DEPARTMENT OF THE NAVY
OFFICE OF THE ASSISTANT SECRETARY OF THE NAVY
(ENERGY, INSTALLATIONS AND ENVIRONMENT)
1000 NAVY PENTAGON
WASHINGTON, DC 20305-1000

November 17, 2020

Ms. Katherine Mullett
Field Supervisor
U.S. Fish and Wildlife Service
Pacific Island Fish and Wildlife Office

Dear Ms. Mullett:

SUBJ: 2020 ANNUAL REPORT FOR BIOLOGICAL OPINION 01EPIF00-2015-F-0025 AND 01EPIF00-2016-F-0185

This correspondence is submitted to satisfy the Fiscal Year 2020 (covering October 1, 2019 to September 30, 2020) annual reporting requirements (Terms and Conditions L.5.a, p. 158) of the U.S. Fish and Wildlife Service 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, initially issued on July 31, 2015 (0lEPlF00-2015-F-0025) with re-initiations completed on July 19, 2017 (0lEPIF00-2016-F-0185) and October 30, 2018. The conservation measures and terms and conditions implemented are described in Enclosure (1).

If you have any questions regarding this annual report, the DON's technical point of contact is Ms. Coralie Cobb. She can be reached at (720) 542-3085 or email at coralie.cobb@navy.mil .

Sincerely,

Warren R. LeBeau, P.E.
Captain, Civil Engineer Corps, United States Navy
Director, Pacific Programs Office

Copy to:
Chief of Naval Operations (N45)
Headquarters Marine Corps (Installations & Logistics)
Headquarters Marine Corps (Plans, Policy & Operations)
Marine Forces Pacific
Marine Corps Activity Guam
Joint Region Marianas
Naval Facility Engineering Command Pacific
Naval Facility Engineering Command Marianas
United States Fish & Wildlife Service, Pacific Region

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, 2019 to September 30, 2020 (Fiscal Year 2020)

Introduction: This annual report addresses the implementation of the conservation measures and terms and conditions during the Fiscal Year 2020 (FY20) 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 training activities on Guam.

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 FY20 (see the map on Attachment 1). 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 of the aspects above and associated ground disturbance are the prompts for the conservation measures and terms and conditions.

This report format varies slightly from previous reports. The format and nomenclature has been updated to better align with the format of the biological opinions and amendments (2015, 2017, 2018 & 2020).

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PART I: BIOLOGICAL OPINION 01EP1F00-2015-F-0025 OF JULY 31, 2015 (2015 BO)

A. General Conservation Measures to Contribute to the Recovery of Listed Species

1. Forest Enhancement

As of September 30, 2020, the total clearing associated with Guam Micronesian kingfisher and Mariana fruit bat recovery habitat includes approximately 532.5 acres (215.5 ha) (Attachment 1).

As part of the forest enhancement conservation measure, the DON awarded a contract in October 2017 for the establishment of a native plant nursery, collection of seed, salvage of plant materials, propagation of native limestone forest species and the operation of a native plant nursery on Naval Base Guam Telecommunication Site. The nursery became operational at the end of February 2019. Additionally, the J-001B project includes the construction of ungulate exclosure fence protecting 679 acres of the Northern Forest Enhancement Site at Finegayan. The first phase, encompassing 417 acres (169 ha), was completed in January 2020; ungulate eradication is ongoing and expected to be complete by December 2020.

The second phase exclosure will protect 262 acres (106 ha). Target completion is November 2020 with eradication efforts anticipated to follow immediately upon completion of the fence.

2. Guam *Serianthes nelsonii* Adult Tree

Implementation of the conservation measure includes two construction contracts that will remove portions of the existing Ritidian ungulate fence. The first construction contract which is for the known distance ranges at NWF was awarded in August 2017; however, vegetation clearing for this project was delayed due to a variety of reasons. A portion of the existing Ritidian ungulate fence was removed as part of the construction clearing on the range footprint (Range Road) at NWF, which was initiated on March 18, 2019. The second construction contract, which will be for the Multi-Purpose Machine Gun (MPMG) Range project (the range closest to the Serianthes tree), has not been awarded as funding for the project is not currently available.

Fence construction was initiated in Fiscal Year 2020 (FY20) and is anticipated to be completed by March 2021. No outplanting of *Serianthes nelsonii* individuals occurred in FY20. Outplanting will occur as part of forest enhancement activities.

3. Sea Turtle Public Outreach and Coordination.

This conservation measure does not need to be included as part of the reporting requirement because it was addressed through informal consultation. Refer to United States Fish and Wildlife Service (USFWS) letter of March 27, 2020.

