

**Annual Report for the Biological Opinion for the Department of the Navy's  
Relocation of the U.S. Marine Corps from Okinawa to Guam and Associated  
Activities on Guam**

**Reporting Period – October 1, 2020 to September 30, 2021 (FY 2021)**

**Introduction:** This annual report addresses the implementation of the conservation measures and terms and conditions in fiscal year 2021 (FY21) for the relocation of Marine Corps personnel from Okinawa, Japan to Guam. Relocation efforts consist of the construction and operation of a main cantonment area, including family housing; and construction and operation of a live-fire training range complex (LFTRC); and other training activities on Guam. The format of the annual report follows the format of the biological opinions, amendments and clarifications (2015, 2017, 2018 & 2020). Construction contracts for work at Finegayan, Andersen Air Force Base, Northwest Field (rifle range, pistol range, non-standard small arms range and modified record of fire range), Andersen South, and Naval Base Guam were on-going or initiated in FY21:

- (1) J-001B Finegayan Utilities and Site Improvements Phase 1
- (2) J-006 Apra Medical Clinic
- (3) J-007 Waterfront Head Quarters
- (4) J-011 Base Administrative Bldg.
- (5) J-014 Physical Training Complex
- (6) J-017 I & III Main and Commercial Gates
- (7) J-017 II ADNs
- (8) J-018 Security Bldg./Police Station
- (9) J-025 Medical Dental Clinic
- (10) J-032 BEQ E
- (11) J-031/33 BEQ D/ BEQ F
- (12) J-034 BEQ B
- (13) J-036 BEQ C
- (14) J-037 BEQ G
- (15) J-038 BEQ J
- (16) J-039 BEQ K
- (17) J-301 Consolidated Headquarters
- (18) J-755 Urban Combat Training
- (19) P-102 Power Upgrade
- (20) P-187 BTS Exclusion Barrier South
- (21) P-250/260 MALS Facilities & Corrosion Control Hangar
- (22) P-270 GYM/DINING Facility
- (23) P-280 Aviation Admin Bldg.
- (24) P-290 Earth Covered Magazine (MSA)
- (25) P-295 Ordnance Ops.
- (26) P-296 Ordnance Ops. Admin Facility
- (27) P-306 CLB-4 Facilities
- (28) P-311 Fuel Station

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- (29) P-312/804 Distribution Warehouse/Central Issue Facility
- (30) P-317 Fire Station
- (31) P-459 Bachelor Enlisted Quarters (BEQ)
- (32) P-601 Aircraft Hangar
- (33) P-715 Live-Fire Training Range Complex Known Distance Ranges
- (34) P-802 Base Warehouse
- (35) P-803 Ind. Combat Skills Training

Construction contracts and the resulting ground disturbance prompt the implementation of most conservation measures commensurate with the impact associated with the ground disturbance or the operation of facilities or training. Unless otherwise stated, construction and associated ground disturbance are the triggers for the conservation measures and terms and conditions.

**PART I: BIOLOGICAL OPINION 013P1F00-2015-F-0025 OF JULY 31, 2015 (2015 BO)**

**1. General Conservation Measures to Contribute to the Recovery of Listed Species**

**a. Forest Enhancement:** Includes the installation of ungulate fencing, removal of ungulates and invasive plants and outplanting of native plant species commensurate with the amount of recovery habitat cleared by the Department of Navy (DON) related projects.

Conservation Measure Implementation: As of September 30, 2021, the total clearing associated with Guam Micronesian kingfisher and Mariana fruit bat recovery habitat includes approximately 615.93 acres (249.2 ha) (Attachment 1).

In areas where ungulate fencing was installed in FY19 and FY20 the first phase of ungulate eradication was completed in October 2020, with 323 deer and 85 pigs removed from 417 acres (169 ha) of the northern forest enhancement site at Finegayan. The 262 acre (106 ha) second phase of ungulate eradication is expected to be completed in FY22. As of September 30, 2021, 199 deer and 41 pigs have been removed during phase 2.

Targeted invasive plant removal is also ongoing, with discrete infestations targeted for eradication. Concurrently, trials to test multiple control methods for invasive trees (primarily *Vitex parviflora*) and other invasive vines are in progress to develop tools for use at the landscape level. Trials will continue until an effective methodology is developed.

**b. Guam *Serianthes nelsonii* Adult Tree:** Includes installation of fencing around the adult *Serianthes* tree at Northwest Field (NWF) to protect it from ungulates and outplanting of 30 individuals of *Serianthes nelsonii*.

