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JOINT REGION MARIANAS
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J3

8 Oct 13

COMNAVMAR INSTRUCTION 3500.4A

Subj: MARIANAS TRAINING MANUAL

Ref: (a) Marianas Islands Range Complex Final Environmental Impact Statement/Overseas Environmental Impact Statement, USDEFREP GU/CNMI/FSM/ROP Record of Decision, 20 July 2010
(b) Marianas Islands Range Complex Endangered Species Act Terrestrial Biological Opinion
(c) Marianas Islands Range Complex Marine Mammal Protection Act Rule

Encl: (1) Marianas Training Manual (MTM)

1. Purpose. To promulgate information concerning military operational training services, areas, and facilities available in the Mariana Islands Range Complex (MIRC) and procedures governing the use of training areas, ranges, and airspace.

2. Background. Commander, U.S. Pacific Fleet (COMPACFLT) is the Executive Agent for management of the Mariana Islands Range Complex (MIRC). The senior Navy commander in the Marianas Islands has three overlapping roles within the MIRC: Commander, U.S. Naval Forces Marianas (COMNAVMAR); Commander, Joint Region Marianas (JRM); and Department of Defense Representative (USDEFREP) Guam, Commonwealth of the Northern Mariana Islands (CNMI), Federated States of Micronesia (FSM) and Republic of Palau (ROP). COMNAVMAR representing U.S. Pacific Command (PACOM) is responsible for supporting military training and is the controlling and scheduling authority for Navy-owned and controlled training areas and services available in the Mariana Islands. JRM, representing Commander, Navy Installations Command (CNIC), functions include legal, environmental, facilities, public affairs and comptroller support. USDEFREP also coordinates joint service planning and use of training areas and facilities in CNMI and Micronesia.

3. Cancellation. COMNAVMARIANASINST 3500.4

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4. Discussion. COMNAVMAR maintains surface/air operation areas, subsurface areas, a shore bombardment range, and military land maneuver training areas on Guam and certain islands of the CNMI. These training areas were environmentally evaluated, and the results were published in reference (a).

a. Enclosure (1) is organized into five chapters with supporting appendices; it integrates operational training constraints with other training management requirements including range environmental analysis in order to:

- (1) Preserve training environments for future use
- (2) Conserve natural resources
- (3) Reduce safety hazards to personnel and equipment
- (4) Administer equipment maintenance functions that do not degrade the environment
- (5) Prevent the loss of vegetation and wildlife
- (6) Assure environmental regulatory compliance
- (7) Foster continued public support of USPACOM presence in the Mariana Islands

b. The MTM will be distributed to all units training or planning to train in the MIRC. It is not intended to be a comprehensive listing of all Department of Defense (DoD) training resources, but is a guide for the proper use of specific training areas, ranges, and facilities. For further information and clarification, units should refer to reference (a) or contact JRM (J3) MIRC Operations (MIRC Ops), email: mirco.ops@fe.navy.mil.

5. Responsibilities

a. JRM Operations Region Program Director (J3). Scheduling management and range sustainability of all Navy controlled training areas in the MIRC.

b. JRM Regional Engineer (J4). Environmental evaluation of potential training impacts, and determining the measures necessary to protect the environment and preserve training areas for long term use.

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c. Commanding Officers/Officers-in-Charge of training units

(1) Comply with the mandatory regulations and guidance contained in the MTM when requesting and conducting training in the Mariana Islands.

(2) Ensure operational training and exercises are conducted in full compliance with appropriate service directives, orders, standards, and procedures.

(3) Retain full responsibility for the safety of all operational training conducted by their personnel within the MIRC training areas.

(4) Coordinate with the JRM MIRC Ops for all operational training requirements within the MIRC.

(5) Comply with minimum lead times for submission of training requests and After Action Reports as delineated in enclosure (1).

(6) Ensure compliance with the Brown Tree Snake Control and Interdiction Plan, the Wildland Fire Prevention Plan, Hazardous Material and Solid Waste Management Plan, and Marine Animal Mitigation Measures contained within the appendices of enclosure (1).


T. D. PAYNE

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List I (e)

List II (e, h, i, k, l, q, r, t, & u)

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CHAPTER 1
MIRC OVERVIEW

1. Introduction. The Marianas Training Manual (MTM) is designed to:

a. Support Department of Defense (DoD) long-range and day-to-day training requirements based on planned military missions and force levels in the Mariana Islands.

b. Assist assigned and transient military units to plan and coordinate operational training events.

c. Optimize the use of available real estate for specific training activities within the constraints necessary to preserve the training environment.

d. Commander, U.S. Naval Forces Marianas (COMNAVMARIANAS), representing Commander, U.S. Pacific Command (PACOM), is responsible for supporting military training in the Marianas. The Mariana Islands are used for training activities to develop warfighting skills and maintain the constant state of readiness of military forces required for global crisis response and combatant operations. This manual has been published to provide direction and guidance to organizations that plan to train in areas managed by COMNAVMARIANAS.

e. Commander, 36th Wing (36 WG) is responsible for management and operations of Andersen Air Force Base (AAFB), which includes training area management and logistical support to transiting forces from all military services.

f. Commanding Officer, Naval Base Guam (NBG) is responsible for management and operations of NBG, which includes logistical support to transiting forces from all military services.

2. Background. Commanding Officer, U.S. Pacific Fleet (COMPACFLT) is the Executive Agent for management of the Mariana Islands Range Complex (MIRC). The senior Navy commander in the Mariana Islands has three overlapping roles within the MIRC: Commander, Joint Region Marianas (COMJTREGMAR); Commanding Officer, U.S. Naval Forces Marianas (COMNAVMARIANAS); and U.S. Defense Representative Guam (USDR), Commonwealth of the Northern Mariana Islands (CNMI), Federated States of Micronesia (FSM) and Republic of Palau (ROP).

a. In the role of COMNAVMARIANAS, functions include: Provide management, sustainment, and training support oversight of the MIRC; provide regional coordination for all shore-based naval personnel and shore activities in Guam; and represent the Navy to the Guam community.

b. In the role of COMJTREGMAR, functions include legal, environmental, facilities, public affairs, and comptroller support of Commander, Navy Installations Command (CNIC) funded ranges and facilities.

c. In the role of USDR, functions include: Providing liaison to the governments of Guam, CNMI, FSM and ROP, and coordinating multi-service (joint) planning and use, including environmental planning of the MIRC.

3. Description of the MIRC. Military activities in MIRC occur on the ocean surface, under the ocean surface, in the air, and on land. Summaries of the land, air, sea, and undersea space addressed in this manual are provided in Table 1-1. To aid in the description of the training areas in the MIRC, the range complex is divided into major geographic and functional areas. Each of the individual training areas fall into the following:

a. Guam land based training and Guam coastal waters (Chapter 3).

b. Airspace areas including all Special Use Airspace (SUA) in the MIRC (Chapter 4).

c. Islands and their coastal waterways within the MIRC (Chapter 5).

Table 1-1: Summary of the MIRC Air, Sea, Undersea, and Land Space

Area Name	Warning Area Airspace (nm ²)	Restricted Area Airspace (nm ²)	ATCAA / Other Airspace (nm ²)	Sea Space (nm ²)	Undersea Space (nm ²)	Land Range (acres)
MIRC	14,000	28	70,800	501,873	14,000	24,894

4. The Strategic Importance of the MIRC. The strategic mission of the MIRC is to provide training venues for the following warfare functional areas:

a. Air Warfare (AW), Amphibious Warfare (AMW), Surface Warfare (SUW), Anti-Submarine Warfare (ASW), Mine Warfare (MIW), Strike Warfare (STW), Electronic Combat (EC), and Naval Special Warfare (NSW).

b. These eight primary warfare areas encompass Joint and Service-level roles, missions, and tactical tasks, to include multi-national training. The MIRC has the capabilities to provide training venues that support operational readiness of Navy, U.S. Marine Corps (USMC), U.S. Air Force (USAF), Guam Army National Guard (GUARNG), Guam Air National Guard (GUANG), Army Reserves Marianas (AR-Marianas), U.S. Coast Guard (USCG), and other users based and deployed in the Western Pacific (WESTPAC).

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

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

5. Training Areas. The MIRC consists of three primary components: Ocean surface and undersea areas, SUA, and land training areas. Chapters 3-5 contain specific maps for each of the training areas. Chapter 3 provides details of Guam ranges, their use, abilities, and limitations. Chapter 4 describes Warning Area 517 (W-517) and the live-fire range of FDM. Chapter 5 gives details of the training opportunities on the islands of Rota, Tinian, and Saipan.

a. The ocean surface and undersea areas of the MIRC (Figure 1-1): Extend from waters south of Guam to north of Pagan and from the Pacific Ocean east of the Mariana Islands to the middle of the Philippine Sea, encompassing 501,873 square nautical miles (nm²) (1,299,851 square kilometers [km²]) of open ocean and littorals (coastal areas). The range complex includes training areas/facilities on Guam, Rota, Tinian, Saipan, and FDM, encompassing 64 nm² of land.

b. The SUA consists of W-517, restricted airspace over FDM (Restricted Area R-7201), and Air Traffic Control Assigned Airspace (ATCAA) as depicted in Figure 1-1. These areas encompass 70,800 nm² of airspace.

c. For range management and scheduling purposes, the MIRC is divided into training areas under the different controlling authorities and responsibilities of COMNAVMARIANAS or COMJTREGMAR; however, all coordination is conducted through the MIRC Operations Office (MIRC Ops).

(1) Surface/Undersea Areas. Within the MIRC are surface and undersea areas routinely used by the military for a variety of activities. These areas include:

(a) W-517. This 9,200 square nautical mile (nm²) area is a polygon-shaped area of water space used by Navy ships for unit-level training. It begins approximately 50 nm south-southwest of Guam. Controlling authority is COMNAVMARIANAS. Refer to Figures 1-1 and 4-2.

(b) Offshore. Agat Bay, Tipalao Cove, Dadi Beach, and Piti Mine Neutralization Area are near-shore training areas off of NBG and are located within the federally owned coastal waters of Guam. Piti Mine Neutralization Area is just north of the Apra Harbor Glass Breakwater. These areas are utilized for military littoral training activities and unit-level training. Controlling authority is COMJTREGMAR. Refer to Figure 3-17.

(c) Outer Apra Harbor. Outer Apra Harbor supports commercial operations as well as Navy activities and unit-level training. Outer Apra Harbor is a deep-water port that can accommodate the Navy's largest vessels. Outer Apra Harbor provides access to areas which support Navy activities and training within the harbor, including Kilo Wharf, Gab Gab Beach, Reserve Craft Beach, Sumay Cove Channel and Basin, San Luis Beach, and Inner Apra Harbor. Controlling authority is COMJTREGMAR in coordination with USCG Sector Guam and the Port Authority of Guam. Refer to Figure 3-17.

(d) Inner Apra Harbor. Inner Apra Harbor is part of NBG Apra Harbor (NBGAH). Wharves and mooring buoys support Navy shipping, and the basin supports small craft and diver training. Controlling authority is COMJTREGMAR. Refer to Figure 3-17.

(2) Airspace. The MIRC includes airspace used either exclusively by the military, or co-used with civilian and commercial aircraft. Some of this airspace is SUA, which is military airspace designated by the Federal Aviation Administration (FAA) as Warning Areas, Restricted Areas, and ATCAAs, and includes:

(a) W-517. W-517 is an irregular-shaped polygon comprising 9,200 nm² of airspace that begins south of Guam and extends south-southwest in waters and airspace for a distance of approximately 130-135 nm, from the ocean surface up to unlimited altitude. Controlling Authority is COMNAVMARIANAS. Refer to Chapter 4 for coordinates and description.

(b) R-7201. R-7201 is a 28 nm² circular area over FDM that extends out in a 3 nm radius from FDM from the surface to unlimited altitude. Controlling Authority is COMNAVMARIANAS. Refer to Chapter 4 for more information.

(c) ATCAA. ATCAAs within the MIRC are utilized for military training, from unit-level to major joint exercises. ATCAAs 1 through 3 (3A, 3B, 3C), and 5 and 6 (Figure 4-1) have been pre-assigned in agreement with the FAA. The four ATCAAs encompass 63,000 nm² of area from south of Guam to north-northeast of FDM, from the surface to flight level (FL) 300 or FL390 to FL410 (Table 4-1). ATCAAs are activated for short periods to cover the period of training activities. COMNAVMARIANAS coordinates all ATCAA requests with the FAA.

(3) Land Ranges. The land areas of the MIRC include DoD training areas and facilities located on FDM, Tinian, Saipan, Guam, and non-DoD training venues on Rota.

(a) Guam land-based ranges and training facilities support unit-level training, special warfare training, small arms qualifications, field exercises, and expeditionary warfare activities including Training in Urban Environment Exercises (TRUEX) (USMC Urban Warfare Training, company level). Controlling authority for training on Guam is COMJTREGMAR. Refer to Chapter 3 for more information.

(b) The Tinian Military Lease Area (MLA) encompasses 15,400 acres on the island of Tinian, leased by DoD from CNMI. Training on Tinian is conducted on two parcels within the MLA: The Exclusive Military Use Area (EMUA) encompassing 7,600 acres on the northern third of Tinian, and the Leaseback Area (LBA) encompassing 7,800 acres and the middle third of Tinian. The MLA supports small unit-level through large field exercises and expeditionary warfare training. Controlling authority for training on Tinian is COMNAVMARIANAS. Refer to Chapter 5 for more information.

(c) On Saipan, the Navy has access to approximately 100 acres of Port Authority area including wharf space. With the coordination of the Army Reserve Unit Saipan and the CNMI government, land navigation training is conducted on non-DoD lands. The Army Reserve Unit Saipan has access to the CNMI Public Safety Small Arms Range Complex on non-DOD lands. Refer to Chapter 5 for more information.

(d) Rota is the southernmost island of CNMI and provides non-DoD training facilities supporting special warfare training. Controlling authority for training on Rota is COMNAVMARIANAS. Refer to Chapter 5 for more information.

(e) FDM is an island comprising approximately 182 acres of land leased by DoD from CNMI. FDM is an un-instrumented range and supports live and inert bombing, shore bombardment, missile strikes, and strafing. Controlling authority for training on FDM is COMNAVMARIANAS. Refer to Chapter 4.

(f) COMNAVMARIANAS is the primary scheduling and controlling authority for training conducted on DoD land and facilities located on Naval Base Guam (NBG) which includes Navy

Base Guam Apra Harbor (NBGAH), Naval Base Guam Munitions Site (NBGMS), Naval Base Guam Telecommunications Site (NBGTS), and Naval Base Guam Barrigada (NGBBARR). COMJTREGMAR is the scheduling and controlling authority.

(g) COMJTREGMAR is the scheduling and controlling authority for Small Arms Ranges on NBGAH at Orote Point and NBGTS.

(h) 36th Contingency Response Group (36th CRG) is the controlling authority for training conducted at Northwest Field and Andersen South.

(i) 36th Security Forces Squadron (36th SFS) is the controlling authority for training conducted at the Pati Point Combat Arms Training and Maintenance (CATM) Rifle Range.

6. Environmental Compliance. The DoD is required to comply with federal, state, and local environmental laws and regulations. This requires each commander to emphasize environmental awareness as standard training management practice. Failure to comply with environmental laws may have severe institutional and personal consequences. Many of the military installations' support systems are subject to regulations governing air and water quality, natural and cultural resource preservation, and hazardous waste handling and disposal.

a. In order to protect their unit and the environment, and in cooperation with COMJTREGMAR and 36th WG, commanders shall:

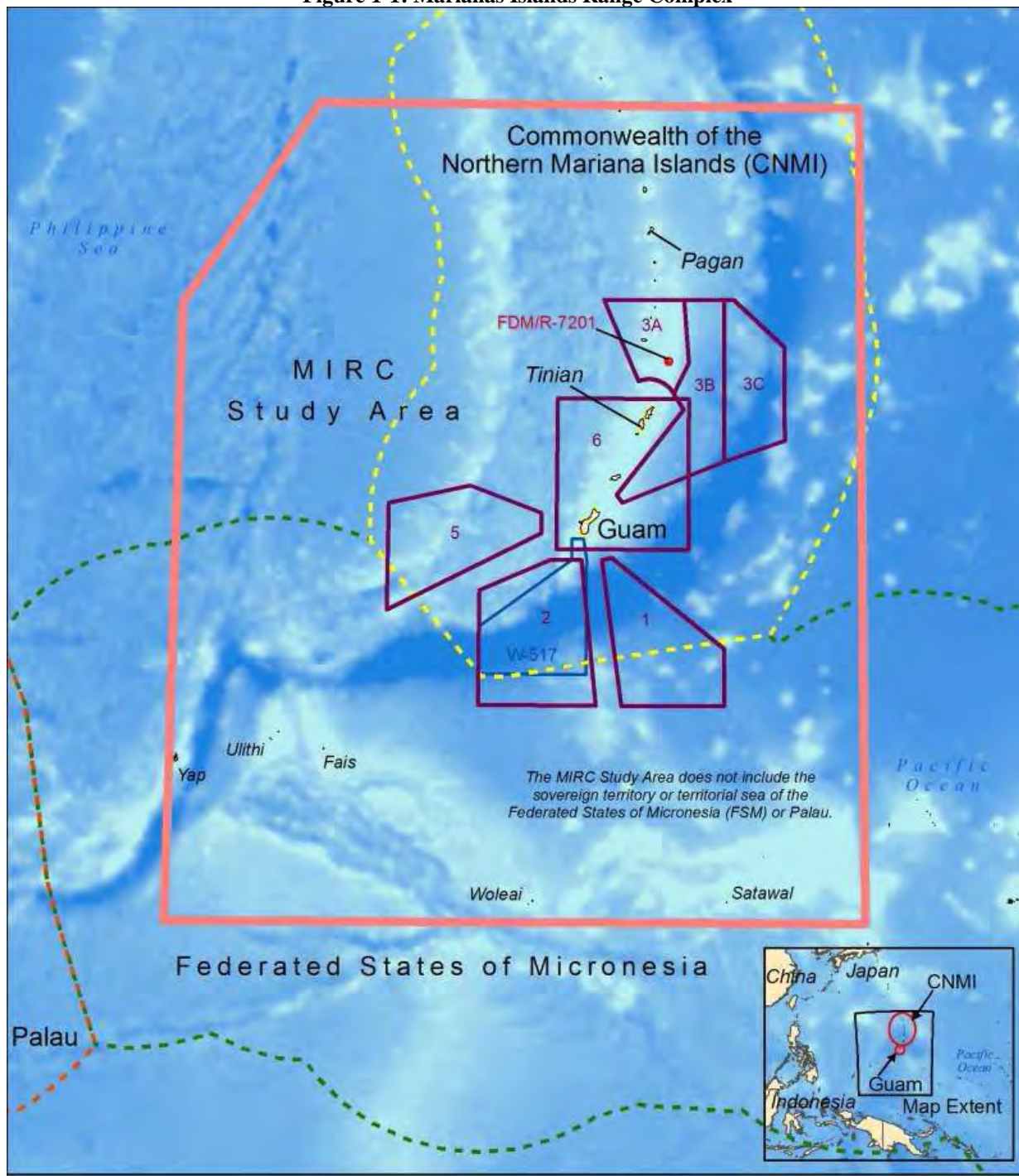
(1) Incorporate environmental awareness as part of the training mission.

(2) Seek guidance from commands responsible for training area management and seek help from the environmental staff as necessary.

(3) Resolve environmental problems promptly, before a minor impact becomes a significant adverse impact.

(4) Be responsible and maintain accountability for all actions.

Figure 1-1: Marianas Islands Range Complex



MIRC and EIS/OEIS Study Area	Exclusive Economic Zone United States (Includes CNMI and Guam)	
Air Traffic Control Assigned Airspace (ATCAA)	Federated States of Micronesia	
Special Use Airspace		<p>Sources: VLIZ (2005), Maritime Boundaries Geodatabase. Available online at http://www.vliz.be/vmldata/marbound</p> <p>*EEZ should not be used for legal, commercial/ economical (exploration of natural resources) or navigational purposes.</p>
Restricted Airspace - R7201	Palau	
Warning Area - W517		

b. Military training, by its very nature, impacts the environment. Environmental evaluations have been completed for Mariana Islands training areas to determine levels of potential significance. Training management measures that constrain certain activities so that potential impacts are mitigated to non-significant levels have been identified.

c. As part of the Navy's commitment to sustainable use of resources and environmental stewardship, the Navy incorporates minimization, avoidance, and mitigation measures into all its activities. These include employment of best practices, standard operating procedures (SOPs), adoption of conservation recommendations, and other measures that mitigate impacts of military activities on the environment. Mitigation measures covering habitats and species occurring in the MIRC have been developed through various environmental analyses.

7. Safety/Operational Risk Management (ORM). Commands, units and activities are responsible for being proactive and ensuring that all training conducted is done so in a safe manner, employing robust ORM procedures to prevent personnel injury, equipment damage, and environmental impact. The Officer-in-Charge of the Exercise (OCE) is responsible for the safety of exercise units and will ensure non-exercise traffic transiting the area is well clear during firing events.

8. Unexploded Ordnance (UXO). The MIRC was the site of many historical World War II battles. All of the islands and surrounding waters have large and small UXO that is discovered on a regular basis. Commands, units, or activities shall brief all personnel on the hazards of UXO. Personnel who find or uncover UXO on non-DoD property will immediately clear the area and notify local Guam Police Department (GPD) authorities. If UXO is found on military installations or DoD property, personnel will contact the Joint Region Operations Center (ROC):

UXO found Off-Base
GPD: 911

UXO found On-base
ROC: (671) 349-4004
DSN: (315) 349-4002

9. Weather. The MIRC can be impacted by typhoons in as little as 24 hours from formation to landfall. The typhoon season is typically from June to December each year; however, historically Guam has been impacted by typhoons during every month of the year. It is highly recommended units carry at a minimum a

handheld VHF radio capable of monitoring National Oceanic & Atmospheric Administration (NOAA) forecasts. Guam and the region maintain Condition of Readiness (COR) IV year-round. When COR III is set, commands, units, and activities will commence 48 hour typhoon preparations and can continue training that is in progress. Training will be suspended when COR II is set within the region. Once the storm has passed and the "all clear" order is given, COR IV will be established. Training areas will be assessed for safety hazards prior to the commencement of further training. COMJTREGMAR is the controlling authority for training areas to be used after any major storm or natural disaster.

10. Search and Rescue/Pollution Incidents. USCG Sector Guam is the primary agency responsible for search and rescue in the region as well as pollution incidents and can be reached at:

VHF Radio: Channel 16/22A/23A
 COMM: (671) 564-8724
 E-Mail: rccguam@uscg.mil

11. Training Mishaps. All training mishaps will be reported immediately to the JTREGMAR ROC, MIRC Ops Office, and the appropriate installation duty officer. All mishap reports and special incident reports will include COMJTREG MARIANAS GU as action or info as appropriate.

ROC Battle-Watch

COMM: (671) 349-4004
 STE: (671) 349-4002
 DSN: (315) 349-4004
 NIPR: rocbwt.jrm.fct@fe.navy.mil
 SIPR: cnm.roc.battlewatch@fe.navy.smil.mil

JRM MIRC Operations

COMM: (671) 349-2643/4113/6499
 DSN: (315) 349-6399
 FAX: (671) 349-3601
 Duty Cell: (671) 777-2106
 NIPR: MIRC.OPS@fe.navy.mil
 SIPR: M-GU-MIRC.OPS-GS@fe.navy.smil.mil

Andersen Air Force Base Command Post

COMM: (671) 366-2981

NBG Command Center

COMM: (671) 339-7760

CHAPTER 2
MIRC SCHEDULING PROCEDURES

1. COMJTREGMAR MIRC Ops. MIRC Ops is the scheduling authority for controlled training areas and services available in the MIRC. MIRC Ops will coordinate fleet unit requests with USAF training and assets under the control of 36 WG as may be available. MIRC Ops also coordinates joint service use of training areas and facilities as well as de-conflicting exercises in the planning phase prior to such execution in Micronesia. Contact information is listed below:

a. JRM MIRC Ops:

Scheduling Officer:	(671) 349-2506
LCPO:	(671) 349-6054
Schedulers:	(671) 349-2643
	(671) 349-2743
	(671) 349-4113
Range Sustainment	(671) 349-6399
DSN:	(671) 349-6399
FAX:	(671) 349-3601
Duty Cell:	(671) 777-2106
Emergencies: JRM ROC	(671) 349-4004
JRM ROC (STE)	(671) 349-4002
Hours of Operation:	0800-1600 (Monday - Friday)
NIPR (UNCLASSIFID):	MIRC.OPS@fe.navy.mil
SIPR (CLASSIFID):	MIRC.OPS@fe.navy.smil.mil
Data Collection and Scheduling Tool (DCAST)	
	https://dcast.csd.disa.mil

b. Navy Small Arms Training Center (SATC):

Region Manager:	(671) 349-6691
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c. 36th SFS CATM Range:

Scheduler:	(671) 366-2254
DSN:	(315) 366-2254

d. 36th Contingency Response Group (CRG) USAF Training Facilities:

Scheduler: (671) 366-3549
 Scheduler: (671) 366-1480

2. Data Collection and Scheduling Tool (DCAST). Effective communication is essential in order to properly coordinate requested training events. Activities desiring to conduct operational training within COMJTREGMAR and/or COMNAVMARIANAS controlled MIRC training areas will submit training requests via the Pacific Fleet DCAST at <https://dcast.csd.disa.mil> and is designated as For Official Use Only (FOUO).

a. DCAST is an online information application used to schedule training and testing events, and collect range utilization data at ranges and training areas throughout the Pacific region. The system provides a centrally-managed common range utilization database to support Navy range training programs and report requirements.

b. Commands must request access to the DCAST website by clicking on "Request User Account". The website is user-friendly and provides short tutorials to assist with navigation. MIRC Ops is also available to assist with scheduling events.

c. MIRC Ops must process training requests through multiple DoD, federal, and local agencies prior to granting final approval. In order to facilitate required staffing of each training request, activities are required, at a minimum, to submit training requests with the following timelines.

- (1) 15 days prior to a training event
- (2) 45 days prior to an exercise

d. MIRC Ops will schedule all training requests by priority, date of submission, and availability of the requested training area. When requested training events conflict with each other, MIRC Ops will coordinate with each activity to modify, cancel or facilitate shared use of the requested training area. When training events cannot be deconflicted, the following priority hierarchy will be used:

(1) Priority One: Deployed units in support of national policy

(2) Priority Two: Deployment certification and training (e.g. COMPTUEX, ORI, CERTEX)

(3) Priority Three: Major joint/international exercises (e.g. Valiant Shield, Cope North)

(4) Priority Four: Inter-deployment readiness training and other support (e.g. ULTRA, ORE)

(5) Priority Five: Significant Research, Development, Test, & Evaluation (RDT&E) support

(6) Priority Six: Routine operations and unit level training (e.g. ULT, ATR)

(7) Priority Seven: Support services/Special interest groups

e. Operational Commanders with multiple units under their control will be responsible to resolve scheduling conflicts between these units and will submit a consolidated MIRC Training Request and/or SUA Request (SUAR) through DCAST.

f. MIRC Ops is the final approval authority for all submitted training requests and will notify requesting activities of approval prior to their scheduled training event. Prior to granting approval, MIRC Ops will ensure all mandatory safety notifications have been satisfied to include issuance of Notice to Airmen (NOTAM) and Notice to Mariners (NOTMAR) as applicable; however, it is the responsibility of the command, unit, or activity to ensure all other unit-level required messages are released prior to the commencement of training.

g. Commands, units, and activities are responsible for policing areas after completion of training and will be held accountable if training areas are left unclean through agreements with hosting commands. Any discrepancies discovered in training areas will be reported to MIRC Ops in the After Action Reports (AAR) in DCAST.

(1) After Action Reports. AARs for all training events are required to be submitted no later than ten days after

completion of the training utilizing DCAST. Data collected from the AARs is used to track ordnance expenditures and training area usage in order to remain in compliance with mandated government reporting requirements and overall safety concerns.

(2) Airspace Scheduling. The 36th Operations Group Commander (36 OG) is the flying operations authority on AAFB. All units operating from AAFB will submit their airspace requests to the 36th Wing Scheduling (36 WS) within 15 days of mission. 36 WS will deconflict all units operating from AAFB and submit a consolidated flight schedule to JRM MIRC Ops via DCAST. Refer to 2.1.1 for contact information.

(a) MIRC Ops is the scheduling and controlling authority for airspace. MIRC Ops will consolidate all airspace requests from all DoD flying organizations operating within the MIRC, deconflicting as necessary, and submit to the FAA for approval. Upon receipt of the FAA airspace approval, JRM MIRC Ops will forward the final approved SUAR to 36 WS and other requesting units.

(b) Schedule all requests for MIRC airspace through DCAST. Units desiring to use FDM will request ATCAA 3A and R-7201, and units desiring W-517 will request ATCAA 2. If airspace controlling aircraft (E-2 Hawkeye, AWACS, etc.) are to be used, call signs need to be included in the remarks section in DCAST.

(3) FDM/R-7201 and W-517 General Range Scheduling. FDM/R-7201 and W-517 are the only live fire ranges within the MIRC. Demand for these ranges is heavy by all DoD Services and range scheduling conflicts occur regularly. Therefore, units requesting to conduct operations utilizing FDM/R-7201 or W-517 are encouraged to submit their requests as early as possible and to be flexible with their desired training dates. FDM will periodically be unavailable due to range maintenance and environmental monitoring requirements throughout the calendar year. Submit request for live fire operations no later than 72 hours prior to event. Specific range rules for FDM/R-7201 and W-517 are located in Chapter 4. Marine animal mitigation measures for operating in these areas are located in Appendix D.

(4) FDM/R-7201 and W-517 Laser Range Scheduling. FDM and W-517 are certified laser ranges managed by the JRM MIRC Ops Technical Laser Safety Officer (TLSO). The current Laser Range

Safety Survey Reports (LRSSR) for FDM/R-7201 and W-517 will be provided to units requesting to conduct laser operations; contact MIRC Ops for most recent reports. Units desiring to conduct laser operations will provide the following additional information in the Remarks Section of DCAST:

- LSSO
- (a) Name and date of qualification of the command
 - (b) Laser devices to be used
 - (c) Laser device firing points
 - (d) Targets to be used/target area to be used
 - (e) Ground personnel locations (if applicable)
 - (f) Laser eye protection to be used (if applicable)
 - (g) Aircraft run-in headings (if applicable)
 - (h) Laser mode(s)/tactics to be employed (e.g. force-on-force, designation, range finding, offset lasing, etc.)
 - (i) Types of surveillance to be used to ensure a clear range
 - (j) Radio frequencies and standardized terminology for communication where appropriate
 - (k) Any amplifying information necessary

(5) Anderson Air Force Base Training Areas. The 36th CRG is the controlling authority for operations and training conducted on AAFB (11,000 acres). 36 CRG controls training at Northwest Field (4,500 acres) and Andersen South (1,900 acres). The 36th SFS controls the Pati Point. CATM Range (21 acres). For scheduling, contact 36 CRG Training and Operations. Refer to paragraph 2.2.a for contact information.

(6) CNMI Training Areas. Submit Tinian, Rota, and Saipan training request NLT 45 days prior to training event. JRM MIRC Ops will initiate official notification to the CNMI Government as appropriate and notify requesting commands of

approval prior to them coordinating with any CNMI Government officials.

(7) Small Arms, Underwater Denotation (UNDET), Landing and Drop zones:

(a) Small Arms Range Training Requests. Orote Point and NCTS will be scheduled directly through the Small Arms Training Center (SATC) Region Manager. SATC is under JTREGMARIANAS. Refer to para 2.2.a for contact information.

(b) UNDET Training Requests. UNDET training requests are submitted via naval message to COMJTREG MARIANAS GU for area concurrence and COMSEVENTHFLT for final approval utilizing procedures as outlined in COMSEVENTHFLT OPOD 201 and COMNAVMARIANASINST 5090.7C. In addition to the request message, a DCAST request is required to be submitted to JRM MIRC OPS.

(c) Landing Zone (LZ) and Drop Zone (DZ) Requests. Exercising units will submit training request via DCAST for all DZ and LZ training events. Events requiring the use of Kauffman Circular DZ, Orote Point LZ, or Orote VIP LZ will require prior coordination with the SATC Region Manager to deconflict with the Orote Point Known Distance (KD) Range schedule. All LZ events will need to be closely coordinated with HSC-25. Contact MIRC Ops for guidance.

3. Exercise Planning, Coordination, and Execution. As discussed in Chapter 1, the MIRC offers several features that make it strategically important with a variety of attributes making it ideal for training and exercises. The training capabilities of the MIRC go beyond unit-level training and can extend to hosting several exercises, certifications, or ATRs simultaneously; however, this takes coordination with the exercise planners, JRM Staff agencies, and other local entities. This ensures deconfliction with all military units, coordination with local environmental agencies, U.S. Department of Agriculture (USDA), Fish & Wildlife, historic preservation agencies, and the FAA.

a. Exercise Definition. For the context of this MTM, an exercise will be defined as any training activity from a visiting unit outside of JRM. This definition also includes local commands who are hosting a joint force exercise with entities from off-island. An exercise is not defined by time,

amount of personnel, equipment, ships, or aircraft. Any exercise or training that is conducted from units outside of JRM within the MIRC will be treated and planned as an exercise. This will ensure compliance is met with all agencies within the Mariana Islands.

b. Planning Conferences. Most exercise coordination is done in a three-step process divided by an "initial" "mid," and "final" planning conference (IPC, MPC, and FPC respectively). The three-step process usually follows the concept developed and site survey planning for proposed training venues. Units will need to contact MIRC Ops for the following activities:

(1) All exercises conducted in the MIRC, to include exercises with any portion of training within the MIRC.

(2) Exercises, training, or operations being conducted on the Mariana Islands and within their territorial waters (12nm).

(3) The use of live-fire ranges and assigned air spaces described in Chapter 4.

(a) Exercise planners need to engage with MIRC Ops during the concept development phase of the exercise. This will ensure units plan accordingly to the assets available in the MIRC. Exercise planning with MIRC Ops will continue through the IPC stage; MPC and FPC is too late for proper compliance. If the IPC and MPC are not conducted on Guam, then exercise budget must set aside funds to allow for JRM representation and attendance. This is usually one or two personnel, depending on the scope of the exercise. For exercises with large air portions or use of AAFB. AAFB reps will also need to be involved in the coordination process.

(b) Planning conference schedules will be determined by the host unit and their exercise schedulers; however, MIRC Ops recommends at least 45 days for initial planning for any visiting unit. It is highly recommended to have the MPC and FPC on Guam to ensure proper coordination and all compliance and mitigations are met before exercise commencement.

c. Host Support. MIRC Ops involvement is crucial for exercise coordination. MIRC Ops will direct exercise subject matter experts to supporting units and elements. MIRC Ops will

guide and direct the exercise planners and schedulers to the elements below. Exercise planners will need to develop points of contact or teams to address each of the following areas, if applicable:

- (1) JRM J-3
- (2) Local Commands and Bases
- (3) JRM NAVFAC Environmental
- (4) USDA and Brown Tree Snake (BTS) agencies
- (5) CNMI Governments through JRM USDR
- (6) JRM Public Affairs
- (7) PACFLT and PACOM Range Sustainment Coordinators
- (8) Pacific Missile Range Facility (PMRF)
- (9) FAA
- (10) NEPA/ESA/MBTA mitigations
- (11) NAVSUP FLCY
- (12) Homeland Security, NCIS, GPD
- (13) Specific base and installation support
- (14) Other requirements and entities for your specific exercise

Table 2-1 below can be printed and used as a tool for the coordination and planning process for your exercise. It lists the majority of the key personnel needed for an exercise within the MIRC. Other specific units, agencies, and/or organizations may also need to be contacted.

Table 2-1: CONTACT LIST
 (To be completed for each individual exercise.)

NAME	OFFICE	E-MAIL	TELEPHONE	CELL PHONE
Joint Region Marianas				
	ROC	cnm.roc.battlewatch@fe.navy.mil	(671) 349-4002 (671) 349-4004	
	JRM J3 Operations		(671) 349-2636	
	JRM J3A Deputy Operations		(671) 349-6661	
	J3 MIRC Operations	MIRC.OPS@fe.navy.mil	(671) 349-2506	
	Defense Rep Pol-Mil Affairs		(671) 349-5094	
	JRM J4 Regional Engineer (Environment)		(671) 349-5100	
	JRM J45 Environmental Officer		(671) 349-4420	
	JRM J40 Environmental Coordinator		(671) 349-2349	
	Security Officer		(671) 349-6171	
	Regional Dispatch		(671) 349-2092 (671) 349-2094	
	NBG Command Center		(671) 339-7238	
	N3 Operations		(671) 339-4288	
	Port Control		(671) 339-6141	
	Public Works Officer		(671) 339-2365	
	Installation Environment Program Manager		(671) 339-8203	
	Cultural Resources		(671) 339-2093	
	Security Officer		(671) 339-8062	

Installation Commander, NBG

NAME	OFFICE	E-MAIL	TELEPHONE	CELL PHONE
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Installation Commander, Andersen Air Force Base

	AAFB Command Post		(671) 366-2981	
	36 OSS		(671) 366-1006	
	Public Works Officer		(671) 366-7101	
	Installation Environmental Program Manager		(671) 366-4692	
	Security Office		(671) 366-5108	

USCG Sector Guam

	Regional Command Center	rccguam@uscg.mil	(671) 564-8724	Channel 16/ 22A/23A (VHF)
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USDA Wildlife Services

	Barrigada Office		(671) 635-4400	
	AAFB Office		(671) 366-3822	
	NBG Office		(671) 472-7101	

Marine Corps Activity Guam

	NCTAMS OPS		(671) 355-2334 (315) 355-2334	

Environmental Monitors

Other Supporting Agencies

CHAPTER 3
GUAM TRAINING AREAS

1. Guam Background. Guam training area support unit-level training, special warfare training, small arms qualifications, field exercises, and expeditionary warfare activities including TRUEX (USMC Urban Warfare Training, company level).

2. Joint Region Controlled Guam Training Areas. MIRC Ops is the controlling authority for DoD land and facilities located on NBG which includes Main Base (6,205 acres) Navy Munitions (8,800 acres), Communication Annex-Finegayan (3,000 acres), and Communications Annex-Barrigada (1,800 acres).

a. Table 3-1 lists the available training locations on Guam with description of training opportunities and attributes available.

b. Refer to chapter 2 for scheduling.

Table 3-1 Guam JRM Controlled Training Areas

Training Area	Detail/Description
Offshore	
Agat Bay (figure 3-1)	Agat Bay supports Mine Countermeasure (MCM) training, military dive activities, and parachute insertion training. Underwater detonation charges up to 10 pounds Net Explosive Weight (NEW) are used. Hydrographic surveys to determine hazards for military approaches are periodically conducted in this area. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
Tipalao Cove and Dadi Beach (figure 3-1)	Tipalao Cove and Dadi Beach provide access to beach areas capable of supporting shallow draft amphibious landing craft and have been proposed for use as Landing Craft Air Cushion (LCAC) and Amphibious Assault Vehicle (AAV) landing sites. They would require beach and surf zone surveys prior to use to determine the presence of turtles and nests, and the improvements required to repair storm damage, grade approaches and landing areas, and clear the surf zone and landing zone of obstacles. Tipalao Cove and Dadi Beach support military diving activities and hydrographic survey training. Figure 3-1 depicts the Apra Harbor and Nearshore Training Areas.
Drop Zones (figure 3-1)	Drop Zones (DZ) are located in the Offshore Areas. A DZ may be used for the air-to-surface insertion of personnel/equipment. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
Piti Floating Mine Neutralization Area (figure 3-1)	The Piti Floating Mine Neutralization Area lies north of Apra Harbor and supports Explosive Ordnance Disposal (EOD) training, with underwater explosive charges up to 10 pounds NEW. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.

Table 3-1 Guam JRM Controlled Training Areas (Continued)

Training Area	Detail/Description
Apra Harbor	
Outer Apra Harbor (OAH) (figure 3-1)	Commander, USCG Sector Guam is the Captain of the Port and controls OAH. Navy Security zones extend outward from the Navy controlled waterfront and related military anchorages/moorings. OAH supports frequent and varied training requirements for Navy Sea, Air, Land Forces (SEALs), EOD, and Marine Support Squadrons including underwater detonations (explosive charges up to 10 pounds NEW are permitted at a site near Buoy 703), military diving, logistics training, small boat activities, security activities, drop zones, visit board search and seizures (VBSS) and amphibious craft navigation (LCAC, LCU, and AAVs). Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
Kilo Wharf (figure 3-1)	Kilo Wharf is used for ordnance handling and is a training site with limited capabilities due to explosive safety constraints; however, when explosive constraints are reduced it is used for Anti-Terrorism/Force Protection (AT/FP) training and VBSS activities. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
NBGAH comprises a total of approximately 4,500 acres.	
Inner Apra Harbor (figure 3-1)	The inner portion of Apra Harbor (sea space) is Navy controlled and includes the submerged lands, waters, shoreline, wharves, and piers and is associated with NBGAH (658 acres). Activities include military diving, logistics training, small boat activities, security activities, drop zones, torpedo/target recovery training, VBSS, and amphibious landings (LCAC, LCU, and AAVs).
Gab Gab Beach (figure 3-1)	Gab Gab Beach is used for both military and recreational activities. The western half of Gab Gab Beach is primarily used to support EOD and NSW training requirements. Activities include military diving, logistics training, small boat activities, security activities, drop zones, and AT/FP.
Reserve Craft Beach (figure 3-1)	Reserve Craft Beach is a small beach area located on the western shoreline of Dry Dock Island. It supports both military and recreational activities. It is used as an offload area for amphibious landing craft including LCACs, EOD inert training activities, military diving, logistics training, small boat activities, security activities, and AT/FP. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
Sumay Channel/Cove (figure 3-1)	Sumay Channel/Cove provides moorage for recreational boats and an EOD small boat facility. It supports both military and recreational activities. It is used for insertion/extraction training for NSW and amphibious vehicle ramp activity, military diving, logistics training, small boat activities, security activities, and AT/FP. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
Clipper Channel (figure 3-1)	Clipper Channel provides insertion/extraction training for NSW, military diving, logistics training, small boat activities, security activities, and AT/FP. The Clipper Channel has the potential to support amphibious vehicle ramp activity. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
San Luis Beach (figure 3-1)	San Luis Beach is used for both military and recreational activities. San Luis Beach is used to support EOD and NSW training requirements. Activities include military diving, logistics training, small boat activities, security activities, drop zones, and AT/FP. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
NBG Polaris Point (NBGPP)	
Polaris Point Field (figure 3-1)	Polaris Point Field supports both military and recreational activities and beach access to small landing craft. PPF supports small field training exercises, temporary bivouac, craft laydown, parachute insertions (freefall), assault training activities, AT/FP, and EOD and Special Forces Training. Figure 3-1 depicts the Apra Harbor and Nearshore areas.
Polaris Point Beach (figure 3-1)	Polaris Point Beach supports both military and recreational activities and beach access to small landing craft and LCAC. Polaris Point Beach supports military diving, logistics training, small boat activities, security activities, drop zones, and AT/FP. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.

