

**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, 2021 to September 30, 2022 (FY 2022)

Introduction: This annual report addresses the implementation of the conservation measures and terms and conditions in fiscal year 2022 (FY22) 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 Marine Corps Base Camp Blaz, Andersen Air Force Base, Northwest Field (multi-purpose machine gun range, 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 FY22:

- 1) H-366/283/375 Andersen Housing Phase IV, V & VI
- 2) J-001B Finegayan Utilities and Site Improvements Phase 1
- 3) J-006 Apra Medical Clinic
- 4) J-011 Base Administrative Bldg.
- 5) J-014 Physical Training Complex
- 6) J-015 Dining Facility
- 7) J-017 I & III ADNs
- 8) J-017 II Main and Commercial Gate
- 9) J-018 Police Station
- 10) J-023 BOQ A
- 11) J-025 Medical Dental Clinic
- 12) J-031/033 BEQ D and F
- 13) J-032/036/037/038/039 (5-BEQ plex)
- 14) J-034 BEQ B
- 15) J-301 Consolidated Headquarters
- 16) J-755 Urban Combat Training
- 17) P-187 BTS Exclusion Barrier South
- 18) P-250/260 MALS Facilities & Corrosion Control Hangar
- 19) P-270 Gym/Dining Facility
- 20) P-280 Aviation Admin Bldg.
- 21) P-290 Earth Covered Magazine (MSA)
- 22) P-295 Ordnance Ops.
- 23) P-296 Ordnance Ops. Admin Facility
- 24) P-305 4th Marine Regiment Facilities
- 25) P-306 CLB-4 Facilities
- 26) P-307 Consolidated Armory
- 27) P-310 Infantry Battalion Company Headquarters
- 28) P-311 Fuel Station

SUBJ: FY2022 ANNUAL REPORT FOR BIOLOGICAL OPINION 0131F00-2015-F-0025
AND 01 EPIF00-2016-F-0185

- 29) P-312/804 Distribution Warehouse/Central Issue Facility
- 30) P-314 Marine Expedition Brigade (MEB) Enablers
- 31) P-317 Fire Station
- 32) P-326 PEI Warehouse
- 33) P-459 Bachelor Enlisted Quarters (BEQ)
- 34) P-601 Aircraft Hangar
- 35) P-735 Machine Gun Range
- 36) P-802 Base Warehouse
- 37) P-803 Individual 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, 2022, the total clearing associated with Guam Micronesian kingfisher and Mariana fruit bat recovery habitat includes approximately 685 acres (277 ha) (Attachment 1).

The Caguat forest enhancement site on Marine Corps Base Camp Blaz, is split into a roughly 417-acre southern section and 262-acre northern area. The 417 acre section had 323 deer and 85 pigs eradicated by November 2020. Pig and deer eradication for the 262-acre section was completed in October 2021 with 331 deer and 46 pigs removed from the site.

In addition, DON has continued to conduct mechanical and chemical removal of *Antigonon leptopus* and *Mimosa diplotricha* in the Finegayan and Caguat forest enhancement sites

At the Mason Live Fire Training Range Complex, 4.1 miles of ungulate fence installation was completed in March 2022. Population studies within the LFTRC are ongoing with another round of pig collaring for tracking completed in July 2022. Active removals are ongoing with 6 pigs and 161 deer removed as of September of 2022.

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* and access to the *Serianthes* adult tree at NWF for seed collection and seedling rescue.

The 2015 BO included a conservation measure to “ensure that seeds from the Guam adult *Serianthes* tree will be collected by entities specified on recovery permits, provide storage for these seeds, and provide funds for *Serianthes* seed viability testing. Seed storage and viability testing shall occur at a certified facility (*e.g.*, National Center for Genetic Resources Preservation or Lyon Arboretum). The DON will ensure the seeds are appropriately prepared or treated for shipping per the instructions of the certified facility.”

Conservation Measure Implementation: In March of 2022, 4.1 miles of ungulate fence installation was completed at NWF. This completes the fencing identified in the conservation measure.

The University of Guam provided 149 *Serianthes nelsonii* seeds from the storage lab. Planning efforts to begin outplanting seedlings into the Caguat forest enhancement site began in Q4 FY22.