Conservation Measure Implementation: Fence construction for 2.3 miles of ungulate fencing was initiated in FY20 and was completed on March 31, 2021.

No outplanting of *Serianthes nelsonii* individuals occurred in FY21 however, a cooperative agreement was awarded on August 28, 2021 for *Serianthes nelsonii* propagation, outplanting and maintenance. Outplanting will occur as part of forest enhancement activities.

**c. Sea Turtle Public Outreach and Coordination:**

Reporting requirement not required as sea turtles were addressed through informal consultation. Refer to United States Fish and Wildlife Service (USFWS) letter of March 27, 2020. The conservation measures identified by the DON will be implemented as stated in the informal consultation.

**d. Brown Treesnake (BTS) Control and Suppression:** Includes implementation of projects in the BTS Technical Working Group Strategic Plan and installation of BTS barriers.

Conservation Measure Implementation: Approximately 160 acres of the northern section of the Finegayan Forest Enhancement Site will be enclosed by a barrier to control BTS, rats and cats. The multi-species barrier construction is planned for FY23.

## 2. Conservation Measures to Minimize the Effects of Construction

**a. Contractor Education Program:** Ensures that construction contractor personnel are informed of the biological resources in the project area, including invasive species, special status species, avoidance measures, and reporting requirements.

Conservation Measure Implementation: Contractors from all active construction projects were provided training by the Marine Corps Base Camp Blaz (MCB CB) Natural Resources staff in FY21. Construction project numbers are: J-001B, J-006, J-014, J-017, J-018, J-025, J-032, J-034, J-036, J-037, J-038, J-039, J-301, J-755, P-102, P-187, P-270, P-280, P-290, P-306, P-459, P-601, P-715, P-802, and P-803.

**b. Contractor Plans and Specifications:** All construction will occur within the limits of construction shown in the plans and specifications.

Conservation Measure Implementation: The construction contracts have language included in the Unified Facilities Guide Specifications, under Temporary Environmental Controls SECTION 01 57 19 TEMPORARY ENVIRONMENTAL CONTROL 1.6.1 Preconstruction Survey and Protection of Features, to require the construction contractor to stay within the limits of construction. No construction occurred outside the limits of construction shown in the plan and specifications in FY21.

**c. Pre-Construction Surveys for the Mariana Fruit Bat:** For projects within or in the vicinity of suitable fruit bat habitat, surveys following the USFWS-approved Joint Region Marianas (JRM) protocol were conducted one week prior to the onset of work.

Conservation Measure Implementation: To further minimize potential impacts to Mariana fruit bats, MCB CB provides natural resources awareness training to all contractor and DON personnel working within proposed action footprint. Pamphlets are distributed to aide in the identification of Marina fruit bat in the field and provide information on reporting protocols for sightings of Mariana fruit bat. In FY21, the MCB CB EV team conducted fruit bat surveys prior to vegetation clearing for the following construction projects: J-001B, J-755, P-296, and P-715. No bats were seen during pre-construction surveys.

**d. Guam Landscaping Guidelines:** Native or non-invasive species will be planted in all new landscapes.

Conservation Measure Implementation: Guam Landscaping Guidelines are included in all construction specifications awarded to date. Landscaping actions which occurred in FY21 include the following horizontal projects: J-001B, J-755 and P-715 and vertical projects: J-006, J-007, P-250/P-260, P-295 and P-601.

**e. LFTRC Range Berm Controls:** LFTRC range berms will contain native or non-invasive herbaceous vegetation, and other engineering controls.

Conservation Measure Implementation: Clearing and grubbing of the range footprint for four of the five ranges has been initiated. Conservation measures associated with the berms will commence after berm construction is complete.

**f. Lighting Installation:** Either hooded or “night-adapted” lights will be installed at the LFTRC.

Reporting requirement not required as sea turtles were addressed through informal consultation. Refer to United States Fish and Wildlife Service (USFWS) letter of March 27, 2020. The conservation measures identified by the DON will be implemented as stated in the informal consultation.

**g. Monitoring Construction Contractors:** The DON will be responsible for oversight of avoidance, minimization, and conservation measure implementation by the contractors for projects associated with the proposed action.

