guam, Guam	19 February 2009	32
Southern High School, Santa Rita, Guam	20 February 2009	20
Multi-Purpose Center, Susupe, Saipan	23 February 2009	40
Tinian Elementary School, San Jose Village, Tinian	24 February 2009	22
Sinapolo Elementary School, Sinapolo, Rota	26 February 2009	15

The public hearings were dual format, consisting of an open house where the public could view informational posters and speak to project representatives and a formal hearing where information from the MIRC Draft EIS/OEIS was presented and individual testimony accepted. The purpose of the public review process and the public hearings was to solicit comments on the Draft EIS/OEIS. The public hearings identified environmental issues that the public, elected officials and government agencies believed needed further analysis. In addition to providing written or verbal comments at the public hearings, the public could also provide comments through the project website, by sending an email, or by mailing a written comment. The comment period originally ended March 16, 2009, but was extended 15

days until March 31, 2009, to allow for additional public input. Transcripts from the hearings and written public comments received during the comment period are provided in Chapter 11. A summary of comments (number of commenters, resource issues identified, number of comments by resource issue) is provided in detail in Chapter 11. A total of 68 public comments were provided during the public hearings (Table 11-5). A total of 762 comments were received (Table 11-8). Responses to each comment received from the public and agencies pertaining to specific resource areas and locations are also provided in detail in Chapter 11. Those comments received from the public concerning Department of Defense (DoD) policy and program issues outside the scope of the analysis in this EIS/OEIS were not addressed in the EIS/OEIS.

Responses to public comments may take various forms as necessary, including correction of data, clarifications of and modifications to analytical approaches, and inclusion of additional data or analyses. The Final EIS/OEIS was made available to the public.

The Record of Decision (ROD) will summarize the DoD REP's decision and identify the selected alternative, describe the public involvement and agency decision-making processes, and present commitments to specific mitigation measures.

### **ES 3.2 EXECUTIVE ORDER (EO) 12114**

EO 12114, Environmental Effects of Major Federal Actions, directs Federal agencies to provide for informed decision-making for major Federal actions outside the U.S. territorial sea, but not including actions within the territory or territorial sea of a foreign nation. For purposes of this EIS/OEIS, areas outside U.S. territorial sea are considered to be areas beyond 12 nm from shore. This EIS/OEIS satisfies the requirements of EO 12114, as analysis of activities or impacts occurring, or proposed to occur, outside of 12 nm is provided.

For the majority of resource sections addressed in this EIS/OEIS, projected impacts outside of U.S. territory would be similar to those within the territorial sea. In addition, the baseline environment and associated impacts to the various resource areas analyzed in this EIS/OEIS are not substantially different within or outside the 12 nm jurisdictional boundary. Therefore, for these resource sections, the impact analyses contained in the main body of the EIS/OEIS are comprehensive and follow both NEPA and EO 12114 guidelines. The description of the affected environment addresses areas both within and beyond U.S. territorial sea.

### **ES 3.3 OTHER ENVIRONMENTAL REQUIREMENTS CONSIDERED**

The Services must comply with a variety of other Federal environmental laws, regulations, and EOs. These include (among other applicable laws and regulations) the following:

- Marine Mammal Protection Act (MMPA)
- Endangered Species Act (ESA)
- Migratory Bird Treaty Act (MBTA)
- Coastal Zone Management Act (CZMA)
- Rivers and Harbors Act (RHA)
- Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) for Essential Fish Habitat (EFH)
- Marine Protection, Research and Sanctuaries Act (MPRSA)
- Clean Air Act (CAA)
- Federal Water Pollution Control Act (Clean Water Act [CWA])

- National Historic Preservation Act (NHPA)
- National Invasive Species Act
- Resource Conservation and Recovery Act (RCRA)
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations
- EO 13045, Environmental Health and Safety Risks to Children
- EO 13089, Protection of Coral Reefs
- EO 13112, Invasive Species

In addition, laws and regulations of the Territory of Guam and the CNMI that are applicable to military actions are identified and addressed in this EIS/OEIS. To the extent practicable, this EIS/OEIS was used as the basis for any required consultation and coordination in connection with applicable laws and regulations.

## **ES 4 PROPOSED ACTION AND ALTERNATIVES**

### **ES 4.1 ALTERNATIVES DEVELOPMENT**

NEPA-implementing regulations provide guidance on the consideration of alternatives in an EIS. These regulations require the decision-maker to consider the environmental effects of the Proposed Action and a range of alternatives to the Proposed Action (40 C.F.R. § 1502.14). The range of alternatives includes reasonable alternatives, which must be rigorously and objectively explored, as well as other alternatives that are eliminated from detailed study. To be “reasonable,” an alternative must meet the stated purpose of and need for the Proposed Action.

The purpose of including a No Action Alternative in environmental impact analyses is to ensure that agencies compare the potential impacts of the proposed Federal action to the known impacts of maintaining the status quo. Section 1502.14(d) of the CEQ guidelines requires that the alternatives analysis in the EIS “include the alternative of no action.” For evaluating the Proposed Action under this EIS, the current level of range management activity is used as a benchmark. By proposing the status quo as the No Action Alternative, the Navy compares the impacts of the proposed alternatives to the impacts of continuing to operate, maintain, and use the MIRC in the same manner and at the same levels as they do now.

The No Action Alternative is representative of baseline conditions, where the action presented represents a regular and historical level of activity on the MIRC to support training activities and exercises. The No Action Alternative serves as a baseline, and represents the “status quo” when studying levels of range usage and activity. This use of the current level of operations as a baseline level is appropriate under CEQ guidance, as set forth in the *Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations*, Question #3 (<http://ceq.hss.doe.gov/nepa/regs/40/40p1.htm>). The current military training the MIRC was initially addressed in the 1999 Military Training in the Marianas EIS, and in several Environmental Assessments (EAs) (e.g., Overseas EA Notification for Air/Surface International Warning Areas and Valiant Shield Overseas EA [OEA]) for more specific training events or platforms. Alternative 1 and Alternative 2 analyze greater use of range assets to support training activities and maximize training opportunities that fully supports the increased training requirements of the ISR/Strike initiative and increased surface and undersea training.

The Services have developed a set of criteria for use in assessing whether a possible alternative meets the purpose of and need for the Proposed Action. Each of the alternatives must be feasible, reasonable, and reasonably foreseeable in accordance with CEQ regulations (40 C.F.R. §§ 1500-1508). Reasonable

alternatives include those that are practical or feasible from the technical and economic standpoint. Alternatives that are outside the scope of what Congress has approved or funded must still be evaluated in the EIS/OEIS if they are reasonable, because the EIS/OEIS may serve as the basis for modifying congressional approval or funding in light of NEPA goals and policies.

Alternatives were selected based on their ability to meet the following criteria:

1. Location where Joint U.S. forces can train within a specified geographical region.
2. Location where 7th Fleet forces can train within their area of responsibility (AOR).
3. Location where training requirements of deployed military forces can be met while remaining within range of WestPac nations.
4. Location where training can be accomplished within the territory of the United States.
5. Training capabilities must meet operational requirements by supporting realistic training.
6. Training capacity must meet Fleet deployment schedules, and Service training schedules, standards, and exercises.
7. The range complex must meet the requirements of DoD Directive 3200.15, "Sustainment of Ranges and Operating Areas (OPAREA)".
8. The range complex must be capable of implementing new training requirements and RDT&E activities.
9. The range complex must be capable of supporting current and forecasted range and training upgrades.

NEPA regulations require that the Federal action proponent study means to mitigate adverse environmental impacts by virtue of going forward with the Proposed Action or an alternative (40 C.F.R. § 1502.16). Additionally, an EIS is to include study of appropriate mitigation measures not already included in the Proposed Action or alternatives (40 C.F.R. § 1502.14 [h]). Each of the alternatives, including the Proposed Action considered in this EIS/OEIS, includes mitigation measures intended to reduce the environmental effects of military activities. Protective measures, such as Best Management Practices (BMPs) and Standard Operating Procedures (SOPs), are discussed throughout this EIS/OEIS.

#### **ES 4.2 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION**

Having identified criteria for generating alternatives for consideration in this EIS/OEIS (see Section 2.2.1), the Navy eliminated several alternatives from further consideration after initial review. Specifically, the following potential alternatives (described in Section 2.2.2) were not carried forward for analysis:

- Alternative range complex locations;
- Simulated training;
- Concentrating the level of current training in the MIRC to fewer sites;
- Reduction of activity types and activity levels; and
- Alternative based on mitigations.

After careful consideration of each of these potential alternatives in light of the identified criteria, it was determined that none of them meets the Purpose and Need for the Proposed Action.

#### **ES 4.3 ALTERNATIVES CONSIDERED**

Three alternatives are analyzed in this EIS/OEIS:

1. No Action Alternative - Current Training Activities
2. Alternative 1 - Increase Training; Modernization; and Upgrades
3. Alternative 2 - Increase Major At-Sea Exercises and Training

As noted in Section 1.4, the purpose of the Proposed Action is to achieve, enhance, and maintain Military readiness using the MIRC Study Area to support current and future training. The Services propose to:

- Increase training and RDT&E from current levels as necessary;
- Accommodate mission requirements associated with force structure changes and introduction of new weapons and systems to the Services; and
- Implement enhanced range complex capabilities.

The components that make up the Proposed Action are discussed in the following sections.

#### **ES 4.3.1 No Action Alternative — Current Training within the MIRC**

The No Action Alternative is the continuation of existing training activities, RDT&E activities, and continuing base activities. This includes all multi-Service training activities on DoD training areas, including either a Joint expeditionary warfare exercise or a Joint multi-strike group exercise. Current military training and RDT&E activities in the MIRC have been evaluated in the Final Environmental Impact Statement for Military Training in the Marianas, June 1999 and in several Environmental Assessments (e.g., OEA Notification for Air/Surface International Warning Areas and Valiant Shield OEA). As such, evaluation of the No Action Alternative in this EIS/OEIS provides a baseline for assessing environmental impacts of Alternative 1 (Preferred Alternative), and Alternative 2, as described in the following sections.

While the No Action Alternative meets a portion of the Service's requirements, it does not meet the purpose and need. This alternative does not provide for training capabilities for ISR/Strike, undersea warfare improvements, or increased training activities within the MIRC.

With reference to the criteria identified in Section 2.2.1, the No Action Alternative does not satisfy criteria 7, 8, and 9 (relating to support for the full spectrum of training requirements). See Tables 2-7, 2-8, 2-9, and 2-10 for summaries of major exercises, annual training activities, ordnance use, and sonar activities (mid Frequency Active [MFA] and Surveillance Towed-Array Sensor System [SURTASS] Low Frequency Active [LFA] sonar), respectively, in the MIRC Study area associated with the No Action Alternative.

#### **ES 4.3.2 Alternative 1 (Preferred Alternative) — Increase Training, Modernization, and Upgrades**

Alternative 1 is a proposal designed to meet the Services' current and near-term training requirements. If Alternative 1 were to be selected, in addition to accommodating the No Action Alternative, it would include increased training activities as a result of upgrades and modernization of existing training areas. Only the training portion as described in Chapter 2 for Alternative 1 is covered for the ISR/Strike initiative in the MIRC EIS/OEIS. Other ISR/Strike actions are covered in the ISR/Strike EIS. This alternative also includes increased activities due to meeting new training and capability requirements for personnel and platforms, and an overall increase in the number and types of events (including major exercises, the ISR/Strike Air Force initiative at Andersen Air Force Base (AFB), other services and agencies (USMC, USA, USCG, Department of Homeland Security [DHS], and the participation of the allied forces in major exercises in the MIRC). Activities will also increase as a result of the acquisition

and development of new Portable Underwater Tracking Range capabilities supporting Anti-Submarine Warfare (ASW), and new facility capabilities supporting MOUT training.

**Major Exercises.** Training activities would be increased to include training in major exercises, multi-Service and Joint exercises involving multiple strike groups and task forces. Major exercises provide multi-Service and Joint participation in realistic maritime and expeditionary training that is designed to replicate the types of events and challenges that could be faced during real-world contingency operations. Major exercises also include providing training to submarine, ship, aircraft, and special warfare forces in mission tactics, techniques, and procedures.

The Navy intends to conduct three exercises during a five-year period that may include both SURTASS LFA and MFA active sonar sources. The Navy has analyzed all SURTASS LFA sonar use in Final and Supplemental EISs/OEISs, and its operation is covered by associated environmental documentation. The LFA sonar and the MFA sonar would not normally be operated in close proximity to each other or at the same time.

(Note: The Guam and CNMI Marine Relocation EIS/OEIS for the relocation of USMC forces from Okinawa to Guam examines the potential impact from activities associated with the USMC units' relocation, including facilities and infrastructure. In addition, the EIS/OEIS addresses the proposed Army missile defense system on Guam, and the infrastructure required for berthing a visiting aircraft carrier. Since the MIRC EIS/OEIS covers DoD training on existing DoD land and training areas in and around Guam and the CNMI, there is overlap between the two EIS/OEISs in the area of usage of existing DoD by USMC units. These documents are being closely coordinated to ensure consistency.)