No seed has been collected by contractors or personnel associated with the Marine Corps relocation program. The United States Fish and Wildlife Service (USFWS) has issued three 10(a)(1)(A) permits for the collection of *Serianthes nelsonii* seed that include authorization to collect 100 percent of the seeds from the remaining tree on Guam. The Marine Corps relocation program is not contracting for the seed collection services and is obtaining seed from the permittees. Access to the adult *Serianthes* tree has been coordinated by Andersen Air Force Base and will be coordinated by Marine Corps Base Camp Blaz (MCB CB) starting in the fourth quarter of fiscal year 2023.

c. Sea Turtle Public Outreach and Coordination: Reporting requirement not required as sea turtles 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.

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: The DON's intent with these projects is to identify and use successful technology to severely suppress or eradicate brown treesnakes. Modeling indicates that the required predation thresholds may need to be lower than have yet been demonstrated with current BTS management (McElderry 2022). Although the Habitat Management Unit (HMU) has not been determined to be successful, DON has initiated the planning for the funding and construction of an approximately 160 acre 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 MCB CB Natural Resources staff in FY22. Construction project numbers are: J-001B, J-006, J-007, J008, J-011, J-014, J-015, J-017 I & III, J-017 II, J-018, J-023, J-025, J-031/033, J-032/036/037/038/039, J-755, P103, P-250/260, P-270, P-280, P-290, P-295, P-296, P-305, P-306, P-307, P-310, P-311, P-312/804, P-314, P-317, P-326, P-459, P-601, P-715, P-735, 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 FY22.

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 will be 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 FY22, the MCB CB EV team conducted fruit bat surveys prior to vegetation clearing for the following construction projects: J-001B, J-755, P-103, P-296, P-715, and P-735. No bats were observed during 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 FY22 include the following horizontal projects: J-001B, J-755 and P-715 and vertical projects: J-006, J-007, J-755, P-250/P-260, P-270, P-295, P-601 and P-715. 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.

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 all five ranges has been initiated. Conservation measures associated with the berms will commence after berm construction is complete.

A contract for the revegetation of four of the five berms is in negotiation. Award and initiation of revegetation is anticipated to begin in FY23.

f. Lighting Installation: Hooded-lights will be used to the maximum extent practicable at all new roads and facilities within known sea turtle land habitat and fruit bat roost areas.

Conservation Measure Implementation: There are no known fruit bat roost areas in areas

where new roads and facilities have been constructed. Hooded lights have been installed at four of the five ranges within the LFTRC. The fifth range is still under construction.

Reporting requirement not required as sea turtles 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.

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 active construction project sites to ensure impacts to listed species are avoided 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-008, J-011, J-014, J-015, J-017 I & III, J-017 II, J-018, J-023, J-025, J-031/033, J-032/036/037/038/039, J-755, P-103, P-250/260, P-270, P-280, P-290, P-295, P-296, P-305, P-306, P-307, P-310, P-311, P-312/804, P-314, P-317, P-326, P-459, P-601, P-715, P-735, P-802 and P-803.

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. All green waste generated has been re-used on-site as mulch or compost.

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. 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.

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 FY22, the outreach and education project used TV, radio and social media platforms. FY21 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 Government of Guam's Department of Agriculture (DoAG) Biosecurity division linking social media ads to DoAG's homepage.

Social media efforts exceeded contract requirements. The 30-second public service announcements (PSA) were 146% of required views (509,891 views). The 15-second PSA resulted in 107% of required views. (642,356 views).

d. HACCP Planning: HACCP planning is a pathway management tool that provides a comprehensive method to identify risk and focus procedures to prevent spread of species at critical control points along transportation 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-015, J-017 I & III, J-017 II, J-018, J-023/34, J-025, J-031/033, J-032/036/037/038/039, J-755, J-755, P-250/260, P-270, P-280, P-290, P-295, P-296, P-305, P-306, P-307/309, P-310, P-312/804, P-314, P-326, P-316, P-317, P-311, P-459, P-601, P-715, P-735 and P-802.

Monthly natural resources inspections were conducted by the DON in FY22 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 plans. In FY22, 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 FY22 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, 2022, 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 was provided to USFWS on May 24, 2022 for a 30-day review to provide comments and recommendations for the DON's consideration. USFWS provided comments on July 25, 2022. DON is reviewing USFWS comments and working with USFWS on a way ahead.