Table 3-1 Guam JRM Controlled Training Areas (Continued)

Training Area	Detail/Description
NBGPP (continued)	
Polaris Point Site III (figure 3-1)	Polaris Point Site III is where Guam-homeported submarines and the submarine tender are located and is the primary site location for docking, training, and support infrastructure. Additionally, it supports AT/FP and torpedo/target logistics training. Figure 3-1 depicts the Apra Harbor and Nearshore Training areas.
NBGAH - Orote Point Area	
Orote Point Airfield/Runway (figure 3-1)	Orote Point Airfield consists of expeditionary runways and taxiways and is largely encumbered by the Explosive Safety Quantity Distance (ESQD) arcs associated with Kilo Wharf ordnance logistical activity. Orote Pt. Airfield runways are used for rotary wing aircraft. They provide a large flat area that supports Field Training Exercise (FTX), parachute insertions, emergency vehicle driver training, and EOD and Special Warfare training. The airfield is on the National Register of Historic Places (NRHP). Figure 3-1 depicts the Apra Harbor and Nearshore Training areas. Shown as Orote Runway on Figure 3-1.
Orote Point Close Quarter Combat Facility (OPCQC) (figure 3-1)	The OPCQC, commonly referred to as the "Killhouse", is a small one-story building with overlook deck providing simulated small arms fire training. Close Quarter Combat (CQC) is one activity within Military Operations in Urban Terrain (MOUT)-type training. Live-fire is not authorized in the killhouse. Shown as CQC House on Figure 3-1.
Orote Point Small Arms Range/ Known Distance Range (OPKDR) (figure 3-1)	The Orote Point Known Distance (KD) Range supports small arms and machine gun training (up to 7.62mm), and sniper training out to a distance of 500 yards. The KD range is a long flat cleared area with an earthen berm that is used to support marksmanship. The OPKDR supports upgrade to an automated scored range system. Shown as Small Arms Range on Figure 3-1.
Orote Point Triple Pad (figure 3-1)	The Orote Point Triple Pad is a helicopter landing zone on the Orote Pt. Airfield Runway. It supports personnel transfer, logistics, parachute training, and a variety of training activities reliant on helicopter transport. Shown on figure 3-1 as Orote Triple Spot.
NBGMS Comprises approximately 8,800 acres.	
Breacher House (BH) (figure 3-2)	The breacher house is a concrete structure in an isolated part of the NBGMS that is used for tactical entry using a small explosive charge. Live-fire is not authorized in the breacher house. An adjacent flat area allows for a helicopter landing zone supporting airborne raid type events. Figure 3-2 depicts the NBGMS training areas.
Emergency Detonation Site (EDS) (figure 3-2)	The EDS is located within a natural bowl-shaped high valley area within the NBGMS and is used for emergency response detonations, up to 3,000 pounds. A flat area near EDS allows for helicopter access. EOD activities are the primary type of training and real-time usage at EDS. Figure 3-2 depicts the NBGMS training areas.
NBGMS Sniper Range (figure 3-2)	The NBGMS Sniper Range is an open terrain, natural earthen backstop area that is used to support marksmanship training. The NBGMS Sniper Range is approved for up to .50 cal sniper rifle with unknown distance targets. Figure 3-2 depicts the NBGMS training areas.
Northern Land Navigation Area (NLNA) (figure 3-2)	The NLNA is located in the northeast corner of the NBGMS where small unit FTX and foot and vehicle land navigation training occurs. Figure 3-2 depicts the NBGMS training areas.
Southern Land Navigation Area (SLNA) (figure 3-2)	The SLNA is located in the southern half of the NBGMS where foot land navigation training occurs. Figure 3-2 depicts the NBGMS training areas.

Table 3-1 Guam JRM Controlled Training Areas (Continued)

Training Area	Detail/Description
Communications Annex: The Communications Annex comprises approximately 3,000 acres at NBGTS and 1,800 acres at NBGBARR. The annex includes open area and secondary forest available for small field exercises, and Haputo Beach for small craft (combat rubber raiding craft [CRRC]) type landings	
NBGTS (figure 3-3)	NBGTS supports FTX and MOUT training. Haputo Beach is used for small craft (e.g., CRRC) landings and Over the Beach insertions. Haputo Beach is part of the Haputo ecological reserve area. The Finegayan Small Arms Ranges (FSAR) are located in the NBGTS. Also referred to as the "North Range," FSAR supports qualification and training with small arms up to 7.62mm. The small arms ranges are known distance ranges consisting of a long flat, cleared, earthen berm area that is used to support marksmanship. Within the NBGTS housing area is a small group of unoccupied buildings that support a company-sized (approximately 200-300) ground combat unit to conduct MOUT-type training, including use of LZ and DZ. Open areas provide command and control (C2) and logistics training; bivouac, vehicle land navigation, and convoy training; and other field activities. Figure 3-3 depicts the NBGTS training areas.
NBGBARR (figure 3-4)	NBGBARR supports FTX and MOUT training. The Barrigada housing area contains a few unoccupied housing units available for MOUT-type training. Open areas (former transmitter sites) provide command and control (C2) and logistics training; bivouac, vehicle land navigation, and convoy training; and other field activities. Figure 3-4 depicts NBGBARR training areas.

3. USAF Controlled Guam Training Areas. Administered by the 36th WG, the Main Base at AAFB comprises about 11,500 acres. The base is used for aviation, small arms, and USAF EOD training. As a large working airfield, the base has a full array of operations, maintenance, and community support facilities. The 36th WG supports all U.S. military aircraft and personnel transiting the Mariana Islands. The 36th WG is host to deployed bomber, fighter, and aerial refueling squadrons, and RQ-4 Global Hawk aircraft. Facilities are available for cargo staging and inspection. Undeveloped terrain consists of open and forested land (USAF 2006a). The coastline of the base consists of high cliffs and a long, narrow recreation beach (Tarague Beach) to the northeast. Multiple exposed coral pillars negate use of this beach for amphibious landings by landing craft or amphibious vehicles.

a. The 36th WG is the controlling authority for operations and training conducted on AAFB Base. 36th CRG, A3/5 Section controls training at Northwest Field (4,500 acres) and Andersen South (1,900 acres). The 36th SFS controls the Pati Point. Combat CATM Range (21 acres). Refer to chapter 2 for scheduling.

b. Table 3-2 provides an overview of each USAF controlled and managed area and its location. Figure 3-5 depicts training areas associated with AAFB, and Figure 3-6 shows the flight level restrictions associated with training areas on Guam.

Table 3-2: USAF Controlled Guam Training Areas

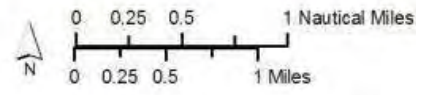
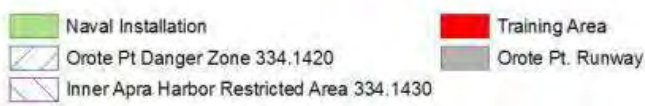
Training Area	Detail/Description
Northwest Field	Northwest Field is an unimproved expeditionary WWII era airfield used for vertical and short field landings. Approximately 280 acres of land are cleared near the eastern end of both runways for parachute drop training. The south runway is used for training of short field and vertical lift aircraft and often supports various types of ground maneuver training. Helicopter units use other paved surfaces for Confined Area Landing (CAL), simulated amphibious ship helicopter deck landings, and insertions and extractions of small maneuver teams. About 3,562 acres in Northwest Field are the primary maneuver training areas available at AAFB for field exercises and bivouacs. Routine training exercises include camp/tent setup, survival skills, land navigation, day/night tactical maneuvers and patrols, blank ammunition and pyrotechnics firing, treatment and evaluation of casualties, fire safety, weapons security training, perimeter defense/security, field equipment training, and chemical attack/response. The USAF will complete its Northwest Field Beddown and Training and Support Initiative, co-locating at Northwest Field the Rapid Engineer Deployable Heavy Operations Repair Squadron Engineers (RED HORSE) and its Silver Flag training unit, the Commando Warrior training program, and the Combat Communications squadron. Additional information concerning these activities is contained in the Northwest Field Beddown Initiative Environmental Assessment (EA) (USAF 2006b).
Andersen South	Andersen South consists of abandoned military housing and open area consisting of 1,922 acres. Andersen South open fields and wooded areas are used for helicopter training, insertions and extractions of small maneuver teams, basic ground maneuver training including routine training exercises, camp/tent setup, survival skills, land navigation, day/night tactical maneuvers and patrols, blank ammunition and pyrotechnics firing, treatment and evaluation of casualties, fire safety, weapons security training, perimeter defense/security, field equipment training. Vacant single-family housing and vacant dormitories are used for MOUT training and small-unit tactics. The buildings may need repairs and upgrade to be suitable for consistent use in training.
Main Base	AAFB main base is dedicated to its primary airfield mission. Administered by 36 WG, AAFB Main Base comprises about 11,500 acres. The base is used for aviation, small arms, and USAF EOD training. As a working airfield, the base has a full array of operations, maintenance, and community support facilities. 36 WG supports all U.S. military aircraft and personnel transiting the MIRC. Facilities are available for cargo staging and inspection.
Pati Point (Tarague Beach) Combat Arms and Training Maintenance (CATM) Range and EOD Pit	Pati Point consists of 21 acres used for the CATM small arms range. The CATM range supports training with pistols, rifles, machine guns up to 7.62mm, and inert mortars up to 60mm. Training is also conducted with the M203 40mm grenade launcher using inert training projectiles only.

4. Other Guam Training Assets. Other MIRC training areas include training facilities controlled and managed by the AR-Marianas, the GUARNG. Table 3-3 provides details of Army Reserve and National Guard Assets.

Table 3-3: Other Guam Training Areas

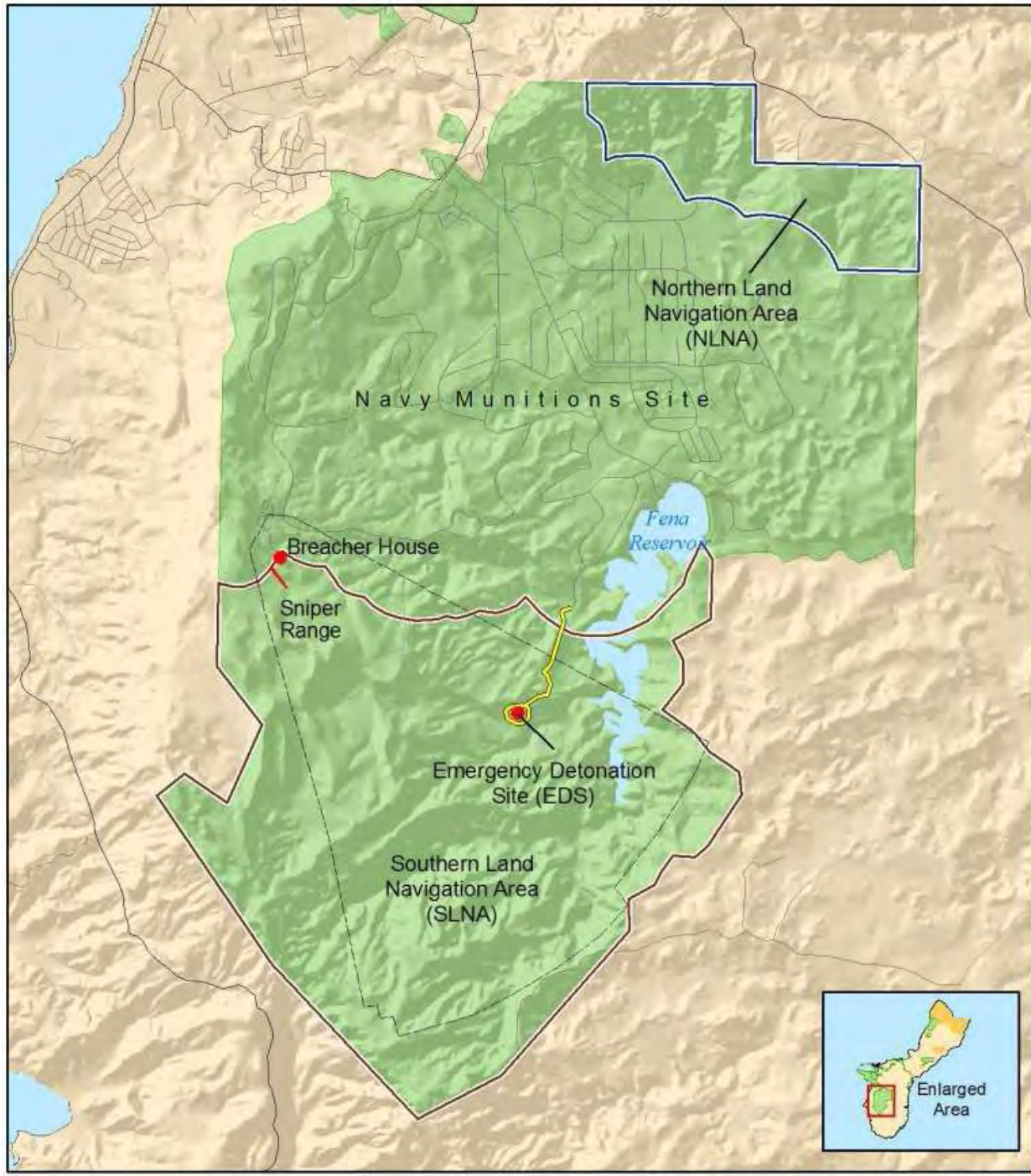
Other Guam Training Assets	Other MIRC training areas include training facilities controlled and managed by the AR-Marianas and the GUARNG
Guam:	
Army Reserve Center	Located on NBGBARR, and supporting approximately 1,200 Army reservists. Contains an indoor small arms range (9mm).
Guam Army National Guard Center	Located on NBGBARR and supports approximately 1,000 Guam Army National Guard personnel. Contains armory, classrooms, administrative areas, maintenance facilities, and laydown areas.

Figure 3-1: NBSAH and Nearshore Training Areas

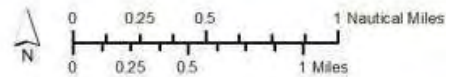


Sources: PACFLT (Mariana Region), NOAA

Figure 3-2: NBGMS Training Areas



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

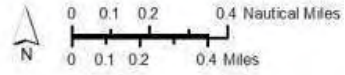


Sources: PACFLT (Marianas Region), NOAA

Figure 3-3: NBGTS Training Areas

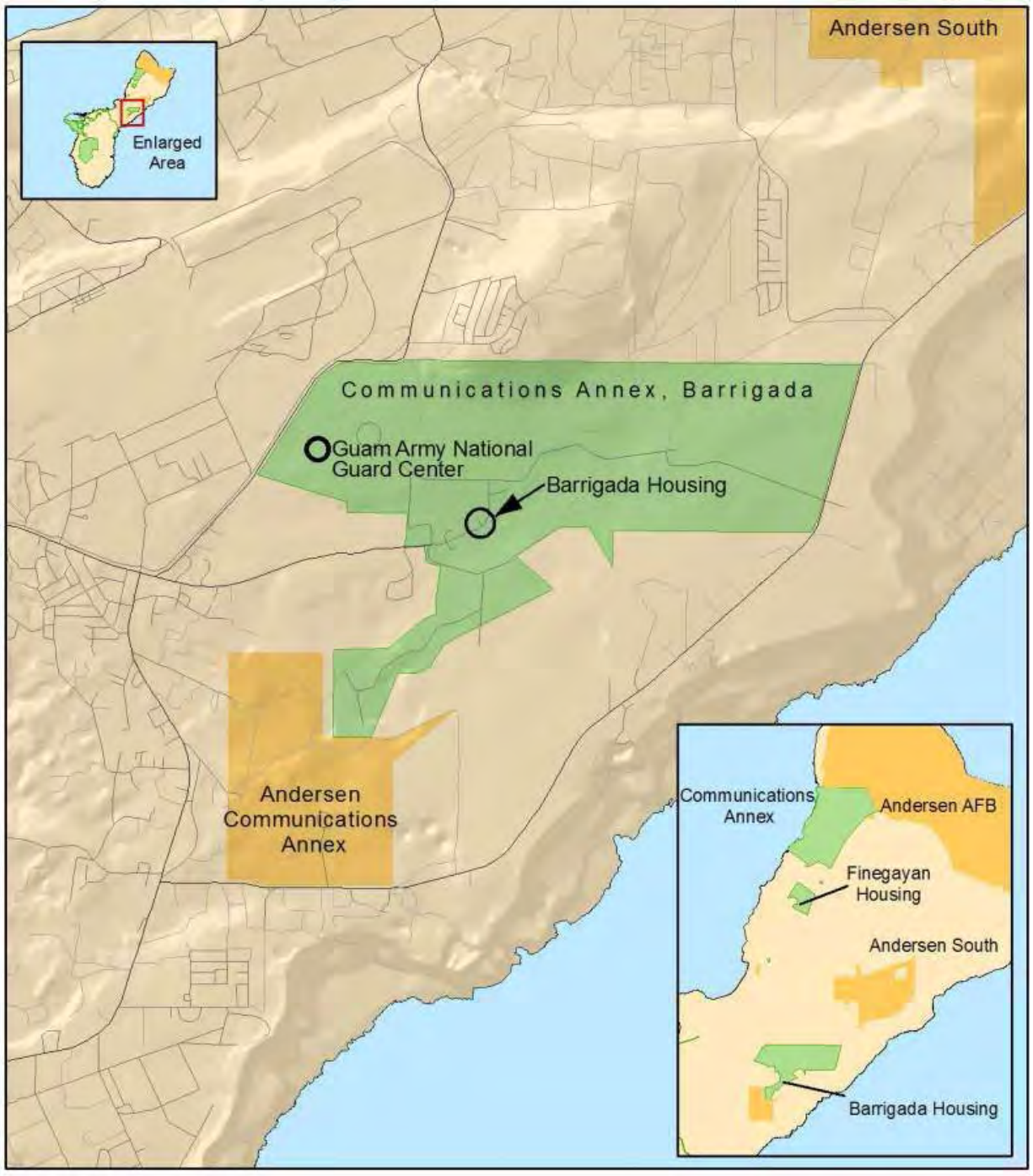




- Naval Installation
- Air Force Installation
- Training Area
- Surface Danger Zone
- Ferguson-Hill Drop Zone

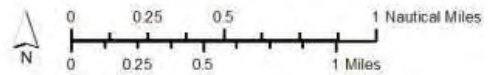


Sources: PACFLT (Marianas Region), NOAA, HMF

Figure 3-4: NBGBARR



 Air Force Installation
 Naval Installation



Sources: PACFLT (Marianas Region), NOAA

Figure 3-5: AAFB Assets

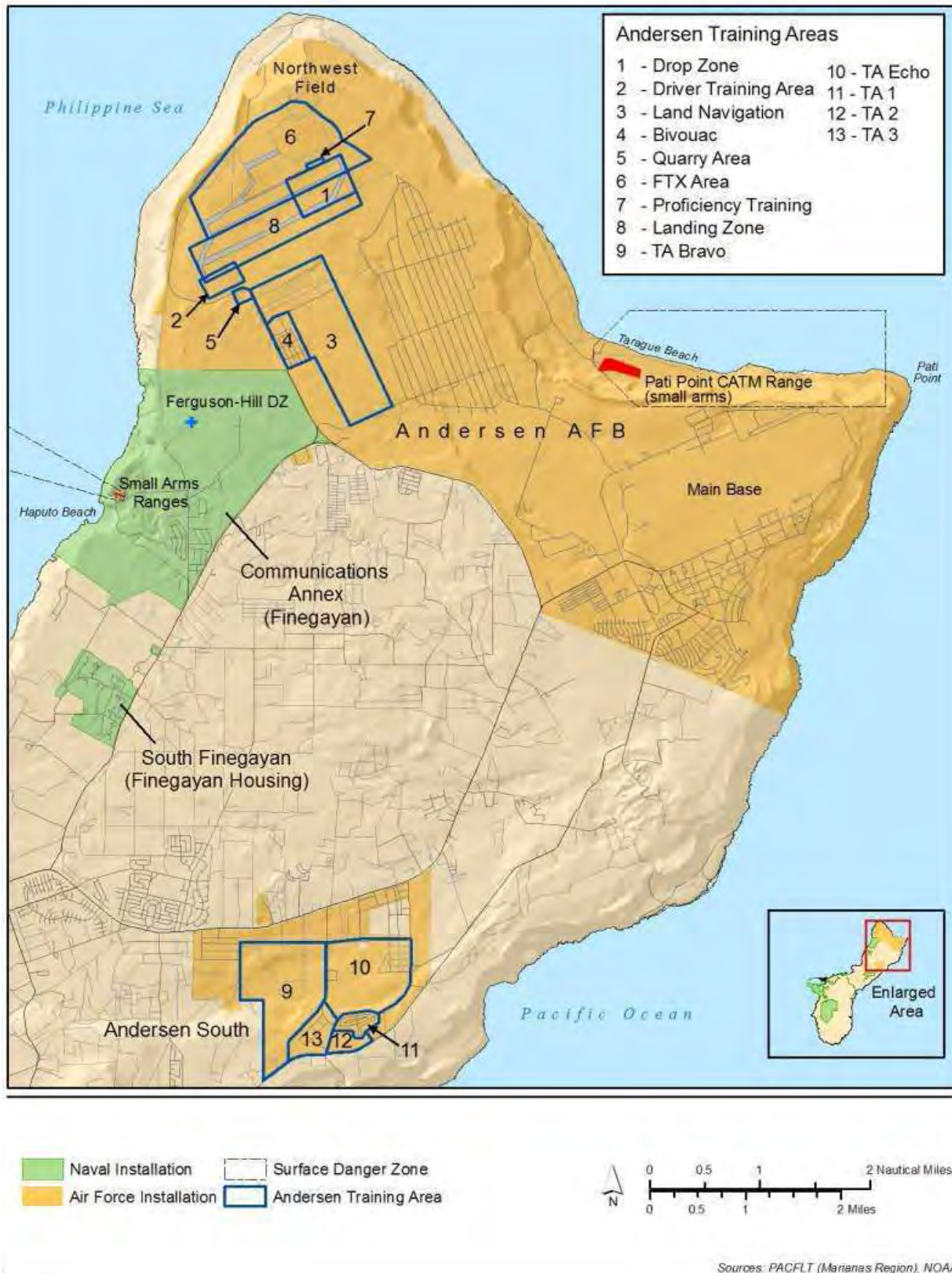
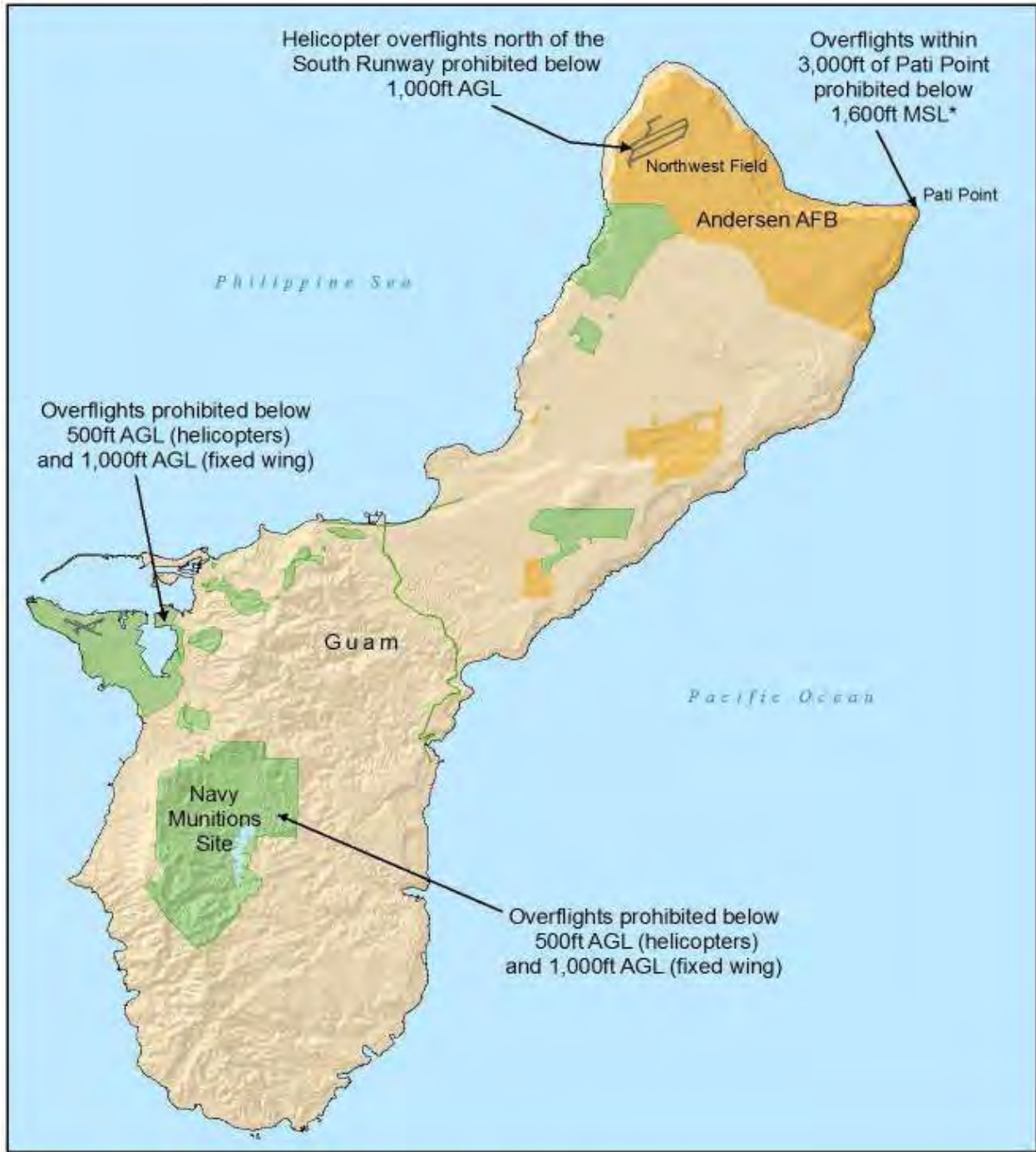
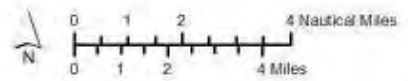


Figure 3-6: Guam Aircraft Flight Level Restrictions



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

- Airfield
- Air Force Installation
- Navy Installation



Sources: PACFLT (Marianas Region), NOAA

5. Guam Restrictions and Constraints. Units conducting training on Guam must follow the constraints listed in table 3-4. Figures 3-1 through 3-6 provide detailed pictures of no training and no disturbance areas. Units will also follow the parameters under Appendix A-K for their specific operations.

Table 3-4. Guam Training Restrictions and Constraints

AVIATION OPERATIONS	
Guam	No aviation live-fire training on Guam.
Rotary/Fixed Wing Operations	<p>No helicopter overflights of Northwest Field north of the South Runway below 1,000 feet (305 meters) AGL.</p> <p>No overflights of the Andersen Munitions Storage Area (MSA) below 1,000 feet (305 meters) AGL.</p> <p>Overflights within 3,000 feet (914 meters) of Pati Point are prohibited below 1,600 feet (488 meters) MSL except for flights from the end of the Andersen Main runways.</p> <p>Flights over the NBGMS below 1000 feet AGL for fixed wing aircraft and 500 feet AGL for helicopters are prohibited except designated landing and drop zones.</p> <p>Helicopter bucket training at Fena Reservoir must occur near the spillway, away from emergent vegetation areas in the shallower portions of the reservoir.</p>
AMPHIBIOUS OPERATIONS	
General	<p>All landing craft/vehicles will observe normal harbor navigation rules and will avoid interference with civilian harbor traffic.</p> <p>Prior to beach landings by amphibious vehicles, known sea turtle nesting beaches are surveyed by Navy biologists for the presence of sea turtle nests no more than six hours prior to a landing exercise. Areas free of nests are flagged, and vehicles are directed to remain within these areas. "Beach master" will "wave off" vehicle approaches if sea turtles or nests were observed in the water or on the land.</p> <p>Restore beach topography using non-mechanized methods after the exercise.</p> <p>Use approved oil-spill/cleanup equipment. Set up fuel bladders within berms with impervious liner or double wall protection, preferably over existing pavement rather than open ground. Spill kit and spill response capability must be readily available.</p> <p>Navy biologists monitor beaches during night-time landing exercises. If sea turtles are observed or known to be within the area, training activities are halted until all nests have been located and sea turtles have left the area. Identified nests are avoided during the night-time landing exercise.</p> <p>NWD/NT areas are maintained at Orote Point. and Tarague Beach.</p>

<p>Guam</p>	<p>LCACs stay on-cushion until clear of the water and within a designated Craft Landing Zone (CLZ). Within the CLZ, come off-cushion with the LCAC oriented to permit expeditious vehicle and cargo offload onto a cleared offload and vehicle traffic area. Sumay Cove Marina. Wake could affect potential hawksbill turtle nesting sites. Amphibious vessels will slow (to create no wake) and use the concrete boat ramp across from the nesting beach areas.</p>
<p>SHORE OPERATIONS / GROUND MANEUVERS</p>	
<p>General</p>	<p>Personnel shall not disturb, deface, or remove important cultural resources when establishing a bivouac or conducting ground maneuvers. Observe No Ground Disturbance/No Cultural Resource Disturbance areas. Brief personnel on importance and indicators of cultural resources.</p> <p>Live Fire Ranges - Secure area around range and post range observers as needed while range is in use. Collect and haul away all expended brass and lead rounds.</p> <p>Implement the Wildland Fire Prevention Plan (see Appendix B) and have all firefighting assets in place at onset of exercise.</p> <p>Off road vehicles, unexpected noise, clearing, or fire could disturb/harm endangered species and habitat. Observe NWD areas.</p> <p>NWD/NT areas are maintained at Orote Point, NBGMS and Tarague Beach. Any training that may potentially affect possible turtle nesting sites must be coordinated with JRM MIRC Ops and NAVFACMAR N4 Environmental.</p>
<p>Guam</p>	<p>Individual troops are responsible for conducting self inspections to avoid potential introduction of invasive species to Guam and the CNMI. Troops will inspect all gear and clothing for soil accumulations, seeds, invertebrates, and possible inconspicuous stowaway Brown Treesnakes (BTS). See Appendix A for the BTS Control and Interdiction Plan.</p>

Naval Munitions Site	<p>Training units will work in close coordination with JRM MIRC Ops and NAVFACMAR N4 Environmental to clearly define authorized training areas and restrictions.</p> <p>Bivouacs in unauthorized areas could disturb endangered species or tree snails. Observe NWD areas as marked.</p> <p>No maneuver and navigation training in areas of the Southern and Northern Land Navigation Area with known Mariana common moorhen nesting activity or migratory birds.</p> <p>No Training Areas are established around three known Mariana swiftlet caves, Mahlac, Maemong, and Fachi Caves. Training will be restricted to occur outside of the 100 meters (328 feet) radius buffers around the caves.</p> <p>Blank fire could disturb endangered birds or bats. Observe NWD (which includes no blank/live firing), as marked.</p> <p>Reverse Osmosis Water Purification Unit (ROWPU) brine could impact Fena Reservoir water quality. Contain the brine and filter flush; truck to Orote WWTP or leach into the ground at site approved by the CESG.</p>
AAFB	<p>If Mariana crows are nesting within 1,800 meters (1,969 yard) radius of cratering exercises and within 500 meters (547 yards) of small arms firing, no crater charges will be detonated within two to three months of a typhoon event.</p> <p>If Mariana crows are nesting within these buffer areas within one to two months of a typhoon event, no cratering charges will be detonated, and no M2, M115A, and M116A munitions will be used.</p> <p>If crows are nesting within these buffer areas within one month of a typhoon event, no training events will occur in the Northwest Field training areas.</p>
AAFB, NW Field, Ordnance Annex, Orote Peninsula	<p>No new areas will be cleared for bivouacs. Do not clear or remove vegetation. Observe NWD areas as marked.</p>
Apra Harbor	<p>Contain ROWPU brine and filter flush. Use leaching pond or dispose using the WWTP.</p> <p>Vehicle washdown with detergents could impact harbor water quality. Contain, collect, and haul away rinse water with detergents for inland disposal at the WWTP.</p>

Figure 3-7: NBGAH, Orote Point Training Constraints Map



Figure 3-8: NBGAH, Dadi Beach Training Constraints Map



Figure 3-9: NBGMS Training Constraints Map



Figure 3-10: NBGTS Training Constraints Map

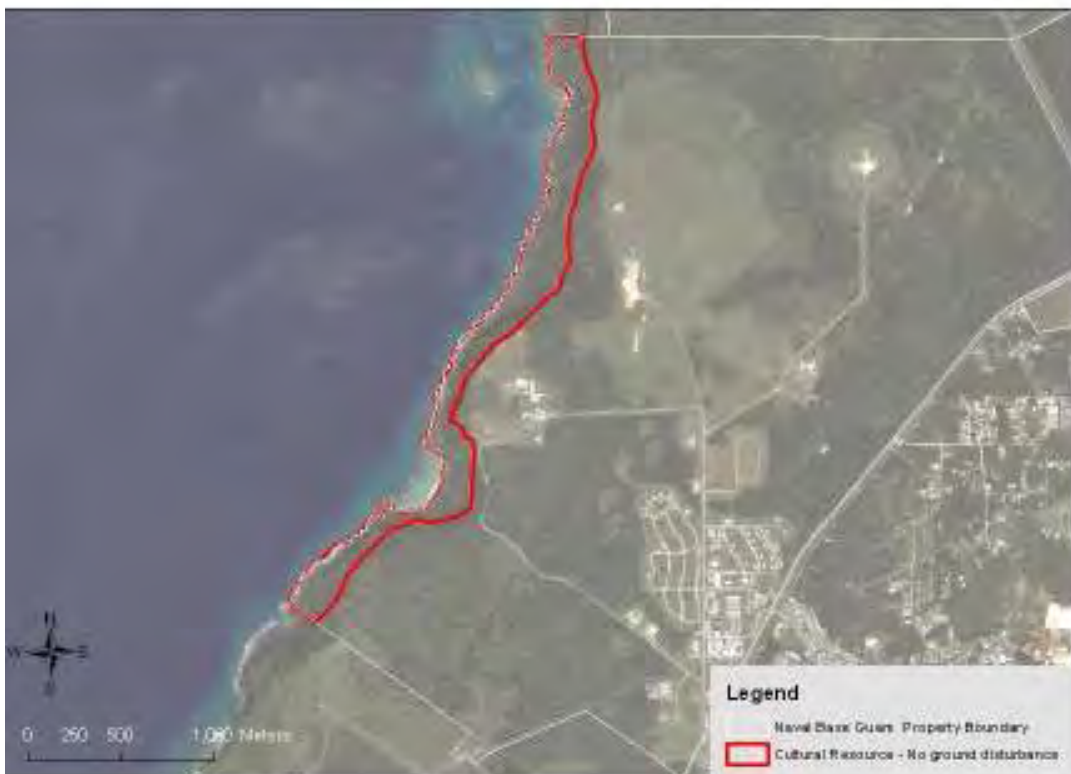


Figure 3-11: Andersen South Training Constraints Map



Figure 3-12: AAFB Training Constraints Map



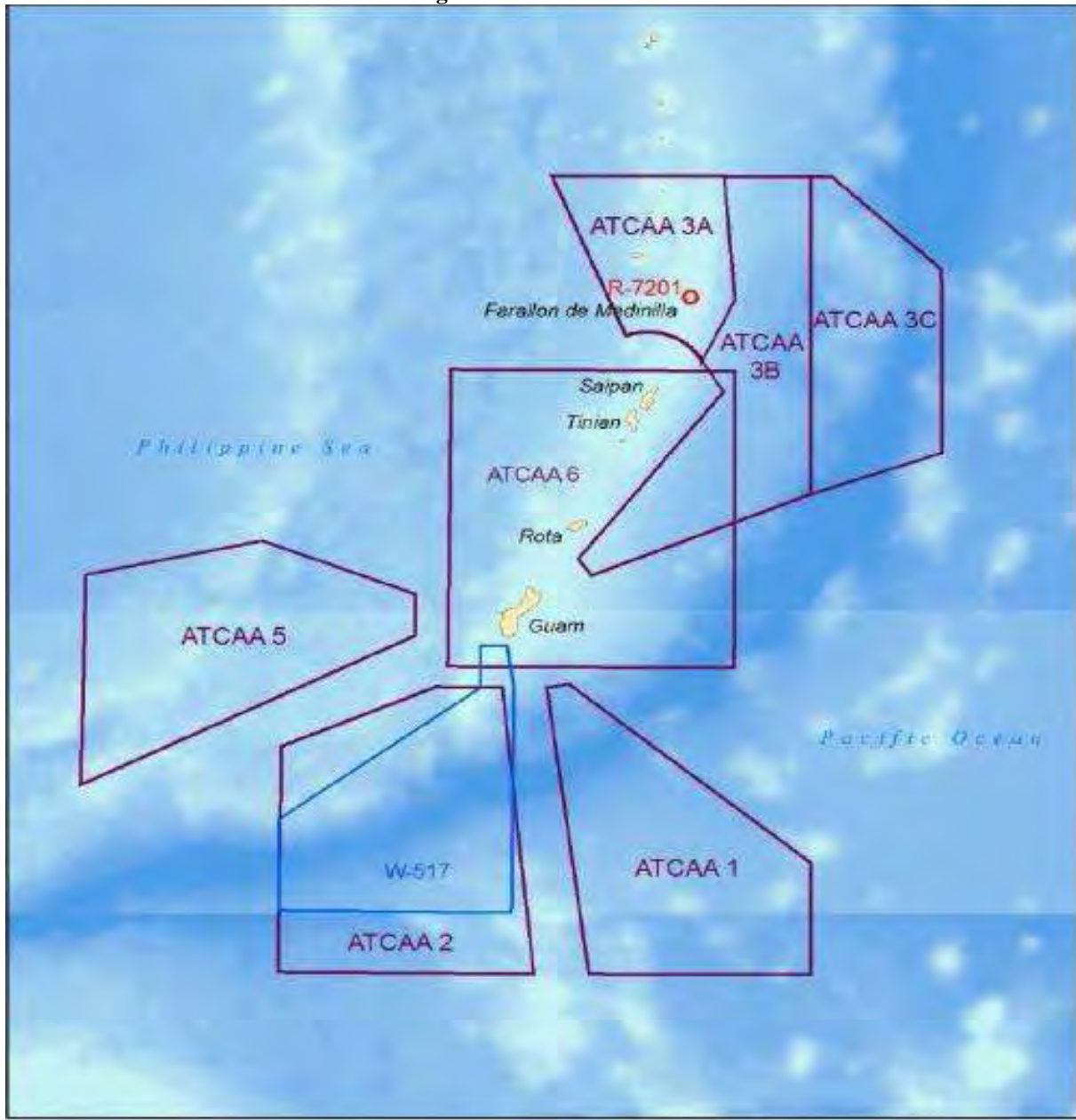
CHAPTER 4
AIRSPACE AND RANGES

1. Air Traffic Controlled Assigned Airspace (ATCCA). The ATCAAs within the MIRC are used for military training activities, from unit-level training to major joint exercises. ATCAAs 1, 2, 3, 5, and 6 have been pre-configured and pre-assigned in agreements with the Guam Air Route Traffic Control Center (ARTCC) and JRM. JRM is designated the DoD scheduling and de-confliction agency for W-517, R-7201, and ATCAAs 1, 2, 3, 5, and 6. Guam ARTCC is designated the Controlling Agency. Guam ARTCC decommissioned ATCAA 4 in November 2007. Table 4-1 provides detailed information about the ATCAAs; refer to Chapter 2 for scheduling.

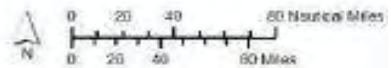
Table 4-1: FAA Air Traffic Controlled Assigned Airspace

Airspace	nm ²	Lower Limit	Upper Limit	Over Land?
ATCAA 1	10,250	Surface	FL300	No
ATCAA 2*	13,750	Surface	FL300	No
ATCAA 3A**	5,000	Surface	FL300	FDM
ATCAA 3B	7,750	Surface	FL300	No
ATCAA 3C	8,000	Surface	FL300	No
ATCAA 5	10,500	Surface	FL300	No
ATCAA 6	15,300	FL390	FL410	Guam, CNMI
* W-517 lies mostly within ATCAA 2. ** R-7201 lies within ATCAA 3A.				
ATCAA NO. 1: 1250N/14510E 1125N/14700E 1030N/14700E 1030N/14520E 1250N/14500E	ATCAA NO. 3A 1700N/14505E 1700N/14620E 1600N/14625E 1530N/14610E 1540N/14600E 1542N/14535E	ATCAA NO. 3C 1700N/14700E 1700N/14710E 1615N/14800E 1445N/14800E 1425N/14700E	ATCAA NO. 6 1300N/14625E 1300N/14415E 1525N/14415E 1525N/14625E	
ATCAA NO. 2: 1250N/14410E 1250N/14440E 1030N/14455E 1030N/14300E 1220N/14300E	ATCAA NO. 3B 1700N/14620E 1700N/14700E 1425N/14700E 1351N/14534E 1415N/14534E 1450N/14616E 1514N/14620E 1530N/14610E 1600N/14625E	ATCAA NO. 5 1335N/14400E 1315N/14400E 1200N/14130E 1342N/14130E 1400N/14250E	ENTRY / EXIT POINTS A: 1250N/14510E B: 1250N/14500E C: 1250N/14430E D: 1250N/14420E E: 1351N/14534E F: 1404N/14534E G: 1335N/14400E H: 1320N/14400E	
<p>Altitudes above FL300 for ATCAAs 1, 2, 3A, 3B, 3C, and 5 can be scheduled with GUAM ARTCC on a "real time" basis under the following conditions:</p> <ol style="list-style-type: none"> Between the hours of 2100Z – 0300Z and 0800Z – 1400Z only, with requested timeblock not to exceed two hours. Altitudes above FL300 will not be requested beyond actual time required and returned to Guam ARTCC when no longer required and/or not in use. At least one aircraft continuously monitoring the appropriate Guam ARTCC frequency for immediate recall of airspace. 				