B. Brown Treesnake (BTS) Control and Suppression

In March 2020, the DON received the final report from United States Geological Survey (USGS) for material selection and barrier design based on research and lab experiments with BTS intrusion rates. The design includes a four-foot tall ultra-smooth finish concrete wall with a 10-inch cantilever, topped with a three-foot tall T-304 wire mesh and T-304 rolled hood top, painted with marine grade paint. The barrier will exclude ungulates, dogs, cats, rats and BTS. The fence will encompass approximately 168 acres in the south Finegayan Forest Enhancement Area (FEA) and will stretch 11,608 lineal feet. The USGS material and design recommendations were incorporated into a military construction funding request. The multi-species barrier construction is planned for FY23.

C. Conservation Measures to Minimize the Effects of Construction

1. Contractor Education Program

Contractors from all active construction projects were provided training by the Marine Corps Base Camp Blaz (MCB CB) Natural Resources staff in FY20.

2. Contractor Plans and Specifications

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. Officer in Charge of Construction continues emphasis to contractors to stay within project limits. There was ingress outside of the project limits for the work at Andersen South (J-755); however, the impacts were minor and there were no impacts to threatened or endangered species. The construction contractor was issued a non-compliance notice and required to provide an explanation of the reason for the breach and methods to prevent future incursions.

3. **Pre-Construction Surveys for the Mariana Fruit Bat**

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.

4. Guam Landscaping Guidelines

Guam Landscaping Guidelines are included in all construction specifications awarded to date; however, no landscaping actions occurred in FY20.

5. LFTRC Range Berm Controls

Clearing and grubbing of the range footprint has been initiated; however, no construction of the range berms has occurred in FY20. Conservation measures associated with the berms will commence after berm construction.

6. Lighting Installation

This conservation measure does not need to be included as part of the reporting requirement since it was addressed through informal consultation. Refer to USFWS letter of March 27, 2020.

7. **Monitoring Construction Contractor**

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.

D. <u>Conservation Measures to Minimize the Effects of Invasive Species</u>

1. Onsite Vegetation Waste Management

Onsite vegetation waste management procedures are included in all construction specifications awarded to date.

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.

2. DON's Final Guam Landscaping Guidelines

Guam Landscaping Guidelines are included in all construction specifications awarded to date.

3. Biosecurity Outreach and Education

In FY20, the outreach and education project used TV, radio and social media platforms. 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 collaborated with Department of Agriculture (DoAG) Biosecurity division resulting in 7,000+ links to DoAG's homepage.

Social media efforts exceeded contract requirements. The 30-second public service announcements (PSA) were over 120% of required views. The 15-second PSA resulted in 158% of required views.

4. HACCP Planning

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 contracts with HACCP programs include:

- J-001B Finegayan Utilities and Site Improvements Phase 1
- J-006 Apra Medical Clinic
- J-007 Waterfront Head Quarters
- J-31/33 BEQ D BEQ
- J-200 IV Utilities
- J-755 Urban Combat Training
- P-102 Power Upgrade-Harmon
- P-103 Water Phase 2
- P-250/260 MALS Facilities & Corrosion Control Hangar
- P-270 Gym/Dining Facility
- P-295/P-296 Ordnance Ops
- P-459 Bachelor Enlisted Quarters
- P-601 Aircraft Hangar
- P-715 Live-Fire Training Range Complex Known Distance Ranges
- Little fire ant
- Bio-monitor
- HACCP evaluation surveys

Monthly natural resource inspections were conducted by the DON in FY20 to ensure the HACCP programs were being implemented. HACCP Plan reports files are large, and will be made available upon request.

5. **Monitoring to Evaluate Effectiveness of HACCP**

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 FY20, long-term vegetation program HACCP evaluation surveys were conducted for J-001B, J-006, J-007, J-755, P-102, P-103, P-250, P-260, P-715, P-295. No new non-native invasive species were detected in FY20.

6. Brown Treesnake Interdiction

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, 2020, 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.

E. Conservation Measures to Minimize the Effects of Fire

A cooperative agreement was entered into with Colorado State University, Center for Environmental Management of Military Lands in September 2017 for the development of a Fire Management Plan for the LFTRC on Guam. A draft of the Fire Management Plan was submitted in December 2019. After resolution of comments, a final draft will be submitted to USFWS for a 30-day review in order to provide comments and recommendations for the DON's consideration. The LFTRC is still under construction and will not be operational until 2022. The Fire Management Plan will be finalized prior to operation of the first range at the LFTRC.

F. Conservation Measures to Minimize the Effects of Training

1. Aviation Training in Naval Munitions Site (NMS)

This conservation measure does not need to be included as part of the reporting requirement since it was addressed through informal consultation. Refer to USFWS letter of March 27, 2020.

2. **Ground Training at NMS**

This conservation measure does not need to be included as part of the reporting requirement since it was addressed through informal consultation. Refer to USFWS letter of March 27, 2020.