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 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 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 FY22, the DON coordinated with the Marianas team of the USFWS to discuss projects. The consensus was to fund three BTS projects. The project funded in FY22 are: (1) BTS bait procurement, (2) multi-tool BTS management/monitoring/analysis, and (3) telemetry/monitoring/analysis.

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: Ungulate fencing of the southern half of the Haputo ERA was completed in FY22, while northern section fence is ongoing. Educational materials have not been developed to date because the Haputo ERA is closed to military and civilian personnel.

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 eleven construction projects (H-283, H-366, H-375, J-001B, J-006, J-007, J-017-II, J-609, J-200-I, J-200-II, J-755, P-102, P-103, P-290, P-295, P-715, and P-735) to identify all listed plant species prior to the commencement of construction activities.

c. Native Plant Nursery: The native plant nursery was developed for the storage and propagation activities of native and listed plant species, associated with the proposed action.

Conservation Measure Implementation: The nursery has been receiving plant material for propagation and ultimate transplanting into forest enhancement areas since 2019. As of September 30th, 941 *Tabernaemontana rotensis* and 15 *Heritiera longipetiolata* have been transplanted into the forest enhancement area. These plants were propagated from seed collected on various construction sites.

d. Authorized Biologist Qualifications and Propagation/Translocation Authorization Process: Prior to commencing transplantation of the listed species the DON shall submit a statement of qualifications for potential biologist to the USFWS.

Conservation Measure Implementation: No requests for authorized biologists were submitted this fiscal year.

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: Salvage and translocation of Mariana eight-spot butterflies and removal and treatment of host plants from the project footprint of the multi-purpose machine gun range (MPMG) was completed on 26 to 28 October 2021 (ChST). A total of 231 Mariana eight-spot butterfly life stages were salvaged from 16 salvage sites (210 eggs, 8 larvae, and 23 chrysalises).

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 (FES), Ungulate Eradication Areas and BTS Exclusion Fences: This conservation measure contributes to the recovery of listed species within two FES (Caiquat and South Finegayan), the NWF Ungulate Control Area, and through the installation of two BTS exclusion fences (north unit and south unit).

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

- i. Identification of forest restoration/enhancement blocks;
- ii. Mapping the proposed forest restoration/enhancement area boundaries;
- iii. 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;
- iv. Obtaining clearance for any ground disturbing activities from Unexploded Ordnance (UXO) specialist;
- v. Performing forest inventory for species density and dominance;
- vi. Constructing permanent ungulate exclusion fence around perimeter of the enhancement site. Phase I construction was completed in FY20. Phase II construction was completed in September 2021.

- vii. Ungulate removal Phase I was completed in October of 2020. Ungulate removal in Phase II was completed in October 2021 with 331 deer and 46 pigs removed from the site.
- viii. Monitor ungulate removal program. Based on ungulate monitoring results, implement further ungulate control activities to achieve ungulate eradication.
- ix. Develop invasive plant removal tools and native plant species planting palettes for forest blocks.
- x. Survey for existing listed species within Caiguat FES Phase 1.
- xi. Develop infrastructure plans for Caiguat FES Phase 1

h. Brown Treesnake Exclusion Fences:

Conservation Measure Implementation: Addressed in Part I, 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: At the Mason LFTRC, 4.1 miles of ungulate fence installation was completed in March 2022. This completes the fencing identified in the conservation measure.

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: Pre-construction surveys of the multi-purpose machine gun range (MPMG) project footprint were conducted in October of 2021. Salvage and translocation of Mariana eight-spot butterflies and removal and treatment of host plants from the project footprint of the MPMG was completed on 26 to 28 October 2021 (ChST). A total of 231 Mariana eight-spot butterfly life stages were salvaged from 16 salvage sites (210 eggs, 8 larvae, and 23 chrysalises).

As of September 30, 2022, 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 as neither site is suitable for transplanting as ungulate eradication is still in progress. A contract for transplanting host plants on the completed smaller range berms is in progress and is anticipated to be awarded in October of 2022.

b. Guam Tree Snails [Guam, fragile and humped tree snail]: Pre-construction surveys will be conducted 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 FY22 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: 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 FY22, the MCB CB EV team conducted fruit bat surveys prior to vegetation clearing for the following construction projects: J-001B, J-755, P-103, P-296, P-715, and P-735. No bats were observed during surveys.

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. Transplanted plants will be maintained and monitored for a minimum of 12 months.