Figure 4-1: MIRC ATCAAs

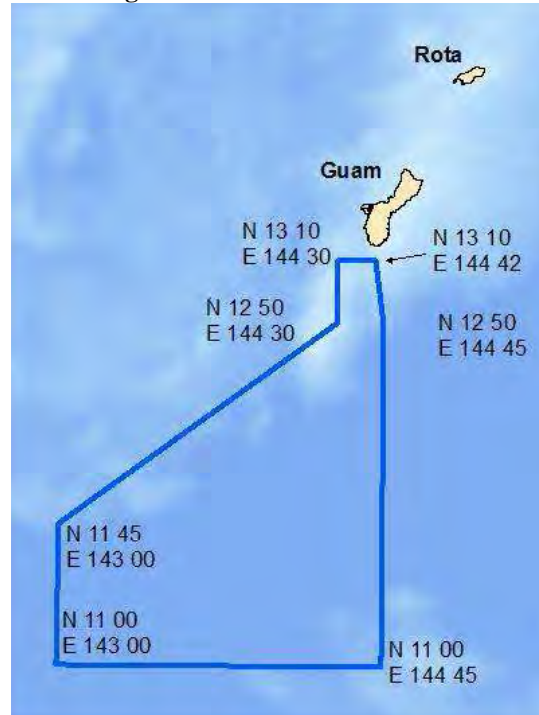


-  Air Traffic Control Assigned Airspace (ATCAA)
- Special Use Airspace**
-  Restricted Area R-7201
-  Warning Area W-517



2. Warning Area 517 (W-517)

Figure 4-2: W-517 Coordinates



a. W-517 Location. W-517 is an SUA (approximately 9,200 nm²) that overlays deep open ocean. W-517 is approximately 50 miles south-southwest of Guam and provides a large contiguous area that is relatively free of surface vessel traffic. Figures 4-2, 4-3 and Table 4-2 provide layout and coordinates.

Table 4-2: W-517 Coordinates

N 13° 10'	E 144° 30'
N 13° 10'	E 144° 42'
N 12° 50'	E 144° 45'
N 11° 00'	E 144° 45'
N 11° 00'	E 143° 00'
N 11° 45'	E 143° 00'
N 12° 50'	E 144° 30'
N 13° 10'	E 144° 30'

b. W-517 Description. W-517 is an irregular-shaped polygon comprising 9,200 nm² of airspace that begins south of Guam and extends south-southwest in waters and airspace for a distance of approximately 80 to 100 nm from the ocean surface up to unlimited altitude. Commercial air traffic lanes constrain the warning area; however, ATCAA 2 overlays most of W-517, permitting coordination of scheduling of short-lived airspace training events with the FAA. W-517 altitude limits are from the surface to infinity and capable of supporting Gunnery Exercise (GUNEX), Chaff and EC, Missile Exercise (MISSILEX), Mine Exercise (MINEX), Sinking Exercise (SINKEX), Bombing Exercise (BOMBEX) including JDAM, Torpedo Exercise (TORPEX), and Carrier training activities. W-517 is a laser certified open ocean range capable of HELLFIRE MISSILEX with support from PMRF personnel and support equipment.

c. W-517 Range Restrictions. W-517 is an open ocean range requiring rules of navigation and local clear-range procedures for all live fire or inert operations. MIRC operations will coordinate proper NOTAMS and NOTMARs for W-517, but units must follow the scheduling rules and timelines described in Chapter 2 of this manual.

d. The following munitions are allowed to be deployed/fired in W-517. For any other munitions, please contact the MIRC office for approval (mirc.ops@fe.navy.mil).

- (1) Air Deployed Mines [MK-62; MK-56] (inert)
- (2) Inert Bomb Training Rounds [MK-82 I; BDU-45; MK-76]
- (3) MK-82/83/84, GBU-31/32/38, JDAM
- (4) 5-inch Gun Shells
- (5) Hellfire
- (6) 76 mm Gun Shells
- (7) .50 cal MG
- (8) 25 mm MG
- (9) 7.62 mm MG

- (10) 20 mm; 25 mm; 30 mm Cannon Shells
- (11) RR-144A/AL Chaff Canisters
- (12) RR-188 Chaff Canisters
- (13) MK-214; MK-216 Chaff Canisters
- (14) MK-46 MOD 1C; MJU-8A/B; MJU-27A/B; MJU-32B; MJU-53B; SM-875/ALE Flares
- (15) MJU-7; MJU-10; MJU-206 Flares
- (16) AIM-7 Sparrow (Non Explosive)
- (17) AIM-9 Sidewinder (HE)/AIM-120 (HE or Inert)
- (18) AIM-120 AMRAAM
- (19) RIM-7 Sea Sparrow/RIM-116 RAM
- (20) RIM-67 SM II ER
- (21) 5.56 mm; 7.62 mm; .50 cal; 40 mm
- (22) Flares: MK 46 MOD 1C; MJU-8A/B; MJU-27A/B; MJU-32B; MJU-53B; SM-875/ALE; MJU-7; MJU-10; MJU-206

e. Primarily conducted in W-517, the weapons commonly used in this training are inert training munitions (e.g. MK-76, BDU-45, BDU-48, and BDU-56), or live MK-80 series bombs, or precision-guided munitions such as Laser Guided Bombs (LGB), Laser Guided Training Round (LGTR), Glide Bomb Units (GBU), and the JDAM.

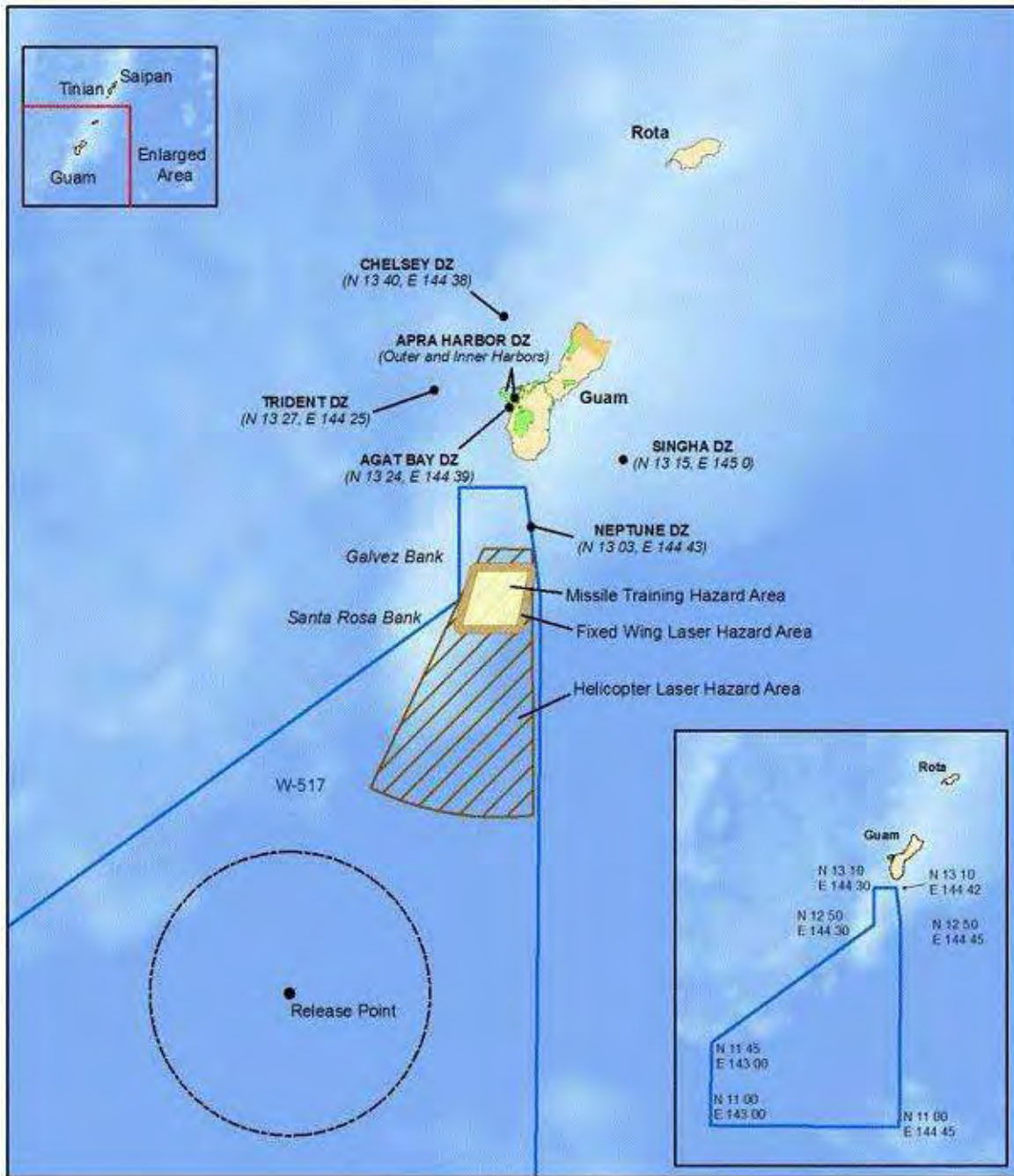
f. Description of Training Within W-517.

(1) GUNEX training activities conducted in W-517 involve surface targets such as a MK-42 Floating At Sea Target (FAST), MK-58 marker (smoke) buoys, or 55-gallon drums. The systems employed against surface targets include the 5-inch, 76mm, 25mm chain gun, 20mm Close-in Weapon System (CIWS), .50 caliber machine gun, 7.62mm machine gun, small arms, and 40mm grenade.

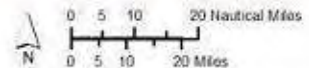
(2) MISSILEX are authorized in W-517, however in support of HSC-25 a permanent Laser Hazard Area and Missile Hazard Area is required to support HELLFIRE MISSILEX unit level training requirements. The HELLFIRE laser range location and schedule will be established and coordinated with MIRC operations and the Guam FAA.

(3) BOMBEX [A-S] are authorized in W-517, however in support of USAF requirements for live fire BOMBEX, Area Training and USAF have developed range safety and mitigation procedures for support of JDAM in W-517. JDAM is capable of over-the-horizon release and GPS guidance to target aimpoint.

Figure 4-3: W-517 / Aerial Training



- Warning Area
- Naval Installation
- Air Force Installation
- Missile Training Hazard Area
- Fixed Wing Laser Hazard Area
- Helicopter Laser Hazard Area
- Drop zone - Special Warfare/Mine Warfare Parachute Insertion
- JDAM Release Point and Weapon Danger Zone (WDZ)*



Sources: PACFLT (Marianas Region), NOAA

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

3. FARALLON DE MEDINILLA (FDM) / RESTRICTED AREA 7201 (R-7201)**Figure 4-4: Farallon De Medinilla**

a. FDM Location. FDM is approximately 1.7 miles (2.8 kilometers) long and 0.3 miles (450 meters) wide, and is located 159nm NE of Guam and 46nm NE of Saipan. Refer to table 4-3 and figure 4-5 for coordinates and layout.

Table 4-3: FDM Coordinates

N 16° 01' 07"	E 146° 03' 33"
---------------	----------------

b. FDM Description. FDM, which is leased by the DoD from the CNMI, consists of the island land mass and the restricted airspace designated R-7201. It contains a live-fire and inert bombing range and supports live-fire and inert engagements such as surface-to-ground and air-to-ground GUNEX, BOMBEX, MISSILEX, Naval Surface Fire Support, and Precision Weapons (including laser seeking). FDM is an uncontrolled and un-instrumented, laser certified range with fixed targets, includes Container Express (CONEX) boxes and truck frames in various configurations within the lightweight, inert-only zone. Summary of ordnance authorized and annual limits on FDM are contained in Table 4-9. COMJTREGMAR is the scheduling authority for all operations on FDM/R-7201.

Figure 4-5: FDM Layout



c. R-7201 is the Restricted Area surrounding FDM extending 3nm radius from center of FDM, (N 16° 01' 07"/ E 146° 03' 33") encompassing 28 nm², and altitude limits from surface to FL unlimited, and is controlled and scheduled by JRM. R-7201 is located within ATCAA 3A which is controlled by FAA and scheduled by JRM. Public access to FDM and the waters of the Commonwealth immediately adjacent thereto are permanently restricted for safety reasons and there are no commercial or recreational activities on or near the island. Aircraft and marine vessels are restricted from entering within a 3 nm (5 km) radius of FDM. NOTAMs and NOTMARS are issued at least 72 hours in advance of potentially hazardous activity occurring on FDM/R-7201. NOTMARS will place a 10nm danger zone around FDM during live operations. These increased advisory restrictions are used in an effort to ensure better protection to the military and the public during training sessions. For these specific exercises, additional public notice will be provided. Prior to use, units are required to sign a statement of understanding regarding the rules and regulations on FDM. Contact MIRC Ops for this form Figure 4-13 depicts 3nm Restricted Area and 10nm Danger Zone.

d. FDM has been a bombing range for more than 30 years and contains an abundance of UXO, including highly sensitive cluster bombs. Only personnel accompanied by explosive ordnance qualified personnel with COMJTREGMAR authorization are allowed on the island due to the extensive amount of UXO present. On an event necessary basis, approval for ground operations must be requested and approved through the JRM MIRC Operations Officer.

e. FDM Range Restrictions. Use restrictions and constraints are in place to minimize adverse effects and include measures to decrease wildfire potential, decrease direct strike potential of seabirds, and limit degradation of the interior mesic flats found outside of the impact zones. The following restrictions apply to operations on FDM:

(1) Prohibited use of live cluster weapons/scatterable munitions, fuel air explosives, incendiary and smoke devices, depleted uranium rounds or bombs greater than 2,000 lbs.

(2) No targeting of cliffs on the eastern coast of the island.

(3) No targeting or firing in the northern SUA and the southern land bridge. Refer to Figure 4-6.

Figure 4-6: Land Bridge



(4) All ordnance must impact land.

(5) Firing direction is from the west only towards the island during Air-to-Ground MISSILEX and surface vessel Naval Surface Fire Support (NSFS) training events.

(6) Only inert ordnance may be dropped in Impact Area 1.

(7) Only target impact areas 1, 2, and 3 during Air-to-Ground BOMBEX and Air-to-Ground MISSILEX training events.

(8) Personnel are not authorized on FDM without JRM J3 authorization and must be accompanied by qualified explosive ordnance disposal personnel.

(9) All aircraft, boats, personnel, and equipment originating from Guam and landing on FDM must undergo brown treesnake inspection procedures prior to departing Guam. The brown treesnake Control and Interdiction Plan is detailed in Appendix A.

(10) Squadron commanders will submit a signed Acknowledgement of FDM Range Briefings, ensuring all aircrew have viewed the FDM Range Brief. This Acknowledgement memo must be submitted to MIRC OPS prior to utilizing FDM, and is valid for one from the date of the signature.

f. Description of Training within FDM/R-7201

(1) Strike Warfare (STW) Training and Air-to-Ground Bombing Exercises (Land) (BOMBEX-Land). BOMBEX (Land) allows aircrews to train in the delivery of bombs and munitions against ground targets. The weapons used in this training on FDM are inert training munitions (e.g., MK-76, BDU-45, BDU-48, and BDU-56), and live MK-80 series bombs and precision-guided munitions (LGBs or LGTRs). Cluster bombs, fuel-air explosives, and incendiary devices are not authorized on FDM. BOMBEX exercises can involve a single aircraft or multiple aircraft. All aircraft without aid of an air controller must make a clearance pass prior to engaging targets.

(2) Air-to-Ground Missile Exercises (A-G MISSILEX). A-G MISSILEX trains aircraft crews in the use of air-to-ground missiles. The weapons used in this training on FDM are Hellfire and TOW missiles for rotary wing aircraft and Maverick missiles for fixed wing aircraft.

(3) Air-to-Ground Gunnery Exercise (A-G GUNEX). A-G GUNEX trains fixed and rotary aircraft crews in the use of cannons and guns against land targets. Depleted uranium and incendiary rounds are not authorized on FDM.

(4) Amphibious Warfare (AMW) Training and Naval Surface Fire Support (FIREX Land). FIREX (Land) on FDM consists of the shore bombardment of an Impact Area by Navy guns as part of the training of both the gunners and Shore Fire Control Parties (SFCP). A SFCP consists of spotters who act as the eyes of a Navy ship when gunners cannot see the intended target. From positions on the ground or air, spotters provide the target coordinates at which the ship's crew directs its fire. The spotter provides adjustments to the fall of shot, as necessary, until the target is destroyed. On FDM, spotting may be conducted from the special use NO FIRE ZONE or provided from a helicopter platform.

(5) NSW Training Direct Action. NSW Direct Action, either covert or overt, is directed against an enemy force to seize, damage, or destroy a target and/or capture or recover personnel or material. Training activities are small-scale offensive actions including raids; ambushes; standoff attacks by firing from ground, air, or maritime platforms; designate or illuminate targets for precision-guided munitions; support for cover and deception operations; and sabotage inside enemy-held territory. Units arrive at FDM by helicopter or small boat.

g. At FDM, small arms, grenades, and crew-served weapons are employed in direct action from small boats and helicopters against targets on the island. Participation in Joint Terminal Attack Controller (JTAC) training in conjunction with a BOMBEX-Land also occurs.

h. Operations on FDM/R-7201. Units operating on FDM/R-7201 are responsible for full compliance with applicable Service directives related to operational safety, range clearance, laser operations, and weapon delivery procedures within SUA to include the restrictions contained within this instruction.

i. FDM SUA and Impact Areas. FDM is divided into several areas, as depicted in Figure 4-5. There is one SUA, a NO FIRE ZONE, at the northern end of the island for ground personnel use. The island has four designated impact areas: Three that are authorized for air-to ground live and/or inert ordnance operations and one non-contiguous area for naval gunfire support and off-shore small arms. All other portions of the island are NO FIRE areas. Any ordnance that does not impact the designated area or lands in the water shall be reported to JRM MIRC Operations. Coordinates below are referenced to WGS-84 datum.

(1) Special Use Area. Reserved for TACP/JTAC and Personnel Recovery use and consists of the area of the island north of the line defined in Table 4-4, depicted in Figure 4-7. The SUA is a NO FIRE ZONE. A helicopter landing zone is located within this area at N 16° 01' 26.29" / E 146° 03' 48.19".

Table 4-4: Special Use Area Coordinates

N 16° 01' 23.80"	E 146° 03' 35.89"
N 16° 01' 23.32"	E 146° 03' 50.26"

Figure 4-7: Special Use Area

(2) Impact Area 1. This area contains high fidelity target structures (Figure 4-8) and is authorized for INERT ORDNANCE ONLY. Contact MIRC Operations for specific ordnance/ammunition allowed. The coordinates are listed in Table 4-5. Any live ordnance inadvertently dropped into Impact Area 1 shall be reported to JRM MIRC Operations in the AAR.

Table 4-5: Impact Area 1 Coordinates

N 16° 01' 19.44"	E 146° 03' 36.59"
N 16° 01' 18.59"	E 146° 03' 45.05"
N 16° 01' 09.63"	E 146° 03' 30.45"
N 16° 01' 06.61"	E 146° 03' 36.78"

Figure 4-8: Impact Area 1



(a) Targets. Impact Area 1 contains 9 targets of varying shapes and sizes, including 4 vehicles and 5 CONEX targets. The centroid coordinates of the targets and ordnance restrictions are listed in Table 4-6. Refer to figures 4-14 through 4-16.

Table 4-6: Target Coordinates & Ordnance Restrictions

Target vehicles	N 16° 01' 16.32"	E 146° 03' 38.69"	Lightweight inert ≤100lbs only; No strafing
	N 16° 01' 15.87"	E 146° 03' 39.75"	
	N 16° 01' 14.95"	E 146° 03' 39.59"	
	N 16° 01' 16.80"	E 146° 03' 41.40"	
Rectangle	N 16° 01' 17.62"	E 146° 03' 42.35"	Lightweight inert ≤100lbs only; No strafing
Square	N 16° 01' 17.44"	E 146° 03' 40.73"	Lightweight inert ≤100lbs only; No strafing
L-shaped	N 16° 01' 17.33"	E 146° 03' 38.67"	Lightweight inert ≤100lbs only; No strafing
H-shaped	N 16° 01' 15.58"	E 146° 03' 41.02"	Inert ordnance ≤500lbs only; No strafing
E-shaped	N 16° 01' 13.93"	E 146° 03' 40.60"	Inert ordnance ≤2000lbs only; Strafing authorized

(3) Impact Area 2. Impact Area 2 may be used for both live and inert ordnance. The coordinates are listed in Table 4-7.

Table 4-7: Impact Area 2 Coordinates

N 16° 01' 09.63"	E 146° 03' 30.45"
N 16° 01' 06.61"	E 146° 03' 36.78"
N 16° 00' 53.98"	E 146° 03' 28.02"
N 16° 00' 57.21"	E 146° 03' 22.66"

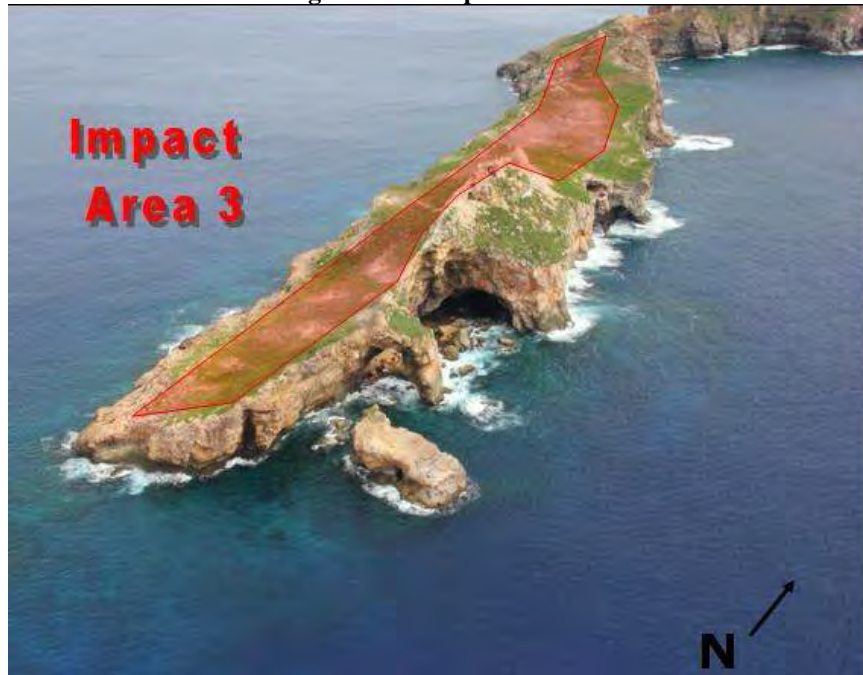
Figure 4-9: Impact Area 2



(4) Impact Area 3. This area is south of the land bridge and is used for live and inert ordnance. It consists of the area of the island south of the line defined in Table 4-8. Ordnance is prohibited from impacting the land bridge to the greatest extent possible. All ordnance observed impacting the land bridge shall be reported to JRM MIRC Operations.

Table 4-8: Impact Area 3 Coordinates

N 16° 00' 22.6"	E 146° 03' 06.4"
N 16° 00' 21.6"	E 146° 03' 08.9"
N 16° 00' 45.42"	E 146° 03' 16.6"
N 16° 00' 44.5"	E 146° 03' 12.2"
N 16° 00' 37.2"	E 146° 03' 13.1"

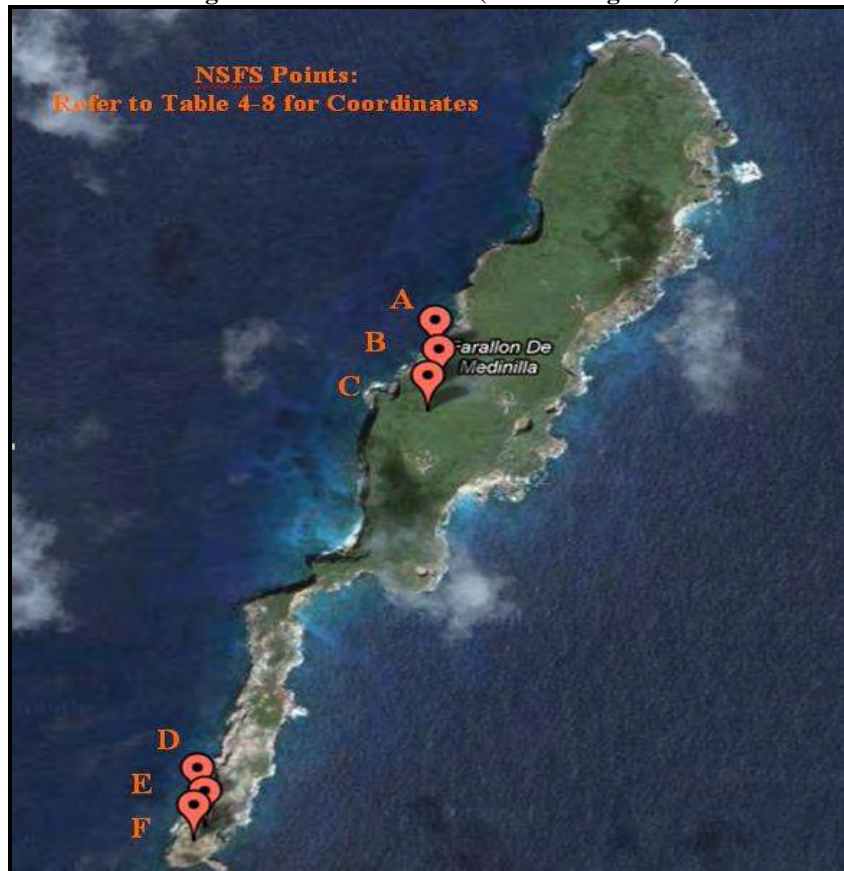
Figure 4-10: Impact Area 3

(5) Naval Surface Fire Support. This area consists of a series of non-contiguous point targets, which are reserved for Naval Surface Fire Support (NSFS) and small arms training. These targets are located along the western side of FDM and are vertical surfaces within the impact areas. Approximate locations are listed below in Table 4-9.

Table 4-9: NSFS Point Target Coordinates

	DEG MIN	DEG	MGRS
A	16 01.14 N 146 03.45 E	16.019 N 146.0575 E	55QCT9916671266
B	16 01.09 N 146 03.45 E	16.0182 N 146.0575 E	55QCT9916671174
C	16 01.05 N 146 03.48 E	16.0175 N 146.0580 E	55QBT9220771843
D	16 00.42 N 146 03.15 E	16.007 N 146.0525 E	55QBT9160770687
E	16 00.35 N 146 03.13 E	16.0058 N 146.0522 E	55QBT9157070558
F	16 00.36 N 146 03.10 E	16.006 N 146.0517 E	55QBT9151770577

Figure 4-11: NSFS Points (Non-Contiguous)



j. FDM Communications. All units using FDM will monitor the assigned ATCAA common frequency. Prior to entry into ATCAA 3A, a call will be made to de-conflict ATCAA 3A airspace per ATCAA procedures. Units operating without an assigned ATCAA common frequency, and with sole use of R-7201, may utilize a discrete frequency. Prior to delivering ordnance, a call will be made on GUARD (243.0 MHz) declaring the target "hot" with evolution duration. In the event of radio failure (NORDO), weapons deliveries for that unit or aircraft will cease. Weapons delivery for that unit or aircraft may resume ONLY when radio communications have been regained.

k. FDM Range Clearance. FDM is an uncontrolled range. Regardless of the posted limits and pre-training public notices, fishing and boating within the three-mile radius may occur, and surveillance of the island and surrounding waters prior to live-fire training to ensure that the area is clear is MANDATORY. Each participating aircraft must make a clearance pass for positive target identification and range clearance prior to ordnance release. Visual clearance passes should be made at 1,000 feet AGL or the minimum safe operating altitude of the aircraft, whichever is higher. Aircraft equipped with advanced targeting pods may perform clearance passes at higher altitudes. All flights MUST ensure the target and surrounding water are clear of unauthorized personnel, vessels or marine life (turtles, marine mammals) prior to expending ordnance. Specific guidance on marine animal mitigation measures is contained in Appendix D. Clearing passes are not required if the range was visually cleared within the last ten minutes by aircraft exiting R-7201 or a JTAC is on FDM and can effectively ensure the target area and surrounding water are clear. The JTAC must be in two-way radio contact with the aircraft using the range. Laser operation hazard areas may extend beyond R-7201. Extra care in clearing these extended areas must be used by exercising units before commencing laser operations.

l. Authorized Ordnance in FDM/R-7201. Ordnance limitations on FDM are controlled by environmental agreements as delineated in reference (a). These expenditures are tracked and audited by JRM MIRC Operations and J45. The types and annual expenditures of ordnance allowed on FDM are delineated in Table 4-10.

Table 4-10: FDM Annual Ordnance Expenditure Limits

Training Area and Ordnance Type	Number of Rounds Per Year
FDM (R-7201) BOMBEX [A-G]; MISSILEX [A-G]; GUNEX [A-G]; NSFS	
Inert Bomb Training Rounds \leq 2000 lb (nominal i.e., approximate weight of ordnance, not weight of explosive charge)	2,800
Bombs (HE) \leq 500 lb (nominal i.e., approximate weight of ordnance, not weight of explosive charge)	500
Bombs (HE) 750 / 1000 / 2000 lb (nominal i.e., approximate weight of ordnance, not weight of explosive charge)	1,650
Missiles [Maverick; Hellfire; TOW]	60
Cannon Shells (20 or 25 mm)	20,000
Cannon Shells (30 mm)	1,500
AC-130 Cannon Shells (40mm or 105mm)	200
5-inch Gun Shells	800
Small Arms [5.56mm; 7.62mm; .50 cal; 40mm]	3,000

m. FDM/R-7201 Weapons Delivery Procedures and Restrictions. A dedicated mission safety observer (normally the flight lead) must be assigned to each mission. The safety observer will retain ultimate responsibility for target area clearance, weapons delivery procedures and deconfliction of aircraft throughout the course of the mission. The following criteria apply:

(1) The safety observer must maintain two-way radio communications with all elements of the mission.

(2) Prior to weapons delivery, flight members must confirm 100 percent positive target ID.

(3) The safety observer must ensure range clearance for the flight prior to any weapons releases. Clearance by the safety observer may serve for all aircraft in formation and allows multiple aircraft weapon deliveries on each pass once the formation is cleared for release.

(4) The safety observer has abort authority and responsibility. Contact must be maintained with all elements via visual, radar, or electronic means at all times.

(5) For single ship operations, the aircraft commander will act as the safety observer and will be responsible for target ID, range clearance and weapons delivery.

n. CAS missions will be conducted per JP 3.09-3 and require a qualified JTAC with EOD escort. Due to the island's restrictive size, lack of protective cover and prevalence of UXO, CAS with ground personnel on FDM requires in-depth mission planning, high SA on friendly locations and strict adherence to minimum safe distances for ground parties for live fire training. Specifically, JTACs/pilots shall not deliver ordnance on targets inside of the distances published in Table A6.1 of AFI 11-214, 22 Dec 2005, or more restrictive service-specific guidance.

Figure 4-12: FDM Restricted Area and Danger Zone

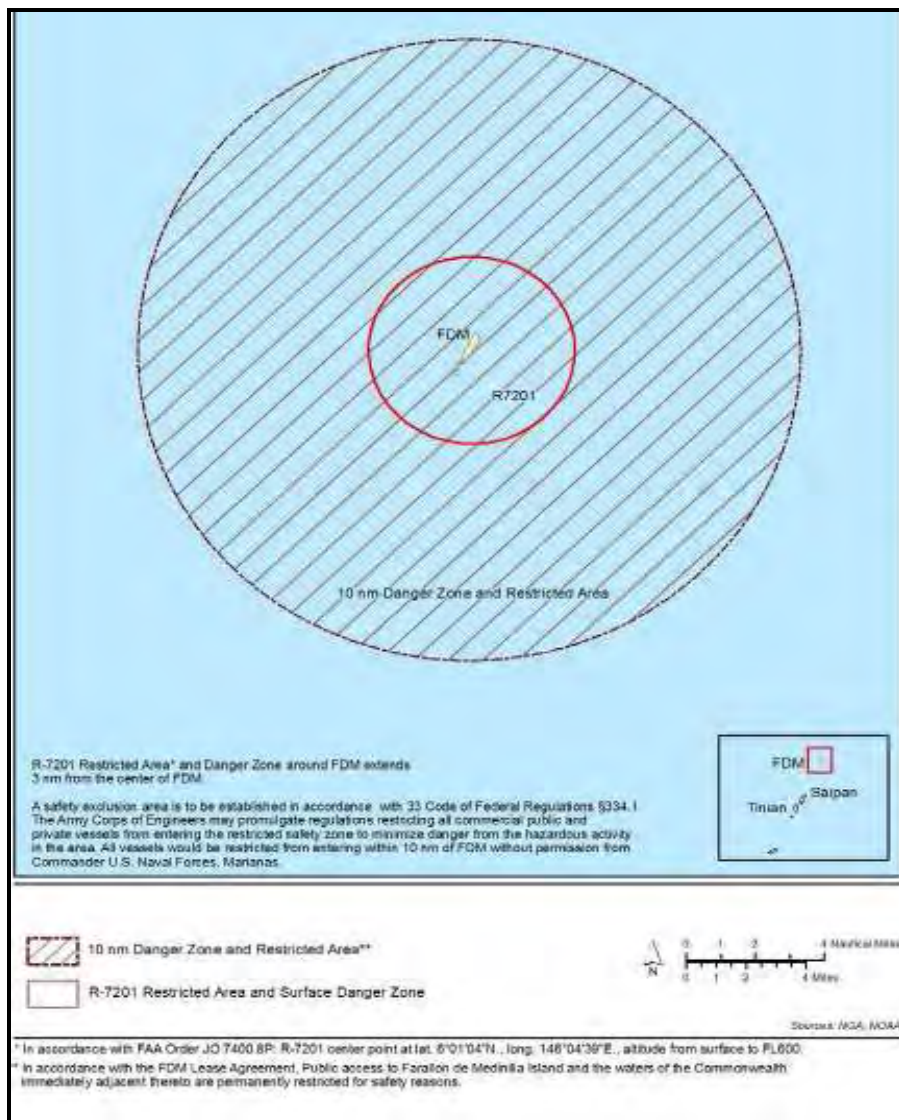


Figure: 4-13 Farallon de Medinilla (FDM)

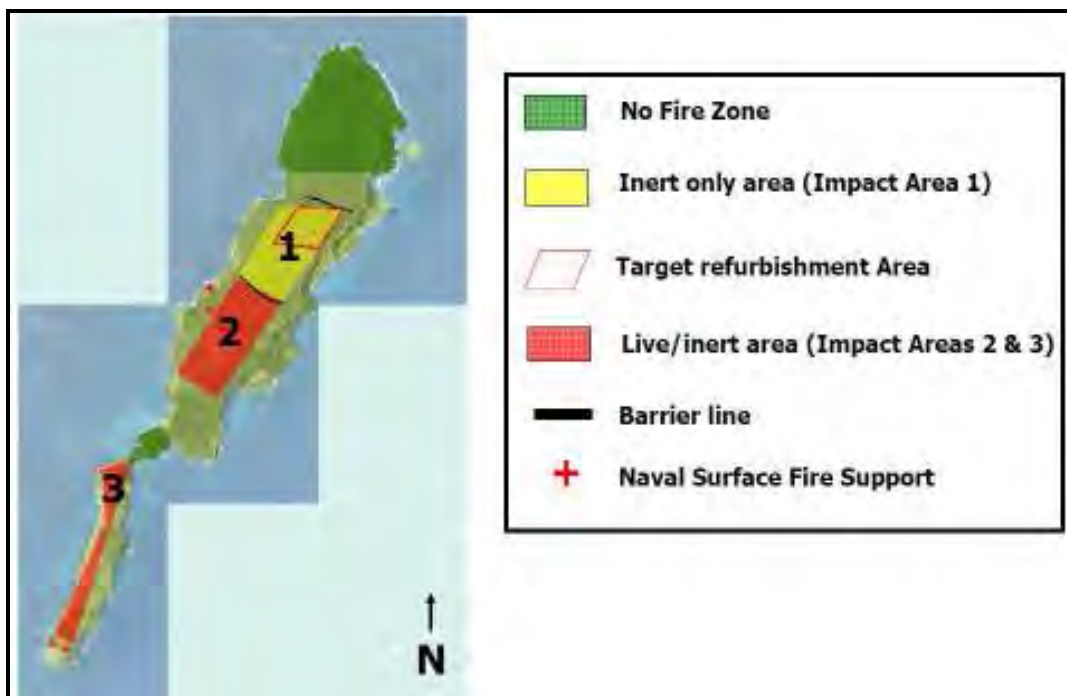


Figure: 4-14 FDM Impact Area 1 Targets (Inert Only)

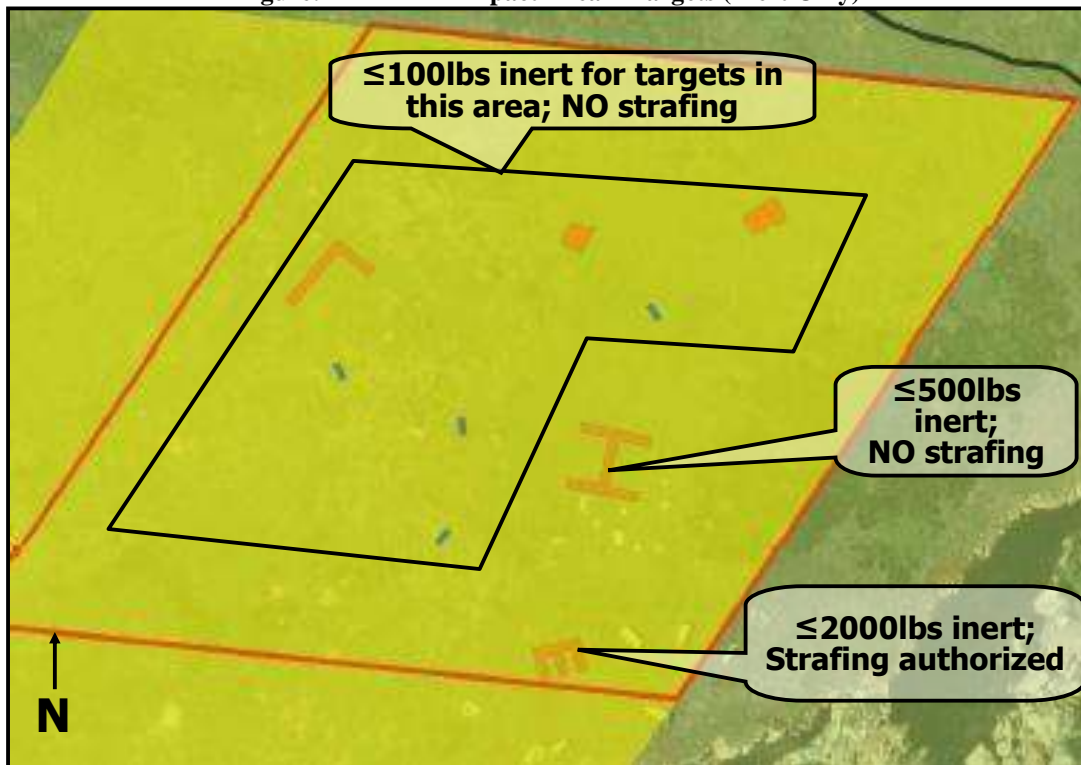
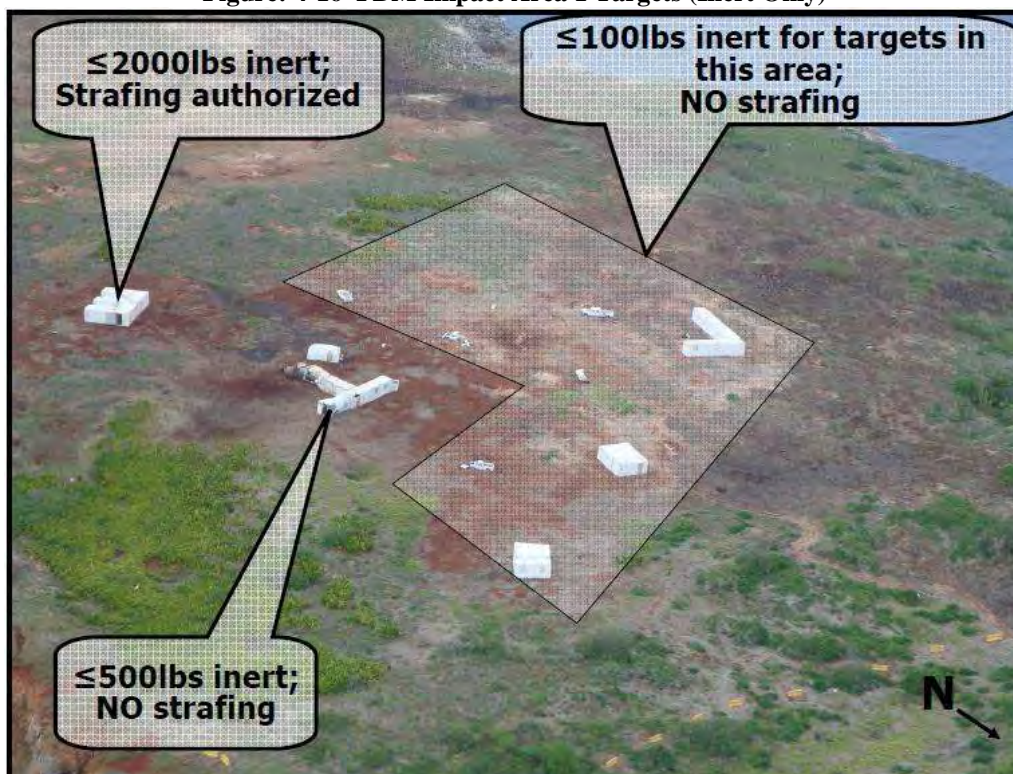


Figure: 4-15 FDM Impact Area 1 Targets (Inert Only)



Figure: 4-16 FDM Impact Area 1 Targets (Inert Only)



4. Mitigations for FDM and W-517. Table 4-11 provides details for in flight emergencies, specifically, emergency fuel release and ordnance jettison.