G. Other Actions Considered for Analysis

1. 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 FY20, the DON awarded four projects for a total amount of $1.6 million dollars. Projects included:

- South Haputo Ecological Reserve Area (ERA) fence (116 acres) consisting of 8,300-foot linear fence (awarded August of 2020). The project is in sequence with North Haputo fence that was awarded in FY19
- Closed Population Fence Refurbishment, to include replacement of the entire outer mesh material and coat the internal chain-link fence
- Continuation of HMU Monitoring for FY20 ADS Drops
- Structured Decision-making Workshop.

The DON planned to conduct a Structured Decision-making Workshop in FY20 and had provided funding for a facilitator and travel for participants; however, the meeting was postponed due to the COVID-19 pandemic. The purpose of the meeting will be to chart out the various elements related to reintroduction of Guam Micronesian kingfishers. Although reintroduction is not the purpose of the MOA, providing durable habitat protection to support native habitat restoration and land management for the survival and recovery of the Guam Micronesian kingfisher is one of the purposes of the MOA. DON is planning to conduct the meeting in FY21.

H. Terms and Conditions. Terms and Conditions from the 2015 BO are superseded by the 2017 BO amendment.

END OF SECTION

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

A. General Conservation Measures to Contribute to the Recovery of Listed Species

1. Fencing of the Haputo Ecological Reserve Area (ERA) Access Trail, Signage, and Education.

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; however, the project is delayed due to logistics and the COVID-19 pandemic. A contract for the fencing of the southern portion of the Haputo ERA (116 acres) was awarded in the fourth quarter of FY20.

2. Pre-construction Survey, General Listed Plant Salvage and Translocation:

DON has conducted pre-construction surveys for five construction projects (J-001B, J-755, P-102, P-103, P-295 and P-715) to identify all listed plant species prior to the commencement of construction activities. Table 1 and 2 identify the status of plants salvaged as of September 20, 2020.

Table 1. Percent survival of plants salvaged and out-planted through success criteria

Species Name	# Salvaged	# Alive	# Dead	# Missing	% Survival
Bulbophyllum guamense	71	71	0	0	100%
Cycas micronesica **(trees)**	6	4	2	0	66%
Dendrobium guamense	20	18	2		90%
Tuberolabium guamense	6,358	4825	1517	16	76%

Table 2. Plants or seed collected (in progress)

Species Name	# Healthy & Suiat for Salvage	# Required to Meet Success Criteria	Type	# Salvaged	# Viable to Date
Cycas micronesica	792	396	Seeds	726	193 with leaf germination
			Pups	1503	21 with leaves
			Trees	27	27

In September of 2020, DON awarded a task order for the outplanting of threatened and endangered species currently being housed at the native plant nursery.

3. Native Plant Nursery.

The nursery became operational at the end of February 2019. Table 3 identifies the number of seeds or plants salvaged that are currently suitable for outplanting and the number required to meet established success criteria.

Table 3. Plants salvaged or seed collected in the DON Nursery that are suitable for outplanting

Species Name	# Salvaged	# Required to Meet Success Criteria
Bulbophyllum guamense	314 pseudobulbs (collected from one clump) on 4 boards	1
Cycas micronesica **(trees)**	5	3
Heritiera longipetiolata **(seeds)**	16	4
Tabernaemontana rotensis **(seeds)**	643	109

4. Authorized Biologist Qualifications and Propagation/Translocation Authorization Process.

Ms. Jennifer Abrincia was approved as an authorized biologist for snail work at J-755 in October 2019. Ms. Isha Alexander was approved as an authorized biologist for snail work at J-755 in December of 2019. Mr. Jeried Earl M. Calaor and Ms. Jennifer Brown were requested to be approved as authorized biologist in February of 2020.

In March 2020, USFWS responded to a request from DON to cease translocation of snails. USFWS concurred with the clarification that the number of Guam tree snails that have been translocated as of February 22, 2020, meets the Reasonable and Prudent Measure and Term and Condition 2.g. of the 2017 Re-initiation (page 144) and no additional surveys and translocations are required. Since the authorized biologist work was no longer required, DON did not pursue approval of Mr. Calaor and Ms. Brown as authorized biologists.

5. Annual Reporting of Conservation Measures.

Surveys and translocation of snails began on January 9, 2019 and, were completed on March 2, 2020. A total of 3,850 *P. radiolata* were relocated to Haputo ERA during the salvage portion of this project (Attachment 2). No Mariana eight-spot butterflies were translocated during the reporting period.

6. Avoidance of Listed Orchid Species in Small Location at Finegayan:

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

B. Forest Enhancement Sites, Ungulate Eradication Areas and BTS Exclusion Fences.

Forest Enhancement Sites

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 1 completed in March of 2020. Phase II in progress. Target completion date is October 2020.