**ISR/Strike.** Only the training portion as described in Chapter 2 for Alternative 1 is covered for the ISR/Strike initiative in the MIRC EIS/OEIS. Other ISR/Strike actions are covered in the ISR/Strike EIS. The USAF has established the ISR/Strike program at Andersen AFB, Guam. ISR/Strike will be implemented in phases over a planning horizon of FY2007–FY2016. ISR/Strike force structure consists of up to 24 fighter, 12 aerial refueling, six bomber, and four unmanned aircraft with associated support personnel and infrastructure. Environmental impacts associated with the establishment of ISR/Strike on Andersen AFB have been analyzed in the *2006 Establishment and Operation of an Intelligence, Surveillance and Reconnaissance/Strike, Andersen Air Force Base, EIS*. Implementation of Alternative 1 analyzed in this EIS/OEIS would result in ISR/Strike aircraft events out of Andersen AFB increasing by 45 percent over the current level (FY2006). The 45 percent increase in aircraft events out of and into Andersen AFB, as analyzed in the 2006 EIS, requires improved range infrastructure to accommodate this increased training tempo, newer aircraft, and weapon systems commensurate with ISR/Strike force structure. There will be increased activity on all the current training areas supporting USAF activities: W-517, ATCAAs, and FDM.

**FDM.** Under the No Action Alternative, public access to FDM is strictly prohibited and there are no commercial or recreational activities on or near the island. During training exercises, aircraft and marine vessels are restricted within a 3-nm (5-km) radius. Notices-to-Mariners (NOTMARs) and Notices-to-Airmen (NOTAMs) are issued at least 72 hours in advance of potentially hazardous FDM range events and may advise restrictions beyond 3-nm (5-km) from FDM for certain training events. These temporary advisory restrictions are used to maintain the safety of the military and the public during training sessions by providing public notice of potentially hazardous training activity and temporary Danger Zones and Restricted Areas.

FDM and the nearshore waters are leased to the United States for military purposes specifically for use as a live fire naval gunfire and air warfare air strike training range. As such, FDM and its nearshore area have always been an off-limits area to all personnel both civilian and military due to unexploded ordnance

concerns. The lease agreement between CNMI and the United States, states in pertinent part, at Article 12 of the lease: "c. Farallon de Medinilla: Public access to Farallon de Medinilla Island and the waters of the Commonwealth immediately adjacent thereto shall be permanently restricted for safety reasons." This restriction will continue and FDM and nearshore areas, including the fringing reef remain a restricted area, which prohibits the entry of all personnel, civilian and military from the island without specific permission from Commander, Joint Region Marianas.

Under implementation of either Alternative 1 or Alternative 2, a 10-nm surface Danger Zone would be established to restrict all private and commercial vessels from entering the area during the conduct of hazardous training activity. The proposed Danger Zone would designate a surface safety zone of 10-nm radius surrounding FDM. The creation of the proposed Danger Zone does not affect the continued implementation of restricted access as indicated in the lease agreement; and, therefore no trespassing is permitted on the island or nearshore waters and reef at any time. Public access to FDM will remain strictly prohibited and there are no commercial or recreational activities on or near the island. NOTMARs and NOTAMs will continue to be issued at least 72 hours in advance of potentially hazardous FDM range events and may advise restrictions for certain training events.

Scheduled training will be communicated to the stakeholders (e.g., local mayors, resources agencies, fishermen) using a telephone tree and e-mail (developed by Joint Region Marianas with stakeholders' input) to send, facsimiles to mayors and fishermen, and notices on the NOAA and local cable channels, and emergency management offices. This safety zone provides an additional measure of safety for the public during hazardous training activities involving the island. The surface Danger Zone is proposed as a surface safety exclusion area to be established in accordance with 33 CFR § 334.1. The U.S. Army Corps of Engineers (USACE) may promulgate regulations restricting commercial, public, and private vessels from entering the restricted safety zone to minimize danger from the hazardous activity in the area.

**Anti-Submarine Warfare (ASW)**. ASW describes the entire spectrum of platforms, tactics, and weapon systems used to neutralize and defeat hostile submarine threats to combatant and noncombatant maritime forces. A critical component of ASW training is the Portable Underwater Tracking Range (PUTR). The acquisition and development of new PUTR capabilities would allow near real-time tracking and feedback to all participants. The PUTR should provide both a shallow water and deep water operating environment, with a variety of bottom slope and sound velocity profiles similar to potential contingency operating areas. Guam-homeported submarine crews, as well as crews of transient submarines, require ASW training events to maintain qualifications. A MIRC-instrumented ASW PUTR, target support services, and assigned torpedo retriever craft would meet support requirements for Torpedo Exercise (TORPEX) and Tracking Exercise (TRACKEX) activities in the MIRC in support of Fast Attack Submarine (SSN) and Ballistic Missile Submarine (SSBN) and other deployed forces.

**Military Operations in Urban Terrain (MOUT)**. MOUT training is conducted within a facility that replicates an urban area, to the extent practicable. The urban area includes a central urban infrastructure of buildings, blocks, and streets; an outlying suburban residential area; and outlying facilities. Suburban area structures should represent a local noncombatant populace and infrastructure. The Services will need to repair and upgrade the existing MOUT facilities to support training requirements of special warfare units stationed at or deployed to the MIRC.

See Tables 2-7, 2-8, 2-9, and 2-10 for a summary of major exercises, annual training activities, ordnance use, and sonar activities, respectively, in the MIRC Study area associated with Alternative 1.

**Laser Range**. Training activities will increase as a result of the development of a laser certified range area in W-517. This laser range capability will aid in the training of aircrews in the delivery of air-to-surface missiles against surface vessel targets. Primarily conducted in W-517, the weapon systems

commonly used in this training activity are the laser guided HELLFIRE missile or an inert captive air training missile (CATM). The CATM is a missile shape that contains electronics only, and it remains attached to the aircraft weapon mounting points. The MISSILEX involves in-flight laser designation and guidance, and arming and releasing of the air to surface weapon by aircraft, typically against a small stationary, towed, or maneuvering target; however a CATM Exercise (CATMEX) may be conducted against any laser reflective target mounted on or towed by a target support vessel.

### **ES 4.3.3 Alternative 2 — Increase Major At-Sea Exercises and Training**

Implementation of Alternative 2 would include all the actions proposed for the MIRC, including the No Action Alternative and Alternative 1, and increased training activity associated with an increase in major at-sea exercises including Fleet Strike Group Exercise (Carrier Strike Group), Integrated ASW Exercise (Strike Group), and Ship Squadron ASW Exercise (Cruiser, Destroyer).

**Fleet Strike Group Exercise.** Would be conducted in the MIRC by forward-deployed Navy Strike Groups to sustain or assess their proficiency in conducting tasking within the Seventh Fleet. Training would be focused on conducting Strike Warfare or ASW in the most realistic environment, against the level of threat expected in order to effect changes to both training and capabilities (e.g., equipment, tactics, and changes to size and composition) of the Navy Strike Group. Although these exercises would emphasize Strike or ASW, there is significant training value inherent in all at-sea exercises and the opportunity to exercise other mission areas. Each exercise would last a week or less.

**Integrated ASW Exercise.** This is an ASW exercise to be conducted by the Navy's Strike Groups to assess their ASW proficiency while located in the Seventh Fleet area of activities. The exercise is designed to assess the Strike Groups' ability to conduct ASW in the most realistic environment, against the level of threat expected, in order to effect changes to both training and capabilities (e.g., equipment, tactics, and changes to size and composition) of U.S. Navy Strike Groups. Strike Groups would receive significant training value in the assessment, as training is inherent in all at-sea exercises.

**Ship Squadron ASW Exercise.** The exercise will typically involve multiple ships, submarines, and aircraft in several coordinated events over a period of a week or less, focused on all elements of ASW training.

See Tables 2-7, 2-8, 2-9, and 2-10 for summary of major exercises, annual training activities, ordnance use, and sonar activities, respectively, in the MIRC Study area associated with Alternative 2.

## **ES 5 PREFERRED ALTERNATIVE**

The Preferred Alternative (Alternative 1) in this EIS/OEIS (See Chapter 2 for details) was evaluated to ensure it met the purpose and need, giving due consideration to range complex attributes such as the capability to support current and emerging Fleet training and RDT&E requirements; the capability to support realistic, essential training at the level and frequency sufficient to support the Fleet Response Training Plan (FRTP); and the capability to support training requirements while following Navy Personnel Tempo of Operations (i.e., time away from homeport) guidelines.

The Preferred Alternative maintains current activities, increases training, expands warfare missions, accommodates force structure changes (changes in weapon systems and platforms and homebase new aircraft and ships), and implements enhancements to enable each range complex to meet foreseeable needs. In addition to the discussion/analysis of the Preferred Alternative, the EIS/OEIS includes descriptions and analyses of the No Action Alternative and Alternative 2. The DoD REP will not make its



decision of which alternative it will implement until the ROD is signed at the conclusion of the NEPA process.

## ES 6 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

Chapter 3 of this EIS/OEIS describes existing environmental conditions and environmental consequences for resources potentially affected by the Proposed Action and Alternatives described in Chapter 2. This chapter also identifies and assesses the environmental consequences of the Proposed Action and Alternatives. The affected environment and environmental consequences are described and analyzed according to categories of resources. The categories of resources addressed in this EIS/OEIS and the location of the respective analyses are identified in the following table:

**Table ES-2: Categories of Resources Addressed and EIS/OEIS Chapter 3 Analysis Guide**

Resource	Section
Geology, Soils, and Bathymetry	3.1
Hazardous Materials	3.2
Water Quality	3.3
Air Quality	3.4
Airborne Noise	3.5
Marine Communities	3.6
Marine Mammals	3.7
Sea Turtles	3.8
Fish and Essential Fish Habitat	3.9
Seabirds and Shorebirds	3.10
Terrestrial Species and Habitats	3.11
Socioeconomic Resources (Land Use, Transportation, Demographics, Regional Economy, Recreation)	3.12, 3.14, 3.15, 3.16, 3.17
Cultural Resources	3.13
Environmental Justice and Protection of Children	3.18
Public Health and Safety	3.19

### ES 6.1 GENERAL ANALYSIS APPROACH TO ASSESSING ENVIRONMENTAL CONSEQUENCES

Each alternative analyzed in this EIS/OEIS includes several warfare areas (e.g., AW, Amphibious Warfare [AMW], ASW, Electronic Combat (EC), Mine Warfare [MIW], Naval Special Warfare [NSW], Surface Warfare [SUW], and Strike Warfare [STW], etc.). Likewise, several activities (e.g., vessel

movements, aircraft overflights, weapons firing) are accomplished under each event, and those activities typically are not unique to that event. For example, many of the activities involve Navy vessel movements and aircraft overflights. Detailed descriptions of the events are contained in Appendix D. The analysis for each resource category is organized by warfare areas and/or stressors associated with that activity. Chapter 3 contains the details of the analyses. The following general steps were used to analyze the potential environmental consequences of the alternatives to:

- Identify those aspects of the Proposed Action that are likely to act as stressors to resources by having a direct or indirect effect on the physical, chemical, and biotic environment of each Study Area.
- Identify those aspects of the Proposed Action that required detailed analysis in the EIS/OEIS.
- Identify the resources that are likely to co-occur with the stressors in space and time, and the nature of that co-occurrence (exposure analysis).
- Determine whether and how resources are likely to respond given their exposure and available scientific knowledge of their responses (response analysis).
- Determine the risks those responses pose to resources and the significance of those risks.

### **ES 6.2 ENVIRONMENTAL STRESSORS ANALYZED**

Of the potential environmental stressors considered in the analysis, the following stressors were carried forward for detailed analysis for all resources categories:

- Vessel movements
- Aircraft overflights
- Sonar
- Weapons Firing (including explosions and underwater detonations)
- Nonexplosive Mine Shapes (deployed in the ocean and recovered)
- Expended Materials
- Amphibious Landings
- Vehicle Movements
- Building Modification (repairs, maintenance, and upgrade)
- Land Detonations
- Foot Traffic

### **ES 6.3 SUMMARY OF ENVIRONMENTAL IMPACTS**

Environmental effects which might result from the implementation of the Navy's Proposed Action or alternatives have been summarized in Table ES-3. A detailed analysis of effects is provided in Chapter 3.