Conservation Measure Implementation: Oversight for natural resources compliance was completed by bio-monitor staff for all active construction projects. Biological monitoring was conducted by MCB CB natural resources staff and contracted personnel. Biological monitors conducted inspections of construction equipment and supplies to ensure they are free of invasive species. Biological monitors inspected project sites to ensure impacts to listed species are minimized and impact to their habitats did not occur outside of the designated project footprints. Inspections were conducted at the following project sites: J-001B, J-006, J-007, J-011, J-017-I/III, J-017-II, J-025, J-031/033, J-609, J-755, P187, P-250/260, P-270, P-295, P-296, P-459, P-601, and P-715.

### **3. Conservation Measures to Minimize the Effects of Invasive Species**

**a. Onsite Vegetation Waste Management:** Green waste is handled by the contractors at designated laydown areas within the limits of construction. Contractors are required to divert all green waste. The larger-sized green waste, consisting of trees and stumps, is processed into mulch and the smaller-sized green waste is processed into compost.

Conservation Measure Implementation: Onsite vegetation waste management procedures are included in all construction specifications awarded to date.

**b. DON's Final Guam Landscaping Guidelines:** The DON has developed a manual providing landscaping design guidelines specific to appropriate plant selection and establishment for all the DON construction activities on Guam.

Conservation Measure Implementation: Guam Landscaping Guidelines are included in all construction specifications awarded to date.

**c. Biosecurity Outreach and Education:** The DON has initiated, and will continue to implement, a targeted, comprehensive biosecurity outreach and education program for Department of Defense (DoD) and civilian populations. These biosecurity programs focus on prevention.

Conservation Measure Implementation: In FY21, the outreach and education project used TV, radio and social media platforms. FY20 recommendations to improve overall reach and effectiveness of campaign included placement of ads to run over a 24-hour cycle rather than only during certain time frames proved effective at reaching over the target number of viewers.

DON continued collaboration with Department of Agriculture (DoAG) Biosecurity division resulting in 4,500+ links to DoAG's homepage.

Social media efforts exceeded contract requirements. The 30-second public service announcements (PSA) were 87% of required views (367,711 views). The 15-second PSA resulted in 107% of required views. (560,212 views).

**d. HACCP Planning:** A pathway management tool that provides a comprehensive method to identify risk and focus procedures to prevent spread of species through pathways.

Conservation Measure Implementation: All construction contracts contain a requirement to develop a Hazard Analysis Critical Control Point (HACCP) Plan, which will identify risks and potential pathways for non-native species and will outline procedures for controlling and removing risks identified. All construction contracts with HACCP programs include: J-001B, J-006, J-007, J-011, J-014, J-017 I & III, J-017 II, J-025, J-31/33, J-755, J-755, P-250/260, P-270, P-295, P-296, P-312/804, P-317, P-311, P-459, P-601, P-715, and P-735

Monthly natural resource inspections were conducted by the DON in FY21 to ensure the HACCP programs were being implemented. HACCP Plan report files are large, and will be made available upon request.

**e. Monitoring to Evaluate Effectiveness of HACCP:** To document the effectiveness of the HACCP implementation at construction sites, the DON has developed and implemented a

long-term monitoring program for terrestrial vegetation. If new non-native, invasive species are detected, the DON will notify the USFWS and the DON will develop and implement an eradication plan or control effort to prevent infestation.

Conservation Measure Implementation: The requirement to evaluate effectiveness of HACCP has been included in Unified Facilities Guide Specifications under Supplemental Temporary Environmental Controls DPRI SECTION 01 57 19.04 3.1.4 Biosecurity. Ongoing construction activities are implementing their approved HACCP plan. In FY21, long-term vegetation program HACCP evaluation surveys were conducted for J-001B, J-006, J-007, J-755, P-102, P-103, P-290, P-295, P-296, P-715 and P-735. No new non-native invasive species were detected in FY21 resulting from construction activities.

**f. Brown Treesnake Interdiction:** The DON will fund any increase of current federally funded BTS interdiction measures (in Guam, CNMI and Hawaii) where the increase is related to direct, indirect and induced growth caused by the Marine Corps relocation to Guam and coordinated with the USGS regarding the Brown Treesnake Research Closed Population Facility at NWF.

Conservation Measure Implementation: The DON has worked with the United States Department of Agriculture (USDA) and the USFWS to determine BTS interdiction cost increases. As of September 30, 2021, there has been no measurable increase in interdiction costs according to USDA. The LFTRC is still under construction and not operational, therefore there has been no coordination with USGS regarding the Brown Treesnake Research Closed Population Facility at NWF.