7. When fencing is complete, begin ungulate removal program. Eradication contract awarded March 2020 and removal process started July 2020. COVID-19 Pandemic restrictions have delayed eradication efforts.

Brown Tree Snake Exclusion Fences

Addressed in Part 1.B.

Northwest Field (NWF) Ungulate Control Area

On June 24, 2020, the USFWS responded to the DON letter of February 27, 2020 requesting clarification of the conservation measure regarding the NWF ungulate control fence. The DON was to complete construction of 2.3 miles (3.69 km) of the NWF Ungulate Control Fence within two years and 1.76 miles (2.81 km) within three years of awarding the contract for construction of the portion of the LFTRC that removes the existing Ritidian Ungulate fence. While the construction contract was awarded in August 2017, the vegetation clearing and removal of portions of the Ritidian Ungulate fence within the project footprint did not begin until March 2019. In the letter, USFWS agreed with DON's interpretation that the number of years for completion is more appropriately linked to the March 2019 construction start date rather than the construction award date

and acknowledged that this does not modify the action in a manner that was not considered in the biological opinion.

Ungulate population study and eradication agreement was accepted by USDA on September 26, 2020.

C. Conservation Measures for Specific Species

Mariana Eight-Spot Butterfly

No butterfly life stages were translocated from the project footprint in FY20.

As of September 30, 2020, 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. No earthen berms have been constructed within the LFTRC ranges and the fencing of the forest enhancement sites is not yet completed to preclude ungulates, and allow for safe planting.

Guam tree snail, fragile tree snail, and the humped tree snail

In February of 2020, DON requested to cease salvage and translocation of snails from Andersen South. USFWS responded on March 27, 2020 in agreement that the number of Guam tree snails that have been translocated as of February 22, 2020, meets the Reasonable and Prudent Measure and Term and Condition 2.g. of the 2017 Re-initiation (page 144) and no additional surveys and translocations are required.

In total, 3,850 *P. radiolata* were salvaged from the project footprint and translocated to the Haputo ERA.

Bi-weekly snail monitoring takes place at Haputo ERA to count the number of marked (i.e., translocated) and unmarked snails. Monitoring will continue until March of 2021.

Mariana Fruit Bat

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.

Listed Plant Species

DON conducted plant salvage at five construction sites (J-001B, J-755, and P-715). For more information please refer to Tables 1 and 2, and Attachment 1.

D. 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.C of this report.

E. 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.D of this report.

F. 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.E of this report.

G. Conservation Measures to Minimize the Effects of Training.

1. Aviation Training in NMS

This conservation measure does not need to be included as part of the reporting requirement since it was addressed through informal consultation. Refer to USFWS letter of March 27, 2020.

2. Ground Training in NMS

This conservation measure does not need to be included as part of the reporting requirement since it was addressed through informal consultation. Refer to USFWS letter of March 27, 2020.

3. 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.F of this report.

H. Terms and Conditions (T&C)

1. **Implementation of Conservation Measures.** Addressed in Parts I and II of this report.

2. Minimization of the level of incidental take

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 the following 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.*"

The DON is conducting all operations in accordance with this clarification. Construction contractors are required to conduct daily surveys for Mariana fruit bats, and the MCB CB natural resources staff conducts regular compliance inspections.

On September 30, 2020 the DON received the first positive observation of a Mariana fruit bat flying north of the P-270 site at approximately 7:15am on 10/01/20 (ChST). The Mariana fruit bat flew around for approximately 5 minutes before landing on a Ficus tree. Work was halted on the north side of the site and a biological monitor for MCB CB was informed of the sighting. When the biological monitor arrived on site, he was not able to see the bat and it is suspected that it left the area. There were no additional observations of the bat. Work resumed at 8:20am. This was the only reported siting in FY20.

b. Hooded lighting is being planned for actions within 482 ft (150 m) of all potential Mariana fruit bat roost habitat. No hooded lights have been installed to date.

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. The LFTRC is still under construction and not operational.

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. Operation of the LFTRC is greater than one year out from September 30, 2020.

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. Operation of the LFTRC is greater than one year out from September 30, 2020.

f. The construction contract for the MPMG range was not awarded in FY20. Therefore, operations have not started, and no noise studies at the Guam National Wildlife Refuge and Ritidian Point have been initiated.

g, The DON provided the USFWS with a copy of the work plan in October 2018 and received concurrence on the work plan in November 2018. Removal of snails from J-755 (Andy South) was completed in March 2020.

h. No Mariana eight-spot butterflies were relocated in FY20.