**Table ES-3: Summary of Environmental Impacts**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<p><b>Section 3.1 Geology, Soils, and Bathymetry</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Under No Action Alternative localized disturbance to topography and localized erosion would continue; however, topographic and surface soil changes would be minimal and would be managed in accordance with established protective measures. Dispersion and suspension of marine sediments as a result of detonation of underwater mines and Explosive Ordnance Disposal (EOD) demolition would continue. Continuation of disturbance to some sandy beaches; these effects would be similar to that from normal wave action during stormy conditions.</p> <p>Under Alternative 1 and Alternative 2 the impacts would be similar to those described under the No Action Alternative; however, the intensity of impacts to geologic resources and soils would be greater.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>No significant harm to geology, soils, and bathymetry resources.</p>
<p><b>Section 3.2 Hazardous Materials</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Under the No Action Alternative use of training materials would continue deposition of expendable training material on the ranges. Most of the degradation products of these materials are nonhazardous inorganic materials.</p> <p>Under Alternative 1 and Alternative 2 the impacts would be similar to the No Action Alternative; however the rate of deposition of expendable training material on the ranges would slightly increase compared to the No Action Alternative.</p> <p>Existing ashore hazardous material and waste management systems are sufficient for handling of wastes generated under the No Action Alternative, Alternative 1, and Alternative 2.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>Existing hazardous materials and waste management systems are sufficient for handling of wastes generated by the No Action Alternative, Alternative 1, and Alternative 2.</p> <p>No significant harm to resources from hazardous materials and waste.</p>

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<b>Section 3.3 Water Quality</b>	No Action Alternative, Alternative 1, or Alternative 2	<p>Under the No Action Alternative releases of munitions constituents from explosives, ordnance, and small arms rounds used during training exercises have no short-term impacts. No long-term degradation of marine, surface, or groundwater quality. Protective measures include continued compliance with Service SOPs and BMPs for ashore management, storage, and discharge of hazardous materials and wastes, and other pollution protection measures.</p> <p>Impacts and protective measures for Alternative 1 and Alternative 2 would be similar to those described under the No Action Alternative.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>No significant harm to water quality.</p>
<b>Section 3.4 Air Quality</b>	No Action Alternative, Alternative 1, or Alternative 2	<p>Under the No Action Alternative there would be no significant impacts to air quality of coastal and inland areas from current emission-generating training activities. Training areas will remain in attainment of the National Ambient Air Quality Standards.</p> <p>Impacts to air quality under Alternative 1 and Alternative 2 of coastal and inland training areas from emission-generating activities would be similar to those under the No Action Alternative.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>No significant harm to air quality.</p>
<b>Section 3.5 Airborne Noise</b>	No Action Alternative, Alternative 1, or Alternative 2	<p>Under the No Action Alternative sound-generating events are intermittent, occur in remote or off-limits areas, and do not expose a substantial number of human receptors to high noise levels. No sensitive receptors are likely to be exposed to sound for such military activities.</p> <p>Under Alternative 1 and Alternative 2 impacts would be similar to the No Action Alternative.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>No significant harm to resources from airborne noise.</p>

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<b>Section 3.6 Marine Communities</b>	No Action Alternative, Alternative 1, or Alternative 2	<p>Under the No Action Alternative there may be localized disturbance, injury, and mortality. No long-term population or community-level effects.</p> <p>Protective measures include continued compliance with Service SOPs and BMPs for ashore management, storage, and discharge of hazardous materials and wastes, and other pollution protection measures.</p> <p>Under Alternative 1 and Alternative 2 impacts and protective measures would be similar to those described under the No Action Alternative.</p> <p>No significant impact to marine communities.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>No significant harm to marine communities.</p>
<b>Section 3.7 Marine Mammals</b>	No Action Alternative, Alternative 1, or Alternative 2	<p><u>Vessel Movements</u></p> <p>Under the No Action Alternative, Alternative 1, and Alternative 2: short-term behavioral responses would result from general vessel disturbance. The potential exists for injury or mortality from vessel collisions. No long-term population or community-level effects would be expected.</p> <p><u>Aircraft Overflights</u></p> <p>Under the No Action Alternative, Alternative 1, and Alternative 2: potential exposure to aircraft noise inducing short-term behavioral changes exists. No long-term population or community-level effects would be expected.</p> <p><u>Weapons Firing/Non-Explosive Ordnance Use</u></p> <p>Under the No Action Alternative, Alternative 1, and Alternative 2 direct strike of marine mammals unlikely due to wide dispersal of training events and marine mammals, as well as protective measures. Potential for short-term behavioral responses due to sonic booms from large shells (e.g. 5 inch shells).</p>	<p><u>Vessel Movements</u></p> <p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p><u>Aircraft Overflights</u></p> <p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p><u>Weapons Firing/Non-Explosive Ordnance Use</u></p> <p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p>

**Table ES-3: Summary of Environmental Impacts (Continued)**

Resource Category	Alternative	National Environmental Policy Act (Land and Territorial Waters, <12 nm)	Executive Order 12114 (Non-Territorial Waters, >12 nm)
Section 3.7 Marine Mammals (Continued)	No Action Alternative, Alternative 1, or Alternative 2	<p><u>Expended Materials</u></p> <p>Under the No Action Alternative, Alternative 1, and Alternative 2: there is a low potential for ingestion of ordnance related materials and chaff and/or flare plastic end caps and pistons.</p>	<p><u>Expended Materials</u></p> <p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p>
	No Action Alternative	<p><u>Sonar Use</u></p> <p>Potential occurrences of Level B harassment (non-Temporary Threshold Shift [TTS] and TTS) and one Level A exposure.</p>	<p><u>Sonar Use</u></p> <p>Impacts would be similar to those described for the No Action Alternative for territorial waters.</p>
		<p><u>No Action Alternative Sonar Use</u></p> <p>Modeling results for all waters (territorial and non-territorial) indicate the potential for 69,287 Level B harassments (68,191 from non-TTS and 1,096 from TTS). One potential Level A exposure resulting from the summation of MFA modeling is estimated for the pantropical spotted dolphin.</p>	
	Alternative 1	<p><u>Sonar Use</u></p> <p>Potential occurrences of Level B harassment (non-TTS and TTS) and two Level A exposures.</p>	<p><u>Sonar Use</u></p> <p>Impacts would be similar to those described for Alternative 1 for territorial waters.</p>
		<p>Modeling results for all waters (territorial and non-territorial) indicate the potential for 79,562 Level B harassments (78,319 from non-TTS and 1,243 from TTS). Two potential Level A exposures resulting from the summation of MFA modeling; one is estimated for the pantropical spotted dolphin, and one for the sperm whale.</p>	
	Alternative 2	<p><u>Alternative 2 Sonar Use</u></p> <p>Potential occurrences of Level B harassment (non-TTS and TTS) and two Level A exposures.</p>	<p><u>Alternative 2 Sonar Use</u></p> <p>Impacts would be similar to those described for Alternative 2 for territorial waters.</p>
		<p>Modeling results for all waters (territorial and non-territorial) indicate the potential for 94,736 Level B harassments (93,272 from non-TTS and 1,464 from TTS). Two potential Level A exposures resulting from the summation of MFA modeling; one is estimated for the pantropical spotted dolphin, and one for the sperm whale.</p>	

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<b>Section 3.7 Marine Mammals (Continued)</b>	No Action Alternative	<u>Underwater Detonations and Explosive Ordnance Use</u> Potential occurrences of Level B harassment (sub-TTS and TTS) events.	<u>Underwater Detonations and Explosive Ordnance Use</u> Impacts would be similar to those described for the No Action Alternative for territorial waters.
	Modeling results for all waters (territorial and non-territorial) indicate the potential for 57 Level B harassments (42 from sub-TTS and 15 from TTS).		
	Alternative 1	<u>Underwater Detonations and Explosive Ordnance Use</u> Potential occurrences of Level B harassment (sub-TTS and TTS) events.	<u>Underwater Detonations and Explosive Ordnance Use</u> Impacts would be similar to those described for Alternative 1 for territorial waters.
	Modeling results for all waters (territorial and non-territorial) indicate the potential for 151 Level B harassments (109 from sub-TTS and 42 from TTS).		
	Alternative 2	<u>Underwater Detonations and Explosive Ordnance Use</u> Potential occurrences of Level B harassment (sub-TTS and TTS) events.	<u>Underwater Detonations and Explosive Ordnance Use</u> Impacts would be similar to those described for Alternative 2 for territorial waters.
	Modeling results for all waters (territorial and non-territorial) indicate the potential for 154 Level B harassments (111 from sub-TTS and 43 from TTS).		
	No Action Alternative, Alternative 1, or Alternative 2	<b>Endangered Species Act</b> The No Action Alternative, Alternative 1 or Alternative 2 may affect the following endangered species within the MIRC Study Area: blue whale ( <i>Balaenoptera musculus</i> ), fin whale ( <i>Balaenoptera physalus</i> ), sei whale ( <i>Balaenoptera borealis</i> ) and sperm whale ( <i>Physeter macrocephalus</i> ). Critical habitat for marine mammals has not been designated within the MIRC Study Area. Navy has worked closely with NMFS regarding this determination for the preferred alternative, Alternative 1.	
	No Action Alternative, Alternative 1, or Alternative 2	<b>Marine Mammal Protection Act</b> The No Action Alternative, Alternative 1 or Alternative 2 could expose non-ESA listed marine mammals to impacts associated with sonar, underwater detonations, and explosive ordnance use that could result in Level A or Level B harassment as defined by MMPA provisions that are applicable to the Navy. Accordingly, the Navy is working with NMFS through the MMPA permitting process to ensure compliance with the MMPA.	

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<p><b>Section 3.8 Sea Turtles</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Under the No Action Alternative short term behavioral responses from vessel movements and aircraft overflights may occur. No long-term population-level effects are anticipated due to aircraft overflight. The potential exists for injury or mortality from vessel collisions.</p> <p>Amphibious landings could result in short-term behavioral responses from landing activity associated with vehicles and personnel on beaches. Vehicle activity and personnel movements may cause nest failures (false crawls of nesting females, or sand compaction/ nest mortality). Long-term effects of accelerated beach erosion from vehicle tracks on the beach and craft wakes in the water may occur. No nest failures have occurred within the MIRC or in other Navy training areas in the Pacific with similar training (e.g. Hawaii Range Complex), and protective measures that are employed by the Navy that have been developed in consultation with USFWS avoid or reduce potential adverse effects to nesting sea turtles and habitat. Applicable surveys and monitoring will be conducted before and after any amphibious landing activities. Based on the results of the surveys coordination with resource agencies will be conducted, if applicable.</p> <p>Sonar would have a low probability for masking effects, although MFA and HFA sonar frequencies do not overlap with sea turtle sensitive hearing ranges.</p> <p>Weapons Firing/Non-Explosive Ordnance Use has a low probability of direct strikes of sea turtles, but the potential exists for short-term temporary disturbance associated with gunnery noise transmitted to the ocean surface and/or transmitted through a ship's hull.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters. Therefore, as per Section 7(a)(2) of the ESA, the Navy has worked closely with USFWS and NMFS to identify potential effects to sea turtles in the marine environment within non-territorial waters.</p> <p>The impacts for amphibious landings are not applicable to non-territorial waters as they occur exclusively within territorial waters. Therefore, consultation with USFWS for actions within non-territorial waters is not required.</p> <p>Although activities within non-territorial waters may affect sea turtles, these effects are expected to be short-term in duration, unlikely to occur, and not expected to result in take of sea turtles at sea. Therefore, no significant harm to sea turtles would occur in non-territorial waters.</p>



**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<p><b>Section 3.8 Sea Turtles (Continued)</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Underwater detonations and explosive ordnance have the potential for short-term behavioral responses for sea turtles. The potential for injury or mortality within a limited zone of influence (ZOI) exists. Sinking Exercises (SINKEXs) will not occur in territorial waters.</p> <p>Expended materials pose a low potential for ingestion of chaff and/or flare plastic end caps, parachutes, marine markers, or pistons. A low potential exists for entanglement of sea turtles with expended materials such as parachutes, flex hoses, or guide wires.</p> <p>Under Alternative 1 and Alternative 2 impacts would be the same as the No Action Alternative.</p> <p>The Navy has determined that MIRC training may affect sea turtles; therefore, as per Section 7(a)(2) of the ESA, the Navy has worked closely with the USFWS for potential effects to nesting sea turtles within the MIRC. Similarly, the Navy has also worked closely with NMFS for potential effects to sea turtles in the marine environment.</p>	

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<p><b>Section 3.9 Fish and Essential Fish Habitat</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Under the No Action Alternative, Alternative 1, or Alternative 2, vessel movements, amphibious landings, weapons firing/non-explosive ordnance use, and underwater detonations and explosive ordnance would result in short-term and localized disturbance to the water column. Limited injury or mortality to fish eggs and larvae would be expected. No long-term population-level effects or reduction in the quality and/or quantity of essential fish habitat would be expected.</p> <p>No impacts are anticipated as a result of the use of sonar.</p> <p>Species of Concern may be subject to temporary behavioral changes (such as swimming away from detonation) within Apra Harbor.</p> <p>Expended materials may result in long-term, minor, and localized accumulation of expended materials in benthic habitat. There is a limited potential for ingestion although no long-term population-level effects or reduction in the quality and/or quantity of essential fish habitat is expected.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>The impacts for amphibious landings are not applicable to non-territorial waters as they occur exclusively within territorial waters.</p> <p>The Species of Concern discussed in this section are not expected to occur in non-territorial waters.</p> <p>No significant harm to fish populations or habitat.</p>
<p><b>Section 3.10 Seabirds and Shorebirds</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Under the No Action Alternative, Alternative 1, or Alternative 2, impacts to seabirds and shorebirds as a result of vessel movements, aircraft overflights, amphibious landings, weapons firing/non-explosive ordnance use, underwater detonations and explosive ordnance, and expended materials would be short-term behavioral responses and an extremely low potential for injury/mortality from collisions, primarily at night. No long-term population-level effects are anticipated. An increased danger to seabirds and shorebirds at FDM could occur, although under current conditions, no long-term population-level effects are anticipated.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p> <p>The impacts for amphibious landings are not applicable to non-territorial waters as they occur exclusively within territorial waters.</p> <p>No significant harm to seabirds and shorebirds.</p>

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<b>Section 3.11 Terrestrial Species and Habitats</b>	No Action Alternative	The Navy is currently operating under the 1999 USFWS Biological Opinion for Training in the Marianas, and the USAF is operating under the 2007 Biological Opinion for the ISR/Strike Establishment at Andersen AFB. No significant impacts will result from continued training under the No Action Alternative.	EO 12114 is not applicable for the No Action Alternative.
	Alternative 1	The Navy has worked closely with USFWS to avoid/reduce adverse effects associated with increased training under Alternative 1, as per Section 7(a)(2) of the ESA. No changes to vegetation that would alter vegetation community types will result from training activities; other wildlife resources will not be affected.	EO 12114 is not applicable for Alternative 1.
	Alternative 2	Impacts would be the same as those described under Alternative 1.	EO 12114 is not applicable for Alternative 2.
<b>Section 3.12 Land Use</b>	No Action Alternative, Alternative 1, or Alternative 2	Under the No Action Alternative, Alternative 1, or Alternative 2, there are no effects on land encroachment, land forms, or soil; transportation or utility systems; scenic quality of the offshore area; or real estate use or agreements.	EO 12114 is not applicable for the No Action Alternative, Alternative 1, or Alternative 2.