Table 4-11: Aircraft Restrictions and Mitigations

ACTIVITY/ OPERATION	RESTRICTIONS AND MITIGATION MEASURES
AIR OPERATIONS	
General	COMJTREGMAR is designated as the DoD scheduling agency for W-517, and ATCAAs 1, 2, 3A, 3B, 3C, 5, and 6. Guam Air Route Traffic Control Center (FAA) is designated as the controlling agency.
Emergency Fuel Release	May only be conducted in designated aircraft emergency fuel release areas. If designated emergency fuel release areas are unavailable, fuel may be released as directed at locations at least 12nm (22 kilometers) from any land, sea mound or island, in depths greater than or equal to 1,000 fathoms (6,000 feet) of water and at an altitude safe for flight or as directed to ensure complete evaporation of the fuel.
Ordnance Jettison	May be jettisoned in designated emergency jettison areas only. If designated emergency areas are unavailable, ordnance may be jettisoned at locations at least 12nm (22 kilometers) from any land, sea mound or island, in depths greater than or equal to 1,000 fathoms (6,000 feet) of water and at an altitude safe for flight or as directed.

5. Laser Operations. Laser operations on FDM and W-517 shall be conducted in accordance with the current NSWC Corona Division Laser Range Safety Survey Report (LRSSR) for FDM and W-517, and this instruction. Contact MIRC Ops for the most recent laser surveys for W-517 and FDM.

a. Laser operations may be conducted on FDM and W-517 provided that the laser system and profile are specified and authorized by the JRM TLSO prior to scheduling. Aerial and ground laser systems used are limited to five milliradians (mrad) buffer angle. Laser Target Area (LTA) 1 is located within Impact Areas 1 and 2. LTA 2 is located within Impact Area 3 on FDM.

b. The LRSSR for FDM and W-517 (if applicable) contains the following detailed information and will be provided to all units requesting to conduct laser operations to the JRM TLSO:

(1) Ground Based Laser Systems Target Areas Laser Hazard Danger Zones

(2) Airborne Laser Systems Target Areas Laser Hazard Danger Zones

(3) Airborne Laser System Safe Lasing Profiles

(4) Laser Target Area Coordinates

(5) Fire-line Coordinates

c. Adhere to the following laser safety procedures:

(1) Laser operators will comply with and adhere to the procedures established in the LRSSR.

(2) Laser operators must receive appropriate laser range briefing from the unit's Laser System Safety Officer (LSSO).

(3) Laser systems are only to be used against targets located within the designated LTAs described in the LRSSR.

(4) Laser flight profile minimum altitudes for specified run-in headings are contained in the LRSSR. Laser operations on run-in headings other than those specified are not authorized.

(5) Maintain constant communication with range safety/control during laser operations.

(6) Prior to commencing laser operations, pilots will make a cold pass and ensure that the LTA and corresponding Laser Hazard Danger Zone (LHDZ) are clear of unauthorized personnel.

(7) Fire ground lasers only after positive identification of the approved targets.

(8) Fire aerial lasers only after positive identification of the target ensuring that the LTA and LHDZs are clear of unauthorized personnel.

(9) In the event of a Laser Radiation Incident, notify the JRM TLSO as soon as possible.

d. Exercising units will assume responsibility for range clearance and safe laser operations. Extra care must be taken during range clearance to ensure FDM is clear of reflective surfaces, particularly standing water. If standing water, glass, or any other reflective materials becomes present within or near any of the established LTAs, then it will be the responsibility of the training unit to either suspend the exercise or ensure personnel are not within the Nominal Ocular Hazard Distances of the system in use.

CHAPTER 5
TINIAN, SAIPAN, ROTA

1. Introduction. Chapter 5 provides details and information about training and training assets available in Tinian, Saipan, and Rota. Each island is covered under the MIRC and provides several features and attributes for a wide variety of training opportunities. Each island is different and must be coordinated, scheduled, and controlled specific for each of their requirements.

2. Tinian. Tinian is one of the islands in the CNMI which shares a commonwealth relationship with the United States. The Commonwealth was established effective 3 November 1986. Residents are United States citizens. A Covenant between the CNMI and the United States provides for a lease of two-thirds of Tinian, the entire island of FDM, and 177 acres on Saipan. The 50-year lease was signed in 1983, with a 50-year renewal option exercised at signature. PACFLT assigned JRM full management and plant account responsibility for leased lands on Saipan, Tinian and FDM.

a. Tinian Background. During World War II, the U.S. military transformed Tinian into the largest B-29 base in the Pacific, and the largest operational base in the world. North Field was expanded and West Field was developed to accommodate two 8,500-foot (2.6-km) B-29 runways. Among the purposes of the Marianas operation (code named FORAGER) was the provision of a base to initiate the B-29 bombings of Japanese home islands. These included the infamous B-29 flights of the Enola Gay and Bock's Car, which dropped atomic bombs on Hiroshima and Nagasaki, respectively. The Tinian Mayor's office and local commercial operators regularly conduct tours of numerous historical sites inside the training area. Tourists and local residents visit the area on a daily basis. Tinian often requests organized tour groups be permitted to visit historic sites in the Military Lease Area (MLA). COs and OICs should be aware there might be civilians within the training area when training is being conducted, and are encouraged to allow such visits at a mutually convenient time. JRM and the Tinian Mayor's office will only restrict civilian access, with prior coordination, when there are overriding safety or security issues. The leased lands are considered U.S. soil and require full compliance with all U.S. laws including environmental regulations. In order to be able to continue effective training on Tinian, strict adherence to environmental considerations is required. Each CO/OIC deploying

to Tinian shall be thoroughly familiar with this instruction and will ensure compliance with all regulations regarding training on Tinian.

b. Tinian Description. The MLA on the island of Tinian is divided into two sections, the Exclusive Military Use Area (EMUA) in the north and the Lease Back Area (LBA) in the central part of Tinian. The key feature is North Field, a large abandoned WWII-era airfield and national historic landmark that is still usable as a contingency landing field. The EMUA has two small sandy beaches, Unai Chulu on the northwest coast and Unai Dankulo, also known as Long Beach, on the east coast.

(1) Exclusive Military Use Area (EMUA). The EMUA is DoD-leased land (7,600 acres) covering the northern third of Tinian. The key feature is North Field, an unimproved expeditionary WWII era airfield used for rotary wing and fixed wing short-field landing aircraft. North Field is also used for expeditionary airfield training including C2, air traffic control (ATC), logistics, temporary establishment of a Fuels and Armament Replenishment Point (FARP), rapid runway repair, and other airfield-related requirements. The area surrounding North Field is used for force-on-force airfield defense and offensive training.

(a) The EMUA beaches are capable of supporting LCAC training at high tides. Only Unai Chulu has been used for LCAC training. Unai Babui is a rocky beach capable of supporting narrow single-lane amphibious assault vehicle (AAV) landings; however, it would require channel, landing zone, and beach improvements as well as an environmental survey prior to approved use.

(b) Unai Chulu, Unai Dankulo, and Unai Babui require beach and surf zone surveys prior to use to determine the presence of turtles and nests, and the improvements required to repair storm damage, grade approaches and landing areas, and clear the surf zone and landing zone of obstacles. Tree or brush removal may be required to clear landing zones and beach access roads.

(c) There are no active live-fire ranges on the EMUA, except sniper small arms into bullet traps. Future plans for any live-fire ranges will be addressed in other National Environmental Policy Act (NEPA) documents. Tinian is capable of supporting Marine Expeditionary Unit (MEU) and Marine Air Wing

(MAW) events such as ground element training and air element training, Noncombatant Evacuation Operation (NEO), airfield seizure, and expeditionary airfield training, and special warfare activities, including large MEU and MAW training events. The Voice of America International Broadcasting Bureau is located on the EMUA. Figure 5-1 depicts the Tinian Training Land Use and Saipan.

(2) Tinian Lease Back Area (LBA). The LBA is DoD-leased land (7,800 acres) covering the central portion of the island, and makes up the middle third of Tinian. A key feature is the proximity to the commercial airport on the southern boundary of the LBA. The runway is not instrumented; however, it is capable of landing large aircraft. The airport has limited airfield services. The LBA is used for ground element training including MOUT-type training, C2, logistics, bivouac, vehicle land navigation, convoy training, and other field activities. There are no active live-fire ranges on the LBA, except sniper small arms into bullet traps.

(3) Tinian Coordination/Scheduling. Training on Tinian requires a minimum of 45 days lead time in order to efficiently coordinate training with the CNMI Government and Tinian Mayor's office. All training requests will be submitted to MIRC Operations. MIRC Ops will subsequently inform the CNMI Government, Tinian Mayor's office, and appropriate Subject Matter Experts (SMEs) of the requested training for effective coordination. This includes Browntree Snake arrangements, National Environmental Policy Act guidance, and US Fish and Wildlife consultation. Units training on Tinian must ensure the utmost consideration is given to safety. Prior to commencing any exercise involving aircraft landing, parachute jumps, or other potentially hazardous operations, the CO/OIC will ensure the military training area is clear of all unauthorized civilian personnel. The entire area will be cordoned off, with control points at the entrance to the MTA on both 8th and Broadway Avenues (the two main North-South roads). As an alternative, the control points may be set at the two traffic circles if the entire MTA is not required. The unit must have positive control of the MTA for safety purposes during air operations. JRM may approve modifications to this policy for limited area small-scale exercises, prior to deployment.

(4) Tinian Airport Use and Scheduling. The use of the Tinian International Airport requires prior coordination and approval with the CNMI Control Port Authority (CPA) and the CNMI

Federal Aviation Administration (FAA). There are several documents that need filled out prior to airport operations: One page standard CNMI landing request, Scope of Work (includes spill response plan and environmental permit copies), CPA Acknowledgement Form, and Customs Declaration forms. Tinian airport immigration and customs arrangements must be done in advance due to immigration inspectors not readily available on Tinian. Contact MIRC Ops for Tinian International Airport guidance.

(5) Tinian Support Requirements. There are no facilities to provide haircuts on Tinian. Deployed units should provide their own barbers, if necessary. Seasonal fruits and vegetables may be available to include cantaloupe, watermelon, eggplant, tomatoes and green-beans.

(a) Fuel. Fuel [(gas (MOGAS), aviation gas (AVGAS), and diesel (LSADO)] is available on Tinian through the local Mobil distributor.

(b) Lubricants. All anticipated requirements should be included in the load out. These items are may not be available on Guam or Tinian. Shipment schedules to Tinian may not meet requirements and military cargo transportation to Tinian may not be readily available.

(c) Local Payment. In general, any purchases at the local markets will require cash or traveler's checks on Tinian.

(d) Garbage. All trash generated by military units training on Tinian must be transported off the island for proper disposal. The Tinian landfill is not authorized for military garbage. Local services are available for transport and disposal of garbage to the Saipan landfill, which is authorized for military garbage.

(e) If no JRM representative has been assigned, MIRC Ops is the point of contact for support while deployed on Tinian. Contact information can be found in Chapter 2.

(6) Tinian Mitigation Measures. No Wildlife Disturbance (NWD), No Ground Disturbance (NGD)/No Cultural Resource Disturbance (NCRD), Limited Training (LT), and No Training (NT) Areas. The Navy maintains NWD, NGD, NCRD, LT, and NT areas on Tinian and evaluates area boundaries based on additional survey information and cultural resource findings obtained during

monitoring surveys. These area boundaries are detailed in the Figure 5-2.

(a) No Wildlife Disturbance Areas. Cross-country off-road vehicle travel, pyrotechnics, demolition, digging/excavation (without prior approval of JRM environmental monitors), open fires, mechanical vegetation clearing or removal, live ammunition, firing blanks, flights below 1,000 feet (305 meters), and helicopter landings (except designated landing zones) are prohibited.

(b) No Ground Disturbance/Cultural Disturbance. Cross-country off-road vehicle travel, pyrotechnics, demolition, digging/excavation (without prior approval of JRM environmental monitors), open fires, mechanical vegetation clearing, and construction are prohibited.

(c) Limited Training Areas. Pedestrian traffic areas with vehicular access are limited to designated roadways and/or the use of rubber-tired vehicles. The use of pyrotechnics, demolition, or digging/excavation is not allowed without prior consultation with the controlling authority.

(d) No Training Areas. Entry or training, except specifically authorized administrative troop and vehicle movement on designated roads or trails, is prohibited in addition to the prohibitions in NWDA.

(e) Military training activities could result in environmental affects on water quality due to shipboard operations, land training operations, expenditure of ordnance, and training-related debris such as used targets. The prohibition against discharge of harmful quantities of hazardous substances into or upon U.S. waters out to 200nm (371 km) mandates stringent hazardous waste discharge, storage, dumping, and pollution prevention requirements. Ships and submarines shall minimize any solid waste, sewage, gray water, oily waste, and bilge water discharges per OPNAVINST 5090.1 series.

(f) Dry season on Tinian and the surrounding islands is normally between January and June. Commands, units and activities will exercise extreme caution with any heat producing equipment, to include vehicles, pyrotechnics, tracer rounds, and cigarette smoking to avoid potential fire hazards.

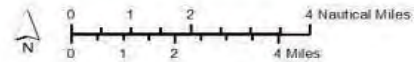
(g) Tinian is free of Brown Tree Snakes (BTS), an invasive species that has contributed to the demise of native

forest birds on Guam and impacted Guam's power infrastructure. Proper coordination with the JRM BTS Program Manager, CNMI Division of Land and Natural Resources (DLNR) and USDA Wildlife Services is required to conduct activities on Tinian, where assets, resources and personnel originate or transit through Guam. See Appendix A for more information.

Figure 5-1: Tinian Training Land Use and Saipan



- + Army Reserve Center
- Exclusive Military Use Area (EMUA)
- Leaseback Area (LBA)
- International Broadcasting Bureau (IBB)



Sources: PACFLT (Mananas Region), NOAA

Figure 5-2: Tinian Training Constraints Map



Figure 5-3: Tinian (Unai Dankulo / Unai Masalok) Training Constraints Map

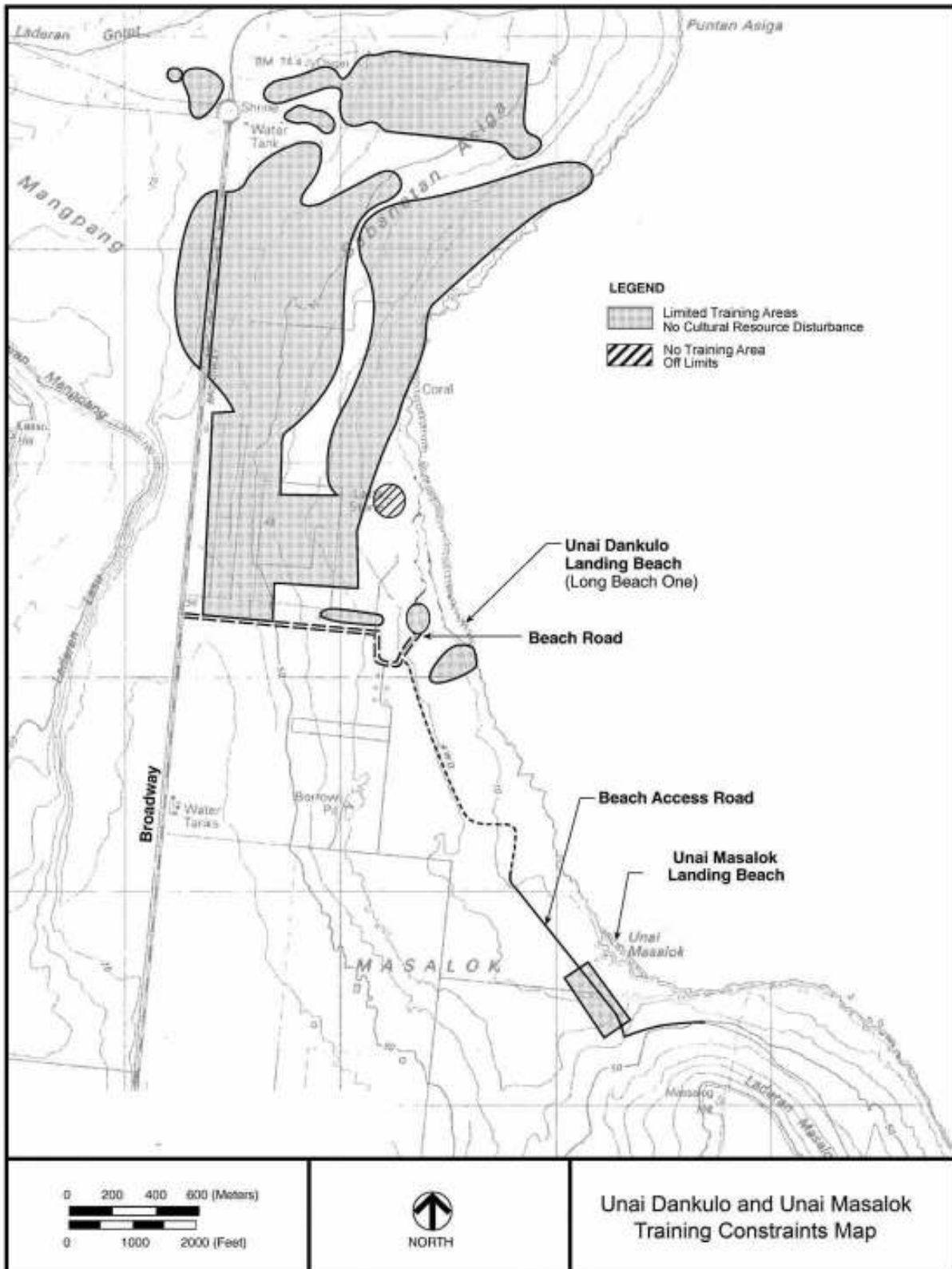


Figure 5-4: Tinian (Unai Chulu) Training Constraints Map

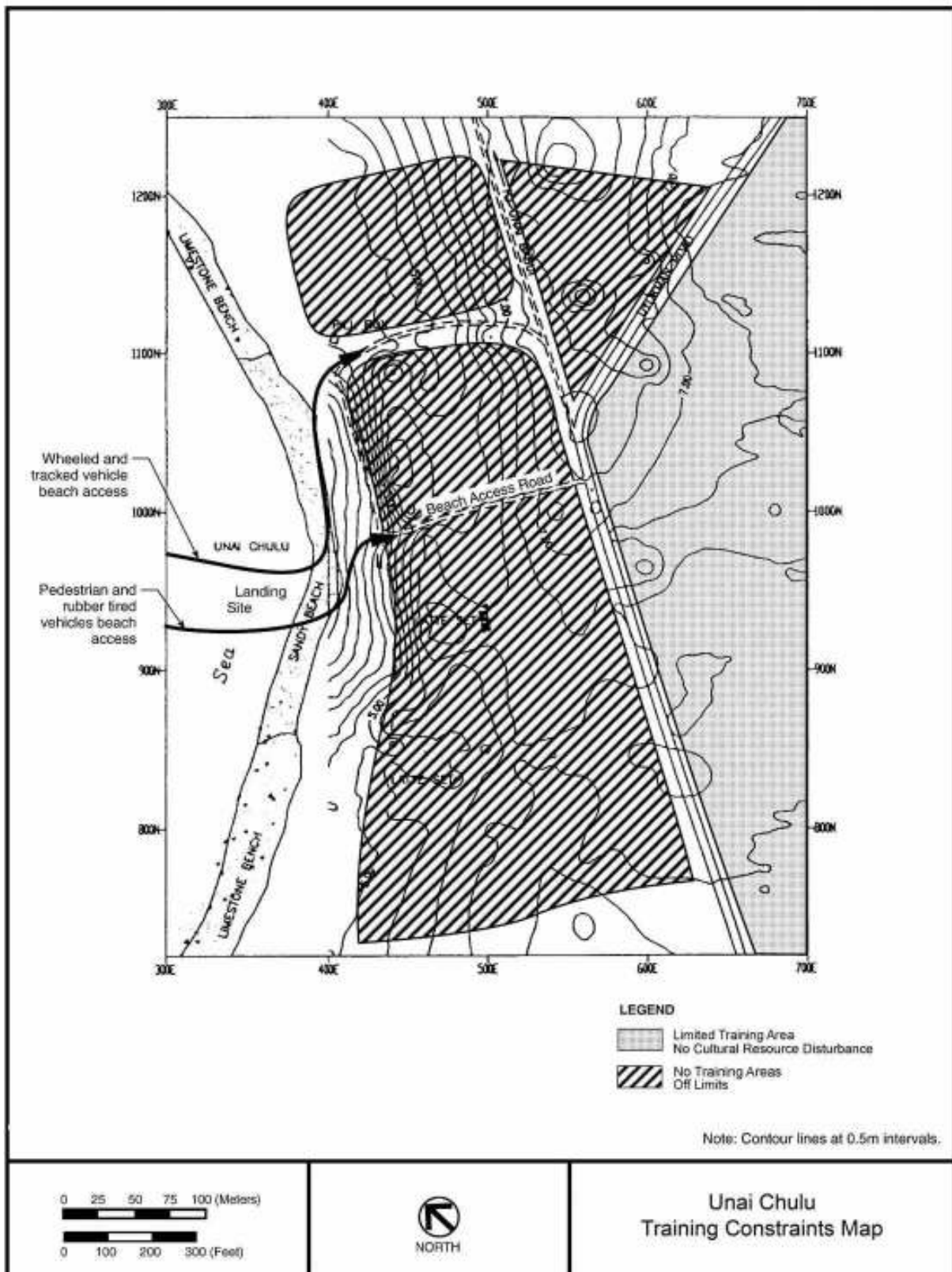
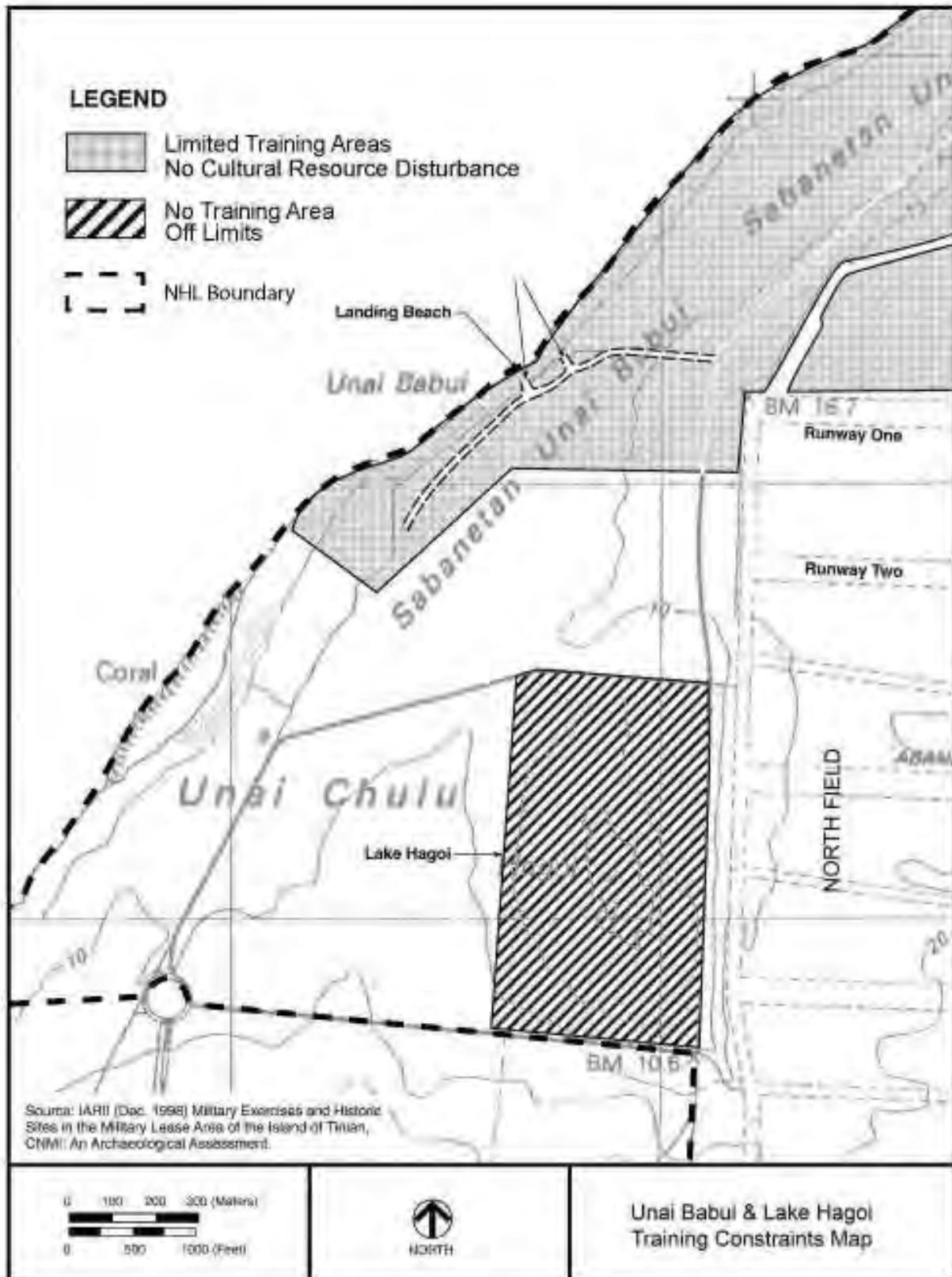


Figure 5-5: Tinian (Unai Babui & Lake Hagoi) Training Constraints Map



(7) Tinian Hazardous Materials/Solid Waste Management. Appendix C is the Hazardous Wastes and Solid Waste Management Plan and provides specific guidance to ensure that hazardous materials and solid wastes are handled in an environmentally responsible and sustainable manner. General requirements and restrictions relating to hazardous materials include:

- (a) No washdown activity on Tinian (air training)
- (b) No solid waste disposal available on Tinian
- (c) No hazardous material or substance allowed in trash containers or dumpsters (shore)
- (d) No discharge allowed at sea (maritime training)
- (e) Report spills immediately (shore and maritime training)

(8) Tinian Restrictions and Mitigations. Table 5-1 provides a list of restriction and mitigations by the type of operation. Table 5-1 lists the general and Tinian specific restrictions and mitigations: Both descriptions must be followed while operating in Tinian. For further questions and details of specific rules, contact MIRC Ops: mirc.ops@fe.navy.mil.

Table 5-1: Tinian Restrictions and Mitigations

AVIATION OPERATIONS	
Tinian	No aviation live-fire training on Tinian.
Rotary/Fixed Wing Operations	<p>Maintain airfield Crash-Fire-Rescue equipment and crews at North Field for the duration of the exercise.</p> <p>No aircraft washing activity will occur on Tinian.</p> <p>Helicopters must maintain a minimum altitude of 1,000 feet (305 meters) above ground level during training exercises that require flights over Hagoi.</p> <p>Helicopter overflights are restricted over Tinian wetland areas, Mahalang wetland and Bateha wetland.</p>

Table 5-1: Tinian Restrictions and Mitigations (Continued)

AMPHIBIOUS OPERATIONS	
General	<p>All landing craft/vehicles will observe normal harbor navigation rules and will avoid interference with civilian harbor traffic.</p> <p>Prior to beach landings by amphibious vehicles, known sea turtle nesting beaches are surveyed by Navy biologists for the presence of sea turtle nests no more than six hours prior to a landing exercise. Areas free of nests are flagged, and vehicles are directed to remain within these areas. "Beach master" will "wave off" vehicle approaches if sea turtles or nests were observed in the water or on the land.</p> <p>Restore beach topography using non-mechanized methods after the exercise.</p> <p>Use approved oil-spill /cleanup equipment. Set up fuel bladders within berms with impervious liner or double wall protection, preferably over existing pavement rather than open ground. Spill kit and spill response capability must be readily available.</p> <p>Navy biologists monitor beaches during night-time landing exercises. If sea turtles are observed or known to be within the area, training activities are halted until all nests have been located and sea turtles have left the area. Identified nests are avoided during the night-time landing exercise.</p>
Tinian Specific	<p>Amphibious training on the beaches at Unai Chulu and Unai Dankulo should be scheduled recognizing that the period between 01 October and 31 January has the potential for minimum impact to nesting turtles. Exercises outside that time frame may have a greater likelihood of being disrupted by turtle nesting on the beach.</p> <p>LCAC landings at Unai Chulu - Surge wave generated by slow moving LCAC could break off coral heads. LCAC landings must be scheduled at high tide, stay fully on cushion when over shallow reef and slowing and turning when over land or deeper water until clear of the water and within a designated CLZ.</p> <p>AAV landings at Unai Babui are restricted to an established approach lane that will be verified by hydrographic surveys before each exercise. AAVs will land at high tide one vehicle at a time over designated approach lane.</p>
SHORE OPERATIONS / GROUND MANEUVERS	
General	<p>Personnel shall not disturb, deface, or remove important cultural resources when establishing a bivouac or conducting ground maneuvers. Observe No Ground Disturbance /No Cultural Resource Disturbance areas. Brief personnel on importance and indicators of cultural resources.</p> <p>Live Fire Ranges - Secure area around range and post range observers as needed while range is in use. Collect and haul away all expended brass and lead rounds.</p> <p>Implement the Wildland Fire Prevention Plan (see Appendix B) and have all firefighting assets in place at onset of exercise.</p> <p>Off road vehicles, unexpected noise, clearing, or fire could disturb/harm endangered species and habitat. Observe NWD areas.</p> <p>NWD/NT areas are maintained at Unai Chulu, Unai Chiget, and Unai Dankulo (Long Beach).</p> <p>Any training that may potentially affect possible turtle nesting sites must be coordinated with JRM MIRC Ops and NAVFACMAR N4 Environmental.</p>

SHORE OPERATIONS / GROUND MANEUVERS	
Tinian Specific	<p>Hagoi and adjacent areas are designated as “No Training Area.” No ground disturbance or vegetation removal of any kind is permitted in this area.</p> <p>No vegetation will be cleared for bivouac areas without approval of JRM J4. Maneuver units will remain tactical and not establish support camps.</p> <p>No live fire or tracer rounds will be used on Tinian, except sniper small arms into bullet traps. Cooking is not authorized in outdoor training areas except for heating tabs and mechanisms in “meals ready to eat.” Use of pyrotechnics, flares, blank fire, open fires, and other potential fire-starting activities must be conducted on existing cleared runways and in accordance with the Wildland Fire Prevention Plan.</p> <p>ROWPU brine could impact water quality. Contain the brine and filter flush; leach into ground at site approved by the CESG.</p>

3. Rota

a. Rota Background. Rota, which is about 40 miles from Guam (Figure 5-6), is capable of supporting long-range NSW missions between Guam, Tinian, and FDM. Boat refueling is conducted at commercial marina on Rota, as well as Saipan and Tinian. The Navy has access to Angyuta Island seaward of Song Song’s West Harbor as a forward staging/overnight bivouac site. The island is adjacent to the commercial port facility and leased space is used for boat refueling and maintenance. West Harbor and Rota airfield are capable of supporting NVG operations for rotary aircraft, and special warfare and special marine, air, and ground activities coordinated with local law enforcement and the Commonwealth Port Authority. Certain types of special warfare training including hostage rescue, NEO, and MOUT are conducted with local law enforcement on non-DoD lands.

b. Rota Coordination/Scheduling. Due to the rare use of training or exercises on Rota, close coordination with MIRC Ops is required. No maneuver training will occur on Rota. No removal, trimming, or pruning of any tree known to support nesting, roosting, or foraging habitat of the Mariana Crow, Mariana Fruit Bat, or Rota Bridles White Eye. No training activities will occur near or within critical habitat or habitat occupied by ESA listed species. Like Tinian, Rota is free of BTSs and proper coordination with the JRM BTS Program Manager, DLNR and USDA Wildlife Services is required to conduct activities on Rota, where assets, resources and personnel originate or transit through Guam. See Appendix A for more information. Table 5-2 describes training areas on Rota.

Table 5-2: Rota Training Locations

<p>Rota, which is about 40 miles from Guam, is capable of supporting long-range Navy NSW missions between Guam, Tinian, and FDM. Boat refueling is conducted at commercial marina on Rota, as well as Saipan and Tinian.</p>	
<p>Commonwealth Port Authority</p>	<p>The Navy has access to Angyuta Island seaward of Song Song’s West Harbor as a forward staging/overnight bivouac site. The island is adjacent to the commercial port facility and leased space is used for boat refueling and maintenance. West Harbor and Rota airfield are capable of supporting NVG operations for rotary aircraft, and special warfare and special marine, air, and ground activities coordinated with local law enforcement and the Commonwealth Port Authority.</p>
<p>Municipality of Rota</p>	<p>Certain types of special warfare training including hostage rescue, NEO, and MOUT are conducted with local law enforcement on non-DoD lands.</p>

Figure 5-6: Rota Island



4. Saipan

a. Saipan Background. The Navy has access to approximately 100 acres of Port Authority area including wharf space which supports VBSS, AT/FP, and NSW training activities. With the coordination of the Army Reserve Unit Saipan and the CNMI government, land navigation training is conducted on non-DoD lands. The Army Reserve Unit Saipan has access to the CNMI Public Safety Small Arms Range Complex on non-DoD lands. KD and pistol ranges support up to 7.62mm. Saipan Army Reserve Center (Figure 5-7) contains armory, classrooms, administrative areas, maintenance facilities, and laydown areas and supports C2, logistics, AT/FP, bivouac, and other headquarter activities.

Table 5-3: Saipan Training Locations

Saipan:	
Army Reserve Center	Saipan Army Reserve Center (Figure 5-7) contains armory, classrooms, administrative areas, maintenance facilities, and laydown areas and supports C2, logistics, AT/FP, bivouac, and other headquarter activities.
Commonwealth Port Authority	The Navy has access to approximately 100 acres of Port Authority area including wharf space which supports VBSS, AT/FP, and NSW training activities.
East Side of Northern Saipan (Marpi Pt. area)	With the coordination of the Army Reserve Unit Saipan and the CNMI government, land navigation training is conducted on non-DoD lands.
CNMI Department of Public Safety Range	The Army Reserve Unit Saipan has access to the CNMI Public Safety Small Arms Range Complex on non-DoD lands. KD and pistol ranges supports up to 7.62mm.

b. Saipan Coordination/Scheduling. Due to the rare use of training or exercises on Saipan, close coordination with MIRC Ops is required. Like Tinian and Rota, Saipan is free of BTS and proper coordination with the JRM BTS Program Manager, DLNR and USDA Wildlife Services is required to conduct activities on Saipan, where assets, resources and personnel originate or transit through Guam. See Appendix A for more information.

Figure 5-7: Saipan Island



APPENDIX A
BROWN TREE SNAKE CONTROL AND INTERDICTION REQUIREMENTS

References:

- a) Biological Opinion for Mariana Islands Range Complex, Guam and the Commonwealth of the Northern Mariana Islands 2010-2015
- b) 36 WG Instruction 32-7004, Brown Tree Snake Management
- c) COMNAVMAR Instruction 5090.10A, Brown Tree Snake Control and Interdiction Plan

1. Background

a. The Brown Tree Snake (BTS) is an invasive species that likely arrived on Guam in the late 1940s as a stowaway in vehicles or other material originating in the Admiralty Islands. By the mid to late 1980s, the BTS had colonized the entire island. As the BTS's range expanded, the distribution and abundance of native forest birds contracted. The BTS has been responsible for the loss of most of Guam's native forest. Other detrimental effects include costly damage to electrical power infrastructure.

b. Presently, there are no BTS populations established in the Commonwealth of Northern Mariana Islands (CNMI: Saipan, Rota, Tinian, etc.), other islands within Micronesia (Republic of Palau and Federated States of Micronesia (FSM), the Republic of the Marshall Islands), and Hawaii. To ensure BTS are not inadvertently transported to these islands, the DoD has established inspection protocols implemented by the U.S. Department of Agriculture, Wildlife Services (USDA-WS) for aircraft, vessel, and cargo/equipment movements from Guam.

2. BTS Interdiction Planning

a. A BTS Interdiction-Exercise Implementation Plan (BTS Exercise Plan) will be created for all DoD exercises within the Joint Region Marianas (JRM) Area of Responsibility (AOR) that requires extensive BTS interdiction coordination for movements of personnel, cargo/equipment, and aircraft from Guam to other islands. All units that train within the CNMI and other islands in the JRM AOR (FSM, Palau, Marshall Islands) will coordinate with J3 and J40 (Environmental) for the BTS Exercise Plan. The J40 and BTS Program Manager will be the technical leads in creating the BTS Exercise Plan with Units. Depending on the

type and intensity of the training, units may be required to fund redundant BTS inspections in CNMI and within other islands within the JRM AOR. Due to BTS inspections not being 100% reliable, redundant inspections in CNMI and other islands in the JRM AOR are required. Currently, DoD funds all inspections for aircraft and cargo/equipment departing installations on Guam, therefore units are not anticipated to fund any inspections on Guam.

b. The final BTS Exercise Plan will be reviewed by the U.S. Fish and Wildlife Service (USFWS) for adequacy. The BTS Exercise Plan is also reviewed by the CNMI's, FSM's and Palau's Natural Resource Agencies since BTS interdiction is of keen interest to these islands. Therefore, the BTS Exercise Plan must be closely coordinated with J40 to ensure an adequate plan is created for military training events in the MIRC AOR.

3. BTS Interdiction Implementation

a. Guam only training. Military training conducted entirely on Guam (including surrounding airspace and sea space) will have the following BTS requirements:

(1) BTS awareness. To the extent practicable, units will provide BTS awareness training to give individuals awareness of the DoD BTS interdiction and containment efforts and to understand the importance of keeping BTS out of the DoD transportation network. Section 3 of this plan provides additional details.

(2) BTS exit inspections. 100% inspection requirement of all cargo/equipment and aircraft departing Guam for off-island destinations. The USDA-WS will conduct exit inspections of all cargo/equipment and aircraft in accordance with references (a) and (b).

(3) Units will coordinate with the JRM BTS Program Manager and USDA-WS to ensure BTS inspections are properly scheduled and conducted in accordance with references (a) and (b).

b. Training in the CNMI and Other Islands in the JRM AOR Military training conducted between Guam and other islands within the JRM AOR must work with the J40 and JRM BTS Program Manager to create a BTS Exercise Plan specific to the training

event. The BTS Exercise Plan will be reviewed/approved by the USFWS for adequacy. Below are components of the BTS Exercise Plan:

(1) All aircraft and cargo/equipment originating from Guam must comply with references (a) and (b) to ensure USDA-WS conducts 100% inspection prior to departure from Guam.

(2) Flight schedules and cargo/equipment arrivals into CNMI, FSM, and Palau must be coordinated with J40 and the JRM BTS Program Manager to ensure redundant inspections. The J40 and JRM BTS Program Manager will interface with government agencies in the destination islands to ensure all aircraft and cargo receives redundant inspections. Military training involving numerous flights from Guam into other islands in the AOR will have unit POCs that are responsible for ensuring all exit inspections on Guam occur and that the receiving islands and the inspection teams are kept abreast of latest arrival schedules.

(3) The JRM BTS Program Manager will coordinate with the CNMI Division of Land and Natural Resources (DLNR) and other applicable agencies in the JRM AOR to determine their BTS inspection capabilities at those ports and/or airports. If these agencies are unable to handle the frequency, tempo, and timeframe (after hours, etc), the units will be required to fund augmented inspection efforts.

(4) Funding: If the DoD is required to augment BTS inspections in the CNMI and/or on other JRM AOR islands, then the training unit must provide funding to the USDA-WS to meet this requirement. The USDA-WS will be funded to send an adequate number of personnel and inspection canine needed to the training location to augment the local government in ensuring all DoD aircraft and cargo/equipment receive redundant inspections. Units will coordinate with the J40 to ensure the most cost-effective way to comply with the BTS Exercise Plan. The J40 and JRM BTS Program Manager will coordinate with the unit and USDA-WS to assist in the transfer of funds via Military Interdepartmental Purchase Request (MIPR), DD Form 448.

(5) Tactical approaches: To the maximum extent practicable, all tactical approaches into CNMI, FSM, and Palau should be from aircraft and vessels that do not originate from Guam seaport and airfields. This will eliminate any risk of BTS

introduction during tactical approaches and provide an uninterrupted flow of events.

4. Brown Tree Snake Awareness

a. Assurance that BTS awareness extends from the chain of command to the individual military service member.

b. All personnel involved in MIRC training will adhere to reference (c), which calls for individual troops to be responsible for conducting self inspections of gear to avoid potential introductions of invasive species to Guam and the CNMI. Troops will inspect all gear and clothing (e.g., boots, bags, weapons, pants) for soil accumulations, seeds, invertebrates, and possible inconspicuous stowaway BTS.

APPENDIX B
WILDLAND FIRE PREVENTION PLAN

1. Introduction. Existing Conditions. Wildland fire poses a significant threat to the sensitive ecosystem found on DoD lands on Guam. Special environmental and land use conditions exist that make wildland fire management difficult. The use of various types of ammunition, weapon systems, pyrotechnics, vehicle operations, cooking fires, and smoking during military training activities increases the risk of wildland fire ignitions that can destroy native habitat and threaten DoD and civilian infrastructure. The prevalence of flammable wildland fuel types and weather conditions also leads to high ignition rates and fire starts. In the past military activities on DoD lands of Guam have rarely resulted in wildland fire starts; however, the threat to native vegetation and habitats of endangered species of plants and animals remain a significant threat.

2. Purpose. This Wildland Fire Prevention Plan (WFPP) has been developed to establish specific guidance, procedures and protocols to provide DoD the capability to maintain combat readiness, while meeting the land stewardship responsibilities to protect the natural and cultural resources on Guam. It focuses on reducing conflicts between the threat posed by wildland fires to natural and cultural resources and the requirement to continue military activities while staying in compliance with environmental laws and DoD policies.