3. LFTRC Fence

On June 24, 2020, the USFWS responded to the DON letter of February 27, 2020 requesting clarification of the NWF ungulate control fence. The DON was to complete construction of 2.3 miles (3.69 km) of 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. While the construction contract was awarded in August of 2017, the vegetation clearing and removal of portions of the Ritidian Ungulate fence within the project footprint did not begin until March 2019. In the letter, USFWS agreed with DON's interpretation that the number of years for completion is more appropriately linked to the March 2019 construction start date rather than the construction award date and acknowledged that this does not modify the action in a manner that was not considered in the biological opinion.

4. NWF Ungulate Control

The NWF ungulate fence has not been constructed to date. Fence completion is expected to be complete by March 2021. An ungulate population study and eradication agreement was accepted by USDA on September 26, 2020.

5. Take Monitoring Plan

A Take Monitoring Plan for the Mariana fruit bat, Mariana eight-spot butterfly, Guam tree snail, humped tree snail, and fragile tree snail was provided to the USFWS on September 19, 2017.

END OF SECTION

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

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

Addressed in Parts II.B of this report.

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

Addressed in Part II.B of this report. 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.B of this report.

4. Authorized Biologist Qualifications and Translocation Authorization Process

Addressed in Part II.B of this report.

5. Annual Reporting of Conservation Measures

Addressed in Part II.B of this report.

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

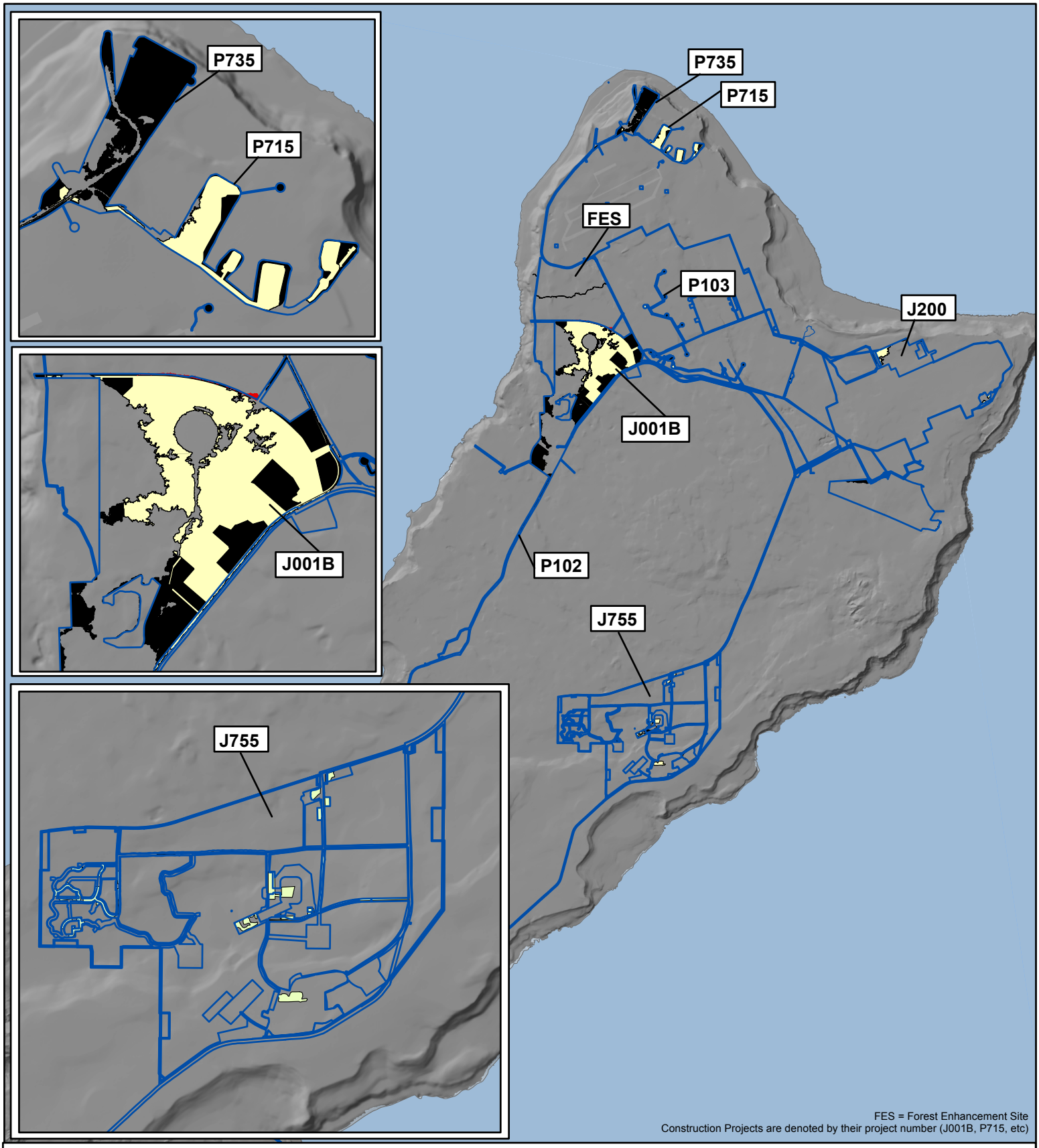
Addressed in Part II.B of this report.