Table ES-3: Summary of Environmental Impacts (Continued)

Resource Category	Alternative	National Environmental Policy Act (Land and Territorial Waters, <12 nm)	Executive Order 12114 (Non-Territorial Waters, >12 nm)
<p>Section 3.13 Cultural Resources</p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>There would be no significant impacts to terrestrial archaeological sites from current training activities.</p> <p>There would be no significant impacts to buildings and structures from current training activities.</p> <p>Compliance with existing protective measures in accordance with the Navy Memorandum of Agreement (MOA), Navy Programmatic Agreement (PA), and the Air Force MOA to avoid cultural resources would reduce impacts from training activities under the No Action Alternative.</p> <p>Compliance with protective measures established in accordance with the 2009 PA to avoid cultural resources would reduce impacts from training activities under Alternative 1 and Alternative 2.</p> <p>Impacts on additional submerged cultural resources will not occur.</p> <p>Effects from Alternative 1 and Alternative 2 generally are the same as described for the No Action Alternative. An increase in training exercises would not result in significant impacts to cultural resources if avoidance conditions and stipulations are followed.</p> <p>If avoidance of cultural resources through siting and design of upgraded training facilities and portable training equipment were implemented, impacts to cultural resources would be unlikely to occur. If cultural resources cannot be avoided, consultation with the appropriate Historic Preservation Officer will be initiated and any adverse effect to cultural resources will be resolved prior to construction of the new or upgraded facilities.</p>	<p>Impacts on submerged cultural resources could occur from projectiles and shock waves. Currently there are no known submerged resources in non-territorial waters in the Study Area. Possible impacts to submerged cultural resources could occur from projectiles and shock waves if they were located in the immediate vicinity. However, there are no known submerged resources in non-territorial waters in the Study Area.</p>

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<p><b>Section 3.14 Transportation</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Under the No Action Alternative, Alternative 1, or Alternative 2, the impacts are the same. The FAA has established SUA W-517, R-7201, and ATCAAs for military training activities. When military aircraft are conducting training activities that are not compatible with civilian activity, the military aircraft are confined to the SUA to prevent accidental contact.</p> <p>Hazardous air training activities are communicated to commercial airlines and general aviation by Notices to Airmen (NOTAMs), published by the FAA. There are no additional impacts on the FAA's capabilities, no expected decrease in aviation safety, and no adverse effect on commercial or general aviation activities.</p> <p>Military use of the offshore ocean is also compatible with civilian use. Where naval vessels are conducting training activities that are not compatible with other uses, such as weapons firing, they are confined to surface areas and SUA away from shipping lanes and other recreational use areas.</p> <p>Hazardous marine training activities are communicated to all vessels and operators by Notices to Mariners (NOTMARs), published by the USCG.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters.</p>
<p><b>Section 3.15 Demographics</b></p>	<p>No Action Alternative, Alternative 1, or Alternative 2</p>	<p>Implementation of No Action Alternative, Alternative 1, or Alternative 2 would not result in substantial shifts in population trends, or adversely affect regional spending and earning patterns; therefore, they would not result in significant impacts.</p>	<p>Impacts would be similar to those described for the No Action Alternative, Alternative 1, and Alternative 2 for territorial waters. The impacts to recreational and commercial fishing will not adversely affect regional spending and earning patterns; therefore, they would not result in any impacts in non-territorial waters.</p>

**Table ES-3: Summary of Environmental Impacts (Continued)**

<b>Resource Category</b>	<b>Alternative</b>	<b>National Environmental Policy Act (Land and Territorial Waters, &lt;12 nm)</b>	<b>Executive Order 12114 (Non-Territorial Waters, &gt;12 nm)</b>
<b>Section 3.16 Regional Economy</b>	No Action Alternative, Alternative 1, or Alternative 2	Implementation of the No Action Alternative, Alternative 1, or Alternative 2 would not result in impacts to industry, commercial fishing, fishing gear use, tourism, or recreational and subsistence fishing in the Study Area as training activities in existing ranges and training areas and the increase in training activities and modernization of existing ranges and training areas proposed in Alternative 1 and Alternative 2 will not directly impact the resources in the Study Area.	<u>Industry</u> – The analysis of industry is not applicable to the non-U.S. territorial waters.  The impacts to commercial fisheries, fishing gear, tourism, and recreational and subsistence fishing are similar to those for the territorial waters.
<b>Section 3.17 Recreation</b>	No Action Alternative, Alternative 1, or Alternative 2	Military activity in territorial waters would have no significant impact on recreational activities under the No Action Alternative, Alternative 1, or Alternative 2.	Military activity in non-territorial waters would not cause significant harm to recreational activities under the No Action Alternative, Alternative 1, or Alternative 2.
<b>Section 3.18 Environmental Justice and Protection of Children</b>	No Action Alternative, Alternative 1, or Alternative 2	Implementation of No Action Alternative, Alternative 1, or Alternative 2 would have no impact on the minority populations or protection of children within the Study Area.	Implementation of No Action Alternative, Alternative 1, or Alternative 2 would have no impact on the minority population or protection of children within the Study Area.
<b>Section 3.19 Public Health and Safety</b>	No Action Alternative, Alternative 1, or Alternative 2	Under the No Action Alternative, Alternative 1, or Alternative 2, only minor impacts to public health and safety would occur from current training activities. Impacts are reduced by access restrictions to land-based and nearshore training areas and prior notification (where appropriate) during training events. Implementation of applicable safety procedures further reduces potential impacts to public health and safety.	Under the No Action Alternative, Alternative 1, or Alternative 2 there would be no long-term harm to public health and safety in the global commons. Implementation of safety procedures would reduce impacts to public health and safety in the global commons.

**ES 7 MITIGATION MEASURES**

The Services are committed to demonstrating environmental stewardship while executing their national defense mission and providing compliance with a suite of Federal environmental and natural resources laws and regulations that apply to a wide variety of environments. Consistent with the Service’s cooperating agency agreement with the NMFS, mitigation and monitoring measures presented in this EIS/OEIS focus on protecting and managing marine resources.

## ES 8 CUMULATIVE IMPACTS

The approach taken for analysis of cumulative impacts (or cumulative effects) follows the objectives of NEPA of 1969, CEQ regulations, and CEQ guidance. CEQ regulations (40 C.F.R. §§ 1500-1508) provide the implementing procedures for NEPA. The regulations define cumulative effects as:

“ . . . the impact on the environment which results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 C.F.R. 1508.7).

CEQ provides guidance on cumulative impacts analysis in *Considering Cumulative Effects Under the National Environmental Policy Act* (CEQ, 1997). This guidance further identifies cumulative effects as those environmental effects resulting “from spatial and temporal crowding of environmental perturbations. The effects of human activities will accumulate when a second perturbation occurs at a site before the ecosystem can fully rebound from the effects of the first perturbation.” Noting that environmental impacts result from a diversity of sources and processes, this CEQ guidance observes that “no universally accepted framework for cumulative effects analysis exists,” while noting that certain general principles have gained acceptance. One such principle provides that “cumulative effects analysis should be conducted within the context of resource, ecosystem, and community thresholds – levels of stress beyond which the desired condition degrades.” Thus, “each resource, ecosystem, and human community must be analyzed in terms of its ability to accommodate additional effects, based on its own time and space parameters.” Therefore, cumulative effects analysis normally will encompass geographic boundaries beyond the immediate area of the Proposed Action, and a time frame including past actions and foreseeable future actions, in order to capture these additional effects. Bounding the cumulative effects analysis is a complex undertaking, appropriately limited by practical considerations. Thus, CEQ guidelines observe, “[it] is not practical to analyze cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.”

Geographic boundaries for analyses of cumulative impacts in this EIS/OEIS vary for different resources and environmental media. For air quality, the potentially affected air quality regions are the appropriate boundaries for assessment of cumulative impacts from releases of pollutants into the atmosphere. For wide-ranging or migratory wildlife, specifically marine mammals and sea turtles, any impacts from the Proposed Action or alternatives might combine with impacts from other sources within the range of the population. Therefore, identification of impacts elsewhere in the range of a potentially affected population is appropriate. The training area venues within the MIRC Study Area (Figures ES-1 through ES-13) are the appropriate geographical area for assessing cumulative impacts. For all other ocean resources, the ocean ecosystem of the marine waters off Mariana Islands is the appropriate geographic area for analysis of cumulative impacts.

Identifiable present effects of past actions are analyzed, to the extent they may be additive to impacts of the Proposed Action. In general, the Navy need not list or analyze the effect of individual past actions; cumulative impacts analysis appropriately focuses on aggregate effects of past actions. Reasonably foreseeable future actions that may have impacts additive to the effects of the Proposed Action also are to be analyzed. Along with other cumulative effects, the cumulative impacts associated with the Marine relocation and ISR/Strike actions are analyzed within this EIS/OEIS.

## **ES 9 OTHER CONSIDERATIONS**

### **ES 9.1 POSSIBLE CONFLICTS WITH OBJECTIVES OF FEDERAL, STATE, AND LOCAL PLANS, POLICIES, AND CONTROLS**

Based on evaluation with respect to consistency and statutory obligations, the Navy's Proposed Action and Alternatives for the MIRC EIS/OEIS does not conflict with the objectives or requirements of Federal, state, regional, or local plans, policies, or legal requirements. Table 4-1 provides a summary of environmental compliance requirements that may apply.

### **ES 9.2 RELATIONSHIP BETWEEN SHORT-TERM USE OF MAN'S ENVIRONMENT AND MAINTENANCE AND ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

NEPA requires analysis of the relationship between a project's short-term impacts on the environment and the effects that those impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This means that choosing one option may reduce future flexibility in pursuing other options, or that committing a resource to a certain use may often eliminate the possibility for other uses of that resource.

With respect to marine mammals, the Services, in partnership with the NMFS, are committed to further understanding potential impacts of military training.

The Proposed Action would result in both short-term and long-term environmental effects. However, the Proposed Action would not be expected to result in any impacts that would reduce environmental productivity, permanently narrow the range of beneficial uses of the environment, or pose long-term risks to health, safety, or general welfare of the public. The Services are committed to sustainable range management, including co-use of the MIRC with general public and commercial interests. This commitment to co-use will enhance long-term productivity of the range areas surrounding the MIRC.

### **ES 9.3 IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF RESOURCES**

NEPA requires that environmental analysis include identification of "any irreversible and irretrievable commitments of resources which would be involved in the Proposed Action should it be implemented." Irreversible and irretrievable resource commitments are related to the use of nonrenewable resources and the effects that the uses of these resources have on future generations. Irreversible effects primarily result from the use or destruction of a specific resource (e.g., energy or minerals) that cannot be replaced within a reasonable time frame. Irretrievable resource commitments involve the loss in value of an affected resource that cannot be restored as a result of the action (e.g., the disturbance of a cultural site).

For the alternatives, including the Proposed Action, most resource commitments are neither irreversible nor irretrievable. Most impacts are short-term and temporary, or long lasting but negligible. There will be no adverse effect on historic properties. No habitat associated with threatened or endangered species would be lost as result of implementation of the Proposed Action. Since there would be no building or facility construction, the consumption of materials typically associated with such construction (e.g., concrete, metal, sand, fuel) would not occur, though in the upgrade and maintenance of ranges, there would be consumption of some of those materials. Energy typically associated with construction activities would not be expended and irreversibly lost. Implementation of the Proposed Action would require fuels used by aircraft, ships, and ground-based vehicles. Since fixed- and rotary-wing flight and ship activities could increase relative to what is currently experienced, total fuel use would increase. Fuel use by ground-



based vehicles involved in training activities would also increase. Therefore, total fuel consumption would increase and this nonrenewable resource would be considered irretrievably lost.

#### **ES 9.4 ENERGY REQUIREMENTS AND CONSERVATION POTENTIAL OF ALTERNATIVES AND MITIGATION MEASURES**

Increased training and testing activities on the MIRC would result in an increase in energy demand over the No Action Alternative. This would result in an increase in fossil fuel consumption, mainly from aircraft, vessels, ground equipment, and power supply. Although the required electricity demands of increased intensity of land-use would be met by the existing electrical generation infrastructure at the MIRC, the alternatives would result in a net cumulative negative impact on the energy supply.

Energy requirements would be subject to any established energy conservation practices at each facility. No additional power generation capacity other than the potential use of generators would be required for any of the events. The use of energy sources has been minimized wherever possible without compromising safety, training, or testing activities.

At the present time, the Services, under the direction of the Energy Policy Act (EPA) of 1992 and EO 13149, is actively testing and introducing several different types of alternate fuels (bio-diesel B100/B20, clean natural gas, fuel ethanol E85, fuel cells, etc.) to further reduce the impacts of its activities on the environment and nonrenewable resources.

#### **ES 9.5 NATURAL OR DEPLETABLE RESOURCE REQUIREMENTS AND CONSERVATION POTENTIAL OF VARIOUS ALTERNATIVES AND MITIGATION MEASURES**

Resources that would be permanently and continually consumed by project implementation include water, electricity, natural gas, and fossil fuels; however, the amount and rate of consumption of these resources would not result in significant environmental impacts or the unnecessary, inefficient, or wasteful use of resources. Nuclear-powered vessels would be a benefit as they decrease the use of fossil fuels. In addition, repair and upgrade of ranges related to increased training and testing events in the MIRC Study Area would result in the irretrievable commitment of nonrenewable energy resources, primarily in the form of fossil fuels (including fuel oil), natural gas, and gasoline construction equipment. With respect to training activities, compliance with all applicable building codes, as well as project mitigation measures, would ensure that all natural resources are conserved or recycled to the maximum extent feasible. It is also possible that new technologies or systems would emerge, or would become more cost effective or user-friendly, which would further reduce reliance on nonrenewable natural resources. However, even with implementation of conservation measures, consumption of natural resources would generally increase with implementation of the alternatives.