3. Scope. This WFPP covers all DoD lands on Guam that are addressed in the MIRC Final Environmental Impact Statement. MIRC training areas on Guam include Naval Base Guam and Andersen Air Force Base. Developed operational areas within Naval Base Guam and Andersen Air Force Base that are covered by other installation Federal Fire Department plans are not covered by this WFPP.

4. Background

a. Fire Cause. Arson and debris burning account for about 70 percent of the fires and 87 percent of the acres burned on DoD lands on Guam. The remaining fires are caused by smoking, campfires, equipment, and unidentified causes. While military training has not been a significant cause of wildland fire

ignitions, wildland fires caused by the other reported sources can affect military training.

b. Fire Season. January through June is the normal fire season period on Guam when about 97 percent of the fires occurred and about 99 percent of the acreage burned. The primary fire season is February through May with 85 percent of the fires and 89 percent of the acreage burned.

c. Vegetation/Fuels

(1) Savanna Communities. Savanna communities are defined as grasslands with scattered trees or clumps of trees. Extensive areas of Savanna communities are present in southern Guam, including Naval Munitions Site. Savanna communities are the primary wildland fire fuel vegetation on Guam, and is therefore the greatest concern for fire ignition during military training activities. Wildland fires in Savanna communities can spread rapidly and are a safety threat to military and civilian personnel.

(2) Degraded Limestone Forest Communities. Limestone forest communities are extensive in northern Guam and on limestone soils in southern Guam. Where limestone forest communities have been highly disturbed, dense growth of non-native invasive weeds can become established under the sparse overstory forest trees. During dry periods these non-native invasive weeds have sufficient biomass to allow wildland fires to spread, though at less intensity than Savanna communities.

(3) Other Forest Communities. Other forest communities on Guam, such as Ravine Forest, usually maintain wetter conditions due to higher humidity that does not pose a wildland fire risk except in extreme drought conditions.

5. Wildland Fire Effect on Military Training. Wildland fires not only affect the natural and cultural resources, fires also affect the military's ability to accomplish its mission. Military readiness training often takes place in the field where personnel may not have direct access to transportation. Wildland fires in Savanna communities that are driven by high winds could easily overtake personnel resulting in injury or death. The presence of unexploded ordnance from WWII creates extremely hazardous conditions to personnel when both are close

to a wildland fire. During the dry season wildland fires ignited off of DoD property often spread onto DoD property, which could result in a loss of access to training areas and ranges during or after a fire. Loss of access during wildland fires can make rescheduling of military readiness difficult, thereby loss of valuable training opportunities. Large wildland fires in Savanna communities may result in loss of vegetation used by military personnel for cover, concealment and camouflage. Without this vegetation, training in the art of camouflage and concealment is rendered difficult to impossible.

6. Wildland Fire Prevention during Military Training. Wildland fire prevention is the foundation of an effective wildland fire management program. Prior to any military readiness training activity wildland fire prevention must be integral in the development of readiness training plans. Exercise planning should assess the risk of wildland fire ignition by considering the timing of training (wet or dry season); vegetation communities that training is to be conducted in; potential ignition sources (live munitions, pyrotechnics, etc.); and availability of wildland fire suppression equipment.

7. Wildland Fire Prevention Requirements

a. Open fires and pyrotechnics on DoD lands on Guam are restricted to paved or cleared roads, designated helicopter landing zones, and other sites where combustible material and vegetation is absent.

b. Rules for the use of signal/smoke on Naval Munitions Site will be provided in the safety briefing pertaining to training near a munitions storage area.

c. Restrict meal preparation in maneuver areas to heating individual field rations with heat tabs, and heating prepackaged meals (Tray-Packs) in portable kits. Warn individuals of the dangers of heat tabs when used in grassy, dry areas.

d. In bivouac areas, establish the field kitchen in cleared areas with low risk of fire. Provide fire lanes in the tent areas and have accessible water barrels and fire extinguishers in each lane. Assign a fire watch in bivouac areas. Allow no smoking in tents, and provide sufficient butt-kits throughout the bivouac areas. (Cigarette butts will be field stripped).

e. Avoid cross-country vehicular travel. When parking on shoulders, ensure adequate clearance between exhaust systems and high grass/weeds. No smoking is allowed in government vehicles.

f. Identify the communications net to be used for reporting fires, and conduct drills to ensure all parties are on line. The network will ensure that contact can be made to the installation Federal Fire Departments.

g. Coordination with Federal Fire Departments will be completed prior to use of expeditionary air fields.

h. The use of tracer rounds on firing ranges will be dictated by fire conditions and controlled by the Range Safety Officer. Conduct no range firing when winds exceed 30 mph.

i. Ensure that adequate fire fighting equipment such as filled water trailers, shovels, and fire extinguishers are readily available during firing exercises at training ranges.

8. Wildland Fire Reporting and Requesting Assistance

a. Upon discovering a wildland fire at or near a training area, the senior person present will determine if persons on scene can extinguish the wildland fire. Wildland firefighting is, at best, a dangerous activity and without proper training and equipment could be deadly. Factors to consider are the size and type of fire, speed that the fire is spreading, probability of injury or damage to property, and the equipment or resources available to fight the wildland fire. In making a determination to fight a wildland fire the greatest importance is the safety of personnel in the area. The senior person present will report all training area fires, regardless of size (and even if extinguished). Provide the following information as quickly as possible.

b. Location of the wildland fire

(1) Status of the wildland fire (burning, burning and spreading, extinguished)

(2) Size of the wildland fire

(3) If known, cause of the wildland fire

9. Emergency Telephone Contact Numbers

a. Naval Base Guam (Apra Harbor, Munitions Site, Telecommunications Site, Barrigada); call:

(1) 911

(2) 117 (On base) Regional Dispatch Center, Fire/Security/Emergency Medical

(3) 671-349-5272, Fire Dispatch

(4) 671-339-7238, Naval Base Guam Command Center

(5) 671-777-1809, NBG CDO

(6) 671-349-4004/4002, JRM ROC

b. Andersen Air Force Base (AAFB Main Base, Andersen South)

(1) 911

(2) 671-366-2981, AAFB Command Post

APPENDIX C
HAZARDOUS MATERIAL AND SOLID WASTE MANAGEMENT PLAN

1. Purpose. To provide guidance to commanders involved in planning and conducting major exercises to ensure that hazardous materials and solid wastes are handled in an environmentally responsible and sustainable manner. A Combined Exercise Support Group (CESG) is formed for major military exercises. Members of this group are assigned from the Environmental staffs of Joint Region Marianas (JRM), Naval Base Guam (NBG), and Andersen Air Force Base (AAFB). These staffs are available for technical assistance during the planning and executions phases of the exercise. In addition to compliance with the requirements below, all Navy shore installations, ships, and air detachments will comply with the hazardous materials and hazardous waste management requirements of OPNAVINST 5090.1 series and COMNAVMARINST 5090.4 series, Hazardous Waste Management Plan.

2. Hazardous Materials/Hazardous Substances (HM/HS). Efforts should be made to reduce the use and storage of HM. Such effort will result in the reduction of hazardous waste produced. NBG and AAFB will establish contingency support activities within exercise areas to ensure final disposition of HM received for disposal. Training units are responsible for management and turn-in of HM and hazardous waste accumulated during training events to the appropriate collection facility.

3. HM/HS Storage. HM/HS storage areas must be properly established and maintained. Whenever possible, units should establish a central HM/HS area within their exercise area. Dispensing areas will be located away from catch basins, storm drains, and waterways. All HM/HS will be clearly marked with a Hazardous Chemical Warning Label. All HM/HS storage areas containing liquid HM/HS need to be lined with an impervious barrier. Details of these sites will be provided to the CESG.

4. Spill Prevention and Control

a. Exercise Main Base and satellite camps will develop a spill prevention/control plan. Special care will be taken around port areas or bodies of water. Spill response teams will be identified and trained to respond to spills. Spills will be contained and controlled immediately. Units will provide and employ low cost equipment (e.g. drip pans) to catch leaking HM, will ensure that containment and cleanup equipment (e.g. dry

sweep and overtakes) are available at HM storage locations and on all appropriate transports. All spills will be reported to CESG via phone and followed up providing the following information:

- (1) Unit reporting incident
- (2) Date and time of incident
- (3) Type of material spilled
- (4) Nature and estimated impact of incident
- (5) Cause and extent of incident
- (6) Location of incident
- (7) Other units involved
- (8) Status of response
- (9) Whether additional support is needed

b. Collection Points. Training units, in coordination with NBG and AAFB, shall establish HM/HS collection points. HM/HS shall be properly segregated and labeled to ensure proper packaging for handling and final disposal. Collection points for HM/HS used for major exercises will be determined prior to the exercise.

c. Final Determination. Once the HM/HS is turned into the designated collection point, the host commands of the collection facilities are responsible for ensuring the HM/HS are properly prepared for final disposition.

d. Accountability of HM/HS Materials. Units will deploy with applicable Material Safety Data Sheets (MSDS) or Hazardous Material Information Sheets (HMIS) for each HM/HS.

e. HM/HS Handling. All personnel handling HM/HS are required to have appropriate levels of training in accordance with federal and local laws and regulations.

f. HM/HS Package. All units are responsible for ensuring that they have appropriate packaging materials, drums, plastic

bags, and personnel protective equipment. All units are required to ensure they have the capability to certify HM/HS for air/sea movement. All contracting agencies are to ensure that HM purchased outside the normal logistic procedures are supplied with appropriate MSDS.

g. HM/HS Segregation. All exercise personnel must ensure HM/HS are not mixed in with general refuse. Contact CESG for any questions on segregation.

h. Spill Prevention and Control Plans. Each unit will have a spill prevention/control plan for all activities involving HM/HS.

i. Wastewater (Black Water)/Human Waste. Portable toilets or field facilities should be contracted for positioning at all training areas. The waste will be disposed of using existing sewage systems when available for use (e.g., sanitary latrines, specific sewage systems, and sewage treatment facilities). If such facilities have exceeded their capacity, are not functional, do not exist, or if the transport (via sewage trucks) to a suitable treatment system is not possible, human waste shall be disposed of according to field sanitation procedures.

(1) For smaller isolated exercise elements, field latrines and urinals must be correctly sited, constructed and maintained, and be of sufficient scale to meet unit requirements. A shallow trench latrine is to be constructed 60 cm (2 ft) deep and 25 cm (10 in) wide. The Unit OIC will determine the length of the trench latrine. Where "cat scrape" latrines are used, care is to be taken to ensure the effective burial of feces. Holes must be at least 30 cm (12 in) deep, and only in areas that are not marked: "OFF-LIMITS" or "FOOT TRAFFIC ONLY".

(2) Ships will discharge black water per service regulations and applicable policy, laws, and regulations.

j. Solid Waste. Solid waste will be deposited in waterproofed containers (such as tri-wall containers) for daily collection and disposal at existing DoD landfills using contracted assets when feasible. Field units will not bury or burn trash as a means of disposal. Collection points for disposal containers will be determined prior to the exercise.

k. Lithium Batteries. Lithium batteries should be considered potentially dangerous at all times and Li-So₂ batteries must be handled as hazardous waste. The Government of Guam has not adopted the Resource Conservation and Recovery Act (RCRA) universal waste rule and classifies lithium batteries as a hazardous waste, even if fully discharged. Lithium batteries will not be discarded or buried in any training area. Personnel using lithium batteries will maintain responsibility for the batteries until turned over to DoD facilities. Disposal must be prearranged with the appropriate Installation Environmental Staff. NBG Base Operations Support Contractor (BOSC) DZSP21 receives hazardous waste from accumulation points and takes it to the Conforming Storage Facility (CSF), which is a permitted Treatment, Storage and Disposal (TSD) facility in accordance with 40 CFR 270. DZSP21 can accept lithium batteries on a cost reimbursable basis. All Li-SO₂ batteries that contain a Complete Discharge Device (CDD) will be treated as charged and discharged at the CSF for a minimum of five days before being packed for shipment regardless of any prior disposition. Batteries other than lithium batteries, NICAD, magnesium, and/or lead-acid batteries will not be burnt, buried, and/or disposed of in any way in training areas. Call CESG for disposition instructions.

l. Waste Fuels. Strict attention must be paid during fuel handling operations in order to prevent unnecessary fuel co-mingling/contamination. If contaminated HM/HS are generated, call CESG for disposition instructions.

m. Contaminated Soil. Units are required to establish site specific contingency plans in order to immediately implement engineering controls, thereby preventing further contamination of surrounding environment. Report any spill to CESG, following up with a written report.

n. Range Produce. Collection of brass cartridges and links that are expended during field maneuvers is not required unless found on training area roadways. Brass and links that are expended on range firing lines and stationary defensive positions will be collected for removal from training areas. Brass and lead will be taken back aboard ship or arrangements made for recycling on Guam.

o. Medical Waste. Neither NBG nor AAFB will receive medical wastes. A medical waste disposal plan will be developed

by the major exercise command element and published as a Medical Annex to the Exercise Plan.

5. Water

a. Grey water. Drainage paths for grey water (i.e. field showers and vehicle washdown) shall be designed to prevent uncontrolled runoff into surrounding waters of ocean/fresh water. All soaps, detergents and cleaners are to be biodegradable and low in phosphate. Grey water should run through existing sewage lines or into constructed soakage pits. Grey water from field mess halls must be run through a grease trap before entering the soakage pit. Location of soakage pits will be coordinated with CESG. Ships will discharge grey water per service regulations and federal law.

b. Potable Water. Potable water is available from a number of locations throughout the training area. All ground and creek water should be considered contaminated and would require sterilization. Note: Supply and treatment of water is a user responsibility. Follow Preventive Medicine Guidelines for treatment and certification.

6. Fire Restrictions. See Appendix B, Wildland Fire Prevention Plan.

7. Outbound Equipment Inspections. See Appendix A Brown Treesnake Control and Interdiction Plan. Inspection of personnel, cargo and equipment are mandatory prior to shipment from Guam to other locales. Post-exercise inspection for brown treesnakes in vehicles, cargo and equipment is also required prior to departing Guam for other locations. The lack of inspection will suspend air and sea transportation from Guam. In the event military units, vehicles, and equipment accidentally leave Guam without inspection, units will immediately notify the USDA-WS, the point of destination port or airport authorities and work with the destination port to resolve the issue.

8. Area Cleanup. Before vacating training areas, units are to ensure that all occupied areas have been inspected for cleanliness including proper closing and marking of field latrines and drainage systems. The inspection will ensure that the areas occupied by the units are clear of all stores, equipment, and refuse.

9. Installation and Restoration (I/R) Sites. Both NBG and AAFB have I/R sites. These sites range from small plots to multiple acre sites. Site MRA 252, Former Grenade Range, has been deemed unsuitable for training due to UXOs.

10. Groundwater Monitoring Wells. Groundwater monitoring wells are present on NBG, AAFB, and adjacent properties. Wells are clearly marked and are characterized by a two foot high cap on a small three foot square concrete slab. Damage to these well heads is not allowed.

11. Reports. Commanding Officers and/or Environmental Monitors will ensure that any infrastructure or environmental damage or spills caused during a training exercise are promptly reported to NBG and/or AAFB (or CESG during major exercises). Damage that is significant, will require outside assistance for correction, or may attract public/media attention will be reported immediately.

APPENDIX D
MARINE ANIMAL MITIGATION MEASURES

1. General Operating Procedures for all Training Types

a. Navy biologists shall monitor beaches during landing exercises. Beach masters ensure the safety of both the craft and marine/terrestrial animals.

b. Prior to major exercises, a Letter of Instruction, Mitigation Measures Message or Environmental Annex to the Operational Order will be issued prior to the exercise to further disseminate the personnel training requirement and general marine mammal and sea turtle protective measures.

c. Commanding Officers will make use of marine species detection cues and information to limit interaction with marine mammals and sea turtles to the maximum extent possible consistent with safety of the ship.

d. While underway, surface vessels will have at least two lookouts with binoculars; surfaced submarines will have at least one lookout with binoculars. Lookouts already posted for safety of navigation and man-overboard precautions may be used to fill this requirement. As part of their regular duties, lookouts will watch for and report to the OOD the presence of marine mammals and sea turtles.

e. On surface vessels equipped with a mid-frequency active sonar, pedestal mounted "Big Eye" (20x110) binoculars will be properly installed and in good working order to assist in the detection of marine mammals and sea turtles in the vicinity of the vessel.

f. Personnel on lookout will employ visual search procedures employing a scanning methodology and employ night lookout techniques after sunset and prior to sunrise in accordance with the Lookout Training Handbook (NAVEDTRA 12968-D).

g. While in transit, naval vessels will be alert at all times, use extreme caution, and proceed at a "safe speed", which means the speed at which the CO can maintain crew safety and effectiveness of current operational directives, so that the vessel can take action to avoid a collision with any marine animal.

h. When marine species have been sighted in the area, Navy vessels will increase vigilance and take reasonable and practicable actions to avoid collisions and activities that might result in close interaction of naval assets and marine species. Actions may include changing speed and/or direction and are dictated by environmental and other conditions (e.g., safety, weather).

i. Naval vessels will maneuver to keep a safe distance from any observed marine species in the vessel's path and avoid approaching them head-on. These requirements do not apply if a vessel's safety is threatened, such as when change of course will create an imminent and serious threat to a person, vessel, or aircraft, and to the extent vessels are restricted in their ability to maneuver. Restricted maneuverability includes, but is not limited to, situations when vessels are engaged in dredging, submerged activities, launching and recovering aircraft or landing craft, minesweeping activities, replenishment while underway and towing activities that severely restrict a vessel's ability to deviate course. Vessels will take reasonable steps to alert other vessels in the vicinity of the marine species. Given rapid swimming speeds and maneuverability of many dolphin species, naval vessels should maintain normal course and speed on sighting dolphins unless some condition indicates a need for the vessel to maneuver.

j. Navy aircraft participating in exercises at sea will conduct and maintain, when operationally feasible and safe, surveillance for marine species of concern as long as it does not violate safety constraints or interfere with the accomplishment of primary operational duties.

k. Marine species detection will be immediately reported to assigned Aircraft Control Unit for further dissemination to ships in the vicinity of the marine species as appropriate where it is reasonable to conclude that the course of the ship will likely result in a closing of the distance to the detected marine species.

2. Marine Animal Mitigation Measures for Specific Training Events

a. Operating Procedures (for ASW Operations)

(1) On the bridge of surface ships, there will always be at least three people on watch whose duties include observing the water surface around the vessel.

(2) All surface ships participating in anti-submarine warfare training events will, in addition to the three personnel on watch noted previously, have at all times during the exercise at least two additional personnel on watch as marine mammal lookouts.

(3) Personnel on lookout and officers on watch on the bridge will have at least one set of binoculars available for each person to aid in the detection of marine mammals and sea turtles.

(4) Personnel on lookout will be responsible for reporting all objects or anomalies sighted in the water (regardless of the distance from the vessel) to the Officer of the Deck, since any object or disturbance (e.g., trash, periscope, surface disturbance, discoloration) in the water may be indicative of a threat to the vessel and its crew or indicative of a marine species that may need to be avoided as warranted.

(5) All personnel engaged in passive acoustic sonar operations (including aircraft, surface ships, or submarines) will monitor for marine mammal vocalizations and report the detection of any marine mammal to the appropriate watch station for dissemination and appropriate action.

(6) During mid-frequency active sonar operations, personnel will utilize all available sensor and optical systems (such as night vision goggles) to aid in the detection of marine mammals and sea turtles.

(7) Aircraft with deployed sonobuoys will use only the passive capability of sonobuoys when marine mammals are detected within 200 yards (183 meters) of the sonobuoy.

(8) Helicopters shall observe/survey the vicinity of an ASW exercise for ten minutes before the first deployment of active (dipping) sonar in the water.

(9) Helicopters shall not dip their sonar within 200 yards (183 meters) of a marine mammal and shall cease pinging if a marine mammal closes within 200 yards (183 meters) after pinging has begun.

(10) Marine Mammal Safety Zones. When marine mammals are detected by any means (aircraft, shipboard lookout, or acoustically) within 1,000 yards (914 meters) of the sonar dome (the bow), the ship or submarine will limit active transmission levels to at least six decibels (dB) below normal operating levels.

(11) Ships and submarines will continue to limit maximum mid-frequency active transmission levels by this 6-dB factor until the marine mammal has been seen to leave the 1,000 yard (914 meters) safety zone, has not been detected for 30 minutes, or the vessel has transited more than 2,000 yards (1,829 meters) beyond the location of the last detection.

b. Detection. Should a marine mammal be detected within 500 yards (457 meters) of the sonar dome, active transmissions will be limited to at least ten dB below the equipment's normal operating level (i.e., limit to at most 225 dB for AN/SQS-53 and 215 for AN/SQS-56, etc.). Ships and submarines will continue to limit maximum ping levels by this 10-dB factor until the marine mammal has been seen to leave the 500 yard (457 meters) safety zone, has not been detected for 30 minutes, or the vessel has transited more than 2,000 yards (1,829 meters) beyond the location of the last detection.

(1) Should the marine mammal be detected within 200 yards (183 meters) of the sonar dome, active sonar transmissions will cease. Active sonar will not resume until the animal has been seen to leave the 200 yard safety zone, has not been detected for 30 minutes, or the vessel has transited more than 2,000 yards (1,829 meters) beyond the location of the last detection.

(2) Special conditions applicable for dolphins and porpoises only: If, after conducting an initial maneuver to avoid close quarters with dolphins or porpoises, the OOD concludes that dolphins or porpoises are deliberately closing to ride the vessel's bow wave, no further mitigation actions are necessary while the dolphins or porpoises continue to exhibit bow wave riding behavior.

(3) If the need for power-down should arise (as detailed in "Safety Zones" above), when operating a hull-mounted or sub-mounted source above 235 dB (infrequent), the Navy shall follow the requirements as though they were operating at 235 dB (i.e., the first power-down will be to 229 dB).

(4) Prior to start up or restart of active sonar, operators will check that the safety zone radius around the sound source is clear of marine mammals.

(5) Active sonar levels (generally). Navy shall operate active sonar at the lowest practicable level, not to exceed 235 dB, except as required to meet tactical training objectives.

(6) Submarine sonar operators will review detection indicators of close-aboard marine mammals prior to the commencement of ASW events involving MFA sonar.

c. ASW Training Planning. The Navy should avoid planning major ASW training with MFA sonar in areas where they will encounter conditions that, in their aggregate, may contribute to a marine mammal stranding event. The conditions to be considered during exercise planning include:

(1) Areas of at least 1,094 yards (1,000 meter depth) near a shoreline where there is a rapid change in bathymetry on the order of 1,000 to 6,000 meters occurring across a relatively short horizontal distance (e.g., five nautical miles [nm]).

(2) Cases for which multiple ships or submarines (≥ 3) operating MFA sonar in the same area over extended periods of time (≥ 6 hours) in close proximity (≤ 10 nm apart).

(3) An area surrounded by land masses, separated by less than 35nm and at least 10nm in length, or an embayment, wherein events involving multiple ships/submarines (≥ 3) employing MFA sonar near land may produce sound directed toward the channel or embayment that may cut off the lines of egress for marine mammals.

(4) Though not as dominant a condition as bathymetric features, the historical presence of a strong surface duct (i.e., a mixed layer of constant water temperature extending from the sea surface to 100 or more feet).

(5) ASW Major Exercise Planning. If the major exercise must occur in an area where the above conditions exist in their aggregate, these conditions must be fully analyzed in environmental planning documentation. The Navy will increase vigilance by undertaking the following additional mitigation measures:

(6) A dedicated aircraft (Navy asset or contracted aircraft) will undertake reconnaissance of the embayment or channel ahead of the exercise participants to detect marine mammals that may be in the area exposed to active sonar. Where practical, advance survey should occur within about two hours prior to MFA sonar use and periodic surveillance should continue for the duration of the exercise. Any unusual conditions (e.g., presence of sensitive species, groups of species milling out of habitat, and any stranded animals) shall be reported to the Officer in Tactical Command, who should give consideration to delaying, suspending, or altering the exercise.

(7) All safety zone power-down requirements described in this measure apply.

(8) The post-exercise report must include specific reference to any event conducted in areas where the above conditions exist, with exact location and time/duration of the event, and noting results of surveys conducted.

d. Surface-to-Surface Gunnery (up to five-inch explosive rounds)

(1) For exercises using targets towed by a vessel, target towing vessels shall maintain a trained lookout for marine mammals and sea turtles when feasible. If a marine mammal or sea turtle is sighted in the vicinity, the tow vessel will immediately notify the firing vessel, which will suspend the exercise until the area is clear.

(2) A 600 yard (585 meters) radius buffer zone will be established around the intended target.

(3) From the intended firing position, trained lookouts will survey the buffer zone for marine mammals and sea turtles prior to commencement and during the exercise as long as practicable. Due to the distance between the firing position and the buffer zone, lookouts are only expected to visually

detect breaching whales, whale blows, and large pods of dolphins and porpoises.

(4) The exercise will be conducted only when the buffer zone is visible and marine mammals and sea turtles are not detected within it.

e. Surface-to-Surface Gunnery (non-explosive rounds)

(1) A 200 yard (183 meter) radius buffer zone will be established around the intended target.

(2) From the intended firing position, trained lookouts will survey the buffer zone for marine mammals and sea turtles prior to commencement and during the exercise as long as practicable. Due to the distance between the firing position and the buffer zone, lookouts are only expected to visually detect breaching whales, whale blows, and large pods of dolphins and porpoises.

(3) If applicable, target towing vessels will maintain a lookout. If a marine mammal or sea turtle is sighted in the vicinity of the exercise, the tow vessel will immediately notify the firing vessel in order to secure gunnery firing until the area is clear.

(4) The exercise will be conducted only when the buffer zone is visible and marine mammals and sea turtles are not detected within the target area and the buffer zone.

f. Surface-to-Air Gunnery (explosive and non-explosive rounds)

(1) Vessels will orient the geometry of gunnery exercises in order to prevent debris from falling in the area of sighted marine mammals.

(2) Vessels will attempt to recover any parachute deploying aerial targets, to the extent practicable (and their parachutes if feasible), to reduce the potential for entanglement of marine mammals and sea turtles.

(3) Target towing vessel shall maintain a lookout if feasible. If a marine mammal or sea turtle is sighted in the vicinity of the exercise, the tow vessel will immediately notify

the firing vessel in order to secure gunnery firing until the area is clear.

g. Air-to-Surface Gunnery (explosive and non-explosive rounds)

(1) A 200 yard (183 meter) radius buffer zone will be established around the intended target.

(2) If surface vessels are involved, lookout(s) will visually survey the buffer zone for marine mammals and sea turtles prior to and during the exercise.

(3) Aerial surveillance of the buffer zone for marine mammals and sea turtles will be conducted prior to commencement of the exercise. Aerial surveillance altitude of 500 feet to 1,500 feet (152-456 meters) is optimum. Aircraft crew/pilot will maintain visual watch during exercises. Release of ordnance through cloud cover is prohibited; aircraft must be able to actually see ordnance impact areas.

(4) The exercise will be conducted only if marine mammals and sea turtles are not visible within the buffer zone.

h. Small Arms Training (grenades, explosives and non-explosive rounds). Lookouts will visually survey for marine mammals and sea turtles. Weapons will not be fired in the direction of known or observed marine mammals or sea turtles.

i. Air-to-Surface At-Sea Bombing Exercises (explosive/non-explosive bombs/rockets)

(1) If surface vessels are involved, trained lookouts will survey for sea turtles and marine mammals. Ordnance shall not be targeted to impact within 1,000 yards (914 meters) of known or observed sea turtles or marine mammals.

(2) A buffer zone of 1,000 yards (914 meters) radius will be established around the intended target.

(3) Aircraft will visually survey the target and buffer zone for marine mammals and sea turtles prior to and during the exercise. The survey of the impact area will be made by flying at 1,500 feet or lower, if safe to do so, and at the slowest safe speed. When safety or other considerations require the release of weapons without the releasing pilot having visual

sight of the target area, a second aircraft, the "wingman," will clear the target area and perform the clearance and observation functions required before the dropping plane may release its weapons. Both planes must have direct communication to assure immediate notification to the dropping plane that the target area may have been fouled by encroaching animals or people. The clearing aircraft will assure it has visual site of the target area at a maximum height of 1500 feet. The clearing plane will remain within visual sight of the target until required to clear the area for safety reasons. Survey aircraft should employ most effective search tactics and capabilities.

(4) The exercises will be conducted only if marine mammals and sea turtles are not visible within the buffer zone.

j. Air-to-Surface Missile Exercises (explosive and non-explosive). Aircraft will visually survey the target area for marine mammals and sea turtles. Visual inspection of the target area will be made by flying at 1,500 feet (457 meters) or lower, if safe to do so, and at slowest safe speed. Firing or range clearance aircraft must be able to actually see ordnance impact areas. Explosive ordnance shall not be targeted to impact within 1,800 yards (1,646 meters) or sighted marine mammals and sea turtles.

k. Underwater Detonations (UNDET) (up to ten-pound charges). Underwater detonations will be in accordance with COMNAVMARIANASINST 5090.7 series, Underwater Detonation of Explosives In and Around Guam.

l. Aircraft Training Activities Involving Non-Explosive Devices. Non-explosive devices such as some sonobuoys, inert bombs, and mining training activities involve aerial drops of devices that have the potential to hit marine mammals and sea turtles if they are in the immediate vicinity of a floating target. The exclusion zone, as established above for each non-explosive exercise type and if not-defined above, the minimum exclusion zone is 200 yards, shall be clear of marine mammals and sea turtles around the target location. Pre- and post-surveillance and reporting requirements outline for underwater detonations shall be implemented during mining training activities.

m. Sinking Exercises (SINKEX). The Marine Protection, Research and Sanctuaries Act (MPRSA) authorization for SINKEX targets (40 Code of Federal Regulations §229.2), requires that the targets be sunk in waters which are at least 2,000 yards (1,839 meters) deep and at least 50nm (93 kilometers) from land. The Navy has developed range clearance procedures to maximize the probability of sighting any ships or protected species in the vicinity of an exercise, which are as follows:

(1) All weapons firing would be conducted during the period one hour after official sunrise to 30 minutes before official sunset.

(2) Extensive range clearance operations would be conducted in the hours prior to commencement of the exercise, ensuring that no shipping is located within the hazard range of the longest-range weapon being fired for that event.

(3) An exclusion zone with a radius of 1.0nm (1.9 kilometers) would be established around each target. An additional buffer of 0.5nm (0.9 kilometers), would be added to account for errors, target drift, and animal movements. A safety zone, which would extend beyond the buffer zone by an additional 0.5nm (0.9 kilometers), would be surveyed. Together the zones extend out 2.0nm (3.7 kilometers) from the target.

(4) A series of surveillance over-flights would be conducted within the exclusion and the safety zones prior to and during the exercise, when feasible.

(5) Overflights within the exclusion zone would be conducted in a manner that optimizes the surface area of the water observed. This may be accomplished through the use of the Navy's Search and Rescue Tactical Aid, which provides the best search altitude, ground speed, and track spacing for the discovery of small, possibly dark objects in the water based on the environmental conditions of the day. These environmental conditions include the angle of sun inclination, amount of daylight, cloud cover, visibility, and sea state.

(6) All visual surveillance activities shall be conducted by Navy personnel trained in visual surveillance. At least one member of the mitigation team will have completed the Navy's marine mammal training program for lookouts.

(7) In addition to the overflights, the exclusion zone would be monitored by passive acoustic means, when assets are available. This passive acoustic monitoring would be maintained throughout the exercise. Additionally, passive sonar onboard submarines may be utilized to detect any vocalizing marine mammals in the area. The Officer Conducting the Exercise (Officer in Charge of the Exercise) would be informed of any aural detection of marine mammals and would include this information in the determination of when it is safe to commence the exercise.

(8) On each day of the exercise, aerial surveillance of the exclusion and safety zones would commence two hours prior to the first firing.

(9) The results of all visual, aerial, and acoustic searches would be reported immediately to the Officer in Charge of the Exercise. No weapons launches or firing would commence until the Officer in Charge of the Exercise declares the safety and exclusion zones free of marine mammals and sea turtles.

(10) Aerial surveillance would be conducted using helicopters or other aircraft based on necessity and availability. The Navy has several types of aircraft capable of performing this task; however, not all types are available for every exercise. For each exercise, the available asset best suited for identifying objects on and near the surface of the ocean would be used. These aircraft would be capable of flying at the slow safe speeds necessary to enable viewing of marine vertebrates with unobstructed, or minimally obstructed, downward and outward visibility. The exclusion and safety zone surveys may be cancelled in the event that a mechanical problem, emergency search and rescue, or other similar and unexpected event preempts the use of one of the aircraft onsite for the exercise.

(11) Every attempt would be made to conduct the exercise in sea states that are ideal for marine mammal sighting, Beaufort Sea State three or less. In the event of a four or above, survey efforts would be increased within the zones. This would be accomplished through the use of an additional aircraft, if available, and conducting tight search patterns.

(12) The exercise would not be conducted unless the exclusion zone could be adequately monitored visually. Should low cloud cover or surface visibility prevent adequate visual monitoring as described previously, the exercise would be delayed until conditions improved, and all of the above monitoring criteria could be met.

(13) In the unlikely event that any listed species are observed to be harmed in the area, a detailed description of the animal would be taken, the location noted, and if possible, photos taken. This information would be provided to NOAA Fisheries via the Navy's regional environmental coordinator for purposes of identification. An after action report detailing the exercise time line, the time the surveys commenced and terminated, amount and types of all ordnance expended, and the results of survey efforts for each event would be submitted to NMFS.

n. Mitigation Measures Related to Explosive Source Sonobuoys (AN/SSQ-110A)

(1) AN/SSQ-110A Pattern Deployment

(a) Crews will conduct visual reconnaissance of the drop area prior to laying their intended sonobuoy pattern. This search should be conducted below 500 yards (457 meters) at a slow speed, if operationally feasible and weather conditions permit. In dual aircraft operations, crews are allowed to conduct coordinated area clearances.

(b) Crews shall conduct a minimum of 30 minutes of visual and aural monitoring of the search area prior to commanding the first post detonation. This 30-minute observation period may include pattern deployment time.

(c) For any part of the briefed pattern where a post (source/receiver sonobuoy pair) will be deployed within 1,000 yards (914 meters) of observed marine mammal activity, crews will deploy the receiver ONLY and monitor while conducting a visual search. When marine mammals are no longer detected within 1,000 yards (914 meters) of the intended post position, crews will co-locate the explosive source sonobuoy (AN/SSQ-110A) with the receiver.

(d) When operationally feasible, crews will conduct continuous visual and aural monitoring of marine mammal activity. This is to include monitoring of own aircraft sensors from first sensor placement to checking off station and out of radio frequency (RF) of these sensors.

(2) AN/SSQ-110A Pattern Deployment (Aural and Visual Detection)

(a) Aural Detection. Aural detection of marine mammals cues the aircrew to increase the diligence of their visual surveillance. If, following aural detection, no marine mammals are visually detected, then the crew may continue multi-static active search.

(b) Visual Detection. If marine mammals are visually detected within 1,000 yards (914 meters) of the explosive source sonobuoy (AN/SSQ-110A) intended for use, then that payload shall not be detonated. Aircrews may utilize this post once the marine mammals have not been re-sighted for 30 minutes, or are observed to have moved outside the 1,000 yard (914 meter) safety buffer, whichever occurs first.

(c) Aircrews may shift their multi-static active search to another post, where marine mammals are outside the 1,000 yard (914 meter) safety buffer.

o. AN/SSQ-110A Scuttling Sonobuoys

(1) Aircrews shall make every attempt to manually detonate the unexploded charges at each post in the pattern prior to departing the operations area by using the "Payload 1 Release" command followed by the "Payload 2 Release" command. Aircrews shall refrain from using the "Scuttle" command when two payloads remain at a given post. Aircrews will ensure that a 1,000 yard (914 meter) safety buffer, visually clear of marine mammals, is maintained around each post as is done during active search training activities.

(2) Aircrews shall only leave posts with unexploded charges in the event of a sonobuoy malfunction, an aircraft system malfunction, or when an aircraft must immediately depart the area due to issues such as fuel constraints, inclement weather, or in-flight emergencies. In these cases, the sonobuoy will self-scuttle using the secondary or tertiary method.

(3) Aircrews shall ensure all payloads are accounted for. Explosive source sonobuoys (AN/SSQ-110A) that cannot be scuttled shall be reported as unexploded ordnance via voice communications while airborne, then upon landing via naval message.

(4) Mammal monitoring shall continue until out of their aircraft sensor range.

APPENDIX E
ENVIRONMENTAL EMERGENCY CONTINGENCY ASSISTANCE

1. Purpose. To provide guidance for environmental emergency contingency assistance planning for commanders conducting major military exercises on Guam. Exercise units are responsible for environmental remediation measures that are generated by their training impacts. This appendix does not alleviate the responsible unit's obligations during the event, however provides guidance for situations when remediation efforts will exceed the organic capabilities of exercise units.

2. Naval Base Guam (NBG)/Andersen Air Force Base (AAFB) Augmentation. Use of NBG and AAFB command assets may be required to augment emergency response in the event of a catastrophic occurrence that exceeds the capabilities of exercise forces and designated initial responders. These commands possess the capabilities that may augment environmental assessment and response during major exercises on a cost reimbursement basis. The CESG will coordinate requests for Navy or Air Force command assets through their respective duty officials.

3. Additional Augmentation. For events exceeding the capabilities of exercise forces and augmentation from NBG and AAFB, the CESG will notify Commander, Joint Region Marianas Region Operations Center (671-349-4004/4002) of the environmental emergency event.

a. Federal Emergency Management Agency (FEMA). FEMA is the designated Federal On-Scene Coordinator for catastrophic onshore environmental incidents. FEMA is responsible for coordination of initial response to such onshore environmental emergencies. The CESG will coordinate the integration of exercise force assets to support the Federal On-Scene Coordinator as required.

b. U.S. Coast Guard Sector Guam (USCG). The USCG is the designated Federal On-Scene Coordinator for catastrophic offshore environmental incidents. The USCG is responsible for coordination of initial responses to offshore environmental emergencies such as oil spills and other pollution incidents. The CESG will coordinate the integration of exercise assets to support the Federal On-Scene Coordinator as required.

APPENDIX F
ENVIRONMENTAL MONITORS

1. Purpose. To monitor and support training activities for the purpose of ensuring the training mission is accomplished while protecting the environment and complying with federal and local environmental laws. Early identification of environmental issues and maintaining communications are keys to mission success.

2. Authority. Environmental Monitors are delegated authority by Commander Joint Region Marianas, and Installation Commanders for Naval Base Guam (NBG) and Andersen Air Force Base (AAFB). The Combined Exercise Support Group (CESG) may also delegate authority to personnel under its command for major exercises. This authority is granted for the sole purpose of ensuring regulatory compliance and preventing the inadvertent transportation of Brown Tree Snakes (BTS) release from Guam; therefore extreme caution and certainty in the command's decision is required before implementing this authority. The termination or modification of training activity could endanger personnel, significantly impact the training scenario and goals, or cause significant financial expenditures or loss.

3. Training Activity Termination/Modification Procedures. Specifically identify potential regulatory violation or significant environmental impact (e.g. endangering or harassing sea turtles or other protected species, allowing BTS export from Guam in military cargo, destruction or damage to protect cultural/historic resources, direct or indirect damage to coral reefs, mishandling of hazardous substance, etc.).

a. Although focused on protection of biological and cultural resources, action may be taken in any case, as appropriate, that includes immediate threat to human health or safety. Take into account potential impact to personnel safety resulting from the termination/modification and prioritize safety first. Early identification and prevention is the goal.

b. If time allows, consult with the affected unit commander to identify alternatives and consult with CESG.

c. If the incident involves possible or confirmed transport of BTS in military cargo, contact USDA Wildlife Services

immediately and assist affected units in carrying out the BTS protocol described in Appendix A.

d. Document the incident and solutions taken, including an evaluation of impacts to the training mission.

e. Photograph or videotape the incident if at all possible.

f. Notify NBG or AAFB or CESH immediately.

g. Provide written report of incident to CESH as directed.

APPENDIX G
ENVIRONMENTAL AWARENESS CARD

1. Purpose. To provide environmental awareness information to all exercise participants, the following Environmental Awareness Pocket card is provided as a guide.

The Brown Tree Snake (BTS) Threat

Accidentally transporting the BTS from Guam poses the most potentially significant environment impact to training in the Marianas. The BTS was accidentally introduced to the island of Guam in the 1940's. It is a mildly venomous, rear-fanged snake; however its bite is not lethal to adult humans. Without natural predators, this snake has eliminated 12 of 14 native forest birds species, two of three bat species and six lizard species.

Brown Tree Snake Control

The military and USDA Wildlife Services (WS) have established procedures to control the BTS threat. To be successful, everyone must be involved in BTS interdiction. All cargo, equipment, vehicles, supplies, personal gear, aircraft, and surface vessels on Guam for more than two hours will undergo BTS inspection before leaving Guam for another destination. WS will provide inspections using trained detector dogs at designated sites on Guam, and will certify the cargo has been inspected. All records of inspections must be maintained by the unit and provided upon request upon arrival at destination. If material is moved to the Commonwealth of the Northern Mariana Islands (CNMI), material will be unloaded at designated BTS control sites in the CNMI and will be monitored by WS or CNMI BTS personnel. All material positioned on Guam destined for other locations must be inspected by WS prior to leaving Guam. Cargo destined for Hawaii must be re-inspected upon arrival in Hawaii by Hawaii Department of Agriculture. Units shall make all effort to coordinate this requirement in advance.

LAND USE CONSTRAINTS	NCRD	NWD	NT
No off-road vehicle travel, except on cleared shoulders of existing roads and trails	X	X	X
No pyrotechnics	X	X	X
No digging or excavation without prior approval of JRM Area Training	X	X	X
No demolition	X	X	X
No open fires		X	X
No firing blanks		X	X
No flights below 305m(1000 ft) AGL		X	X
No helicopter landings except in designated LZs.		X	X
No entry/training except admin. troop/vehicle movement on est roads			X

On Guam, participating units are responsible for vehicle equipment cleaning, cargo/personnel equipment inspections, and cooperating with WS and other Animal and Plant Health Inspection Service (APHIS) personnel. If a BTS is sighted in or near cargo staging areas, every attempt will be made to kill or confine it. Immediately report the sighting to your chain of command. If possible, report sighting to WS and Environmental Monitor.