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

DON added the construction of approximately 1.76 miles (2.81 km) of ungulate control fence at NWF. Fence is to be constructed within three years of awarding the contract for construction of the portion of LFTRC that removes the existing Ritidian Ungulate Fence. The construction contract for work at the known distance ranges (P-715) at Northwest Field (rifle range, pistol range, non-standard small arms range and modified record of fire range) was awarded in August 2017 however construction has been delayed. Clearing and grubbing of the project footprint did not begin until March 2019.

Addressed in Part II.B of this report.

END OF REPORT



Legend

- Restoration Area
- Recovery Habitat (RH)*
- Vegetation Cleared in RH
- 2017 BO Proposed Action

2017 BO Proposed Action (Acre)	Proposed*	Actual*
	1031	532.5

* Guam Micronesian Kingfisher and Mariana Fruit Bat Recovery Habitat

ATTACHMENT 1

Construction Projects Completed, On-going or Initiated in FY20

N

0 800 1,600 3,200 m

0 2,600 5,200 10,400 ft

Map Date: 30 September 2020

Coordinate System: UTM Zone 55 WGS 1984

Attachment 2 – Snail Monitoring Summary

Visit #	Monitoring Date (ChST)	Species	Lower 1			Lower 2			Upper		
			Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed	Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed	Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed
1	9-10 Feb 2019	*P. radiolata*	70	10 (?1, 38, 45, 39, 58, 9, 37, and one not readable)	1 (one marked 64)	*	*	0	56	6 (U1, S2, dot, 69, P2, one not readable)	24 (none marked)
		P. gibba	47	--	0	*	--	0	0	--	0
		TOTAL	**117**	**10**	**1**	*	*	**0**	**56**	**6**	**24**
2	22, 25 Feb 2019	*P. radiolata*	50	5 (?8, 34, 42, 45, and 56)	14 (none marked)	10	3 (89, H2, and U2)	9 (none marked)	28	6 (8, 12, 21, 54, 77, and V2)	6 (none marked)
		P. gibba	21	--	0	4	--	0	0	--	0
		TOTAL	**71**	**5**	**14**	**14**	**3**	**9**	**28**	**6**	**6**
3	9 Mar 2019	*P. radiolata*	78	6 (?2, 8, 36, 39 45, 64)	16 (none marked)	19	5 (85, 99, D1, Q2 [or O2], R2)	14 (none marked)	31	7 (24, 52 [or S2], 54, 73, H1, K1, V2)	0
		P. gibba	15	--	0	3	--	0	0	--	0
		TOTAL	**93**	**6**	**16**	**22**	**5**	**14**	**31**	**7**	**0**
4	23 Mar 2019	*P. radiolata*	45	4 (dot, 45, 57, 62)	11 (one marked 44)	26	3 (?1, 87,95)	0	25	3 (54, 71 or 77, W1)	15 (none marked)
		P. gibba	13	--	0	0	--	0	0	--	0
		TOTAL	**58**	**4**	**11**	**26**	**3**	**0**	**25**	**3**	**15**
5	6 Apr 2019	*P. radiolata*	41	5 (3?,43, 56, 64, one not readable)	9 (none marked)	20	5 (84, 92, 99, G2, H2)	0	19	4 (98, A2, J1, O1)	0
		P. gibba	18	--	0	0	--	0	0	--	0
		TOTAL	**59**	**5**	**9**	**20**	**5**	**0**	**19**	**4**	**0**
6	20 Apr 2019	*P. radiolata*	20	0	8 (none marked)	14	0	4 (none marked)	17	0	11 (none marked)
		P. gibba	7	--	0	0	--	0	0	--	0
		TOTAL	**27**		**8**	**14**	**0**	**4**	**17**	**0**	**11**
7	5 May 2019	*P. radiolata*	25	0	4 (none marked)	26	3 (?4, I3, unreadable)	0	20	2 (dot, dot)	5 (none marked)
		P. gibba	14	--	1	0	--	0	0	--	0
		TOTAL	**46**	**0**	**5**	**26**	**3**	**0**	**20**	**2**	**5**
8	19 May 2019	*P. radiolata*	36	2 (45, one not readable)	6 (none marked)	30	9 (?3, 5, 91, M3, Q4 [or 94], S7, dot, dot, dot)	0	21	5 (P5, R4, W3, dot, dot)	3 (none marked)
		P. gibba	13	--	0	0	--	0	0	--	0
		TOTAL	**49**	**2**	**6**	**30**	**9**	**0**	**21**	**5**	**3**
9	1 Jun 2019	*P. radiolata*	36	2 (45 unreadable)	16 (one marked 58)	27	1 (I3)	0	12	0	11 (one marked A2)