Aircraft operations within the MIRC airspace are the single largest airborne noise source. Noise levels in excess of 90 decibels can occur. Protective measures (structural attenuation features) are in place. Sustainable range management practices are in place that protect and conserve natural and cultural resources as well as preserve access to training areas for current and future training requirements, while addressing potential encroachments that threaten to impact range capabilities.

#### **ES 9.6 URBAN QUALITY, HISTORIC AND CULTURAL RESOURCES, AND THE DESIGN OF THE BUILT ENVIRONMENT**

There are no urban areas under consideration in this EIS/OEIS and therefore no urban quality issues exist. Likewise, there is no new construction being proposed, only minor repair and upgrade to existing facilities. Terrestrial archaeological sites, buildings, or structures are not substantially affected by current

training activities and an increase in training exercises would not substantially affect cultural resources if avoidance conditions and stipulations are followed.

The Proposed Action would result in both short-term and long-term environmental effects. However, the Proposed Action would not be expected to result in any impacts that would reduce environmental productivity, permanently narrow the range of beneficial uses of the environment, or pose long-term risks to health, safety, or the general welfare of the public. The Services are committed to sustainable range management, including co-use of the MIRC Study Area with the general public and commercial interests to the extent practicable and consistent with accomplishment of the Military mission and in compliance with applicable law. This commitment to co-use enhances the long-term productivity of the range areas surrounding the MIRC.

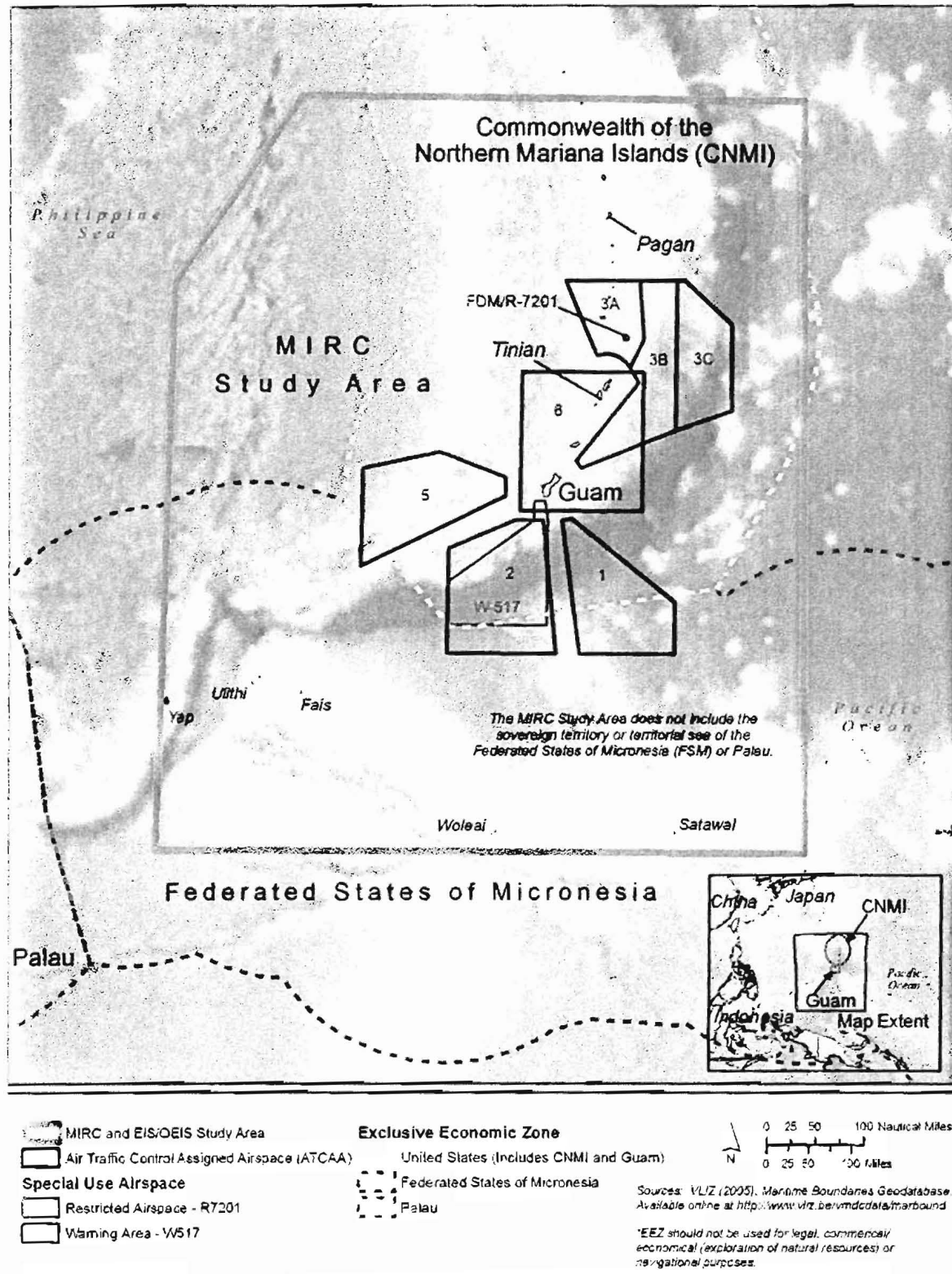
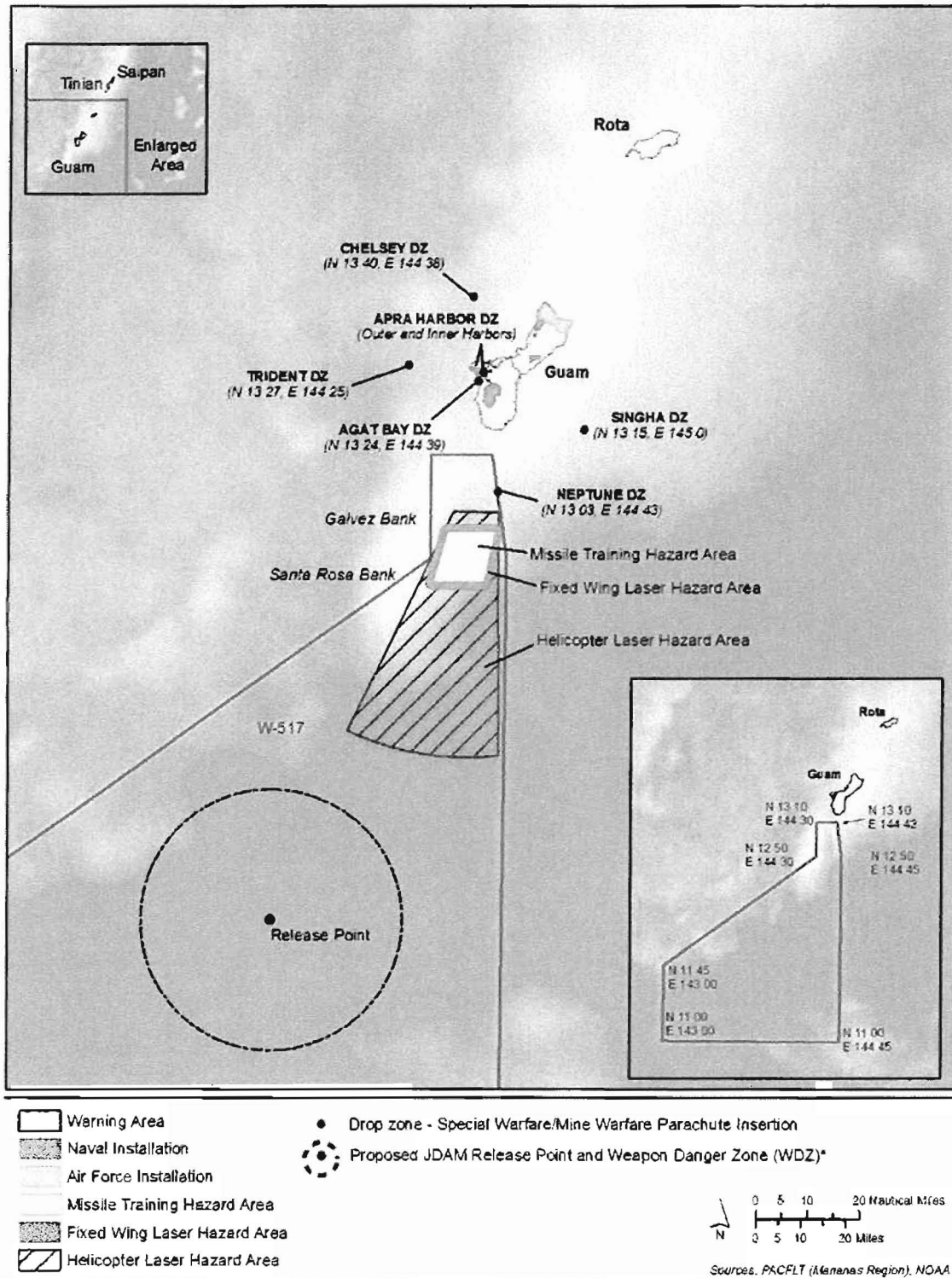


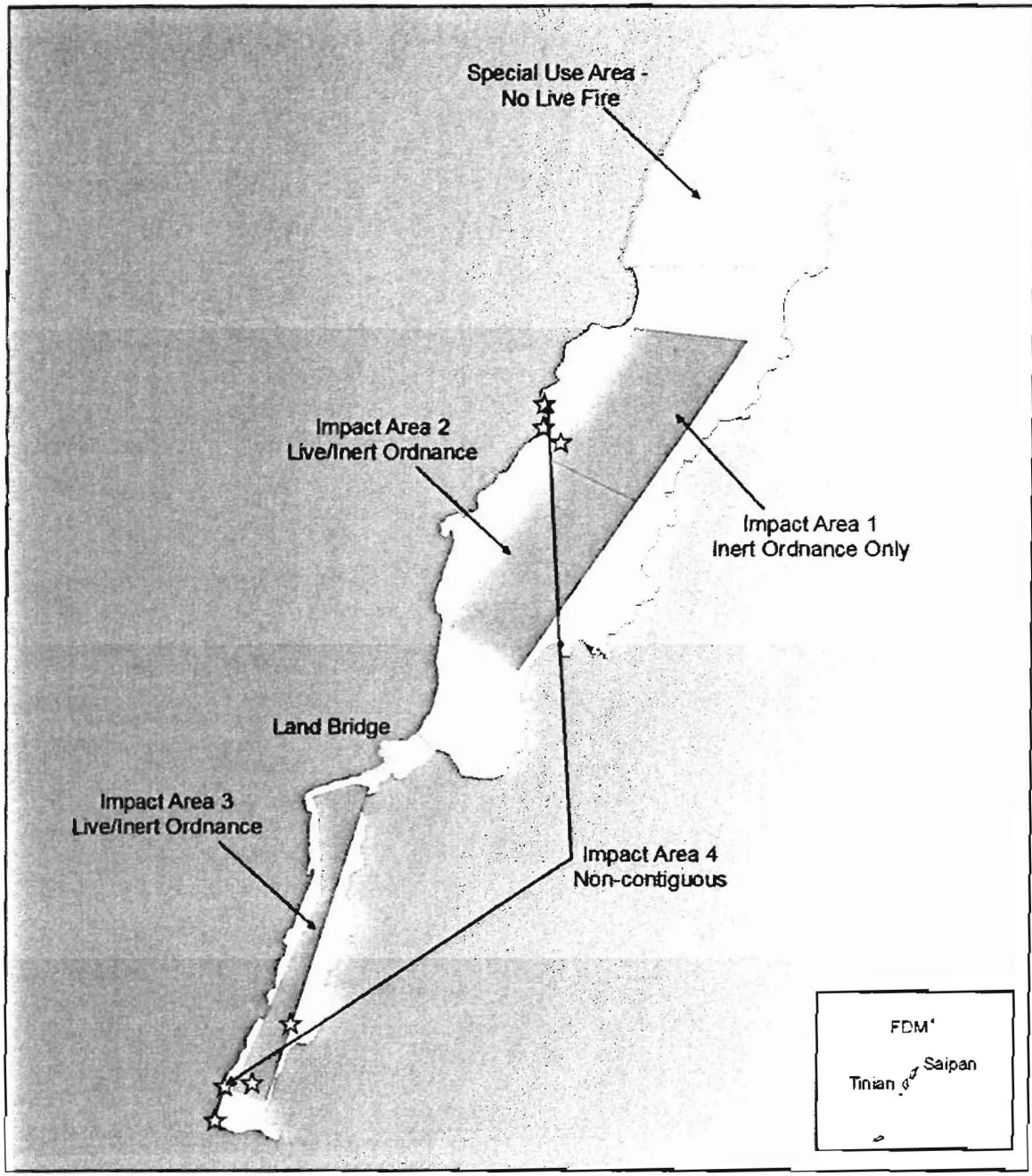
Figure ES-1: Mariana Islands Range Complex and EIS/OEIS Study Area



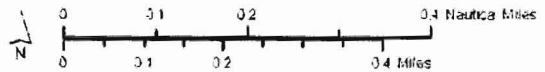
\* Proposed JDAM release point: (Lat 11 40 N, Long 144 E) and 25 nm radius WDG