#### **4. Conservation Measures to Minimize the Effects of Fire**

**a. Fire Management:** Fire management is a key component of range management. The Fire Management Plan will be finalized for the LFTRC prior to operation of the first range at the LFTRC.

Conservation Measure Implementation: A cooperative agreement was entered into with Colorado State University, Center for Environmental Management of Military Lands in September of 2017 for the development of a fire management plan for the LFTRC on Guam. DON has completed its review of the plan. A draft of the Integrated Wildland Fire Management Plan will be submitted to USFWS for a 30-day review to provide comments and recommendations for the DON's consideration.

#### **5. Conservation Measures to Minimize the Effects of Training**

**a. Aviation Training in Naval Munitions Site (NMS):** All aviation training will be conducted so that flights will approach the southern portion of the NMS over the Talofofu River watershed and Fena Reservoir at heights of 1,000ft (305 m) or greater above ground level.

Reporting requirement not required as Mariana swiftlets were addressed through informal consultation. Refer to USFWS letter of March 27, 2020. The conservation measures identified by the DON will be implemented as stated in the informal consultation.

**b. Ground Training at NMS:** The DON will maintain 328 ft (100 m) “no-training buffers” around the known Mariana swiftlet nesting caves (eg., Mahlac Cave, Fachi Cave, and Maemong Cave) in NMS.

Reporting requirement not required as Mariana swiftlets were addressed through informal consultation. Refer to USFWS letter of March 27, 2020. The conservation measures identified by the DON will be implemented as stated in the informal consultation.

## 6. Other Actions Considered for Analysis

**a. Guam Micronesian Kingfisher (GMK) Memorandum of Agreement (MOA):** Since the signing of the Guam Micronesian Kingfisher Memorandum of Agreement (MOA) in 2015, the DON has funded a number of projects in support of the MOA objectives, including brown tree snake eradication trials, allocating funds for staffing, and planning and compliance activities in support of management actions.

In FY21, we coordinated with the Marianas team of the USFWS to discuss projects for FY21. The consensus was to fund three projects: ungulate eradication, long-term brown treesnake eradication, and a structured decision-making workshop. Joint Region Marianas funded the long-term BTS eradication in the previous fiscal year. Due to continued COVID-19 restrictions, the structured decision-making workshop has been postponed. The project funded in FY21 was ungulate eradication at the Haputo Ecological Reserve Area for \$1.5 million dollars.

**7. Terms and Conditions:** Terms and Conditions from the 2015 BO are superseded by the 2017 BO amendment.



**PART II: BIOLOGICAL OPINION 01EPIF00-2016-F-0185 OF JULY 19, 2017  
(2017 BO)**

**1. General Conservation Measures to Contribute to the Recovery of Listed Species**

**a. Fencing of the Haputo Ecological Reserve Area (ERA) Access Trail, Signage, and Education:** The fencing will prevent overuse by military and civilian personnel and potential damage to terrestrial biological resources within the ERA.

Conservation Measure Implementation: The Haputo ERA is closed to military and civilian personnel. A contract for the fencing of the northern portion of the Haputo ERA (168 acres) was awarded in the fourth quarter of FY19. A second contract for the fencing of the southern portion of the Haputo ERA (116 acres) was awarded in the fourth quarter of FY20. However, the projects were delayed due to logistics and the pandemic. The fencing is expected to be complete in FY22.

**b. Pre-construction Survey, General Listed Plant Salvage and Translocation:** The DON will conduct pre-construction surveys to identify all listed plant species prior to the commencement of construction activities. If pre-construction surveys identify a listed plant species present in the construction area and the individuals cannot be avoided or translocated, then healthy plant material will be salvaged or available seeds will be collected, and such material will be housed in the Native Plant Nursery or directly transplanted into protected habitat or Forest Enhancement Sites.

Conservation Measure Implementation: DON has conducted pre-construction surveys for four construction projects (J-001B, J-755, P-103, and P-715) to identify all listed plant species prior to the commencement of construction activities. Table 1 identifies the number of plants salvaged, and the number viable as of September 30, 2021.

**Table 1. Plants or seed collected (in progress)**

Species Name	No. Healthy and Suitable for Salvage	No. Required to Meet Success Criteria	Type	# Salvaged	# Viable to Date
<i>Cycas micronesica</i>	833*	402*	Apical stems	6	6
			Pups	48	48
			Trees	27	22
			Seeds	1693*	883*
<i>Tuberolabium guamense</i>	566	283	Whole plant	500	490
<i>Dendrobium guamense</i>	18	9	Whole plant	18	18

N/A - not applicable

\* Number is cumulative and not based on reporting year.