**MARIANA ISLANDS RANGE
COMPLEX
JOINT REGION MARIANAS
ENVIRONMENTAL AWARENESS
POCKET CARD**

ENVIRONMENTAL RESPONSIBILITIES

The environment includes not only the natural environment (soil, flora, marine, and land animals, air and water) but also the cultural and social environment that may be affected by military activities.

The ability to conduct future exercises in the Mariana Islands depends on the success of environmental standards established and maintained during training. Training constraints and protective measures will be in effect and followed by all units with operation in the Mariana Island Range Complex (MIRC). Environmental Monitors, wearing orange vests, will be available during the field exercise to assist with identifying exercise constraints. Environmental Monitors have the authority to temporarily halt or modify any exercise activity causing an immediate threat to the environment. Compliance is a unit and individual responsibility. Failure to comply may result in prosecution under the UCMJ.

Environmental, cultural and heritage protection should never be sacrificed. All environmental safeguards and restrictions must be complied with during all phases of training. When in doubt, consult your chain of command.

ENVIRONMENTAL SURROUNDINGS

The MIRC includes a collection of biologic communities representing some of the most diverse wildlife habitat in the world. The MIRC contain a number of rare and endangered species, including birds, bats, reptiles, snails and plant life. The MIRC also contain a diverse environment of coral reefs.

Cultural resources in the MIRC include native Chamorro sites and historic structures from World War II. Cultural resources include buildings, structures, objects, and archeological resources.

Significant historic and prehistoric sites remaining from the different cultures that have occupied the Mariana Islands are protected. The most notable artifacts of the ancient Chamorro culture are sets of "latte stones."

Compliance with the following is mandatory to protect natural and cultural resources:

1. No deliberate cutting or destruction of trees and/or saplings with trunks the size of your wrist or thicker. No vegetation that contains bird nests may be cut. Inspect vegetation for bird nests before cutting.

2. Clearance of vegetation must be kept to a minimum. Do not remove plants or trees.
3. Do not disturb animals, birds, reptiles, eggs and nests, except Brown Treesnakes (BTS).
4. Do not remove any animals, animal parts or their eggs, whether alive or dead.
5. "No Cultural Resources Disturbance" (NCRD) and "No Wildlife Disturbance" (NWD) areas are off-limits to vehicles, except on established roads and trails. Parking is permitted on cleared shoulders. Observe vehicle/pedestrian restriction.
6. Cross-country off-road driving is prohibited.
7. No fence cutting.
8. In areas where digging is permitted, units are responsible for restoring the site to its original condition.
9. Do not paint, stencil, mark or place unit stickers, decals, or any other unit identification on anything.
10. No graffiti of any kind; including rock graffiti.
11. Do not litter or deface ancient cultural artifacts or WW II historic structures.
12. No objects other than material brought in for the exercise shall be removed.
13. All material, such as solid waste, batteries, collected brass, and old communications wire, shall be taken to the established collection points.
14. Do not dig within one meter (3 ft) of structures,
15. Units causing or noticing any significant damage to training areas are to immediately report the incident and extent of damage.

APPENDIX H
ENVIRONMENTAL COMPLIANCE CHECKLIST

1. Purpose. The purpose of this appendix is to ensure environmental coordination is complete prior to the commencement of training activities within the terrestrial portions of the Mariana Islands Range Complex (MIRC). This can be accomplished by following the five-step process provided below and enclosed checklist in conjunction with the rest of this instruction.

2. Step 1 - Establish Points of Contact. Upon receipt and knowledge of the training request, J3 Range Sustainment (RS) and J40 will conduct initial screening to determine if any environmental constraints outlined in MIRC Biological Opinion (BO) are applicable for the proposed training activities. J3 (RS) and J40 will be the primary technical environmental POCs to the unit commanders and will attend all proposed training activity briefings. The unit commanders will identify appropriate individuals within the unit to coordinate the specific requirements/restrictions for all training activities.

3. Step 2 - Assessing/Determining Environmental (EV) Issues

a. J40 will coordinate with the Joint Region Marianas (JRM) EV, Naval Base Guam (NBG) EV, and Naval Facilities Engineering Command Pacific (NAVFACPAC) EV, for bio-security, endangered species, and historic/cultural issues that apply to the proposed training activities. This group will determine applicable environmental issues/constraints for the proposed training activity. Issues relevant to the MIRC BO will be briefed to U.S. Pacific Fleet (PACFLT).

b. J3 (RS) and J40 will coordinate with PACFLT N01CE1 to convey all the details of the proposed training activity as it relates to the MIRC BO. PACFLT will review the details to ensure applicable Endangered Species Act (ESA) requirements have been identified and addressed. PACFLT will be the primary DoD contact with U.S. Fish and Wildlife Services (USFWS) for issues related to the MIRC BO and will conduct official notification to them if appropriate.

4. Step 3 - Coordination Specifics

a. Brown Tree Snake (BTS) interdiction plan. JRM EV will coordinate with units for all movement of troops, vehicles,

aircraft and cargo/equipment departing from Guam. JRM EV and U.S. Department of Agriculture, Wildlife Services Division (USDA-WS) will generate an interdiction plan and coordinate with USFWS to ensure the plan is adequate. JRM will work with USDA-WS to fund additional capabilities to support the exercise (i.e. redundant inspections in Tinian). JRM EV/J3 will ensure units are provided BTS video and EV Awareness Card.

b. Beach Landings/Activities. In accordance with the MIRC BO, and the JRM EV BTS interdiction plan, JRM EV will coordinate with training units to ensure a Navy Biologist is present prior to any beach activities during sustained motorized beach activity of more than four hours, or two or more consecutive days of planned motorized beach activity. An EV monitor will be present during beach activities and will provide "Turtle Awareness" training to ensure each unit is aware of issues related to the protection of turtles and nesting areas. Units will be responsible for funding required EV monitors.

c. Tinian "No Training" Areas. Prior to planned training in Tinian, units will be briefed by JRM EV on the "off-limits" areas on Tinian. Units will be provided specific EV constraint maps to incorporate into their exercise training plans. During training exercise, an EV monitor will conduct EV awareness training in the field and provide a large EV constraints map to be posted within the camp or bivouac site. An EV monitor will also provide each participant with an EV Awareness Card. Per the pocket card, an EV monitor will be present to ensure continued compliance and be available for guidance on any proposed deviations of planned exercise activities. Units will be responsible for funding required EV monitors.

d. Farallon de Medinilla (FDM). Prior to utilizing FDM, units will be briefed by JRM (RS) on the "no fire/inert" zones.

5. Step 4 - Compliance. J40 and EV POCs will conduct routine inspections during training activities to ensure compliance. An environmental checklist can be provided. Various training activities will require environmental monitors which will be deployed in the training environment per Appendix F.

6. Step 5 - Communication with PACFLT. J3 (RS) and J40 will be the primary POCs to provide training updates and status of training activities to PACFLT. If an event occurs during training that is non-compliant with any of the MIRC BO

requirements, the J3 (RS) and/or J40 will immediately contact PACFLT with all necessary details. The J3 (RS) and J40 will interface with the unit to obtain all necessary information and details of the event. PACFLT will be the primary contact with USFWS for non-compliance events for the MIRC BO.

7. Checklist. Below is the MIRC EV terrestrial coordination checklist. It is to be completed by J40 for each exercise event.

**MIRC EV Terrestrial Coordination SOP Checklist
(To be completed by J40)**

Training Event: _____ Unit(s): _____

Event Dates: _____

1. Submitted Training Request Form reviewed by J40 and J3 (RS) .

2. Identified environmental issues (Responsible office):
 - a. MIRC BO (NFP & JR EV)
 - i. Coordinate with COMPACFLT
 - b. MIRC PA (NBG Archaeologist)
 - c. BTS/Biosecurity (JR EV)
 - i. BTS Interdiction Plan required?
 - d. Environmental Compliance (JR EV)

3. Unit Coordination
 - a. BTS interdiction plan vetted by USFWS & USDA
 - i. BTS video and EV Awareness Card presented to Units
 - b. Beach landings?
 - i. EV monitor for sea turtle nests prior to training (observer, date/time) _____
 - ii. EV monitor for sustained training (observer, dates/times/locations) _____
 - iii. Sea turtle awareness training provided (date/location/time) _____
 - c. No Training Areas
 - i. Brief provided on: (date/location/time) _____
 - ii. Maps posted/provided to: (location posted or name/rank provided to) _____
 - iii. EV Awareness Card provided to: (name/rank) _____
 - d. FDM
 - i. Annual capacity confirmed?
 - ii. Maps of no-fire zones provided?

4. EV monitoring
 - a. Monitoring conducted? (observer, dates/locations) _____

5. After Action Reporting
 - a. MIRC BO compliant?: Yes No
 - i. If no, COMPACFLT informed: Yes No
 - ii. Unit After Action Report submitted: Yes No



DEPARTMENT OF THE NAVY
COMMANDER, U.S. NAVAL FORCES MARIANAS
PSC 455, BOX 152
FPO AP 96540-1000

IN REPLY REFER TO

COMNAVMARIANASINST 5090.10A
N45

14 FEB 2005

COMNAVMARIANAS INSTRUCTION 5090.10A

Subj: BROWN TREE SNAKE CONTROL AND INTERDICTION PLAN

Ref. (a) Executive Order 13112, Invasive Species
(b) OPNAVINST 5090.1B
(c) COMNAVMARIANASINST 3500.4

Encl: (1) Brown Tree Snake Control and Interdiction Plan

1. Purpose. To outline specific responsibilities and establish policy for coordination and procedures governing the control and interdiction of brown tree snakes on Navy installations on Guam and during military training within the Commander, U.S. Naval Forces Marianas (COMNAVMARIANAS) Area of Responsibility (AOR).

2. Cancellation. COMNAVMARIANASINST 5090.10. This instruction has been changed in its entirety.

3. Scope. This instruction provides guidance and direction to prevent the dispersal of brown tree snakes from Guam to other locales via military sea and air shipments of personnel, equipment, and cargo. Its provisions are applicable to all activities in the COMNAVMARIANAS AOR who directly or indirectly have responsibility for military sea and air shipments. This instruction issues a revised Brown Tree Snake Control and Interdiction Plan that is to be followed during the planning and execution of any movement of military sea and air shipments, including personnel. This instruction applies to Guam Installation Commanders, Major Exercise Commanders, Training Unit Commanders, and all military Flight Crews.

4. Background. Per reference (a), COMNAVMARIANAS is responsible for not causing or promoting the introduction or spread of invasive species in the United States or elsewhere. The brown tree snake is an alien species to the United States, including Guam, whose introduction has caused significant economic and environmental harm; consequently, it is classified as an invasive species. Per reference (b), the Navy is required to ensure military readiness and sustainability while complying with natural resources protection laws, and conserving and managing natural resources in the United States, its territories, and possessions. This dual dynamic of stewardship and readiness is essential for the long-term maintenance of

14 FEB 2005

military and natural resources sustainability. Per reference (c), COMNAVMARIANAS is the controlling and scheduling authority for Navy-owned and controlled training areas and services in the Mariana Islands. The dispersal of brown tree snakes from Guam to other locales is a serious economic and environmental threat. Preventing dispersal of brown tree snakes in military sea and air cargo is a priority for COMNAVMARIANAS.

5. Action

a. The sponsoring office for this order, the Assistant Chief of Staff, Facilities and Environmental (ACOS N4) is responsible for environmental oversight of all actions, including military training, within the COMNAVMARIANAS AOR. The ACOS N4 is responsible for environmental evaluation of potential environmental impacts, determining the measures necessary to protect the environment and preserving the long-term maintenance of military and natural resources sustainability. The ACOS N4 will advise the Commander of any changes in the handling and movement of military sea and air shipment cargo, and any changes in military training constraints necessary to prevent the dispersal of brown tree snakes in military sea and air shipments. The ACOS N4 will work in close coordination with the Assistant Chief of Staff, Operations (ACOS N3).

b. The ACOS N3 is responsible for scheduling and oversight of supplies and port services and operations, and for the scheduling and oversight of training. The ACOS N3 will accomplish all specified requirements described herein.

c. The Assistant Chief of Staff, Ordnance Operations (ACOS N2) is responsible for preparing and staging munitions for shipment from Guam. The ACOS N2 will accomplish all specified requirements described herein.

d. Regional supported activities, including but not limited to, DRMO Guam, NMCB DET Guam, and MSCO Guam will:

(1) Review the Brown Tree Snake Control and Interdiction Plan and identify and incorporate into local plans all necessary control and interdiction measures, and fully cooperate with federal authorities during observations and inspections of equipment and cargo being prepared and staged for shipment from Guam.

(2) Ensure that personnel assigned to preparation and handling of equipment and cargo scheduled for shipment from Guam are knowledgeable and adhere to the information contained in the

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Brown Tree Snake Control and Interdiction Plan and directives pertaining to inspection of outbound equipment and cargo.

(3) Comply with the mandatory regulations and direction contained in the Brown Tree Snake Control and Interdiction Plan when preparing equipment and cargo for shipment from Guam.

e. Commanding Officers/Officers-in-Charge of training units will:


(1) Review the Brown Tree Snake Control and Interdiction Plan and identify and incorporate into training plans all necessary control and interdiction measures, and fully cooperate with federal authorities during observations and inspections of equipment and cargo being prepared and staged for shipment from Guam.

(2) Ensure that personnel assigned to preparation and handling of equipment and cargo scheduled for shipment from Guam are knowledgeable and adhere to the information contained in the Brown Tree Snake Control and Interdiction Plan and directives pertaining to inspection of outbound equipment and cargo.

(3) Comply with the mandatory regulations and direction contained in the Brown Tree Snake Control and Interdiction Plan when preparing equipment and cargo for shipment from Guam.

6. Applicability. This order applies to all commands, organizations, units, and activities authorized use of Navy lands and facilities, training areas, and ranges controlled by COMNAVMARIANAS.

7. Certification. Reviewed and approved this date.


R. A. McNAUGHT
Chief of Staff

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BROWN TREE SNAKE CONTROL AND INTERDICTION PLAN

**Prepared by:
Commander U.S. Naval Forces Marianas
Facilities & Environment, N45**

August 2004

ENCLOSURE (1)

14 FEB 2004

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COMNAVMARIANAS
BTS CONTROL AND INTERDICTION PLAN

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BTS CONTROL AND INTERDICTION PLAN

ACRONYMS and ABBREVIATIONS

AAFB	Andersen Air Force Base
AMSS	AAFB Mobility Support Squadron
APHIS	Animal and Plant Health Inspection Service
BTS	Brown Tree Snake
CECG	Combined Exercise Command Group
CESG	Combined Exercise Support Group
CNMI	Commonwealth of the Northern Mariana Islands
COMNAVMARIANAS	Commander, Naval Forces Marianas
GDAWR	Guam Division of Aquatic and Wildlife Resources
DLNR	Department of Land and Natural Resources
DOD	U.S. Department of Defense
DOI	U.S. Department of Interior
FISC	Fleet Industrial Supply Center
GovGuam	Government of Guam
HDOA	Hawaii Department of Agriculture
MI	Military Inspector
MILVAN	Military (cargo) Van
MOA	Memorandum of Agreement
PHNSY	Pearl Harbor Naval Shipyard
PM	Pest Management (USAF)
PMRF	Pacific Missile Range Facility
USAF	United States Air Force
USAG-HI	United States Army Garrison, Hawaii
USARPAC	United States Army, Pacific
USCOMPAC	Commander, U.S. Pacific Command
USCOMPAC REP	USCOMPAC Representative
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS/CSU	U.S. Geological Survey/Colorado State University, Brown Treesnake Project
USGS/RRT	U.S. Geological Survey, Rapid Response Team
WACSA	USDA-WS Approved Cargo Staging Area
WS	(USDA) Wildlife Services

BROWN TREE SNAKE CONTROL AND INTERDICTION PLAN

I. INTRODUCTION

Purpose

Control and interdiction of the brown tree snake (*Boiga irregularis*), hereafter referred to as BTS, is absolutely essential to prevent the dispersal of BTS from Guam to other locales via military sea and air shipments of personnel, equipment and cargo. The control and interdiction protocols are practiced on a daily basis by military organizations permanently stationed in Guam. The purpose of this plan is to disseminate these procedures to resident and transient organizations, and to emphasize the threat and need to prevent BTS movement from Guam to other areas at risk during military training activities. These preventive practices are particularly crucial during shipments to the Commonwealth of the Northern Mariana Islands (CNMI), Hawaii, and other locations where the BTS has no natural population controls. Therefore, the primary objectives of BTS control and interdiction are to reduce the ongoing and potential threats to human health and safety, biological resources, and impacts to island economies.

The Brown Tree Snake Threat

The BTS is a native species of Indonesia, New Guinea, the Solomon Islands, and Australia that was inadvertently introduced in Guam sometime between the mid-1940s and early 1950s. Since its introduction, the population of BTS has expanded to encompass the entire island's rural and urban areas. The BTS has caused or has been a major factor in the extirpation of most of Guam's native terrestrial vertebrates, including lizards and 9 of 11 endemic/native forest and water birds. In addition, the BTS has caused more than a thousand power outages, preyed on poultry and household pets, and has bitten numerous children.

High densities of snakes occur throughout Guam, and in areas where cargo is loaded for transport by air and sea. BTS characteristics such as being able to survive for long periods of time without food, and habitually seeking out small dark places as refugia, work synergistically to give a higher probability for successfully transporting BTS to other islands/regions. Due to the possibility of sperm storage, a single female BTS can potentially start a population. The potential spread of BTS from Guam via cargo movements is a serious concern due to Guam's role as a trans-Pacific shipping hub and the delicate environments of islands that receive cargo.¹ BTS sightings have been recorded in locations ranging from - Oahu in Hawaii, Tinian, Rota, and Saipan in the CNMI, Marshall Islands, Okinawa, Diego Garcia, Wake Island, Spain, Alaska and Texas. There is no documentation supporting any established populations of BTS in any of these locations. However, detecting BTS populations at low densities is extremely difficult.

¹ USDA et al.1996. *Environmental Assessment for Brown Tree Snake Control Activities on Guam*.

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II. FEDERAL AUTHORITY AND DIRECTION

1990: Federal funding for BTS interdiction and control initiated.

1990: U.S. Congress incorporated specific direction into the Nonindigenous Aquatic Nuisance Prevention and Control Act regarding the control of BTS in coordination with regional, territorial, state, and local entities in Guam and other areas where the species is established outside of its historic range.

1993: A 5 year Memorandum of Agreement (MOA) between U.S. Department of Agriculture (USDA)², the U.S Department of the Interior (DOI), the U.S. Department of Defense (DOD), the Government of Guam (GovGuam) and the State of Hawaii to coordinate BTS research and establish the USDA Animal Damage Control program.

1996: The Commonwealth of the Northern Mariana Islands (CNMI) added to the 5 year MOA.

1999: Department of Transportation and the Department of Commerce added to 5 year MOA.

1999: President Clinton signed Executive Order 13112, "Invasive Species"³. The executive order directed federal agencies to (1) prevent, detect, and respond to control populations of invasive species; (2) to monitor invasive species populations; (3) to provide for restoration of native species and habitation in ecosystems that have been invaded; (4) to conduct research and develop technologies to prevent introduction and to control invasive species; and, (5) to promote public education on invasive species.

III. DOD BTS ACTIONS IN THE MARIANA ISLANDS

BTS contamination can occur during any cargo shipment or personnel scenario. COMNAVMARIANAS and Commanding Officer, 36th Air Base Wing, Andersen Air Force Base, are responsible for carrying out a viable plan to meet a full spectrum of potential BTS cargo contamination at Guam's military ports. COMNAVMARIANAS and 36th ABW are fully supported in these actions by the USDA Wildlife Services (WS).

Other cooperative agencies that support COMNAVMARIANAS and 36th ABW BTS control and interdiction efforts include DOI, U.S. Fish and Wildlife Service (USFWS), the U.S. Geological Survey/Colorado State University Brown Treesnake Project (USGS/CSU), the Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (GDAWR), the CNMI Department of Land and Natural Resources (DLNR), and the State of Hawaii Department of Agriculture (HDOA).

² In 1997, USDA Animal Damage Control (ADC) became the USDA Animal and Plant Health Inspection Services (APHIS) Wildlife Services (WS), and is the office presently responsible for integrated wildlife damage management.

³ "Invasive species" means a species not native to an ecosystem that does or is likely to cause economic or environmental harm or harm to human health.

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The COMNAVMARIANAS BTS Control and Interdiction Plan has been implemented and evaluated during major inter-island exercises, as well as numerous small scale operations and daily operations. The control and interdiction procedures were reevaluated as part of a Commander, U.S. Pacific Command (USCOMPAC) Final Environmental Impact Statement that assessed potential impacts of all military training exercises throughout the Mariana Islands. The lessons learned from these major exercises and the results of other environmental evaluations have been incorporated in this plan. COMNAVMARIANAS sponsors annual reviews of BTS control and interdiction protocols with federal, territorial and commonwealth agencies to evaluate additional lessons learned and new technologies that may be adopted in the Mariana Islands.

IV. RESPONSIBILITIES

The following categorized responsibilities provide a foundation for action by certain agencies or individuals involved with Guam military training exercises and BTS control/interdiction programs. Due to turnover experienced by all military units, the responsibilities relating to BTS threat awareness instruction will often be repetitious to ensure that all persons training in the Mariana Islands are fully knowledgeable of individual and command responsibilities.

A. Guam Installation Commanders

COMNAVMARIANAS and Commander, 36th Air Base Wing are responsible for the conduct of BTS control and interdiction on Navy and USAF installations, respectively, and supported daily by the Guam WS permanent staff assigned to COMNAVMARIANAS and Andersen Air Force Base. The installation commanders are responsible to keep WS informed of activities that will require their support. Specific command responsibilities are as follows:

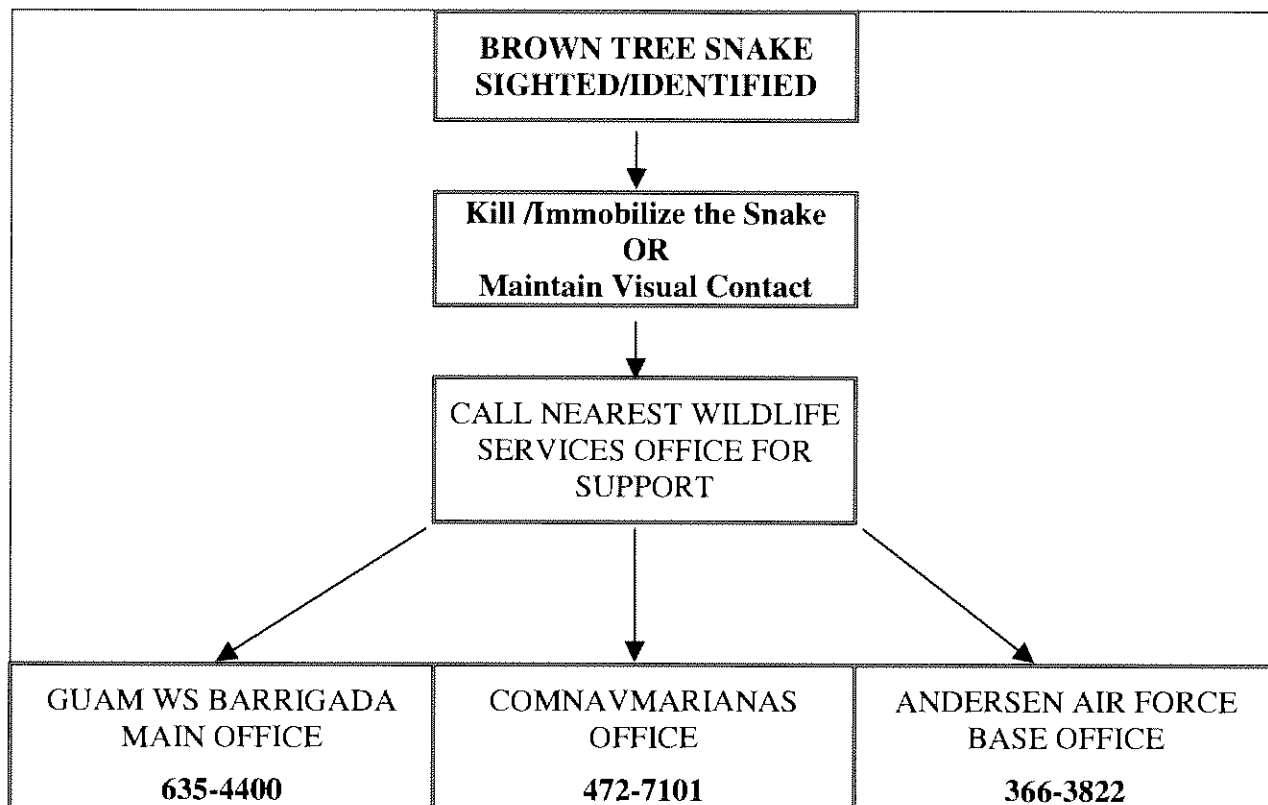
1. Fully cooperate with WS to conduct measures necessary to reduce the BTS snake population at port and cargo facilities through an integrated approach consisting of technical assistance and lethal and non-lethal control methods such as exclusion, habitat modification, capture and prey base reduction.
2. Plan, direct, and coordinate all cargo handling procedures for cargo departing Guam with consideration for the on-going threat of the pan-Pacific spread of BTS.
3. Consult with WS to determine the necessity to establish USDA-WS approved cargo staging areas (WACSA).
4. Direct cargo handlers and/or managers to work closely with WS personnel to establish and maintain an effective cargo and equipment BTS inspection process.
5. Publish and distribute the BTS Emergency Response Protocol. Prominently display contact information and telephone numbers to report BTS sightings (see Table 1).

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6. Conduct information briefings for both permanently assigned and transient personnel. Explain the potential for impacts if BTS were transported from Guam in military vehicles, cargo and equipment. Explain individual responsibilities if and when a BTS or any other snake species is sighted (kill/capture/immediately report to WS). Other snake species can be dangerous.
7. Clearly display BTS identification and information posters in tent cities, barracks and work sites. Use the BTS Awareness instructional videotapes and printed materials, requesting WS participation and/or demonstrations at the briefings when their workloads permit. Provide information cards to personnel as a reminder of the BTS threat and responsibilities for immediate action.
8. For major exercises, include BTS control and interdiction procedures in the exercise plan's Environmental Awareness Annex. Include in the annex, a copy of the information cards to be distributed to training personnel that will define applicable environmental protective measures, including the BTS protocol.
9. In consultation with WS, direct the sites to be used for tent cities and staging areas for vehicle, cargo pallets and containers, and other equipment.
10. Provide vehicle washing areas and high-pressure wash equipment when needed.
11. Designate areas to be used for inspecting vehicles after they have been cleaned and prior to movement to WACSA's or immediate loading aboard aircraft and/or ships.
12. Provide area lighting at WS approved designated inspection and staging areas.
13. Assist WS to facilitate the mandatory 100 percent inspection of all outbound cargo by detector dog teams.
14. For major exercises, assign members of the base environmental staff with experience in conducting BTS protocol as members of the Combined Exercise Command Group (CECG) and the Combined Exercise Support Group (CESG).
15. Provide personnel and logistic support to augment BTS protocol activities as needed.
16. For major exercises and in coordination with WS, enhance rodent control measures and grounds maintenance practices that reduce the potential for BTS activity/presence in areas selected for vehicle and cargo staging.
17. During day-to-day cargo inspections, the installation commander may authorize WS to stop any cargo carrier from departing Guam with any cargo or equipment suspected to harbor BTS.

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Table 1: BTS Emergency Response Procedures for Guam Cargo Stations



NOTE: Cellular phone numbers will be provided to exercise units during field exercises to ensure WS can be contacted at any hour.

B. Major Exercise Commanders

The CECG and CESG conducting major exercises are tasked with a variety of responsibilities to support the exercise force. Logistics coordination in response to command direction is the responsibility of the CESG. Early coordination with WS is required to incorporate BTS control and interdiction requirements into the exercise logistic support plans. In regard to BTS control and interdiction, the CECG/CESG will:

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1. Work with the Installation Commander and WS when necessary to establish a WACSA for personal and unit equipment, and vehicle staging.
2. Work with the AAFB commander and WS to develop an aircraft parking plan that will minimize potential exposure of aircraft to BTS.
3. Supervise the BTS control and interdiction process by providing environmental monitors as needed.
4. Schedule and monitor BTS control and interdiction briefings for all training units upon arrival.
5. Identify to WS the logistics staff personnel who will be responsible for cargo handling operations and BTS response.
6. Provide WS the authority to stop any cargo carrier from departing Guam with any cargo or equipment suspected to harbor BTS.

C. Training Unit Commanders

Regardless of the size of training exercises, commanders of resident and transient organizations will request support from the Installation Commander (and/or the CECG and CESG) when tasked with establishing tent cities, staging areas, and areas for inspecting personnel, vehicles and cargo prior to shipment from Guam (see Section E below for a listing of WS assistance and service that are provided to training units). The commanders of training units will:

1. Ensure that installation staff or CESG conduct BTS control and interdiction information briefings for exercise personnel.
2. Distribute BTS information packets that include the Emergency Response Protocols in case of actual or suspected snake sightings.
3. Coordinate with the on-site commanders to obtain wash down facilities and inspection areas. 36th ABW may provide portable high-pressure washers and a cleaning area. Future plans include repair of a 36 Transportation Squadron vehicle washing area.
4. Identify key personnel responsible for cargo staging, handling and inspection to the installation commander/CESG and ensure their cooperation with WS personnel.
5. Provide additional information to cargo handlers to increase their levels of BTS awareness. Cargo handlers are the first-line of defense against BTS in military cargo. Request assistance from WS to review the following:
 - a. History of BTS on Guam, the threat to the environment, action taken to control and interdict BTS, and the goals of existing programs. (Use the USDA video).
 - b. A description of implementation efforts on base.

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- c. A demonstration by the WS detector dog team.
 - d. A live BTS to enhance immediate recognition.
 - e. A review of proper methods to kill or capture the snake.
 - f. Information cards.
6. Supervise the equipment and vehicle cleaning and inspection prior to moving items to the staging area for WS inspections.
 7. Provide WS complete access to staged cargo and equipment, opening any containers as requested for a WS internal inspection.
 8. Designate personnel as inspectors to assist during WS and cargo handling personnel during personnel, vehicle, cargo and equipment cleaning and inspection.
 9. Ensure that all ships and aircraft departing from Guam for overseas and airports are inspected by WS.
 10. Prior to breaking camp and off-island departure, ensure that personal belongings, tents and canvas used/staged in bivouac areas have been inspected for BTS presence by WS. Ensure that all personnel conduct inspections of their individual equipment (hand-carried/back-packed/sea-bags). Request WS assistance prior to breaking camp.

D. Flight Crews

Supporting aircraft may be staged at the AAFB parking apron. Supporting aircraft will not be staged overnight at Orote airfield. When idle, the doors of the aircraft will be closed so that BTS cannot enter the aircraft interior. During pre-flight inspections, flight crews should be alert for potential BTS on aircraft. Request WS assistance as needed.

E. USDA APHIS Wildlife Services Support in Guam

USDA APHIS field operations in Guam are conducted by Wildlife Services (WS) staff consisting of Wildlife Biologists, WS Specialists, and snake detector dogs. Logistic support is available to Guam from the WS staff in Yakima, Washington, who make and store equipment and snake traps.

WS BTS control and interdiction efforts are conducted at all commercial and DOD ports for day-to-day cargo shipments. In support of military exercises, WS inspection and containment efforts are enhanced, and WS will:

1. Conduct a 100 percent canine inspection of all outbound aircraft and surface cargo.

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2. Identify, purchase, operate, and maintain BTS control tools such as snake handling equipment, snake traps, and snake barriers. Barrier fencing is used to erect a WACSA at a port of embarkation on Guam (to keep snakes out of inspected cargo) and a containment area (to keep any snakes in) at the port of debarkation on Tinian. Other tools may be used as needed to accommodate special circumstances and situations.
3. Determine snake-trapping strategies by topographical features and proximity to cargo staging, handling, or processing areas. The BTS trap is a modified minnow trap with a mouse as an attractant within an inner chamber that is inaccessible to snakes. The trap is routinely restocked with food and moisture source for the mouse. The self-setting traps have one-way entrances on either end and are designed for multiple captures.
4. Assign WS personnel and detector dog teams 24 hours/7-days per week during deployment and post-exercise redeployment activities.
5. Use handheld spotlights to walk the perimeter at night to detect and capture BTS, and use detector dog teams to inspect shipments trucked into staging area.

To ensure effective communication with exercise participants, WS will rely on a close working relationship with military cargo managers, appropriate installation commanders, and training unit commanders, and the military commanders keeping WS informed of ongoing and future activities.

USDA WS may be contacted one of three offices on Guam: Andersen AFB Office (366-3822), Barrigada Heights District Office (635-4400), and COMNAV Marianas Office (472-7101). The supervisory office in Honolulu can be reached at (808) 861-8576. Cell phone numbers will be published prior to major exercises to ensure WS personnel on Guam and Tinian can be reached 24 hours a day

F. USGS/Colorado State University, Brown Treesnake Project (USGS/CSU)

The U.S. Geological Survey/CSU's Brown Treesnake Project may provide technical assistance to WS. BTS specialists in USGS/CSU may be called upon to provide technical assistance on barrier deployment and construction, trapping efficacy, population levels, special problems with visual or trap-capture of small snakes in dense vegetation, etc. The USGS-Rapid Response Team (RRT) can be requested by local government agencies to respond to any snake sightings outside of Guam.

V. CONTROL, CLEANING, AND INSPECTION PROCEDURES

The possibility of the inadvertent importation of the BTS to other areas of the world is always present whenever military units embark from Guam. BTS is a nocturnal snake that will seek shelter during the day in any area that offers shade, including CONEX boxes, MILVANS, commercial shipping containers, crates, pallets, and personal gear, as well as aboard aircraft, ships, and wheeled or tracked vehicles. The snake can hide in extremely confined spaces. The BTS has the ability to go without food for extended periods and to survive long voyages or flights undetected. Military and commercial air- and sea-ports have recorded several instances of

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a live BTS arriving from Guam. Therefore, BTS control and interdiction responsibilities have high priority.

A. BTS Control Measures at COMNAVMARIANAS and AAFB Cargo Points

WS personnel will provide support to the military on a routine basis as well as throughout any training exercises that involve the shipment of military personnel and associated cargo off-island via ship (Apra Harbor) and/or aircraft (Andersen AFB). This support is identified in Section II. D above. Ensuring that the BTS protocol is accomplished and that there are no delays in off-island shipment will require full cooperation from the units being inspected prior to embarkation.

Permanent Staging Areas. Permanent staging areas provided by COMNAVMARIANAS and 36th ABW for sea and air cargo are surrounded by chain link fencing with lighting. These areas are extensively patrolled for BTS but are **not** WS approved cargo staging areas. COMNAVMARIANAS uses Sierra Wharf and warehouse facilities at the former Fleet Industrial Supply Center (FISC). At AAFB, the primary staging area is the 634th Air Mobility Support Squadron (AMSS) warehouse (see Figure 1). Cargo is inspected at these sites daily. These facilities are primarily used for day-to-day cargo staging, but may be used for cargo related to a training exercise.

Temporary USDA-WS Approved Cargo Staging Area (WACSA). When needed to support an influx of training materials and equipment, WS will assist military personnel to select the site for a WACSA for cargo that will be embarked from Guam. In addition to establishing a WACSA at or near a permanent staging area, other paved areas could be suitable.

WACSA will be established when there will be a delay between BTS cargo inspection and movement to the loading point for aircraft or ship embarkation. The WACSA would be used to keep BTS from contaminating inspected cargo and to establish a controlled staging area for snake surveillance and trapping. The necessity to use a WACSA as part of the overall embarkation process will be reviewed during major exercise planning conferences so that the steps and additional time may be included in embarkation plans. The need to use either permanent staging areas or a WACSA at other paved surfaces with low potential for BTS presence will be determined during pre-deployment conferences with WS assistance.

The WS developed WACSA is a barrier constructed with angled sections of weather shade netting on re-bar and PVC pipe supports, weighted along the bottom edge with water snakes and sandbags. The number of entry and exit points is minimized and the barriers at the entrances are designed to lead any BTS toward a trap. The advantage of the temporary barrier is portability and a means to readily support fixed wing operations at main airfields, helicopter operations at landing zones, and ship offloads in port. A temporary snake barrier at AAFB Main or the FISC would be erected 3-5 days prior to the exercise. Snake traps will be placed on the fencing and/or along the forest perimeter. WS personnel will be responsible for trap and portable fence line maintenance, including trap cleaning and the care of mice used as an attractant.

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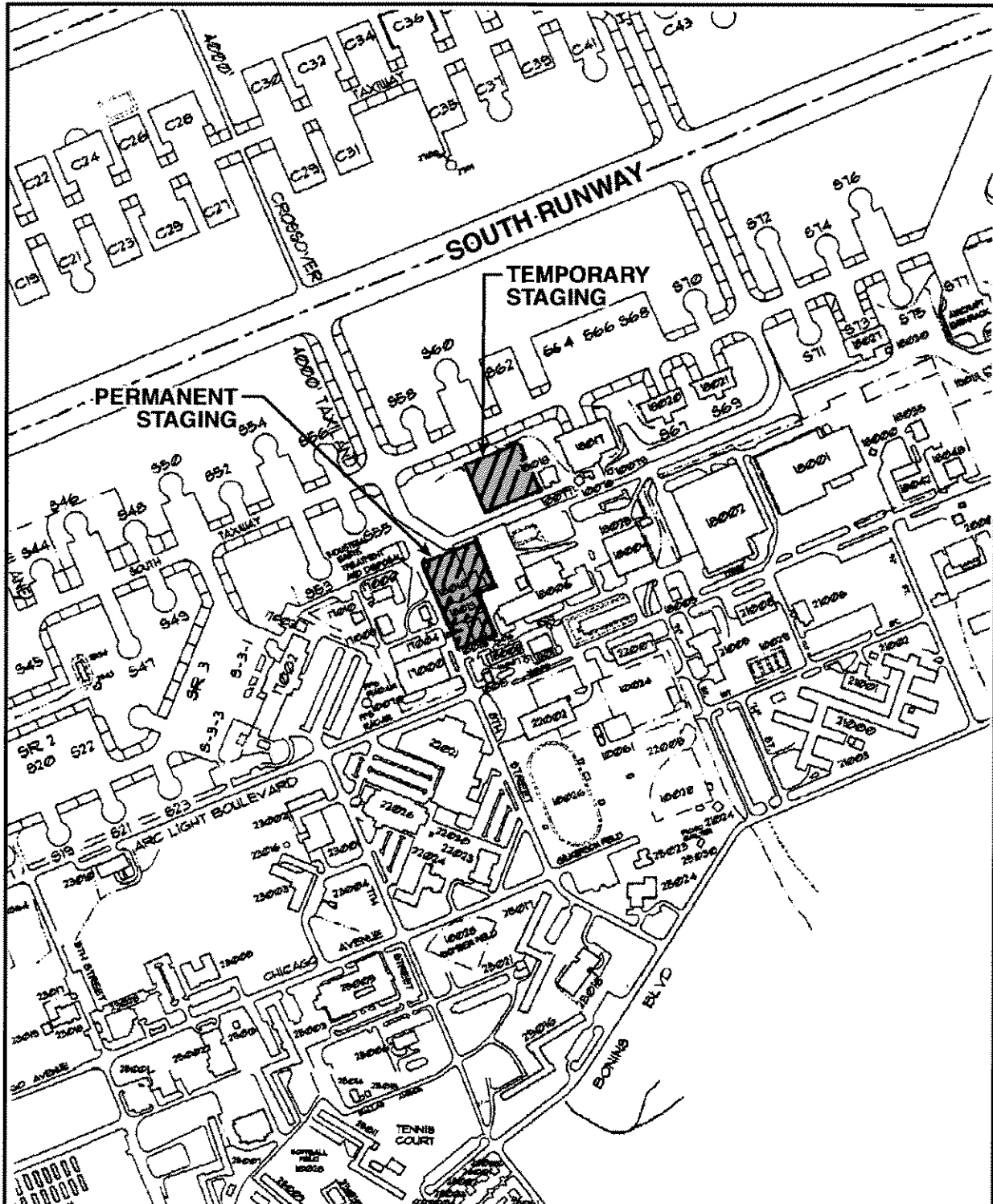


Figure 1
ANDERSEN AIR FORCE BASE
CARGO STAGING AREAS
BTS Control and Interdiction Plan
Belt Collins Hawaii, April 2000

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Snake Trapping. Snake trapping is conducted prior to construction of the WACSA on Guam. The time necessary to initiate the effort depends on the selected WACSA site and the nature of the exercise. If the WACSA will be established at AAFB Main and the FISC, snake-trapping activities are already being conducted. If an area elsewhere on Guam, such as Northwest Field, Ordnance Annex, or Orote Point is going to be used, WS will initiate snake trapping thirty days prior to the exercise. Once the WACSA is erected, WS will conduct nightly spotlight searches in the area of the fence to augment area snake trapping.

Detector Dog Teams. WS will use snake detector dogs to inspect outbound cargo and aircraft. The snake detector dog teams (one team equals one dog and handler) will be made available as necessary 24-hours a day, seven days a week.

B. BTS Control Measures at COMNAVMARIANAS and AAFB Tent Cities

Site Selection. WS will be consulted to recommend areas of low BTS risk to be considered as Tent City (bivouac) sites.

Trapping and Searching. WS may elect to activate and monitor brown tree snake traps surrounding the immediate vicinity of tent cities. WS Detector dog teams will periodically walk through the area while troops are being staged prior to departure from Guam. Particular attention to BTS control measures is needed while breaking camp and re-packing tents and equipment susceptible to BTS infestation during bivouac and field training.

C. Cleaning Procedures

Responsibility. Prior to staging in a WACSA and embarkation aboard an aircraft or ship, each training unit will be responsible for cleaning its vehicles and equipment. For vehicles and equipment considered to be high-risk, additional procedures may be required such as high-pressure washing, steam-cleaning, fumigation, or other methods suggested by WS. These additional efforts will supplement any inspection conducted by cargo handlers, unit personnel and WS.