Source: ManTech-SRS

Figure ES-2: W-517 Aerial Training Area



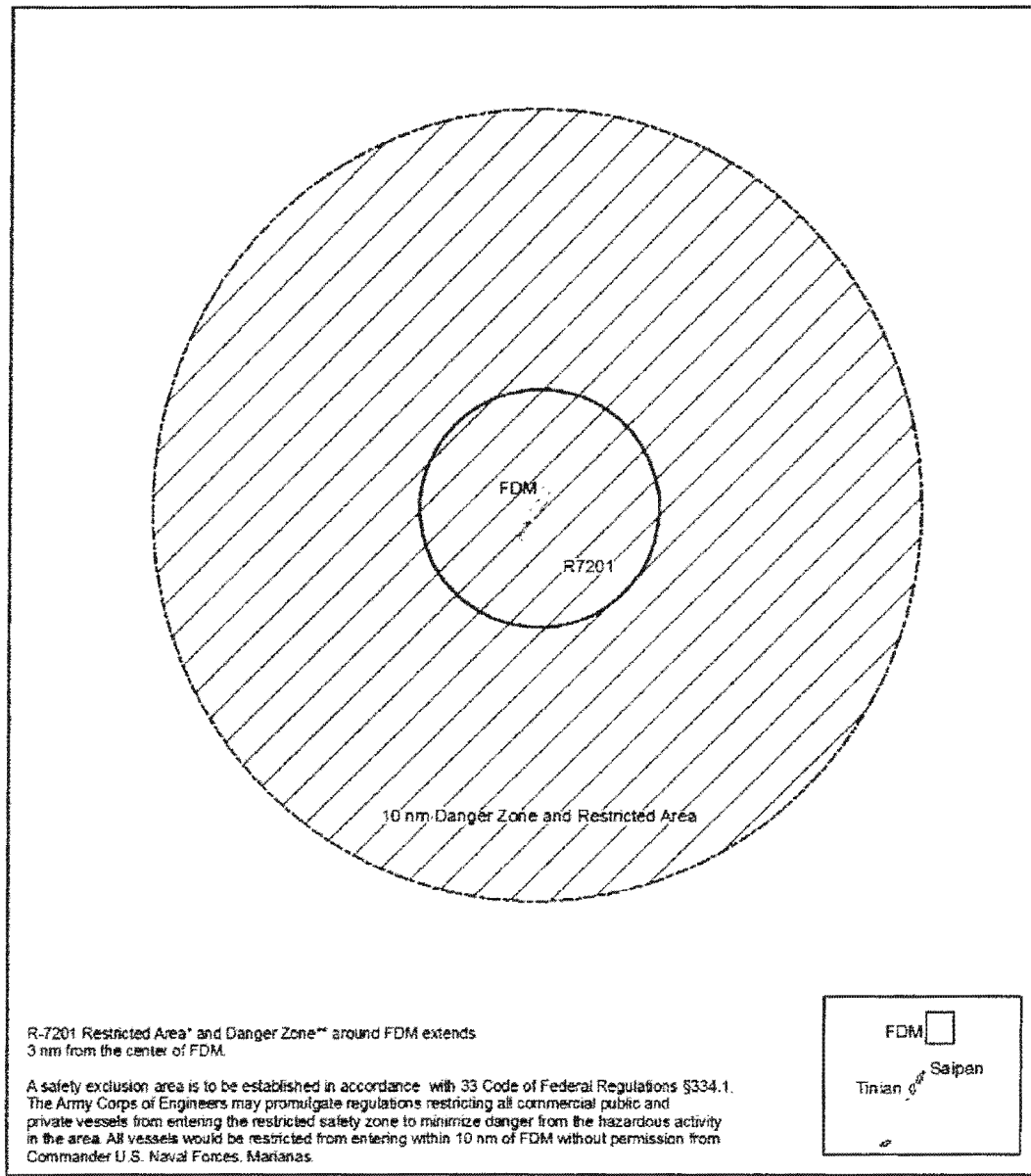
- ☆ Shore Bombardment Target
- Special Use Area
- Impact Area





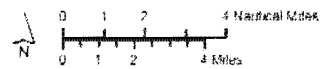
Source: PACFLT (Mariana Region)

Source: ManTech-SRS

Figure ES-3: Farallon de Medinilla (FDM)



-  10 nm Danger Zone and Restricted Area\*\*\*
-  R-7201 Restricted Area and Surface Danger Zone



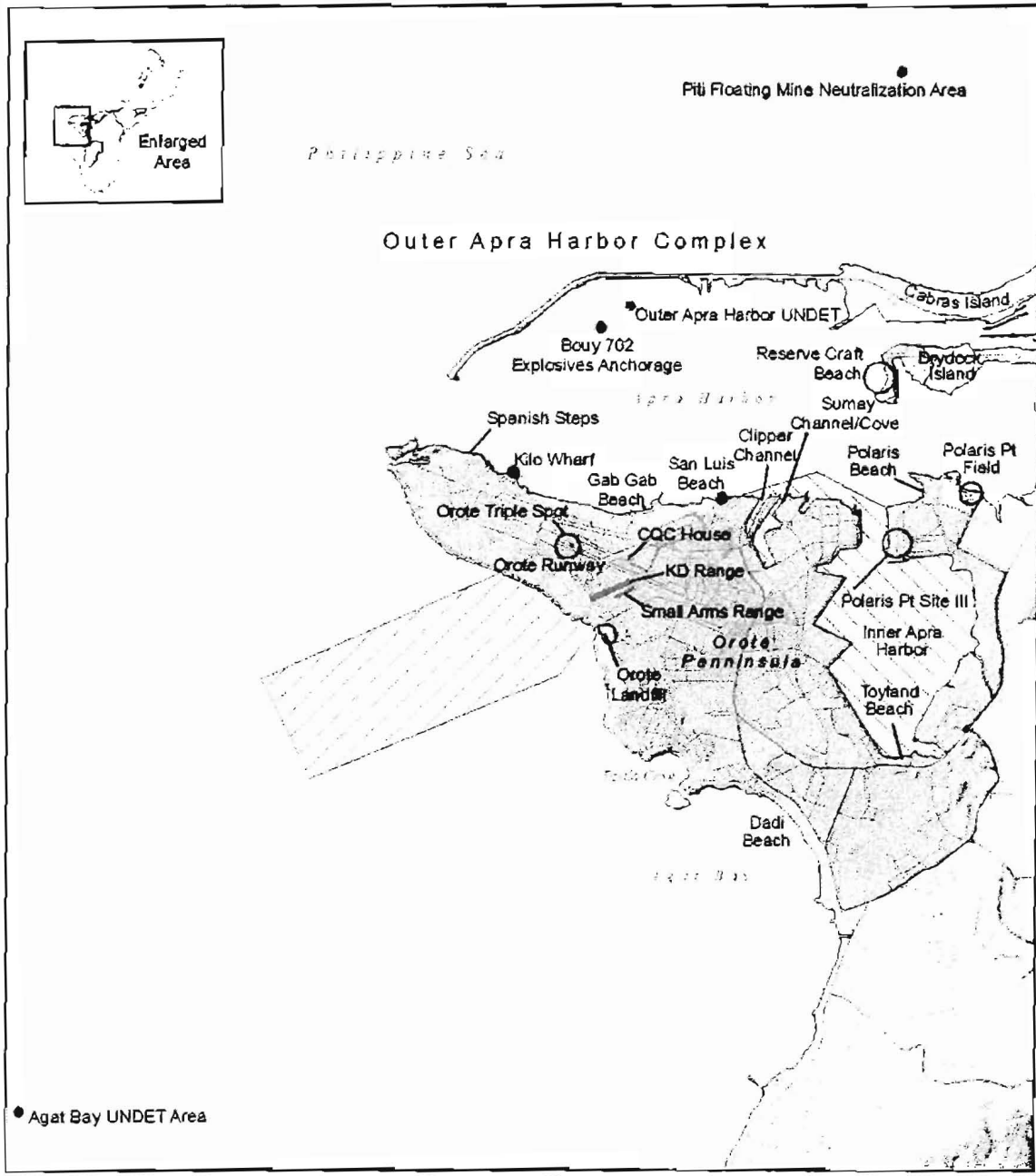
Sources: NGA, NOAA

\* In accordance with FAA Order JO 7400.8P, R-7201 center point at lat. 6°01'04"N., long. 146°04'39"E., altitude from surface to FL600.

\*\* Danger Zone In accordance with COMNAV/MARINST 3502.1 FDM Range User Manual.

\*\*\* In accordance with the FDM Lease Agreement, Public access to Farallon de Medinilla Island and the waters of the Commonwealth immediately adjacent thereto are permanently restricted for safety reasons.

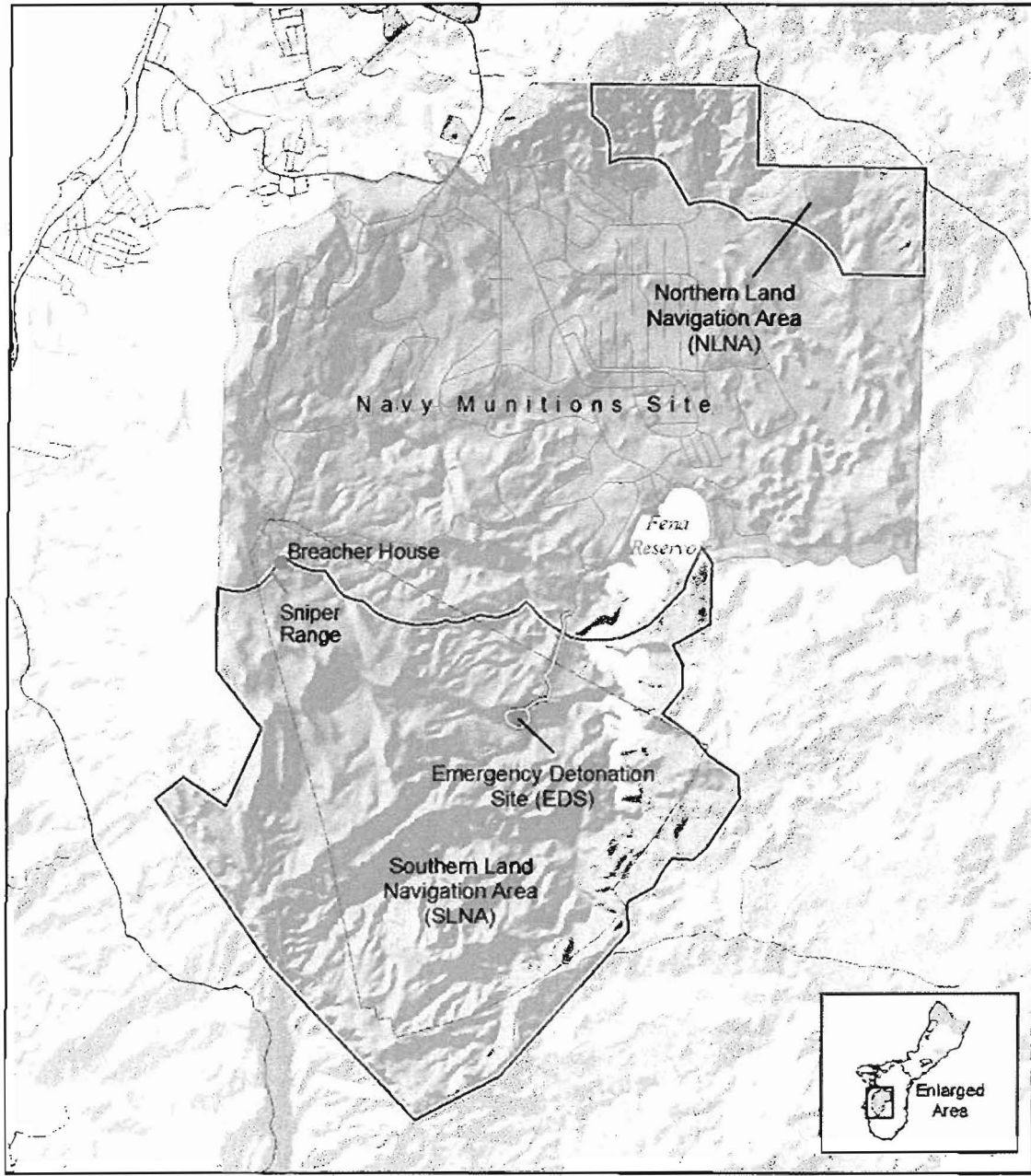
**Figure ES-4: Farallon de Medinilla (FDM) Restricted Area and Danger Zone**



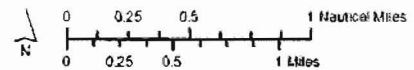
Sources: PACFLT (Mariana Region) MCAA

Source: ManTech-SRS

Figure ES-5: Apra Harbor and Nearshore Training Areas



- Naval Installation
- Surface Danger Zone
- Fire Break
- Northern Land Navigation Area
- Southern Land Navigation Area