**c. Native Plant Nursery:** Developed for the storage and propagation activities of native and listed plant species, associated with the proposed action.

Conservation Measure Implementation: Table 2 identifies the number of threatened or endangered plants salvaged that are currently being housed in the nursery.

**Table 2. Threatened or Endangered Plant Species at the Native Plant Nursery**

Species	Type of specimen			Collected by		Estimated Readiness for Outplanting In Reporting Period
	Seed	Propagated	Viable	Nursery Staff	Third-party transfer	
<i>Bulbophyllum guamense</i>			4*	X		21-Sep
<i>Cycas micronesica</i>		1		X		21-Sep
<i>Cycas micronesica</i>			201		X	21-Sep
<i>Heritiera longipetiolata</i>			15		X	21-Sep
<i>Heritiera longipetiolata</i>		14			X	
<i>Tabernaemontana rotensis</i>			956		X	21-Sep
<i>Tabernaemontana rotensis</i>		12			X	22-Mar

\*Represents number of clumps of the species not bulblets

**d. Authorized Biologist Qualifications and Propagation/Translocation Authorization**

**Process:** Prior to commencing translocation of the listed species the DON shall submit a statement of qualifications for potential biologist to the USFWS.

Conservation Measure Implementation: The following people were concurred by USFWS as authorized biologists: Hector Elias Justiniani (*Bulbophyllum guamense*, *Cycas micronesica*, *Tabernaemontana rotensis*, *Tuberolabium guamense*, and *Heritiera longipetiolata*) and Gregorio Borja (*Bulbophyllum guamense*), and Jianna Soriano (*Tuberolabium guamense*, *Dendrobium guamense*, *Bulbophyllum guamense*). However, Ms. Christine Laurent, Ms. Jennifer Abrincia and Mr. John Horeg were denied by the FWS as authorized biologists.

**e. Annual Reporting of Conservation Measures:** The authorized biologist shall record each observation of each species handled in an annual monitoring report.

Conservation Measure Implementation: No tree snails or Mariana eight-spot butterflies were translocated during the reporting period.

**f. Avoidance of Listed Orchid Species in Small Location at Finegayan:** The DON will not construct within the area designated as “No Construction Area” within the proposed Main Cantonment because the location is not suitable for construction.

Conservation Measure Implementation: No construction has occurred within the area designated as “No Construction Area” within the main cantonment.

**g. Forest Enhancement Sites, Ungulate Eradication Areas and BTS Exclusion Fences:** Contribute to the recovery of listed species within two Forest Enhancement Sites (North Finegayan and South Finegayan), the NWF Ungulate Control Area, and two BTS Exclusion Fences (North Unit and South Unit).

Conservation Measure Implementation: Forest enhancement and restoration activities conducted to date include:

- (1) Identification of forest restoration/enhancement blocks;
- (2) Mapping the proposed forest restoration/enhancement area boundaries;
- (3) Authorization received from Andersen Air Force Base for specific area of forest to be restored or enhanced and vegetation clearance approach for permanent ungulate fences, access-grid trails, and temporary cross fencing;
- (4) Obtaining clearance for any ground disturbing activities from UXO specialist;
- (5) Performing forest inventory for species density and dominance;
- (6) Constructing permanent ungulate exclusion fence around perimeter of the enhancement site. Phase I was completed in FY20. Phase II completed in September 2021.
- (7) Ungulate removal Phase I was completed in October of 2020. Ungulate removal Phase II is expected to be complete in FY22. [See Part I, Section 1.a of this report for details.]

**h. Brown Treesnake Exclusion Fences:**

Conservation Measure Implementation: Addressed in Part II, item 1.d.

**i. Northwest Field Ungulate Control Area:** Construct an ungulate exclusion fence to exclude feral ungulates from the LFTRC in NWF.

Conservation Measure Implementation: Fence construction for 2.3 miles of ungulate fencing was initiated in FY20 and was completed on March 31, 2021. USDA has finalized details of population count methodology and began removal of ungulates in temporary enclosures in August of 2021. Removal of ungulates has been slow because the fence along the cliff line is not complete. Remaining fence is expected to be completed in FY22.