Conservation Measure Implementation: In FY22 DON conducted plant salvage at five construction sites (P-102, P-290, P-295, P-296, and P-735). Plants that have been salvaged and are still being maintained and monitored are listed in Table 1. Plants that have completed their maintenance and monitoring period are listed in Table 2. All plants have exceeded the minimum success criteria of 50% identified by DON as a conservation measure.

Table 1. Plants salvaged and currently being maintained and monitored.

Species	# of individuals identified in pre-construction surveys	# Salvaged
<i>Cycas micronesica</i>	1600	1264
<i>Heritiera longipetiolata</i> *	7	63

SUBJ: FY2022 ANNUAL REPORT FOR BIOLOGICAL OPINION 0131F00-2015-F-0025
AND 01 EPIF00-2016-F-0185

Tabernaemontana rotensis*	204	1960
Bulbophyllum guamense	101	101

* *Heritiera longipetiolata* and *Tabernaemontana rotensis* – the number of individuals represent the number of mature trees identified within the project footprint. The number salvaged represents the number of seeds collected as whole plant salvage is not practicable.

Table 2. Plants that have completed maintenance and monitoring and percent survival.

Species	# Salvaged	# Alive	# Dead	% Survival
<i>Cycas micronesica</i>	6	4	2	67%
<i>Tuberolabium guamense</i>	9255	7424	1831	80%
<i>Dendrobium guamense</i>	46	44	2	96%
<i>Bulbophyllum guamense</i>	72	72	0	100%

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 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 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:** To date there has been no Marine Corps specific training. The DON will ensure that military training units work in close coordination

with JRM MITT to clearly define authorized training restrictions, and where appropriate, designate No Wildlife Disturbance (NWD) areas or other designations to prohibit training in sensitive sites. The DON will work closely with DON Biologists to identify new NWD areas, consistent with USMC combat readiness and training requirements.

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.”

In FY22, the MCB CB EV team conducted fruit bat surveys prior to vegetation clearing for the following construction projects: J-001B, J-755, P-103, P-290, P-296, P-715, and P-735. No bats were observed during surveys.

[2.b] Hooded lighting is being planned for actions within 482 ft (150 m) of all potential Mariana fruit bat roost habitat. Hooded lights have been installed at four of the five ranges within the LFTRC. The fifth range is still under construction.

[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. The range is still under construction 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 were completed in 2020.

[2.h] Salvage and translocation of Mariana eight-spot butterflies and removal and treatment of host plants from the project footprint of the multi-purpose machine gun range (MPMG) was completed on 26 to 28 October 2021 (ChST). A total of 231 Mariana eight-spot butterfly life stages were salvaged from 16 salvage sites (210 eggs, 8 larvae, and 23 chrysalises). The translocation site is being monitored bi-weekly for twelve months from the date of translocation. Mariana eight-spot butterflies that were translocated in July of 2018 have been monitored quarterly with all life stages observed.

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: At the Mason LFTRC, 4.1 miles of ungulate fence installation was completed in March 2022. This completes the fencing identified in the conservation measure and term and condition.

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.

T&C Implementation: Population studies within the LFTRC are ongoing with another round of pig collaring completed in July 2022. Active removals are ongoing with 6 pigs and 161 deer removed as of September of 2022. The DON committed to removing all ungulates from the ungulate control area within six months after completing the ungulate fence however, eradication is taking longer than anticipated as explosive demolition operations and construction is actively occurring within the fenced area (multi-purpose machine gun range) and the removal of ungulates involves the use of fire arms.

e. T&C 5 – Take Monitoring Plan

T&C Implementation: DON completed the Take Monitoring Plan on September 19, 2017. To date, 71 acres of snail surrogate habitat has been cleared out of the 212 acres, 709 acres of bat surrogate habitat has been cleared out of 2,136 acres and 165 acres of butterfly surrogate habitat has been cleared out of 338 acres exempted under the incidental take statement. The amount of snail surrogate habitat cleared was previously reported as 166 acres. This was based on the percent of the project that was complete and not GPS data of the project footprint. The previous calculation of 166 acres did not exclude areas that were de-scoped from the contract. The 71 acres is based on the GPS data of the actual amount of snail surrogate habitat cleared.