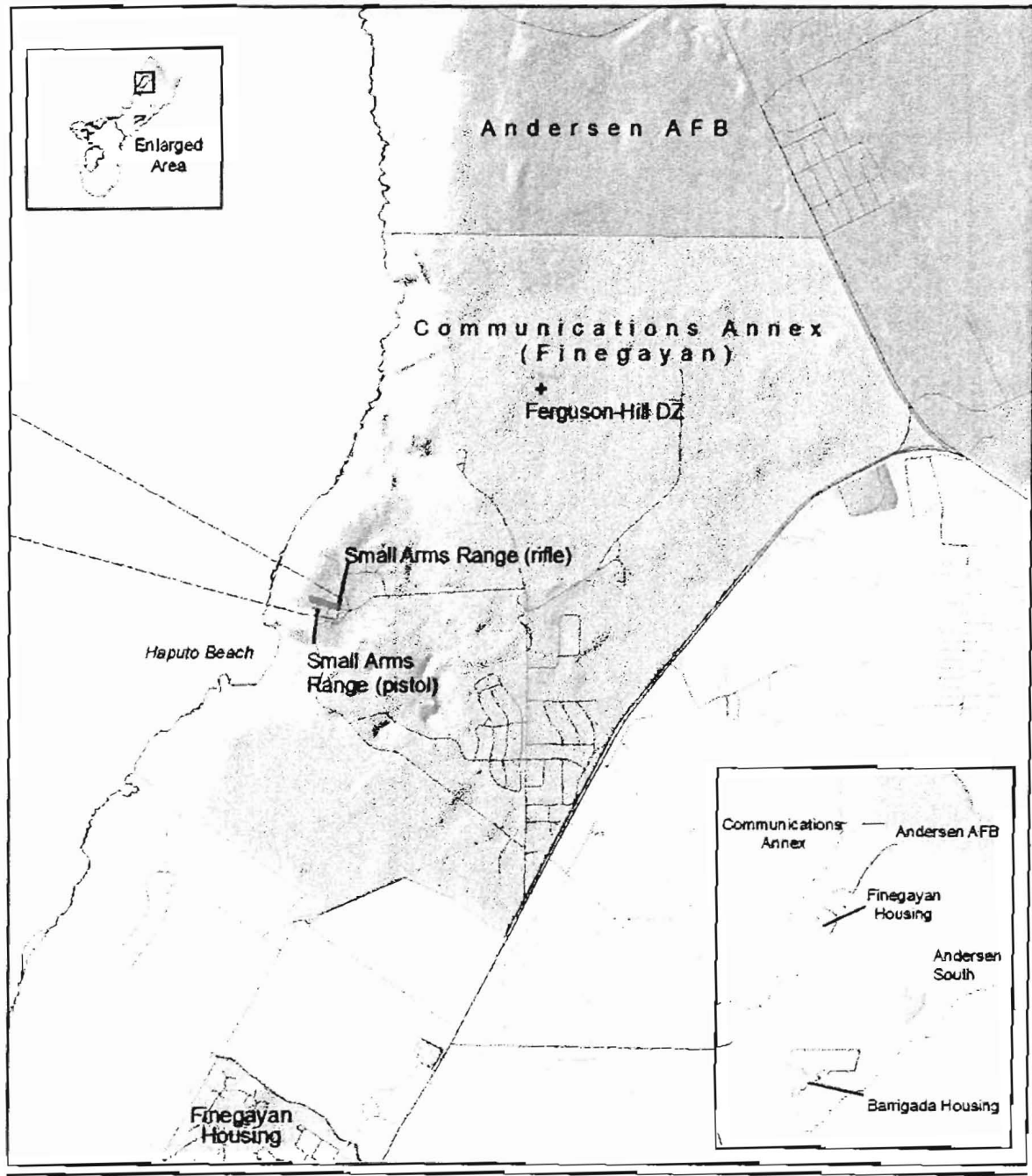


Sources: PACFLT (Mariana Region), NOAA

Source: ManTech-SRS

**Figure ES-6: Navy Munitions Site (aka Ordnance Annex) Training Areas**





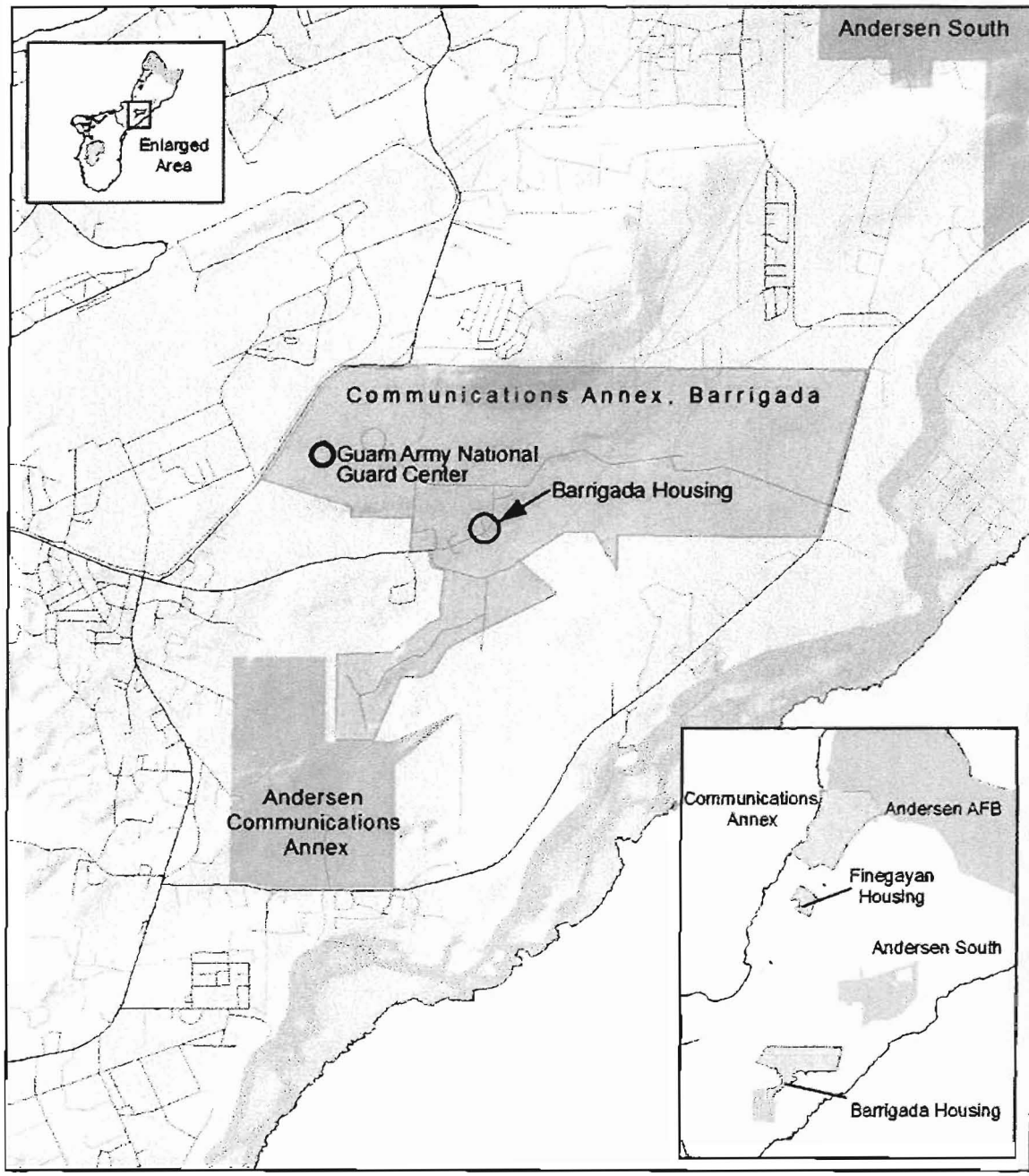
Naval Installation  
 Training Area  
 Air Force Installation  
 Surface Danger Zone  
+ Ferguson-Hill Drop Zone

0 0.1 0.2 0.4 Nautical Miles  
 0 0.1 0.2 0.4 Miles

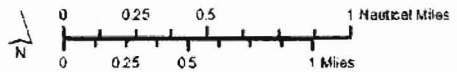
Sources: PACFLT (Mariana Region), NOAA, HRF

Source: ManTech-SRS

**Figure ES-7: Finegayan Communications Annex Training Areas**



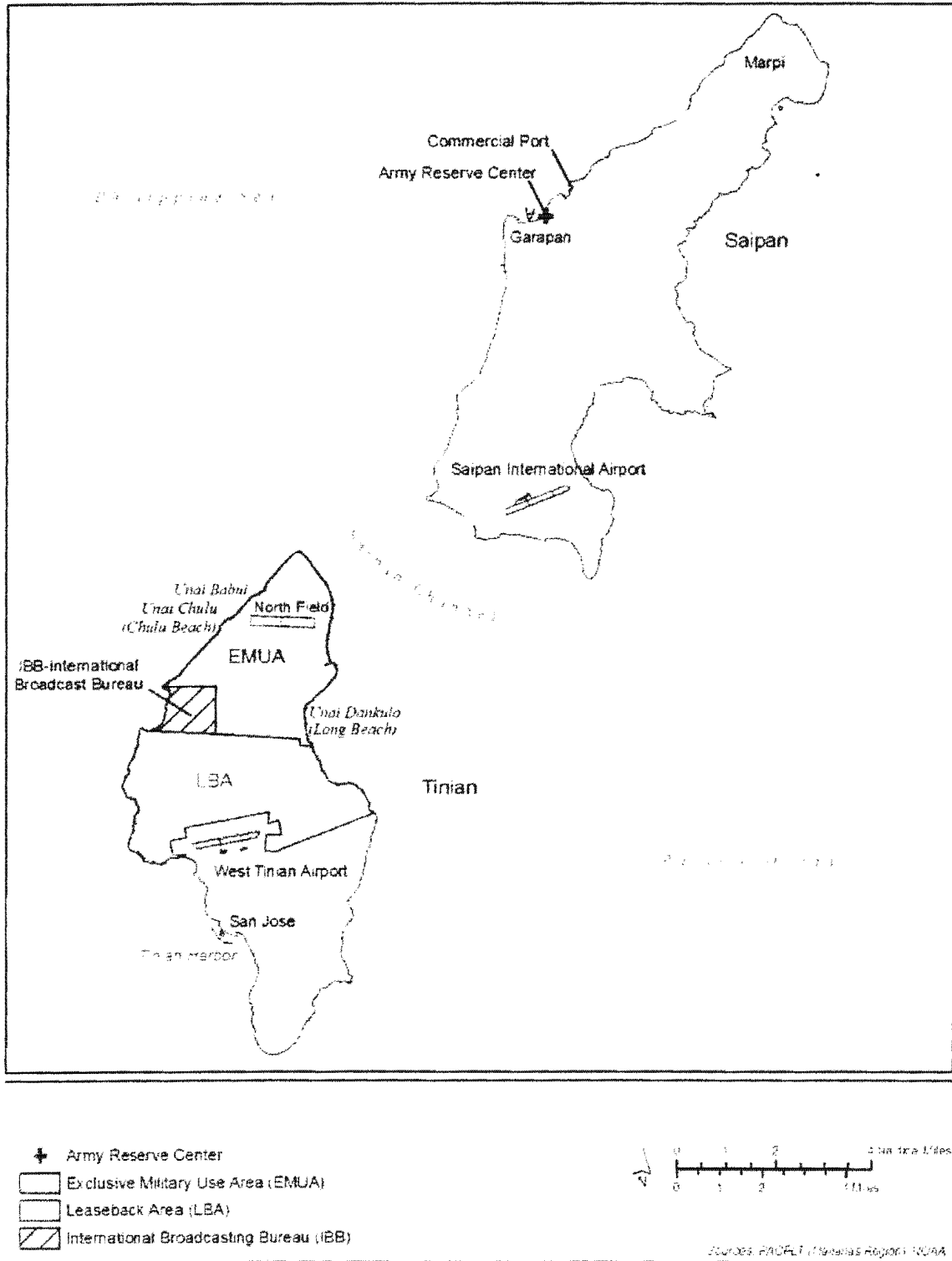
- Air Force Installation
- Naval Installation
- Private/Other Land



Sources: PACFLT (Mariana Region), NDAA

Source: ManTech-SRS

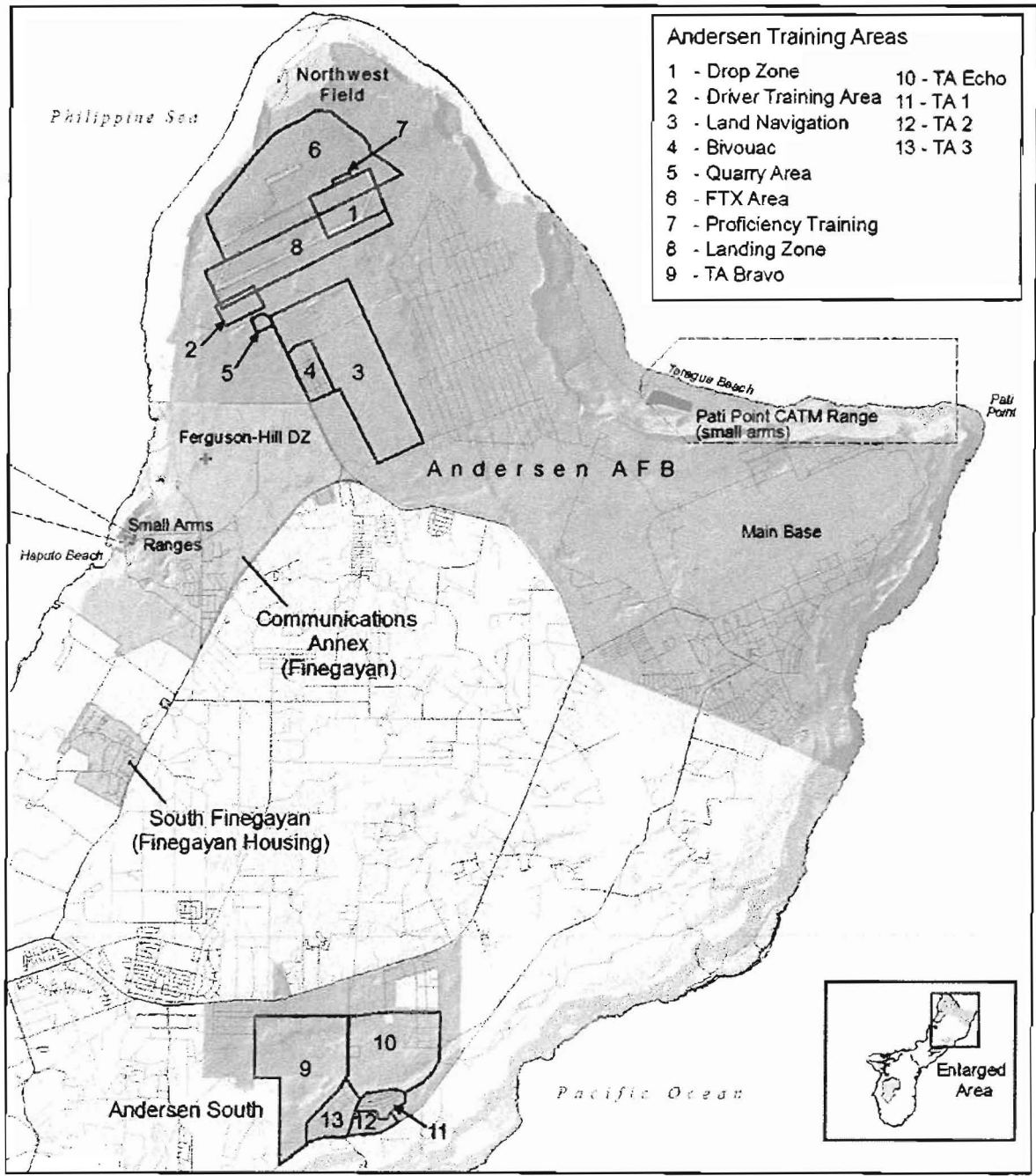
Figure ES-8: Communications Annex, Barrigada