## 2. Conservation Measures for Specific Species

**a. Mariana Eight-Spot Butterfly:** The DON will conduct pre-construction surveys to identify any stages of the Mariana eight-spot butterfly prior to the commencement of construction activities. If any life stage of the Mariana eight-spot butterfly is located within a project footprint, it will be relocated onto an appropriate host plant within similar sites away from the project footprint. In addition, DON will plant the Mariana eight-spot butterfly host plants (*P. pedunculata* and *E. calcareum*) within the Forest Enhancement Sites and on the backside of the earthen berms of LFTRC ranges.

Conservation Measure Implementation: No Mariana eight-spot butterflies were translocated in FY21 as none were identified within project footprints during the reporting period.

As of September 30, 2021, no Mariana eight-spot butterfly host plants (*P. pedunculata* and *E. calcareum*) have been planted within the forest enhancement sites or on the backside of the earthen berms of LFTRC ranges.

**b. Guam Tree Snails [Guam, fragile and humped tree snail]:** Pre-construction surveys to identify any Guam tree snail, fragile tree snail, or humped tree snail within the project footprint prior to the commencement of construction activities. If any listed snail is found, the authorized biologist will translocate the listed snail away from the project footprint and into suitable habitat.

Conservation Measure Implementation: No tree snails were translocated in FY21 as none were identified within project footprints during the reporting period.

**c. Mariana Fruit Bat:** Surveys following the USFWS-recommended JRM protocol will be conducted one week prior to the onset of work.

Conservation Measure Implementation: MCB CB provides natural resources awareness training to all contractor and DON personnel working within construction footprint. Pamphlets are distributed to identify Mariana fruit bat in the field and provides information on reporting protocols.

**d. Listed Plant Species:** Healthy listed plants located within a project footprint will be transplanted into Forest Enhancement Sites or other suitable protected areas (e.g., NWF Ungulate Control Area) prior to clearing.

Conservation Measure Implementation: DON conducted plant salvage at six construction sites (J-001B, J-755, P-290, P-295, P-296, P-715 and P-735). For more information, please refer to Tables 1, 2 and Attachment 1.

**3. Conservation Measures to Minimize the Effects of Construction:** Addressed under the response for the July 31, 2015 Biological Opinion on the Department of the Navy's

Relocation of U.S. Marine Corps from Okinawa to Guam and Associated Activities on Guam. See Part I, Paragraph 2 of this report,

4. **Conservation Measures to Minimize the Effects of Invasive Species:** Addressed under the response for the July 31, 2015 Biological Opinion on the Department of the Navy's Relocation of U.S. Marine Corps from Okinawa to Guam and Associated Activities on Guam. See Part I, Paragraph 3 of this report.
5. **Conservation Measures to Minimize the Effects of Fire:** Addressed under the response for the July 31, 2015 Biological Opinion on the Department of the Navy's Relocation of U.S. Marine Corps from Okinawa to Guam and Associated Activities on Guam. See Part I, Paragraph 4 of this report.

#### 6. **Conservation Measures to Minimize the Effects of Training**

a. **Aviation Training in NMS:** Reporting requirement not required as Mariana swiftlets were addressed through informal consultation. Refer to United States Fish and Wildlife Service (USFWS) letter of March 27, 2020. The conservation measures identified by the DON will be implemented as stated in the informal consultation.

b. **Ground Training in NMS:** Reporting requirement not required as Mariana swiftlets were addressed through informal consultation. Refer to United States Fish and Wildlife Service (USFWS) letter of March 27, 2020. The conservation measures identified by the DON will be implemented as stated in the informal consultation.

c. **Designated No Wildlife Disturbance Areas:** Addressed under the response for the July 31, 2015 Biological Opinion on the Department of the Navy's Relocation of U.S. Marine Corps from Okinawa to Guam and Associated Activities on Guam. See Part I, Paragraph 5 of this report.

#### 7. **Terms and Conditions**

a. **T&C 1 – Implementation of Conservation Measures –** Addressed in Parts I and II of this report.

b. **T&C 2 –** Minimization of the level of incidental take of the Mariana fruit bat, Mariana eight-spot butterfly, Guam tree snail, humped tree snail, and fragile tree snail

T&C Implementation: [2.a] On February 27, 2020, DON requested clarification of this T&C. USFWS responded on March 27, 2020 agreeing with the following clarification regarding the implementation of Term and Condition 2.a. of the 2017 Re-initiation (page 143):

*“In areas where noise, light or human activity from construction of the proposed action would result in excessive noise, light or human activity above the ambient level, construction contractor personnel will be required to survey within line of sight (up to 150 m) of construction activities for bats prior to the start of a day's construction activities. Construction work generating noise, light or human activity above the ambient levels will be postponed until the bat(s) has left the area. The construction contractor will document bat surveys in the daily logs.”*

Daily fruit bat checks and logs are maintained by construction projects (J-001B, J-006, J-007, J-011, J-017-I/III, J-017-II, J-025, J-031/033, J-755, P-250/260, P-270, P-295, P-296, P-459, P-601 and P-715).