Visit #	Monitoring Date (ChST)	Species	Lower 1			Lower 2			Upper		
			Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed	Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed	Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed
		P. gibba	14	--	1	1	--	0	0	--	0
		TOTAL	**50**	**2**	**17**	**28**	**1**	**0**	**12**	**0**	**11**
10	16 Jun 2019	*P. radiolata*	52	4 (N7, O7, P7, one unreadable)	0	40	4 (I7, dot, dot, one unreadable)	0	34	11 (8, 100, G6, H6, O6, T6, Y6, dot, dot, ?6, ?5)	0
		P. gibba	11	--	0	2	--	0	0	--	0
		TOTAL	**63**	**4**	**0**	**42**	**4**	**0**	**34**	**11**	**0**
11	30 Jun 2019	*P. radiolata*	33	9 (CW, CZ, I9, O7, 5 marked w/ dot)	1 (none marked)	18	3 (dot, dot, one unreadable)	1 (none marked)	28	13 (98, AD, BT, H6, 7 marked w/ dot, 2 unreadable)	0
		P. gibba	20	--	0	0	--	0	0	--	0
		TOTAL	**53**	**9**	**1**	**18**	**3**	**1**	**28**	**13**	**0**
12	13 Jul 2019	*P. radiolata*	39	5 (?9, N7, CW, dot, dot)	5 (none marked)	24	3 (dot, dot, one unreadable)	7 (none marked)	34	4 (6, T6, dot, dot)	6 (none marked)
		P. gibba	14	--	0	0	--	0	0	--	0
		TOTAL	**53**	**5**	**5**	**24**	**3**	**7**	**34**	**4**	**6**
13	27 Jul 2019	*P. radiolata*	60	5 (9?, ?4, CC, EM or W3, dot)	0	23	1 (dot)	0	68	6 (?2, 25, 82, 95, N8, dot)	10 (none marked)
		P. gibba	12	--	0	0	--	0	0	--	0
		TOTAL	**72**	**5**	**0**	**23**	**1**	**0**	**68**	**4**	**10**
14	10 Aug 2019	*P. radiolata*									
		P. gibba	TO BE COMPLETED PENDING UPLOAD OF FIELD NOTES								
		TOTAL									
15	24 Aug 2019	*P. radiolata*									
		P. gibba	TO BE COMPLETED PENDING UPLOAD OF FIELD NOTES								
		TOTAL									
16	8 Sept 2019	*P. radiolata*	23	1 (unreadable, turned upward)	22 (none marked)	1	0	0	34	0	18 (none marked)
		P. gibba	0	--	0	12	--	0	0	--	0
		TOTAL	**23**	**1**	**22**	**13**	**0**	**0**	**34**	**0**	**18**
17	22 Sept 2019	*P. radiolata*	42	0	20 (none marked)	17	1 (DF)	6 (none marked)	55	0	5 (none marked)
		P. gibba	10	--	0	1	--	0	0	--	0
		TOTAL	**52**	**0**	**20**	**18**	**1**	**6**	**55**	**0**	**5**
18	6 Oct 2019	*P. radiolata*	37	1 (unreadable)	14 (none marked)	22	10 (3 dots, 3 unreadable, FA, EZ, GA)	5 (none marked)	49	22 (6 dots, 3 unreadable, FR, FN, FP, FE, FV, FO/FD, FT, FU, FS, FI, FJ, FK, EM, EV)	13 (one marked K?)
		P. gibba	6	--	0	1	--	0	0	--	0
		TOTAL	**43**	**1**	**14**	**23**	**10**	**5**	**49**	**22**	**13**