Cleaning Facilities and Equipment. AAFB and COMNAVMARIANAS will provide cleaning areas. If cleaning equipment is unavailable or if the exercise scenario would increase the risk of snake infestation of vehicles, the training units may be tasked with augmenting or providing all necessary cleaning equipment and supplies. To request installation support, training units may contact the following units:

For Andersen Air Force Base: Call Vehicle Operations at 366-2239, 24 hours, 7 days per week.

For COMNAVMARIANAS: Call the COMNAVMARIANAS Area Training Officer (Code N3) 339-6I4I.

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D. Inspection Procedures on Guam

General. The inspection procedure is a joint military/WS effort. It includes individual user and cargo handler attention when packing materials for air and sea embarkation, and a subsequent thorough, systematic inspection of cargo, equipment, and vehicles by WS. To maintain open lines of communication among all involved, DOD will provide WS the names of military contacts at the shipping or air terminals, and WS will keep the military points-of-contact informed of their BTS inspection activities.

WS inspections are required for all outbound cargo. This includes inspections of equipment belonging to units stationed on Guam, and equipment that is transported to Guam by transient units from CONUS, Hawaii, or Japan for subsequent exercise support. Upon completion of the exercise, another inspection is required for equipment that will be cleaned, packed, and embarked for movement to home installations off-island.

Inspecting Personal Equipment. Military commanders are responsible for ensuring that all personal gear, hand-carried equipment and supplies, and tent canvas are visually inspected by military personnel as it is repacked when breaking camp. To facilitate the inspection, personal equipment and tent canvas will be laid out for WS detector dog inspection prior to palletizing or loading into shipping containers.

Inspecting Outbound Cargo. The decisions are based on the nature of the training exercise and volume of cargo to be transported from Guam to an off-island location. The objectives are to minimize the timeline necessary between cleaning and embarking equipment, and to minimize the use of a WACSA without degrading BTS control and interdiction protocols. The military commander and WS cooperate in making these decisions.

Inspecting Transports. The WS Detector Dog Teams may be tasked to inspect accessible transport craft (ship, barge, and/or airplane) prior to departure from Guam.

Inspecting Heavy Equipment and Vehicles. This equipment is often used to support field maneuvers prior to movement to the port of embarkation. WS Detector Dog Teams will inspect all heavy equipment and vehicles after they have been thoroughly cleaned.

Snake Detected or Suspected. If the detector dogs alert to a possible BTS on a vehicle, pallet, or at the threshold of a locked container, the suspected equipment will not be moved. A second detector dog team may be brought on-scene to confirm the first dog alerting to BTS presence. If the BTS is not discovered, the affected military unit will break out the cargo to allow BTS detection and elimination. If the BTS is not immediately found, WS will intensify its search and may activate additional traps in the vicinity of the affected shipment.

All outbound cargo is to be cleaned, inspected and immediately loaded onto a vessel or aircraft. If there is a delay between inspection and loading, cargo may be subject to WS reinspection or be placed in an approved WS cargo staging area. WS will decide on the proper course of action. WS may determine that any ship, barge, boat or aircraft that was inspected and then unattended may require another inspection prior to departure. Cargo, vehicles, and equipment held within a WACSA for an extended period (such as during the night when snakes are active) may be subject to additional inspection prior to loading for departure.

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Schedule and Plan Modifications. WS plans its personnel and detector dog team assignments based on published exercise plans, arrival and departure schedules. Sites to be used as WACSA at ports of embarkation and debarkation are selected in advance and activated prior to the exercise commencing. Relocating established WACSA might not be feasible. However, given reasonable time to react, WS may alter its personnel and detector dog team schedules and assigned cargo and vehicle inspection sites. Since the BTS protocols take precedence when executing tactical troop and cargo movements from Guam, the arrival and departure schedules and points-of-contact will be verified by the military so that WS support will be on-hand when expected.

Inspection Verification Process for Tinian Shipments. WS personnel will identify inspected items within Guam containment areas by affixing a stamp and/or tag to cargo or cargo manifest denoting the words "Snake-Inspected" together with date and time the inspection occurred.

WS will be especially watchful to ensure that airdrop cargo for Tinian has been thoroughly inspected and is tagged for identification by CNMI Customs Inspectors.

E. Inspection Procedures on Tinian

Military exercises may involve personnel, cargo, and equipment movement between Guam and Tinian, CNMI. Similar staging and inspection processes for Tinian may be established at other island training sites.

1. Prior to a training exercise commencing on Tinian, WS personnel will identify, purchase, and make arrangements with DOD to transport BTS control and interdiction tools and equipment such as temporary snake barrier components, snake capturing equipment, and lighting. WS personnel will train volunteering wildlife and/or customs officials to assist with BTS interdiction measures
2. Supporting cargo that is shipped to Tinian from Guam in advance of the training exercise is subject to the routine cargo inspection process conducted daily by WS. A WACSA-type barrier may be used at the Tinian harbor, and the cargo will be checked by CNMI Quarantine Inspectors to ensure that BTS inspection was conducted on Guam and the stickers/tags then removed.
3. Prior to arrival of the first military cargo from Guam to Tinian, WS will review the BTS protocol and necessary actions with the on-scene federal and CNMI wildlife and/or quarantine officials. Exercise planning will include designating the following: responsible logistics personnel, cargo offloading and staging areas, and cargo drop zones to be used that will require BTS control measures. WS will conduct BTS surveillance during nighttime cargo offloading, staging, and release of inbound traffic from Guam. WS will coordinate spotlight searches of staging areas, fence lines, and any tree lines/forest areas in proximity to runways/taxiways that are designated as drop zones. These areas will be targeted during inbound and exiting traffic times.

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4. The majority of personnel, cargo, and equipment that deploy from Guam to Tinian are air-transported to North Field (preferred) or the West Tinian Airport as part of the military exercise. Prior to arrival, sections of angled weather shading will be used to establish a containment area for offloaded personnel and cargo. The portable barrier will be erected and maintained about five days prior to the first shipment. Prior to the arrival of exercise personnel and cargo, snake traps with a mouse attractant, food and moisture source will be installed in the forest adjacent to the barrier. Snake traps inside the barrier will be a passive design.
5. WS will maintain the BTS traps at the containment area throughout the duration of the training exercise. Some traps will be installed near parachute drop zones and near take-off zones. Additional BTS traps shall be made available for contingency plans and in case BTS sightings occur in the exercise area.
6. An anti-coagulant toxicant (contained within a tamper proof bait box) will be used in and around brown tree snake trapping areas and near cargo containment/temporary snake barriers to reduce local rat populations. Removal of rats reduces the potential damage they inflict to traps and barrier material.
7. CNMI DLNR may provide Snake Detector Dog Teams from Saipan on short notice if BTS presence is suspected.
8. When shipments reach Tinian, CNMI Quarantine Inspectors may check for the BTS inspection stamp/tag that verifies that the inspection process was conducted on Guam. If there is no tag on cargo that originated in Guam, the cargo may be reloaded aboard the aircraft/ship and returned to Guam. The inspection stamp/tags will be removed prior to the cargo being moved out of the containment area or drop zone. It is important that the tags be removed to avoid any confusion when the equipment and vehicles are returned to Guam at the end of the exercise, and subsequently re-inspected prior to transient unit departures to home installations.
9. WS will maintain a log of all cargo, vehicle, equipment, and craft that are inspected and will monitor the time between inspection and movement. CNMI-DLNR staff may request copies of inspection logs and cargo manifests. WS and CNMI DLNR will continue to support inspection and surveillance at Tinian's air and sea ports of entry and exit until military forces have departed and the exercise is formally terminated.

VI. GUIDELINES FOR BTS SIGHTINGS

Emergency Response Procedures are published for COMNAVMARIANAS and Andersen Air Force Base to contact Guam WS immediately (see Table 1). Similar procedures have also been identified for publication at military bases in Hawaii, in case BTS are sighted or suspected in returning shipments. These procedures to obtain immediate support from Hawaii Department of Agriculture and WS are found in Enclosure (2).

A. Immediate Action

1. **Make every attempt to kill or to capture the snake.** Do not delay. The cost and difficulty of trying to locate an escaped BTS coupled with the potentially significant ecological impacts of

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each snake justifies the killing or capturing of the snake immediately. If it is not possible to kill or capture the snake, maintain visual contact.

- A BTS can be captured by pinning it down with one's boot heel, a stick or rifle butt, or anything heavy. A sharp blow to the snake's head with the butt of a (unloaded) rifle or boot heel should be fatal.
- A bucket or heavy box can be used to capture a snake on a flat surface. Place the container over the head of the snake leaving enough space for the snake to crawl completely underneath the container. Then weight it down to confine the BTS. If bagging a stunned or pinned-down snake, grab it directly behind its head.
- Keep any dead or captured snake available for positive identification by WS or an Environmental Monitor.

2. **Exercise caution.** When threatened, a BTS will coil back into a strike position, flatten its head, and lunge to bite. Small grooved fangs located in the rear of the mouth enable the mild venom to trickle into the bite while the snake constricts. A normal defensive strike from a BTS will not allow the rear fangs to penetrate the skin and will usually result in minor punctures similar to pinpricks. When wearing battle dress uniforms (BDU) and field boots, a bite from a BTS will not penetrate clothing or footwear. Use caution with all snakes. There is the chance, although unlikely, that other, more dangerous, snakes could be encountered.

B. BTS Sighting on Tinian or Other CNMI Sites

Tinian is a BTS-free island, therefore, killing or capturing a sighted BTS is critical. Reaction to a BTS sighting on Tinian and subsequent incident reporting procedures are the same as described above for sightings on Guam. Staff response during major military training exercises on Tinian may include representatives of CNMI Division of Fish and Wildlife, WS, and/or Navy environmental monitor staffs. All are equipped with cellular phones. The latter will have radio/telephone communication with the CESG.

Exercise caution, safety and discretion. The priority action becomes killing, capturing, or containing the BTS. Report the incident, including the same information as needed for Guam BTS sightings.

The telephone numbers to call are:

CNMI Fish and Wildlife Saipan office:	(670) 664-6011/6000
CNMI Emergency Management Office:	(670) 322-9528/9
CNMI Fish and Wildlife Tinian office:	(670) 433-9298
USGS-RRT:	(671) 777-4477

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USDA APHIS WS Guam District Office:	(671) 635-4400
USDA APHIS WS AAFB:	(671) 366-3822
USDA APHIS WS COMNAVMARIANAS	(671) 472-7101

CNMI will dispatch investigating personnel and detector dog team assistance. The WS and Navy Environmental Monitors/CESG will also be notified (via cellular phone numbers provided prior to the exercise).

C. Notifications for BTS Sightings on Guam

When a BTS is sighted, the immediate action is to kill or immobilize the snake so that it cannot escape. The person involved will then collect information of the incident that will describe the circumstances of the sighting, and remain on scene to act as primary POC to other responders. WS may call upon the person who discovered the snake to collect additional information.

1. When a BTS is sighted, killed and/or captured on Guam, or a BTS is suspected to be in a specific area, immediately contact the local area WS office, COMNAVMARIANAS and/or Commander, 36th ABW. The caller will provide the following information regarding BTS presence and will be given instructions regarding follow-on action:

- Caller:
- Military Organization:
- Sighting Location:
- Status: (Snake Killed/Captured/Contained/Loose)
- Date and Time of Sighting:
- Initial Response Action Underway at the Scene:

2. The telephone numbers to call during business hours are:

USDA APHIS WS Guam District Office:	(671) 635-4400
USDA APHIS WS AAFB:	(671) 366-3822
USDA APHIS WS COMNAVMARIANAS	(671) 472-7101

(WS is on call 24 hours per day, and WS field personnel are equipped with cellular telephones. The telephone numbers will be published prior to military exercises).

3. During major exercises, the unit and/or COMNAVMARIANAS will contact the CESG, who will alert exercise personnel needed to respond and the COMNAVMARIANAS Quarterdeck at (671) 339-7133. Cellular telephone numbers will be published prior to major exercises for contact with command Environmental Monitors in the field.

Once notified of a sighting and circumstances, WS will dispatch personnel and/or BTS Detector Dog Teams to the scene. Military personnel will cooperate fully with WS and their inspection of the area, and may provide any assistance needed to locate and capture a BTS.

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D. Post-Training Exercise Snake Sighted in Hawaii

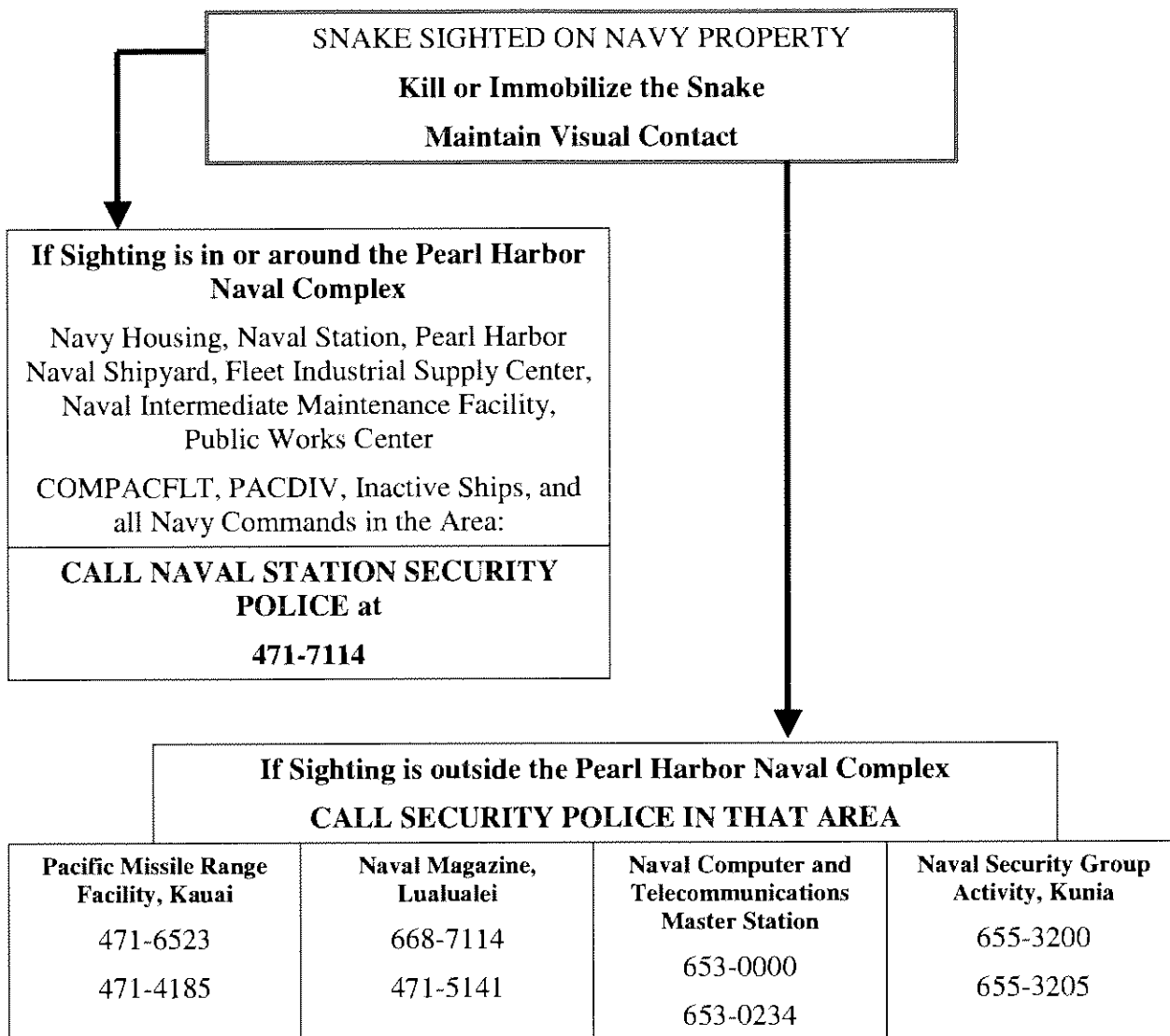
The Emergency Response Protocols established for snake sightings at Navy and Marine, Air Force, and Army installations on Oahu are attached as Enclosure (2). The principal state agency that must be informed is the Hawaii Department of Agriculture (HDOA), Plant Quarantine Branch at (808) 586-7378 or 586-PEST.

VII. REFERENCES

- Brown Tree Snake Control Committee, Aquatic Nuisance Species Task Force. June 1996. *Brown Tree Snake Control Plan*.
- Commander, Amphibious Group One Naval Message 040925Z December 1999, "USS Ogden and USS Rushmore Guam Equipment Washdown 7-13 Nov 99, Consolidated After Action Report of Lessons Learned."
- Commander, U.S. Navy Marianas. October 1996. "Brown Tree Snake (BTS) Control/Interdiction Plan for Military Training Exercises."
- United States Department of Agriculture – Animal and Plant Health Inspection Services – Wildlife Services, Program Aid No. 1636, October 1998. "No Escape from Guam: Stopping the Spread of the Brown Tree Snake."
- United States Department of Agriculture – Animal and Plant Health Inspection Services – Wildlife Services – National Wildlife Research Center, et al. July 1998. "1998 Brown Tree Snake Research Symposium."
- United States Department of Agriculture. June 1996. *Environmental Assessment for Brown Tree Snake Control Activities on Guam*.
- United States Department of Interior, Office of Insular Affairs. September 1999. *Integrated Pest Management Approaches to Preventing the Dispersal of the Brown Tree Snake and Controlling Snakes in Other Situations*.
- United States Pacific Command. June 1999. Final Environmental Impact Statement, Military Training in the Mariana Islands.

HAWAII EMERGENCY RESPONSE PROTOCOLS

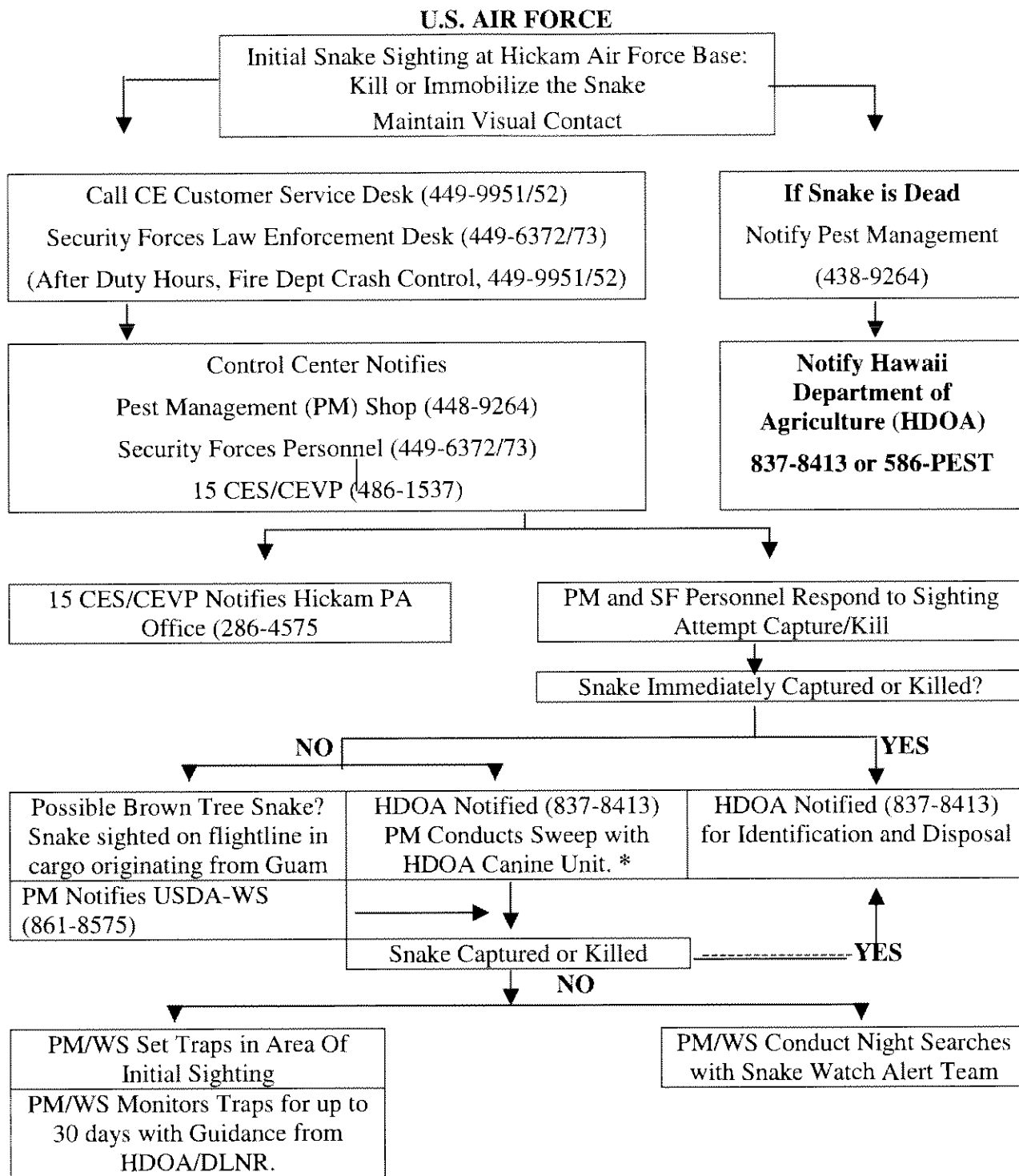
U.S. NAVY



Area Security Police will provide first response to sighting and inform NAVSTA dispatch at 71-7114 and the Department of Agriculture at 586-7378. First responders will collect information on the snake sighting, if it was killed or captured, and act as the primary POC to others responding to the scene. Security Police are trained in snake response equipment and techniques.

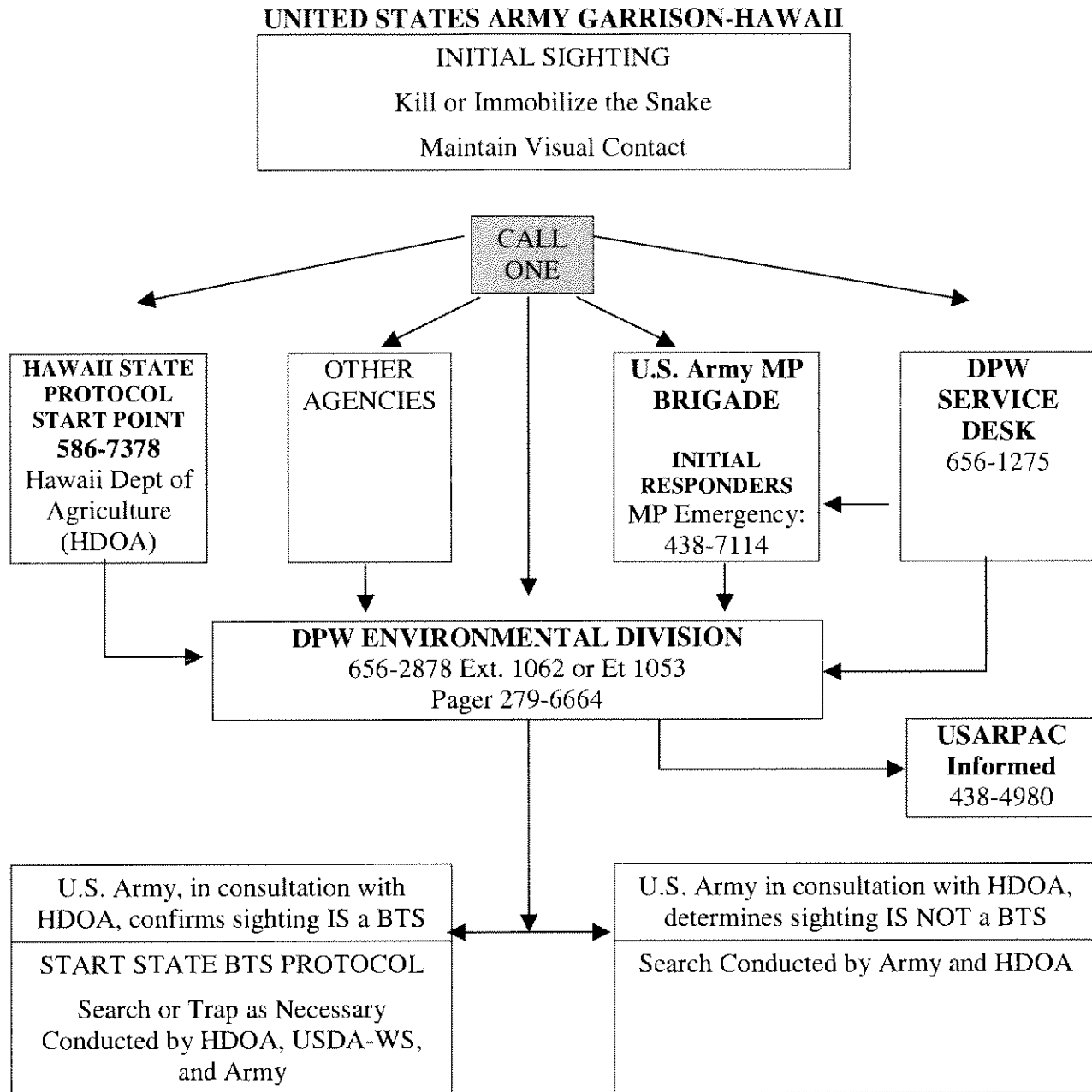
All civilian and military personnel will be briefed on BTS and trained to respond and comply with reporting procedures. The videotape "The Silent Invader" will be shown as part of this training. Training should be recurring. BTS posters will be displayed in buildings to remind personnel of the danger. The reporting number should be changed to the number for that area. For more information, contact the COMNAVBASE Pearl Harbor Regional Conservation Coordinator, at 471-0326, or Environmental Protection Specialist at 471-1171, extension 233. Alternate number is 471-1171, extension 225 (pager number 361-4864).

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Notify J431, USCOMPAC at 477-0850 if State and WS activate Emergency Response Team.

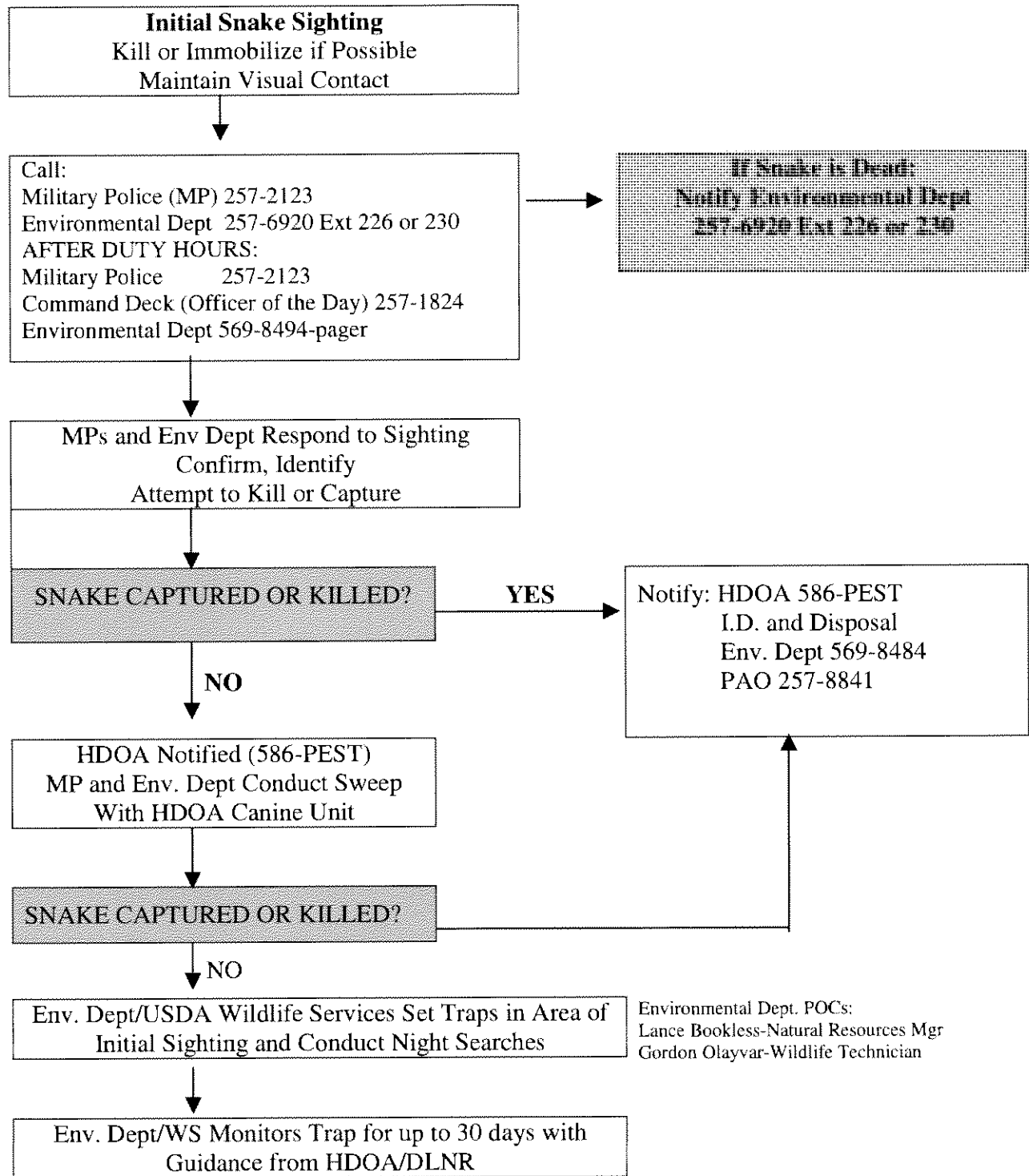
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If State and WS Emergency Response Team are dispatched to military installations, notify J421, USCOMPAC at 477-0850.

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MARINE CORPS BASE HAWAII, KANEOHE BAY



COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

36WGI32-7004

BY ORDER OF THE COMMANDER, 36TH WING

36 WG INSTRUCTION 32-7004

DATE: 15 March 2006

Civil Engineering

BROWN TREE SNAKE MANAGEMENT

OPR: 36 CES/CES (Jonathan Wald)

Certified by: 36 CES/DCE (Merlin J. Miller)

Pages: 16/Distribution: F

This instruction implements the ***Brown Tree Snake Control Plan*** prepared under the Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990, the ***Brown Tree Snake (BTS) Control and Interdiction Plan (COMNAVMARIANAS INSTRUCTION 5090.10)*** dated June 2000, and the ***Brown Tree Snake Control and Eradication Act of 2004*** (Public Law 108-384, 108th Congress). The purpose of this instruction is to establish procedures and guidelines to prevent the spread of Brown Tree Snake (BTS) to areas where it is not already established via the AAFB transportation network. It outlines the procedures for cooperative interagency efforts to control and interdict BTS, including Department of Defense (DoD) coordination, support, and documentation of inspections of outgoing aircraft and cargo by United States Department of Agriculture Wildlife Services (USDA WS) personnel. This instruction applies to all personnel assigned, attached, or associated with the 36th Wing (36 WG), its tenant units, and contractors. This publication also applies to US Air Force Reserve and Air National Guard units and other organizations/tenants associated with or residing on Andersen AFB.

Chapter 1

PROGRAM REQUIREMENTS

1.1. Purpose of Program. Brown Tree Snake (BTS) control and interdiction efforts on Andersen are aimed at reducing the risk of dispersal of the BTS, an invasive species causing extensive damage to Guam's ecology, from Guam via the base's transportation network, as well as addressing ongoing and potential BTS threats to biological resources and human health and safety.

1.2. General Roles and Responsibilities. A Memorandum of Agreement, signed by the United States Departments of Defense, Interior, Agriculture, and Transportation, as well as the State of Hawaii, the Government of Guam, and the Commonwealth of the Northern Marianas Islands,

establishes the cooperative relationship between all signatories in administering BTS control and research activities.

1.2.1. Interdiction Program Requirements. All shipments by air or sea of material originating from Andersen AFB facilities for military exercise support, day-to-day military cargo and equipment and private contractors will be inspected by USDA WS personnel and/or their trained snake detection canines and properly document the inspection before transport off-island. All aircraft, military or civilian, taking off from Andersen AFB will be inspected by USDA WS to the maximum extent possible.

1.2.2. Oversight. 36 CES/CEV will designate a BTS Management Liaison responsible for administering the program outlined in this instruction and resolving any issues dealing with BTS management on Andersen AFB.

1.2.3. Role of U.S. Department of Agriculture Wildlife Service. Control and interdiction protocols will be practiced on a daily basis by private sector contractors and military organizations and/or personnel from Guam's USDA WS, which is the primary federal agency responsible for ensuring the BTS does not leave the island of Guam. USDA WS works cooperatively with the Department of Defense to implement proactive control measures aimed at preventing BTS dispersal.

1.2.3.1. All aircraft and cargo destined for off-island locations have a 100% requirement for BTS inspection. USDA WS personnel require a minimum of 2 hours' notice for inspections and will have detector canine teams available 24/7.

1.2.4. Role of Department of Defense. Andersen personnel involved with military training exercises, operational requirements, private contractors and BTS control/interdiction programs will:

1.2.4.1. Plan, direct, and coordinate all cargo handling procedures for cargo departing Guam with consideration for the on-going threat to the Pacific spread of BTS. Cargo handlers and/or managers will work closely with USDA WS personnel to establish and maintain effective cargo and equipment BTS inspection processes. The agency responsible for the BTS inspection or staging area will coordinate for and provide area lighting when needed.

1.2.4.2. Fully cooperate with USDA WS to conduct measures necessary to reduce the BTS snake population at port and cargo facilities through an integrated approach consisting of technical assistance and lethal and non-lethal control methods such as prey base reduction, exclusion, habitat modification, and capture.

1.2.4.3. Provide USDA WS with adequate forward notification of cargo movements that are not part of typical daily operations, as outlined in the corresponding chapters of this instruction, and assist them as necessary to facilitate the timely completion of the mandatory inspection process.

1.2.4.4. As part of major exercise planning, address BTS control and interdiction procedures in the exercise plan's AF Form 813, Request for Environmental Impact Analysis, in consultation with USDA WS.

1.2.5. Education and Awareness Requirements. The 36 CES/CEV BTS Management Liaison will coordinate closely with USDA WS to obtain and disseminate materials related to BTS education and awareness. Units involved with military training exercises, operational requirements, private contractors and BTS control/interdiction programs at Andersen will:

1.2.5.1. Publish and distribute the BTS Emergency Response Protocol. Prominently display contact information and telephone numbers to report BTS sightings (Attachment 1).

1.2.5.2. Conduct information briefings for both permanently assigned and transient personnel based on materials provided by 36 CES/CEV and USDA WS. Explain the potential for impacts if BTS were transported from Guam in military vehicles, cargo and equipment. Explain individual responsibilities if and when a BTS is sighted (kill/capture/immediately report to USDA WS). Use the BTS Awareness instructional videotapes and printed materials, requesting USDA WS participation and/or demonstrations at the briefings when their workloads permit.

1.2.5.3. Provide information cards to personnel as a reminder of the threat and responsibilities for immediate action.

1.2.5.4. Clearly display BTS identification and information posters in tent cities, dormitories, and work sites.

Chapter 2

OUTBOUND AIRCRAFT INSPECTION PROCEDURES

2.1. Requirements. Aircraft departing for off-island destinations are required to undergo 100% BTS inspections by USDA WS personnel with detector canines. USDA WS requires a minimum of 2 hours' notice in order to conduct an aircraft inspection.

2.2. Exemptions. Aircraft flying local missions that are not scheduled to land off-island are exempt from USDA WS inspection.

2.2.1. Since the BTS is nocturnal, quick-turn aircraft that remain on the ground less than 3 hours during daylight do not require BTS inspection.

2.2.2. Commercial aircraft that remain on the ground less than 3 hours during night time (any time on the ground between official sunset and sunrise) will undergo a visual BTS inspection. Commercial aircraft remaining longer than 3 hours will be prepared for a canine inspection. If a canine inspection occurs, the APUs on commercial aircraft will be off.

2.2.3. Urgent missions, such as MEDEVAC, will not be delayed in order to accomplish a BTS inspection. However, every effort will be made to conduct inspections on these aircraft prior to their scheduled departures.

2.3. Incoming Aircrew Notifications. 36 OSS will publish the following notification of BTS inspection requirements in the appropriate Flight Information Publications: "All aircraft departing Andersen AFB are required to have a brown tree snake inspection conducted by USDA WS. Changes in scheduled departure times require three hours' prior notice to ensure timely accomplishment of this inspection."

2.3.1. 36 OSS will require military aircrews with off-island destinations to file their flight plans no later than 3 hours prior to the desired departure time in order to provide enough response time to the USDA WS.

2.3.2. 36 OSS will relay BTS inspection requirements to deployed units during the "Local Area Knowledge" briefing.

2.4. USDA Notifications. Airfield Management (36 OSS/OSAM) will make a printed copy of the consolidated daily flying schedule available to USDA WS no later than 0600 each day. Failure to provide more than 2 hours' notification may result in a stop movement until an inspection can be conducted.

2.4.1. The 734th AMS is responsible for notifying USDA WS of changes to the daily flying schedule for any of the AMC controlled assets. This notification will be made as soon as possible after learning of the proposed change.

2.4.2. The 36 WG Command Post is responsible for notifying USDA WS of changes to the daily flying schedule for any non-AMC controlled assets. This notification will be made as soon as possible after learning of the proposed change.

2.4.3. HSC-25 will coordinate directly with USDA WS to ensure their aircraft with off-island destinations inspected prior to departure.

2.4.4. The 36 OSS will ensure that aircraft inspections are documented in the Access Database upon receipt of an outbound flight-plan. If no inspection is indicated, 36 OSS will coordinate with USDA WS to get the inspection completed. Every effort will be made to avoid departure delays.

2.5. Documentation Requirements. USDA WS will notify 36 WG Command Post upon completion of each aircraft inspection. 36 WG Command Post will annotate completed inspections in the Access database, annotating the entry with the initials or name of the USDA WS personnel making the notification.

2.5.1. Database Access. The Access database will be visible to authorized users within the 36 WG Command Post, 36 OSS, Expeditionary Bomb Squadron, Tanker Task Force, and 734th AMS. USDA WS will be provided information from the database upon request to any authorized user.

2.6. Authority to Stop Movement. The installation Commander has delegated authority to 36 OSS, upon a request by USDA WS made either directly or via the 36 WG Command Post, to stop any aircraft from departing Guam that has not been inspected and/or is suspected to harbor BTS.

2.6.1. The 36 OSS personnel who direct the stop movement will inform the 36 OSS/CC or his designated representative. The 36 OSS/CC or his designated representative will ensure 36 EOG/CC is briefed on the incident.

2.7. Aircraft departing without inspection. If an aircraft departs without having a BTS inspection accomplished, USDA WS will contact the appropriate agencies at its destination and inform them.

2.7.1. The 36 WG Command Post will inform the 36 OSS/CC or his designated representative if any aircraft has departed without the appropriate BTS inspection. The 36 OSS/CC or his designated representative will ensure wing leadership is briefed on the incident.

Chapter 3

AERIAL PORT CARGO INSPECTION PROCEDURES

3.1. General Responsibilities and Requirements. Outbound aerial shipments from Andersen include general freight, household goods, and unaccompanied baggage.

3.1.1. The 734th Air Mobility Squadron (AMS) on AAFB handles all outgoing air freight. Containers are delivered to the 734 AMS warehouse area, where they are then palletized, processed, and eventually loaded onto aircraft.

3.2. Routine cargo inspections. Inspections of outgoing air cargo are conducted at the 734 AMS warehouse area.

3.2.1. 734 AMS personnel will inspect all originating boxes for holes, punctures, damage and/or cracks that may permit BTS access and inspect all shipments throughout the selection, palletizing, building and loading process. 734 AMS personnel will handle and stack each sealed box individually while building up pallets.

3.2.1.1. 734 AMS will ensure all personnel receive initial in-depth training on procedures to follow upon spotting a BTS and coordinate with WS for periodic follow-up BTS awareness training sessions. Personnel will remain alert for BTS signs or opportunities at all times.

3.2.2. USDA WS will perform routine sweeps of the 734 AMS warehouse and cargo yard grid three times daily, M-F, and twice daily, Sat-Sun, and maintain a log book in the dispatch area that details their inspection dates and times.

3.3 USDA Notifications. 734 AMS load planners will notify USDA WS when load plans are complete, approximately 4-6 hours before departure. Notification will be either in person if USDA WS personnel are present or by phone when necessary.

3.4. Documentation Requirements. The 734 load planner will annotate the load plan with the time and name of the person notified. Upon completion of the inspection, USDA WS will notify 36 WG Command Post. 36 WG Command Post will update the central inspection database accordingly.

3.5 Authority to Stop Movement. The installation Commander has delegated authority to 36 OSS Commander or his designated representative, upon a request by USDA WS made either directly or via the ATOC, to stop any aircraft from departing Guam with any cargo or equipment that has not been inspected and/or is suspected to harbor BTS. 734 AMS ATOC personnel should notify USDA WS and 36 OSS Airfield Management if cargo about to be loaded onto an aircraft or vehicle has not undergone the appropriate BTS inspection.

Chapter 4

MUNITIONS SHIPMENT INSPECTIONS

4.1. Requirements. Munitions movements typically consist of either break-bulk/uncontainerized or International Organization for Standardization (ISO) container movements that are transported to Kilo Wharf on COMNAVMARIANAS, or those which are loaded directly onto aircraft at Andersen AFB. MUNS will schedule BTS inspections through USDA WS in order to better coordinate any munitions activities going on the same day.

4.2. Break-bulk/uncontainerized munitions:

4.2.1. Munitions pallets will be staged in an area conducive to USDA WS BTS inspections prior to on loading onto trailers for transport to Kilo Wharf.

4.2.2. USDA WS canine inspections will be conducted on the munitions while at the staging area before they are loaded.

4.2.3. Munitions will not be loaded on trailers which are not ready for immediate transport (within the same day). Munitions that have been exposed to the environment (not sealed in containers) overnight must be re-inspected by USDA WS prior to transport.

4.3. ISO containers:

4.3.1. Munitions will be staged in an area conducive to USDA WS BTS inspections prior to loading into the containers.

4.3.2. USDA WS canine inspections will be conducted on the munitions while at the staging area before they are loaded into the containers.