[2.b] Hooded lighting is being planned for actions within 482 ft (150 m) of all potential Mariana fruit bat roost habitat. Installation of hooded lights are ongoing at the LFTRC.

[2.c] Educational materials regarding Mariana fruit bat appearance, behavior, and biology have been provided to all pertinent DON personnel so that they can correctly identify any Mariana fruit bats near or within the action construction and operation area.

[2.d] There have been no changes to noise contour as it relates to the action; and, to date, no Mariana fruit bat habitat has been subjected to increased noise levels from aircraft operations.

[2.e] There have been no changes to noise contour as it relates to the action; and, to date, no Mariana fruit bat habitat has been subjected to increased noise levels from aircraft operations.

[2.f] The construction contract for the MPMG range was awarded on September 28, 2021. Therefore, operations have not started, and no noise studies at the Guam National Wildlife Refuge and Ritidian Point have been initiated.

[2.g] Snail surveys at Andersen South are complete.

[2.h] No Mariana eight-spot butterflies were relocated in FY21.

**c. T&C 3 – LFTRC Fence** – DON shall complete the NWF Ungulate Control Fence within two years of awarding the contract for construction of the portion of the LFTRC that removes the existing Ritidian Ungulate Fence.

T&C Implementation: 2.3 miles of ungulate fencing was initiated in FY20 and was completed on March 31, 2021. The final portion of the LFTRC fencing is expected to be completed in FY22, which exceeds the requirement for completing LFTRC fencing prior to removal of the existing Ritidian Ungulate Fence.

**d. T&C 4 – NWF Ungulate Control:** DON shall remove all ungulates from the NWF Ungulate Control Area within six months after completing the NWF ungulate fence.

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T&C Implementation: NWF ungulate fence has been initiated and expected to be completed in FY22. However, monitoring of collared deer and pigs is being conducted for population and movement studies and some animals are being removed in anticipation of fence completion, with 16 deer removed from approximately 28 acres as of September 30, 2021.

**e. T&C 5 – Take Monitoring Plan**

T&C Implementation: DON completed the Take Monitoring Plan on September 19, 2017. To date, 166 acres of snail surrogate habitat has been cleared out of the 212 acres, 615.93 acres of bat surrogate habitat has been cleared out of 2,136 acres and 77.73 acres of butterfly surrogate habitat has been cleared out of 338 acres exempted under the incidental take statement.

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**PART III; BIOLOGICAL OPINION 01EPIF00-2016-F-0185 (OCTOBER 30, 2018 -2018  
BO AMENDMENT)**

**1. General Conservation Measures to Contribute to the Recovery of Listed Plants**

Addressed in Part II.1.a.

**2. Pre-construction Surveys, General Listed Plant Salvage and Translocation**

Addressed in Part II.1.b. The letter dated June 24, 2020 from USFWS acknowledged that Section 10(a)(1)(A) permits are not required to implement the conservation measure. The Department of Interior (DOI) Solicitor clarified the definition of “remove and reduce to possession” of federally listed plants and indicated that because none of the translocations in support of the DON actions would reduce a plant to possession, none of the translocations would violate § 9(a)(2)(B) of the ESA.

**3. Native Plant Nursery**

Addressed in Part II.1.c.

**4. Authorized Biologist Qualifications and Translocation Authorization Process**

Addressed in Part II.1.d.

**5. Annual Reporting of Conservation Measures**

Addressed in Part II.1.e.