Source: ManTech-SRS

**Figure ES-9: Tinian Training Land Use and Saipan**

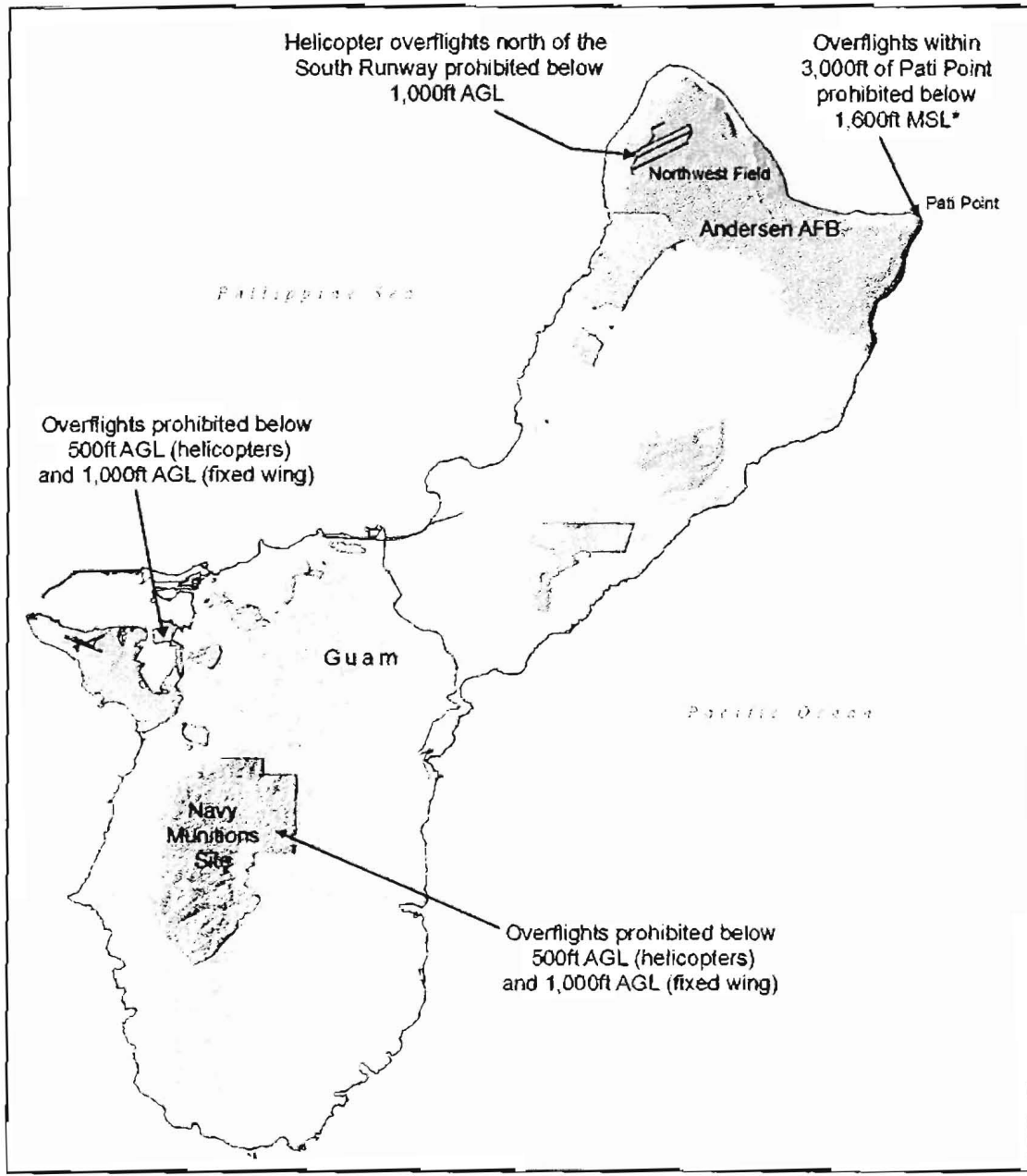
\*Note the Navy has leased a portion of the EMUA to the VoA-IBB.






Sources: PACFLT (Mariana Region), NOAA

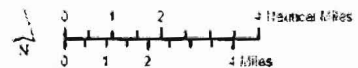
Source: ManTech-SRS

Figure ES-10: Andersen Air Force Base Assets



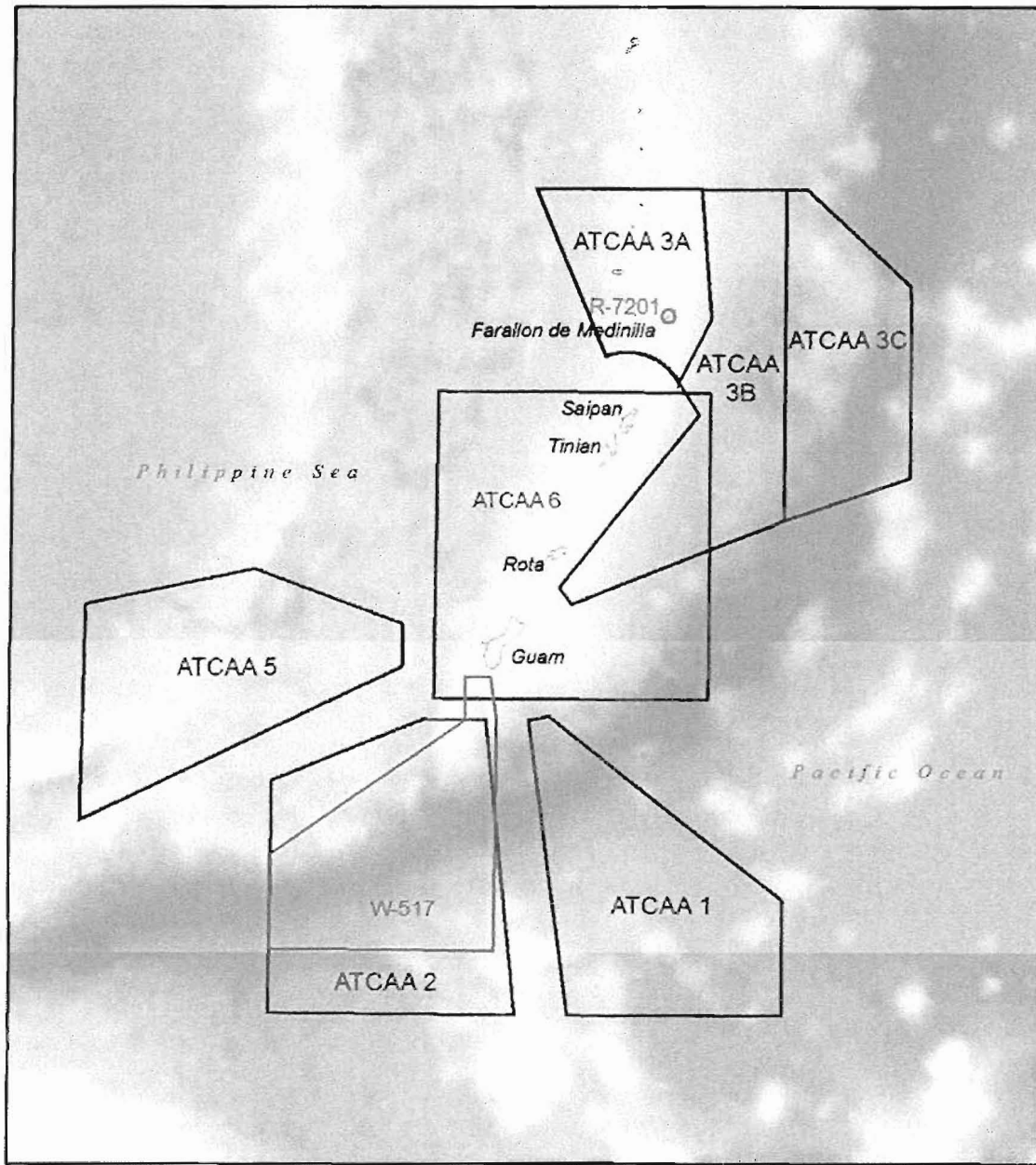
\*Except for flights from the end of the Andersen Main runways

-  Airfield
-  Air Force Installation
-  Navy Installation

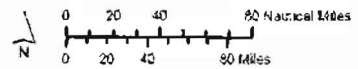


Sources PACFLT (Mariana Region), NOAA

Figure ES-11. Guam Aircraft Flight Level Restrictions



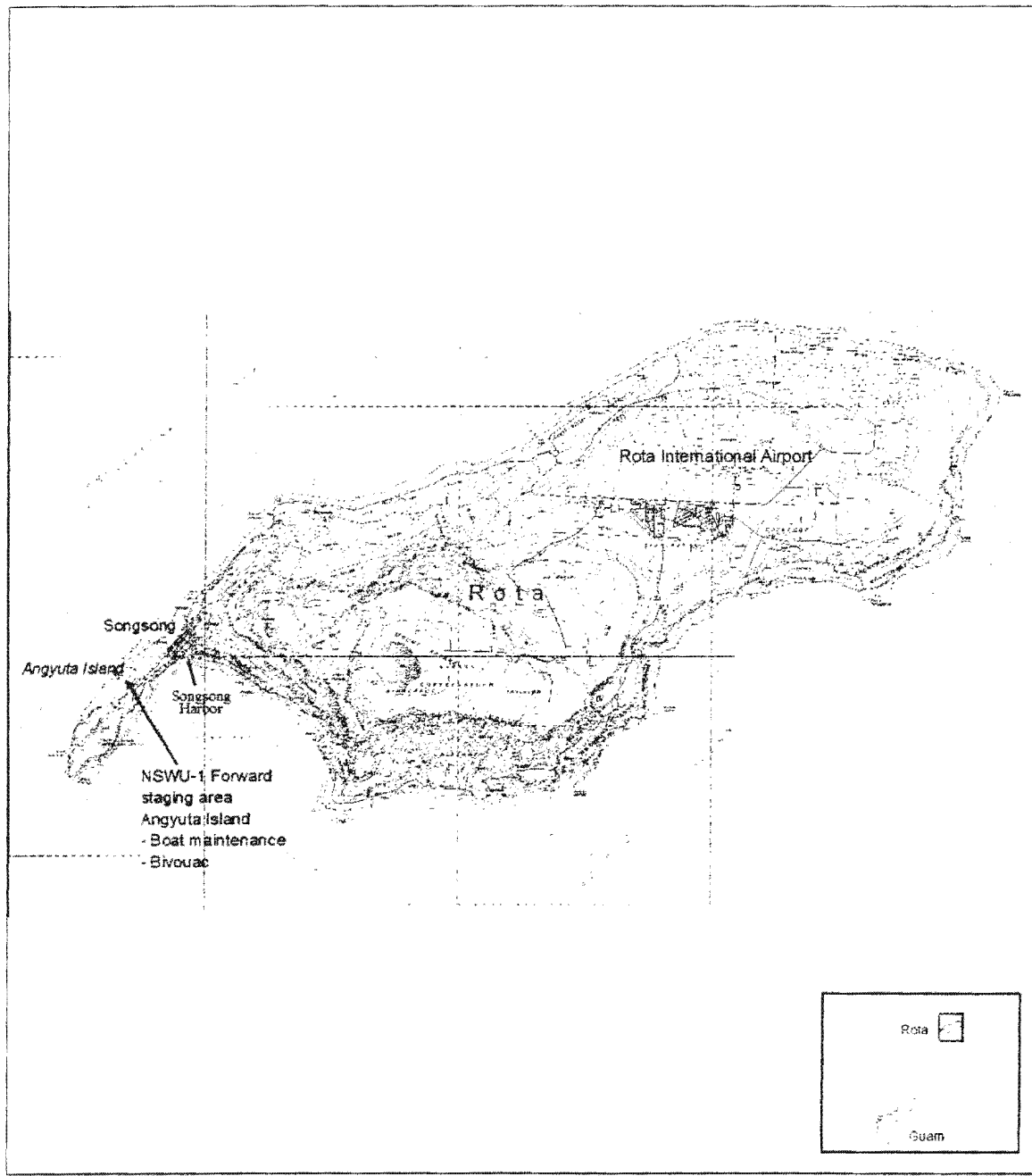
- Air Traffic Control Assigned Airspace (ATCAA)
- Special Use Airspace**
- Restricted Area R-7201
- Warning Area W-517



Sources: PACFLT (Mariana Region), NGA, USGS

Source: ManTech-SRS

Figure ES-12: MIRC ATCAAs



Source: ManTech-SRS

Figure ES-13: Rota

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