**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.

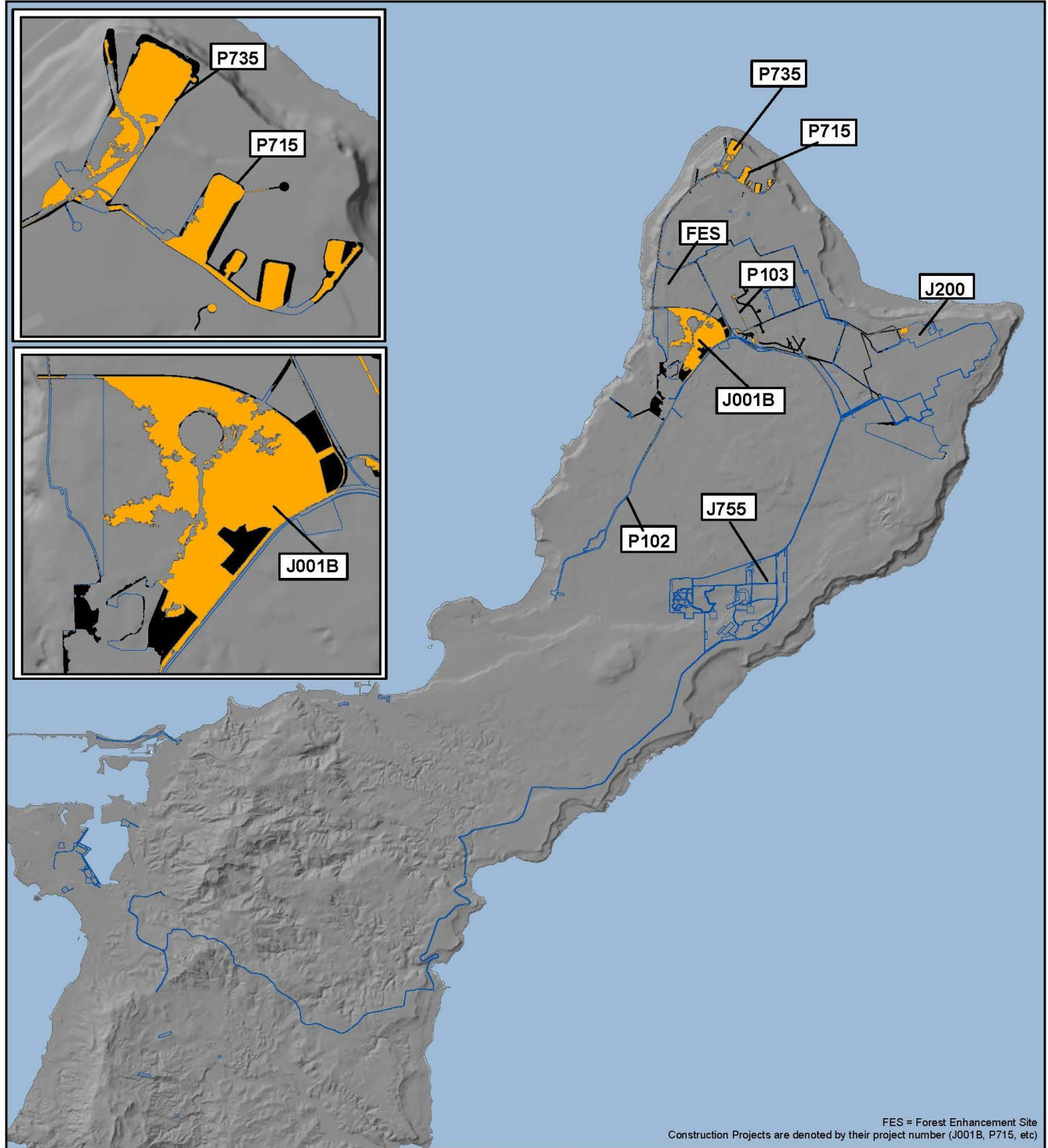
6. Avoidance of Listed Orchid Species in a Small Location of Finegayan

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

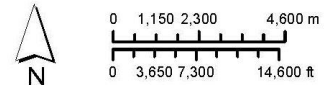
- Recovery Habitat (RH)*
- Vegetation Clearing in RH*
- Proposed Action

* Guam Micronesian Kingfisher and Mariana Fruit Bat Recovery Habitat

Proposed Action (Acre)	Proposed *	Actual *
	1031	685

ATTACHMENT 1

Construction Projects Completed, On-going or Initiated in FY22



Map Date: 04 October 2022

Coordinate System: UTM Zone 55 WGS 1984