**6. Avoidance of Listed Orchid Species in a Small Location of Finegayan**

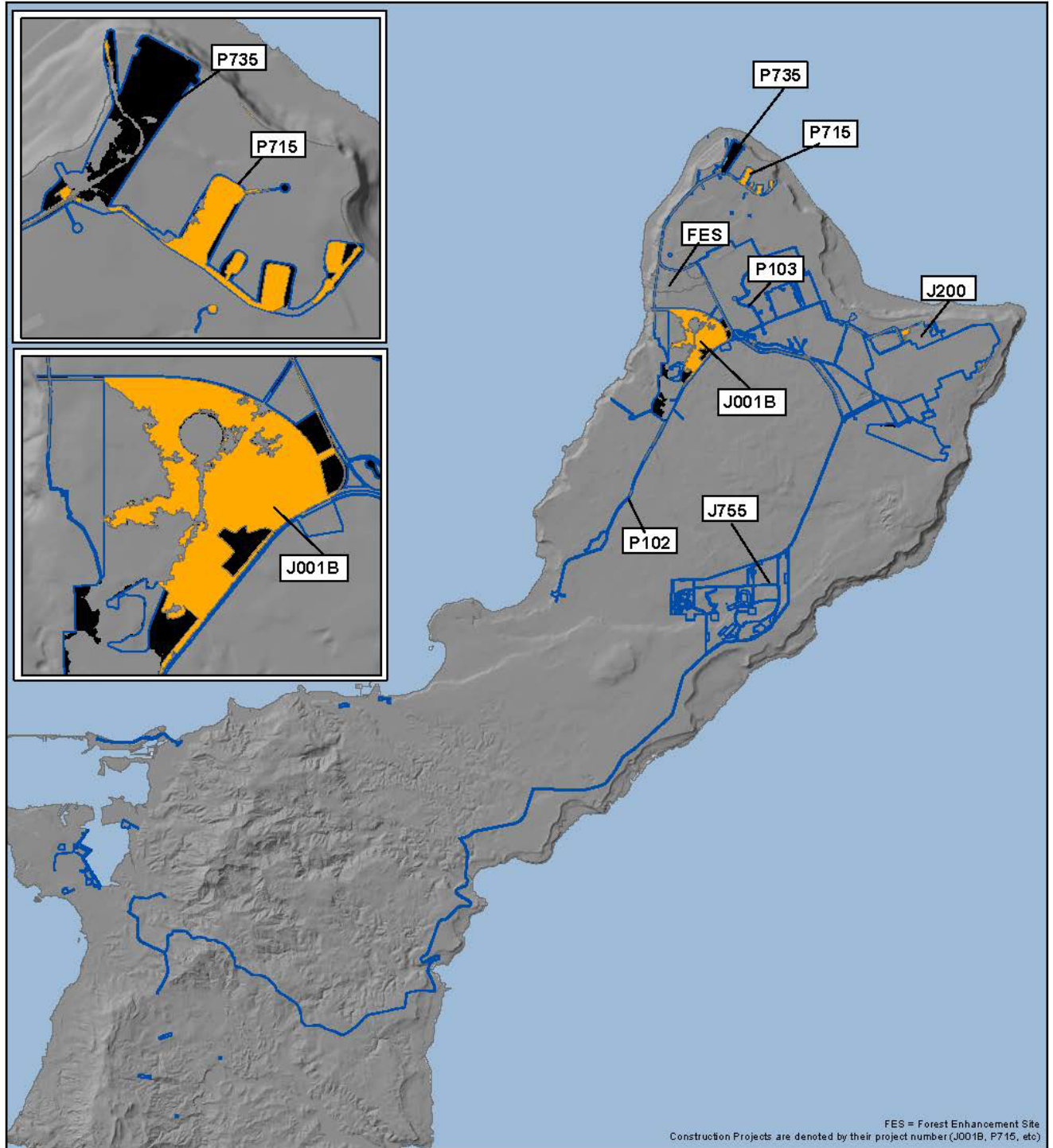
Addressed in Part II.1.f.

**7. Forest Enhancement Sites, Ungulate Eradication Areas, and BTS Exclusion Fences:**

Addressed in Part II.1.i.

**END OF REPORT**





FES = Forest Enhancement Site  
Construction Projects are denoted by their project number (J001B, P715, etc.)

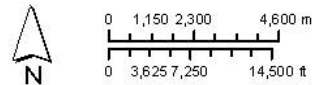
**Legend**

- Vegetation Clearing in RH\*
- 2017 BO Proposed Action
- Recovery Habitat (RH) \*

2017 BO Proposed Action (Acre)	Proposed *	Actual *
	1031	615.93

**ATTACHMENT 1**

Construction Projects Completed, On-going or Initiated in FY21



Map Date: 16 September 2021

Coordinate System: UTM Zone 55 WGS 1984

\* Guam Micronesian Kingfisher and Mariana Fruit Bat Recovery Habitat