4.3.3. Containers not fully loaded, which are to be left unattended overnight, will be sealed after the last USDA WS BTS inspected munitions are loaded into the ISO container. All munitions that were not sealed in containers overnight must be inspected before loading continues on the following day.

4.3.4. Munitions destined for movement via aircraft will be coordinated through the 734 AMS and USDA WS for the BTS inspection prior to loading.

4.4. USDA Notifications. 36 MUNS will attempt to provide an estimated shipping date to USDA a minimum of 30 days out, for most large munitions shipments (i.e. Turbo CADS). Given that this projected date will be tentative, USDA WS will request further updates from MUNS, who will provide a firm target date for all munitions shipments at least 7 days in advance (unless MUNS receives less notice, in which case they will notify USDA WS immediately after learning of the short-notice shipment) and a minimum of 3 hours' notice for any inspections desired on that date.

4.5. Documentation Requirements. 36 MUNS personnel will make an entry in the BTS log located in the crew chief book that identifies the USDA WS inspector for that day's shipment and the approximate time the inspection was conducted, which will then be initialed by the handler conducting the inspection. Before the close of each day in which USDA WS has inspected munitions, USDA WS will coordinate with 36 MUNS to schedule an end-of-day verification of loaded munitions status. At the end of each day, 36 MUNS will make an entry in the BTS log located in the crew chief book verifying that all containers containing munitions packed for shipment have been closed prior to darkness, and the approximate time those containers were closed; USDA WS will authenticate this entry by initialing it.

Chapter 5

TMO SHIPMENTS

5.1. Requirements. Containerized household goods and unaccompanied baggage shipments for Air Force personnel and DOD civilians departing from Andersen AFB, as well as other items scheduled to leave Guam via surface vessel, are managed by Andersen's Transportation Management Office (TMO). When items are shipped by surface vessel, only those containerized prior to transportation to the waterport are addressed by this instruction.

5.1.2. The packing and loading of all household goods at Andersen, including unaccompanied baggage, is accomplished by carriers/local agents before the goods are surface-transported to the port for shipping. USDA WS will promote BTS education and training to local agent/carrier employees.

5.1.3. Items that are of greatest concern are those that have been stored outdoors or in carports and sheds, such as washers, dryers, swing set tubing, lawnmowers, barbeque grills, lumber, pipes, garden hoses, and vehicles. Personnel will be briefed by the TMO that USDA WS will be at the residence to inspect for the presence of BTS.

5.2. Prioritization. Although USDA WS will make every reasonable effort to perform HHG inspections, since HHG are packed at several geographically separated locations simultaneously, USDA WS will prioritize inspections based upon a risk analysis, conducting daily inspections on shipments deemed to pose the largest risk first. Risk factors they consider include packout location, shipment size (shipments of less than 4,000 pounds present a negligible risk), destination (Hawaii and Diego Garcia have the highest priority), and contents (large quantities of goods and equipment stored outdoors carries a higher risk).

5.3. USDA Notifications. TMO will provide USDA WS with a schedule of the upcoming week's HHG packouts and any other container movements every Friday; in addition, they will provide a detailed schedule every day by COB that identifies the type of shipment, carrier, and estimated weight for each of the next day's packouts and container movements.

5.4. Documentation Requirements. USDA WS will make a copy of the weekly schedule and annotate each shipment that was inspected with the inspector's name or initials. USD WS will provide this documentation to TMO ten (10) days later (the following Monday). TMO will maintain these documents on file for at least one year after completion.

5.5. Outbound Privately Owned Vehicles. A significant component of the PCS movement process, personally-owned vehicles (POVs) are handled through a single facility at COMNAVMARIANAS. Vehicles departing Guam are not inspected at Andersen.

5.5.1. USDA WS will conduct canine inspections daily (Monday-Friday) on outbound vehicles at the COMNAVMARIANAS POV lot before being packed directly into 20' or 40' containers and trucked to the Commercial Port for loading onboard a civilian cargo ship. If a vehicle is

inspected but not loaded prior to the close of business on a given day, USDA WS will conduct a follow-up inspection the next business day.

Chapter 6

HSC-25 AIRCRAFT INSPECTION PROCEDURES

6.1. Requirements. Since the BTS is nocturnal; maintenance personnel are present on the flight line in large numbers during the daytime; and pre-flight visual inspections are conducted; a morning inspection of HSC-25 aircraft by USDA WS is considered valid for all flights that take off during daylight hours that same day.

6.1.1. USDA WS inspections of HSC-25 aircraft will be conducted daily prior to the beginning of each day's scheduled flights. To the maximum extent possible, inspections will be conducted at a regular, recurring time as agreed upon by HSC-25 and USDA WS. To ensure timeliness and efficiency, only those aircraft identified by HSC-25 Maintenance Control as viable for flight operations will be inspected. The inspection time will be pre-coordinated between HSC-25 and USDA WS personnel and an HSC-25 Plane Captain will accompany the USDA WS inspector during the inspection to ensure the safety of all personnel and aircraft inspection integrity.

6.1.2. During pre- and post-flight inspections, the inspection of all bays and access panels will include a visual check for potential BTS. In addition, maintenance personnel who are servicing aircraft, conducting daily inspections, and troubleshooting maintenance discrepancies will remain vigilant for BTS incursion. At the completion of daily maintenance, maintenance personnel will ensure all intakes are plugged and all door/panels are secured, which should greatly reduce the possibility of nighttime BTS entry.

6.2. Exemptions. Any aircraft flying missions that are not scheduled to touch down off-island are exempt from USDA WS inspection.

6.2.1. Emergency response exemption. Since delaying an immediate launch for SAR or MEDEVAC is potentially life-threatening to the victim(s), HSC-25 will not delay such missions in order to be inspected. HSC-25 is responsible for informing USDA WS of the short-notice mission upon receipt; if the inspection is not conducted, USDA WS is responsible for making any notification to agencies they deem applicable at the intended destination.

6.3. USDA Notifications. HSC-25 will provide USDA WS a Flight Schedule the evening prior to each Fly Day. The Flight Schedule will annotate the BTS Inspection Time as coordinated between HSC-25 and USDA WS, as well as any known missions that will require HSC-25 to put wheels down anywhere other than Guam soil.


6.3.1. HSC-25 will notify USDA WS of any changes to this schedule when they involve an aircraft taking off during the hours of darkness, at the earliest opportunity once HSC-25 is aware of the change. HSC-25 will also notify USDA WS of any short-notice/emergency flights that would normally require inspection as soon as feasible, but will not delay an emergency response in order to receive an inspection.

6.3.1. Cargo Inspection Notifications. HSC-25 routinely moves cargo for NSWU-1, EODMU-5 and MSS-7, as well as MSC and AF SFS. Any unit transporting cargo via HSC-25 is responsible for clearing their own cargo through USDA WS prior to it being transported to or by HSC-25.

6.3.2. HSC-25 will inform units making requests for cargo transportation of the USDA WS inspection requirement. Units are responsible for notifying USDA WS of the cargo location and estimated pickup time NLT 3 hours prior to the intended pickup time.

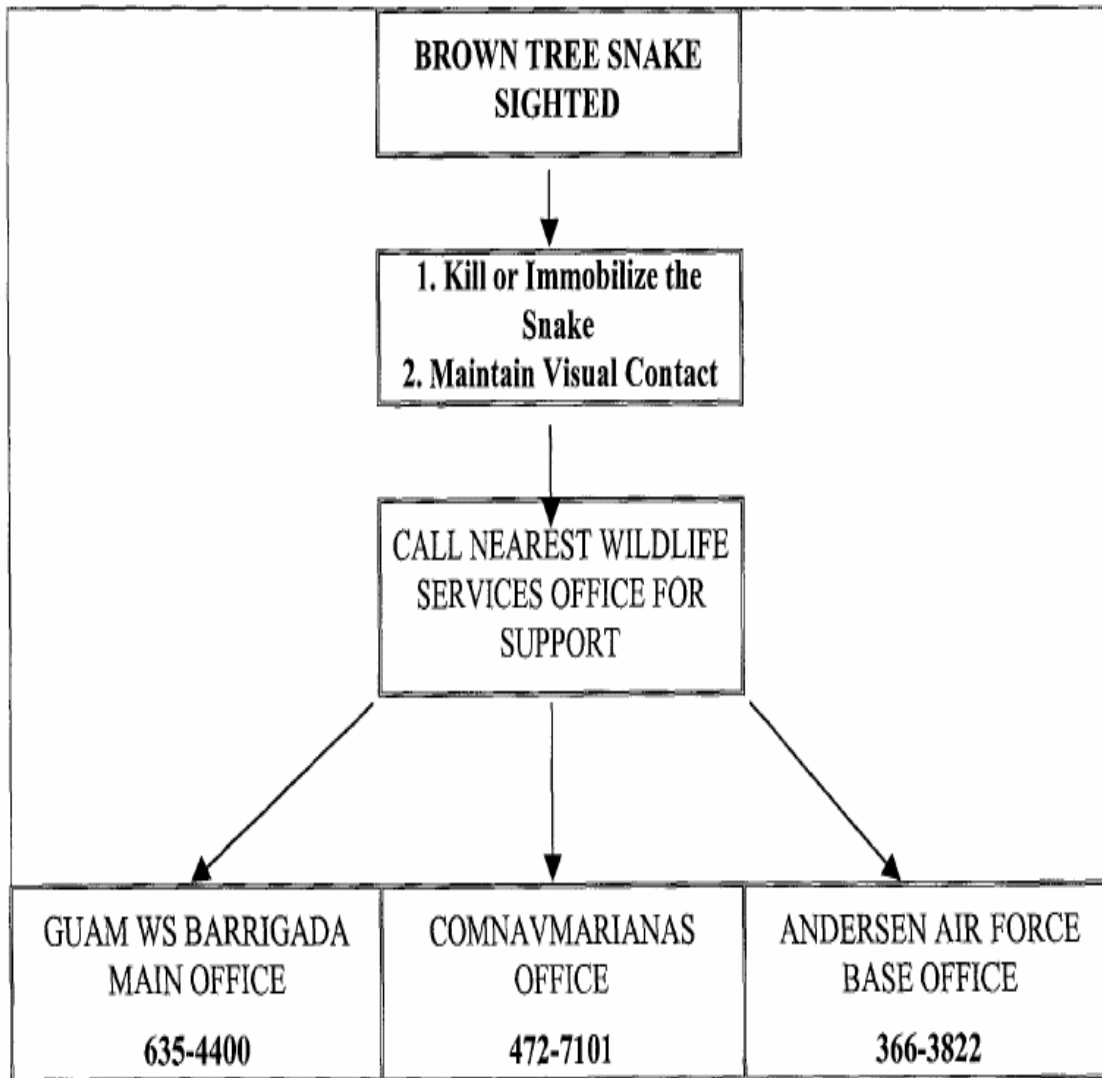
6.3.3. HSC-25 will also brief USDA WS inspectors of any known cargo transport missions during their morning inspection, to assist USDA WS in making arrangements for an inspection with the unit that owns the cargo.

6.4. Documentation Requirements. USDA WS will notify 36 WG Command Post upon completion of HSC-25 aircraft inspections, using the tail numbers of inspected aircraft as a reference. 36 WG Command Post will annotate completed inspections in the Access database, annotating the entry with the initials of the USDA WS personnel making the notification.



MICHAEL R. BOERA, Col, USAF
Commander, 36th Wing

Table 1: BTS Emergency Response Procedures



* This chart refers to brown tree snakes found in cargo and cargo or flightline areas only. If brown tree snakes are found in residential areas there is no need for residents to notify Wildlife Services. Residents can just kill and dispose of the snake.

Attachment 2. BTS Inspection Contact Information.

Subject: USDA Canine Inspection Contact Phone Numbers

Date: March 15, 2006

To: All Cooperators

USDA-Wildlife Services canine inspection hours and contact telephone numbers are listed below. Please take note of the different telephone numbers for locations north and south of the village of Hagatna.

MONDAY-FRIDAY

	<u>North of Hagatna</u>	<u>South of Hagatna</u>
2200 - 0530 hrs:	888-5708	888-5706
0530 - 2200 hrs:	888-5707	888-5705

SATURDAY-SUNDAY



Call 888-5705 or 888-5709 regardless of location.

If no message can be left at the phone numbers listed above, please try to contact our Andersen AFB Team Leader at 888-5713, or Navy Team Leader at 888-5727 to schedule an inspection.

If you have any questions or concerns in regards to this memo, please feel free to contact me at Andersen AFB at 366-3822.

Sincerely,

Jason C. Gibbons
Supervisory Wildlife Biologist
Canine Program Manager, Acting
USDA/APHIS/Wildlife Services, Guam

Transmittal/Review/Approval		FILE NAME SUB 015719_03.01 HACCP.pdf	DATE 11.22.11
CONTRACT NO N62742-10-D-1312 - JQ01		TITLE Fill in Project Title/Location Here NORTH RAMP PARKING PROJECT P101 INCREMENT 1 and P101 INCREMENT 2 ANDERSEN AIR FORCE BASE GUAM, USA	
FROM (CONTRACTOR) TUTOR PERINI CORPORATION		TO OICC, NAVFACMAR	SUBMITTAL NO. 015719_03.01
		FOR SPEC. SECTION 01 57 19.00 20	
ENCL. NO.	NO. OF COPIES	DESCRIPTION	SPEC. SEC.PARA./DWG.NO.
1	5	Hazard Analysis Critical Control Plan (HACCP)	3.17
DATE NEEDED BY: 11.29.11			
TRANSMITTED FOR: <input checked="" type="checkbox"/> APPROVAL <input type="checkbox"/> CLARIFICATION <input type="checkbox"/> SELECTION <input type="checkbox"/> RECORD <input type="checkbox"/> VARIANCE			
It is hereby certified that the material submitted herein conforms to contract requirements and can be installed in the allocated spaces.		CONTRACTOR'S REPRESENTATIVE NAME/TITLE Alex Factor, Alternate QC Manager	SIGNATURE: 
Received By (Print Name & Sign) /Date/Time: _____			
FROM: MANNY A. CONCEPCION PE, QC MANAGER		SIGNATURE: 	DATE: 11.23.11
TO: FRANK CRUZ, CME		For review/comment (5) copies of enclosures forwarded. RETURN WITHIN (5) WORKING DAYS, unless submittal is for record/info purposes only and there are no adverse comments.	
Received By (Print Name & Sign) /Date/Time: _____			
FROM:	TO:	DATE:	
RECOMMEND:			
<input type="checkbox"/> APPROVAL/ACCEPTANCE, subject to contract requirements		<input type="checkbox"/> DISAPPROVAL	
<input type="checkbox"/> APPROVAL/ACCEPTANCE, as noted, subject to contract requirements		<input type="checkbox"/> REVIEWED AND PROCEED	
<input type="checkbox"/> RETURN for correction and resubmission DISAPPROVAL REVIEWED AND PROCEED			
REMARKS:			
<input type="checkbox"/> copies of encls retained		SIGNATURE: _____	
Received By (Print Name & Sign) /Date/Time: _____			
FROM: 36 CES/CEC ROICCA	TO (CONTRACTOR) / ATTENTION: Tutor-Perini Corp	DATE: 11-28-11	
Enclosure(s) is (are):			
<input type="checkbox"/> APPROVED/ACCEPTED, subject to contract requirements		<input type="checkbox"/> DISAPPROVED	
<input checked="" type="checkbox"/> APPROVED/ACCEPTED, as noted, subject to contract requirements		<input type="checkbox"/> NOT REVIEWED	
<input type="checkbox"/> RETURNED for correction and resubmission		<input type="checkbox"/> RECEIVED FOR RECORD	
REMARKS: See comment sheet attached, modify plan as needed.			
File Name: SUB 015719_03.01 HACCP.pdf		SIGNATURE: <u>F. A. Cruz.CME</u>	
<input type="checkbox"/> copies of encls returned		BY DIRECTION OF THE CONTRACTING OFFICER	
Copy to: Contract File (w/encls) ConRep/ET (w/encls) CME (w/encls)		Received By (Print Name & Sign) /Date/Time: File Name: _____	

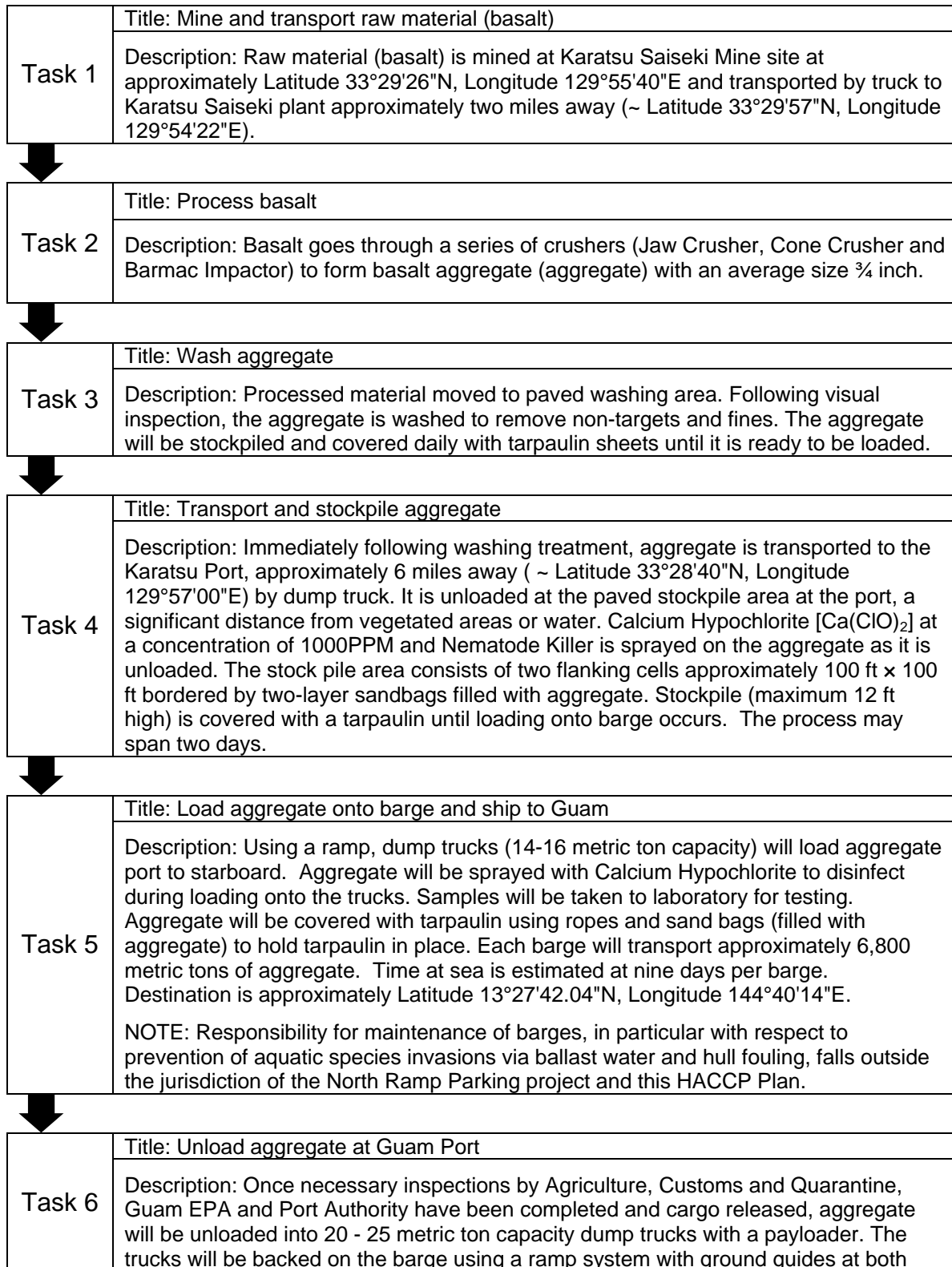
HACCP Step 1 – Activity Description

Management Objective & Contact Information	
HACCP Plan Title: Transportation and Use of Basalt Aggregate for the North Ramp Parking Project, Andersen Air Force Base (AAFB), Guam	
Management Objective: Control of non-target species that may be transported to the site in basalt aggregate	Contact Person: Manny Concepcion, PE - Senior QCM; Alex Factor – Alternate QCM Phone: 671-646-4861 ext. 344 Email: mannyc@blackguam.com; alexf@blackguam.com

Activity Description i.e. Who; What; Where; When; How
<p>WHO: Tutor Perini Corporation</p> <p>WHAT: Import and utilize 47,600 metric tons of basalt aggregate that will be shipped from Karatsu, Japan to Guam by barge as part of the construction activities at North Ramp Parking at AAFB, Guam.</p> <p>WHERE: Aggregate originates from Karatsu, Japan and will be used in the North Ramp Parking Area, AAFB, Guam</p> <p>WHEN: Estimated start date 15 December 2011, completion date 24 May 2012. Barges will transport aggregate Japan to Guam on seven occasions. Estimated round trip including port time is 21 days.</p> <p>HOW: 47,600 metric tons of basalt aggregate will be shipped from Karatsu, Japan to Guam by sea vessel in eight shipments.</p>

HACCP Step 2 – Activity Flow Chart

Outline Sequential Tasks of Activity



	ends of the ramp. The process may span two days.
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Task 7	Title: Transportation to final destination
	Description: Aggregate will be transported directly to either Hawaiian Rock Products (Mangilao) (~ Latitude 13°31'23"N, Longitude 144°53'59"E) or the concrete batch plant located adjacent to the project site on AAFB (~ Latitude 13°35'30"N, Longitude 144°55'28"E). The aggregate will be combined with either concrete (AAFB site) or asphalt (Hawaiian Rock site). Processes for here will be covered under a subsequent HACCP.

HACCP Step 3 – Identify Potential Non-Targets

Non-Targets That May Potentially Be Moved/Introduced

Vertebrates:

Rodents, brown treesnake (*Boiga irregularis*), reptiles, amphibians and other small terrestrial vertebrates.

Note: Since most actions described in the HACCP will affect a number of vertebrates, they can generally be treated as a group.

Invertebrates:

Little fire ant (*Wasmannia auropunctata*), coconut rhinoceros beetle (*Oryctes rhinoceros*), insects, arachnids, annelids and other terrestrial invertebrates

Since most actions described in the HACCP will affect a number of invertebrates, they can generally be treated as a group.

Plants:

Terrestrial plants (including viable seeds)

Note: Since most actions described in the HACCP will affect all plant material equally, they are treated as a group.

Other Organisms (pathogens, parasites, etc.):

Bacteria, viruses, microbial pathogens, nematodes

HACCP Step 4 – Non-Target Analysis Worksheet

1	2	3	4	5	6	7
Tasks	Potential Non-targets	Risk Assessment	Justification	Control	CCP?	Justification
(From Step 2)	(From Step 3)	Are any non-targets significant? Yes or No	Justify your answer in Column 3	What control measures can be applied during this task to reduce the risk of non-targets?	Is this task a CCP? Yes/No	Justify your answer in Column 6

Task # 1 Title: Mine and transport raw material (basalt)	Vertebrates Rodents, reptiles, amphibians and other small vertebrates	No	Low risk of species surviving the mining process	N/A	No	No species considered a significant threat
	Invertebrates insects, arachnids, annelids and other terrestrial invertebrates	No		N/A	No	
	Plants Terrestrial	No	Any species transported from mine site to plant likely already present due to close proximity (2 miles)	N/A	No	
	Others Bacteria, viruses, microbial pathogens, nematodes	No		N/A	No	

Task # 2 Title: Process basalt	Vertebrates Rodents, reptiles, amphibians and other small vertebrates	No	Low risk because crushing process and intense heat (exceeds 302°F [150°C]) will eliminate almost all living organisms in the material. In addition, employees visually inspect as they process and move aggregate to ensure there is no introduction of foreign materials and non-targets	N/A	No	No species considered a significant threat GEPA to inspect processing procedures for certification of the plant and quarry (16-18 Dec 11). Materials will not be allowed to be transported if inspection fails.
	Invertebrates insects, arachnids, annelids and other terrestrial invertebrates	No		N/A	No	
	Plants Terrestrial	No		N/A	No	
	Others Bacteria, viruses, microbial pathogens, nematodes	No		N/A	No	

1	2	3	4	5	6	7
Tasks	Potential Non-targets	Risk Assessment	Justification	Control	CCP?	Justification
(From Step 2)	(From Step 3)	Are any non-targets significant? Yes or No	Justify your answer in Column 3	What control measures can be applied during this task to reduce the risk of non-targets?	Is this task a CCP? Yes/No	Justify your answer in Column 6

Task # 3 Title: Wash aggregate	Vertebrates Rodents, reptiles, amphibians and other small vertebrates	No	Low risk of species being present following Task #2. Employees visually inspect to ensure there is no introduction of non-targets		No	No species considered a significant threat
	Invertebrates insects, arachnids, annelids and other terrestrial invertebrates	No			No	
	Plants Terrestrial	No	N/A	No		
	Others Bacteria, viruses, microbial pathogens, nematodes	No	Low risk of species being present following Task #2.	N/A	No	

1 Tasks (From Step 2)	2 Potential Non-targets (From Step 3)	3 Risk Assessment Are any non-targets significant? Yes or No	4 Justification Justify your answer in Column 3	5 Control What control measures can be applied during this task to reduce the risk of non-targets?	6 CCP? Is this task a CCP? Yes/No	7 Justification Justify your answer in Column 6
Task # 4 Title: Transport and stockpile aggregate	Vertebrates Rodents, reptiles, amphibians and other small vertebrates	No	Low risk following Task #1 - 3, application of Calcium Hypochlorite @ 1000PPM to disinfect and aggregate stockpiled for a short time period. Trucks and equipment used for transporting are cleaned and visually inspected before use	Limit the time the aggregate is stockpiled to a maximum of 24 hours. Stockpile treated with Calcium Hypochlorite @ 1000PPM and immediately covered with tarpaulin. By maintaining cover over the stockpile the chloride gas is chambered, decreasing risk of non-targets entering Clean and/or visually inspect vehicles and loading equipment	No	No species considered a significant threat
	Invertebrates insects, arachnids, annelids and other terrestrial invertebrates	No			No	
	Plants Terrestrial plants and viable seed	No			No	
	Others Bacteria, viruses, microbial pathogens, nematodes	Yes	Although low risk of species being present following Task #1 - 3, unknown organisms may still be present	Limit the time the aggregate is stockpiled to a maximum of 24 hours. Stockpile treated with Calcium Hypochlorite @ 1000PPM and immediately covered with tarpaulin. By maintaining cover over the stockpile the chloride gas is chambered, decreasing risk of non-targets entering GEPA will collect aggregate at Karatsu Port for testing on the initial voyage. Aggregate will be tested twice a week at random locations of the stockpile for the presence of bacteria while waiting to be loaded	Yes	If disinfectant treatment applied incorrectly, species may survive and be transported to Guam. Aggregate will be retreated if bacteria is present

1	2	3	4	5	6	7
Tasks	Potential Non-targets	Risk Assessment	Justification	Control	CCP?	Justification
(From Step 2)	(From Step 3)	Are any non-targets significant? Yes or No	Justify your answer in Column 3	What control measures can be applied during this task to reduce the risk of non-targets?	Is this task a CCP? Yes/No	Justify your answer in Column 6

Task # 5 Title: Load aggregate onto barge and shipped to Guam	Vertebrates Rodents, reptiles, amphibians and other small vertebrates	No	Low risk of species entering via loading equipment. Low risk of rodents present on barge infiltrating aggregate	Trucks and equipment used for transporting is cleaned and visually inspected before use. No food to be consumed in the vicinity of the aggregate	No	If trucks and loading equipment is not properly cleaned and inspected prior to use, slight potential for species to infiltrate and stow away on barge
	Invertebrates Crustacean, insects, arachnids, annelids and other terrestrial invertebrates	Yes	Reasonable risk of transporting non-targets in ballast water or attached to the barge's hull	Stockpiled aggregates treated with Calcium Hypochlorite @ 1000PPM prior to loading of trucks for transport to barge Shipper and/or Ports responsible for ballast water and hull defouling management	Yes	If shipper does not follow ballast water and hull defouling procedures, organisms may be inadvertently introduced to the waters of Guam.
	Plants Viable seeds	No	Low risk following Task #1 -4	N/A	No	No species considered a significant threat
	Others Bacteria, viruses, microbial pathogens, nematodes	Yes	Reasonable risk of transporting non-targets in ballast water of attached to the barge's hull Reasonable risk of contamination of aggregate by deposition of pelagic bird guano (faeces)	Shipper and/or Ports responsible for ballast water use and discharge, and hull defouling management. Stockpiled aggregates treated with Calcium Hypochlorite @ 1000PPM prior to loading of trucks for transport to barge Aggregate covered with tarpaulin	Yes Yes	If shipper does not follow ballast water use and discharge, and hull defouling procedures, organisms may be inadvertently introduced to the waters of Guam. If disinfectant treatment applied incorrectly, species may survive and be transported to Guam. If tarpaulin damaged or missing, risk of contamination could occur.

1 Tasks (From Step 2)	2 Potential Non-targets (From Step 3)	3 Risk Assessment Are any non-targets significant? Yes or No	4 Justification Justify your answer in Column 3	5 Control What control measures can be applied during this task to reduce the risk of non-targets?	6 CCP? Is this task a CCP? Yes/No	7 Justification Justify your answer in Column 6
Task # 6 Title: Unload aggregate at Guam Port	Vertebrates Rodents, reptiles, amphibians and other small vertebrates	No	Low risk because trucks and equipment used for transporting are cleaned and visually inspected before use and aggregate unlikely to harbor species	Aggregate is checked and cleared by Agriculture Customs and Quarantine, Guam EPA and Port Authority of Guam as appropriate	Yes	Aggregate cannot be offloaded until cleared by governing agencies
	Invertebrates Little fire ant, coconut rhinoceros beetle, insects, arachnids, annelids and other terrestrial invertebrates	No		Aggregate is checked and cleared by Agriculture Customs and Quarantine, Guam EPA and Port Authority of Guam as appropriate Trucks and equipment cleaned prior to loading discharge operation beginning and check at the change of each shift	Yes Yes	Aggregate cannot be offloaded until cleared by GEPA If trucks and loading equipment not properly cleaned and inspected, potential for species infiltrate the aggregate
	Plants Viable seeds	No		Aggregate is checked and cleared by Agriculture Customs and Quarantine, Guam EPA and Port Authority of Guam as appropriate	No	No species considered a significant threat Aggregate cannot be offloaded until cleared by GEPA
	Others Bacteria, viruses, microbial pathogens, nematodes	No		Tarpaulin is not removed from the barge or cleaned at port Aggregate is checked by governing agencies where necessary	Yes	If tarpaulin is removed from the barge or cleaned at port, contamination could occur Aggregate cannot be offloaded until cleared by GEPA

Tasks (From Step 2)	Potential Non-targets (From Step 3)	Risk Assessment Are any non-targets significant? Yes or No	Justification Justify your answer in Column 3	Control What control measures can be applied during this task to reduce the risk of non-targets?	CCP? Is this task a CCP? Yes/No	Justification Justify your answer in Column 6
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Task # 7 Title: Transport to final destination	Vertebrates Rodents, Brown treesnake, reptiles, amphibians and other small vertebrates	No	Low risk of most species being transported	N/A	No	No species considered a significant threat or already have a wide distribution throughout Guam
	Invertebrates Little fire ant, coconut rhinoceros beetle insects, arachnids, annelids and other terrestrial invertebrates	Yes	Small risk that little fire ants and coconut rhinoceros beetle may be transported to new areas	Trucks and equipment used for transporting are cleaned and visually inspected before use.	Yes	If trucks and loading equipment is not properly cleaned and inspected prior to use, potential for species to hitchhike on equipment to final destinations
	Plants Terrestrial plants and viable seeds	No	Low risk of transportation of seed and plants on the transportation equipment	Trucks and equipment (particularly tire treads and undercarriage) used for transporting are cleaned and visually inspected before use	No	No species considered a significant threat or have a wide distribution throughout Guam
	Others Bacteria, viruses, microbial pathogens, nematodes	No	Low risk of organisms being present	N/A	No	No species considered a significant threat or already have a wide distribution throughout Guam

HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Mangement Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	4	Title:	Transport and stockpile aggregate
Task #			
Significant Non-Target(s) (Step 4, Column 3)		Bacteria, viruses, microbial pathogens, nematodes	
Control Measure(s) (Step 4, Column 5)		Calcium Hypochlorite and nematode treatment to eliminate remaining organisms	
Precribed ranges, limits, or citeria for control measure(s): (PRLC)		Aggregate is disinfected with Calcium Hypochlorite @ 1000PPM and nematode treatment to eliminate remaining organisms	
Monitoring the Control Measure(s)	Who?	HSJ Co workers responsible for application of treatments	
	How?	Using specialist spray equipment and following plant proceedures	
	Where?	Karatsu Port Stockpile Area	
	How often?	When aggregate is unloaded at the stockpile and prior to loading on the barge	
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		Calcium Hypochlorite and nematode killer applied at recommended concentrations. Aggregate is not transported from the port until correct treatment is applied	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
Karatsu Saiseki Basalt Aggregate and Transportation document, Karatsu Saiseki standard operating instructions for aggregate production and transportation			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
Date Developed:	11/18/2011	Date(s) Reviewed:	Tutor Perini Corporation internal review – 11/22/2011

* all gray fields are required

HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Mangement Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	4	Title:	Transport and stockpile aggregate
Task #			
Significant Non-Target(s) (Step 4, Column 3)		Bacteria, viruses, microbial pathogens, nematodes	
Control Measure(s) (Step 4, Column 5)		Calcium Hypochlorite and nematode treatment to eliminate remaining organisms	
Precribed ranges, limits, or criteria for control measure(s): (PRLC)		Aggregate is disinfected with Calcium Hypochlorite @ 1000PPM to eliminate remaining organisms while loads are delivered to the stockpile area at the Port . Application via a fire hose and pump connected to a water tank. Aggregate tested by governing agencies.	
Monitoring the Control Measure(s)		Who?	HSJ Co workers responsible for application of treatments
		How?	Using specialist spray equipment and following plant proceedures
		Where?	Karatsu Port Stockpile Area
		How often?	Every time a new batch of aggregate is delivered to the stockpile area (daily)
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		Calcium Hypochlorite applied at recommended concentrations. Aggregate is not loaded onto the barge until treatment is applied Aggregate will be retreated until clear of bacteria	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
Karatsu Saiseki Basalt Aggregate and Transportation document, Karatsu Saiseki standard operating instructions for transportation and stockpiling			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
Date Developed:	11/18/2011	Date(s) Reviewed:	Tutor Perini Corporation internal review – 11/22/2011

* all gray fields are required

HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Management Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	5	Title:	Load aggregate onto barge and shipped to Guam
	Task #		
Significant Non-Target(s) (Step 4, Column 3)		Crustacean, insects, arachnids, annelids and other terrestrial invertebrates, bacteria, viruses, microbial pathogens, nematodes	
Control Measure(s) (Step 4, Column 5)		Seabridge and/or Karatsu and Guam Commercial Ports responsible for ballast water use and discharge, and hull defouling management.	
Prescribed ranges, limits, or criteria for control measure(s): (PRLC)		Responsibility for maintenance of barges, in particular with respect to prevention of aquatic species invasions via ballast water and hull fouling, falls outside the jurisdiction of the North Ramp Parking project and this HACCP Plan. However, Tutor Perini Corporation will make every effort to ensure risks are minimized.	
Monitoring the Control Measure(s)		Who?	Seabridge, Karatsu and Guam Commercial Port personell
		How?	Follow standard operating procedures
		Where?	Karatsu Port Stockpile Area and Pacific Ocean
		How often?	On each of the seven occasions when the barge is loaded and travels to Guam
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		Barge may be prohibited from entering Guam Commercial Port if protocols are not adhered to	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
<p>Karatsu Port and Seabridge policies and operating procedures.</p> <p>Supporting Shipping Documents that will be provided</p> <ul style="list-style-type: none"> • Bills of Lading • Treatment Certificate • Pest Free Certificate • Certificate of Cargo Hold Cleanness • Certificate of Origin • Cargo Manifest • Certificate of Chemical Analysis • Gradation Certificate 			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
Date Developed:	11/18/2011	Date(s) Reviewed:	Tutor Perini Corporation internal review – 11/22/2011

* all gray fields are required

HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Management Objective From Step 1	Control of non-target species that may be transported to the site in basalt aggregate		
Critical Control Point: Task #	5	Title:	Load aggregate onto barge and shipped to Guam
Significant Non-Target(s) (Step 4, Column 3)	Bacteria, viruses, microbial pathogens, nematodes		
Control Measure(s) (Step 4, Column 5)	Stockpiled aggregates will be disinfected with Calcium Hypochlorite @ 1000PPM for the second time prior to loading of trucks for transport to barge. Aggregate covered with tarpaulin to prevent contamination by deposition of pelagic bird guano (faeces)		
Prescribed ranges, limits, or criteria for control measure(s): (PRLC)	Check integrity of tarpaulin and rope and aggregate-filled sand bags daily or following weather events for tears, holes or detachment. Repair immediately		
Monitoring the Control Measure(s)	Who?	Seabridge	
	How?	Visual inspection	
	Where?	On the barge deck	
	How often?	Daily and following storm events	
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)	Repair tears and holes or reattach tarpaulin immediately.		
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
None			
Development Team Members	Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor		
Date Developed:	11/18/2011	Date(s) Reviewed:	Tutor Perini Corporation internal review – 11/22/2011

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HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Management Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	6	Title:	Unload aggregate at Guam Commercial Port
Task #			
Significant Non-Target(s) (Step 4, Column 3)		Bacteria, viruses, microbial pathogens, nematodes	
Control Measure(s) (Step 4, Column 5)		Aggregate is checked by Agriculture Customs and Quarantine, Guam EPA and Port Authority of Guam where necessary	
Prescribed ranges, limits, or criteria for control measure(s): (PRLC)		Where necessary, samples sent to University of Guam and Guam EPA for testing as prescribed in Guam Administrative Rules (Title 8)	
Monitoring the Control Measure(s)		Who? HSG Co., Ltd. will conduct discharge operations Hawaiian Rock Products will be responsible for transporting the aggregate to its final destination	
		How? Samples taken and sent for analysis as described above	
		Where? On the barge deck	
		How often? On arrival to Guam	
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		Aggregate will not be offloaded until cleared by governing agencies	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.) Guam Administrative Rules, Title 8, Chapter 13			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
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HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Management Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	6	Title:	Unload aggregate at Guam Commercial Port
	Task #		
Significant Non-Target(s) (Step 4, Column 3)		Bacteria, viruses, microbial pathogens, nematodes	
Control Measure(s) (Step 4, Column 5)		Tarpaulin is not removed from the barge or cleaned at port as a way to prevent contamination	
Prescribed ranges, limits, or criteria for control measure(s): (PRLC)		Tarpaulin is not removed from the barge or cleaned at port. Clean with Calcium Hypochlorite @ 1000PPM onboard the barge if necessary.	
Monitoring the Control Measure(s)	Who?	Seabridge	
	How?	Visual inspection for guano and ensure concentration of cleaning product is correct.	
	Where?	On the barge deck	
	How often?	Whenever necessary or if tarpaulin must be removed from barge	
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		Do not remove tarpaulin if it cannot be thoroughly cleaned	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
None			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
Date Developed:	11/18/2011	Date(s) Reviewed:	Tutor Perini Corporation internal review – 11/22/2011

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HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Management Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	6	Title:	Unload aggregate at Guam Commercial Port
Task #			
Significant Non-Target(s) (Step 4, Column 3)		Vertebrates, little fire ant, coconut rhinoceros beetle, invertebrates	
Control Measure(s) (Step 4, Column 5)		Clean and inspect vehicles and equipment prior to loading aggregate	
Prescribed ranges, limits, or criteria for control measure(s): (PRLC)		Visually inspect unloading and transport equipment prior to loading. Pressure wash at a minimum of 90 psi in addition to visual inspection if equipment has been used to transport, or in the vicinity of, high risk material (e.g., vegetation, soil) or visited high risk locations (e.g., Primos Northern Hardfill) where the little fire ant, coconut rhinoceros beetle or coqui frog have been found	
Monitoring the Control Measure(s)		Who?	Hawaiian Rock Products
		How?	Ensure equipment and vehicles thoroughly cleaned and psi is correct for power washing. Check immediate previous use of vehicles and equipment to determine risk of contamination
		Where?	Guam Commercial Port
		How often?	On arrival to Guam
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		Do not use equipment or vehicles that have not been adequately inspected or cleaned	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
None			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
Date Developed:	11/18/2011	Date(s) Reviewed:	Tutor Perini Corporation internal review – 11/22/2011

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HACCP Step 5 – Non-Target Risk Action Plan (NTRAP)

(Use this form for any "Yes" from Column 6 of HACCP Step 4 - Non-Target Analysis Worksheet) One page for each Critical Control Point			
Management Objective From Step 1		Control of non-target species that may be transported to the site in basalt aggregate	
Critical Control Point:	7	Title:	Transport to final destination
Task #			
Significant Non-Target(s) (Step 4, Column 3)		Vertebrates, little fire ant, coconut rhinoceros beetle, invertebrates	
Control Measure(s) (Step 4, Column 5)		Inspect vehicles and equipment at desination	
Precribed ranges, limits, or criteria for control measure(s): (PRLC)		Visually inspect undercarriage and tires prior to unloading	
Monitoring the Control Measure(s)	Who?	Hawaiian Rock Products personnel	
	How?	Ensure equipment and vehicles thoroughly visually inspected	
	Where?	Hawaiian Rock Products asphalt site and concrete batch plant on AAFB	
	How often?	Upon arrival, immediately prior to unloading	
Corrective Action(s) if Control Measures Fail (or PRLC cannot be met)		If fire ants are encountered, collect sample and bring to Dr. Miller (735-2141) @ UOG College of Natural and Applied Sciences Dean's office during weekday business hours or Dr. Campbell (472-5812 ext 15) @ the Plant Inspection Station on Tiyan.	
Supporting Documents (For example, Management Plan, Checklist, Decontamination Techniques, SOPs, Scientific Journal Articles, etc.)			
Guam Coconut Rhinoceros Beetle Eradication Plan, http://www.pacificnewscenter.com/index.php?option=com_content&view=article&id=18530:ant-apb&catid=45:guam-news&Itemid=156			
Development Team Members		Michelle Christy, Nathan Johnson, Manny Concepcion, Reid Railey Don McCann, Alex Factor	
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