Visit #	Monitoring Date (ChST)	Species	Lower 1			Lower 2			Upper		
			Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed	Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed	Total Snails Observed	Marked Snails Observed	Ground Shells (Marked) Observed
19	21 Oct 2019	*P. radiolata*	27	2 (CX, unreadable)	13 (none marked)	18	0	0	32	5 (1 dot, 2 unreadable, FU, G6/66)	15 (none marked)
		P. gibba	7	--	1	2	--	0	0	--	0
		TOTAL	**34**	**2**	**14**	**20**	**0**	**0**	**32**	**5**	**15**
20	4 Nov 2019	*P. radiolata*	69	19 (1 dot, 4 unreadable, IU, IQ, IT, IP, ID, KA, KE, IY, IW, KC, IX, KB, IR, IV)	24 (none marked)	22	5 (1 dot, 2 unreadable, Z3 or EZ, JI)	0	87	26 (9 dot, 4 unreadable, FO(?), JM, JT, JY, JP, JS, JB, JO, JC, IX, IE, GW(?), FR)	9 (none marked)
		P. gibba	9	--	0	1	--	1	0	--	0
		TOTAL	**78**	**19**	**24**	**23**	**5**	**1**	**87**	**26**	**9**
21	17 & 19 Nov 2019	*P. radiolata*	61	22 (11 dot, 4 unreadable, KA, IR, KB, II or LI, IQ, IV, LD)	18 (K9)	31	18 (11 dot, 1 unreadable, LV, M?, HG, MS, I?, MR)	3 (none marked)	64	15 (6 dot, 2 unreadable, M?, HP, M?, NA, MZ, A?, MQ)	8 (none marked)
		P. gibba	8	--	0	0	--	0	0	--	0
		TOTAL	**69**	**22**	**18**	**31**	**18**	**3**	**64**	**15**	**8**
22	2 Dec 2019	*P. radiolata*	75	15 (6 dot, 2 unreadable, OB, IZ, OV, NW, NH, IR, QO)	17 (none marked)	41	5 (3 dot, HU, I7)	3 (none marked)	64	8 (1 dot, 2 unreadable, JQ, MZ, RM, RG, RC)	26 (one marked dot)
		P. gibba	10	--	0	3	--	0	0	--	0
		TOTAL	**85**	**15**	**17**	**44**	**5**	**3**	**64**	**8**	**26**
23	20 Dec 2019	*P. radiolata*	48	15 (7 dot, 1 unreadable, TC, TF, UH, OV, TD, IR, IQ)	12 (none marked)	29	9 (3 dot, 1 unreadable, SQ, TZ, TX, TW, UA)	2 (none marked)	73	15 (9 dot, 2 unreadable, VE, VM, UQ, VK)	18 (none marked)
		P. gibba	8	--	0	3	--	0	0	--	0
		TOTAL	**56**	**15**	**12**	**32**	**9**	**2**	**73**	**15**	**18**
24	6-7 Jan 2020	*P. radiolata*	62	2 (1 unreadable, IR)	17 (1 dot)	31	7 (3 dot, 3 unreadable, K?)	3 (none marked)	119	9 (5 dots, 1 unreadable, RG/RU, BH, UX)	17 (none marked)
		P. gibba	7	--	0	2	--	0	0	--	0
		TOTAL	**69**	**2**	**17**	**33**	**7**	**3**	**119**	**9**	**17**
25	20 Jan 2020	*P. radiolata*	41	14 (5 dots, 31, 49, 42, 34, YW/YU, XL, ZM, YT/YI)	13 (none marked)	34	9 (5 dots, 1 unreadable, 45, 52, YY)	2 (none marked)	47	4 (HN/HA, 11, XE, WI)	27 (UO, unreadable, dot)
		P. gibba	7	--	0	1	--	0	0	--	0
		TOTAL	**48**	**14**	**13**	**35**	**9**	**2**	**47**	**4**	**27**
26	4 Feb 2020	*P. radiolata*	62	7 (2 dots, 1 unreadable, 36, LG, ZM, R4)	23 (1 dot, 2 unreadable,	49	1 (O3)	2 (none marked)	111	7 (3 dots, K3, J5, H8, VP)	93 (1 dot, 6 unreadable, KJ, K4, 87, WL, JU, TK,

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					H2/A2, 43, 20 Q2)						PW/BW, LL, E6, NJ, 89, I4, 81, G8, C8)
		P. gibba	9	--	1	5	--	0	0	--	0
		TOTAL	**71**	**7**	**24**	**54**	**1**	**2**	**111**	**7**	**93**
27	15 Feb 2020	*P. radiolata*	134	51 (28 dots, 9 unreadable, QP, XL, ZM, 31, 47, QI, MF, KS, KL, FC, KN, FP, 45 MB)	35 (1 dot, 1 unreadable and ME)	104	65 (34 dots, 15 unreadable, O3, ML, XT, PG, OY, 44, MI, LQ, LX, OQ, KL, LF, FK, LI, LW, LP	15 (1 dot, LV, OZ and LT)	175	46 (22 dots, 11 unreadable, JX, IC, OH, QX, 86, XN, U, IN, AH, AS, C8, HF, HU)	58 (7 dots, 2 unreadable, K7, 64, M6, M8, IU and G4)
		P. gibba	19	--	O	1	--	0	0	--	0
		TOTAL	**153**	**51**	**35**	**105**	**65**	**15**	**175**	**46**	**58**
28	28 Feb 2020	*P. radiolata*	93	61 (16 dots, 32 unreadable, FA, DC, IM, ZO, ZP, WD, PK, NB, WS, LI, KI, VU, O3)	21 (2 unreadable, TU)	**	**	**	113	36 (18 dots, 6 unreadable, UI, YT, EQ, NC, MO, XU, XY, YA, OB, YJ, YX, XP)	37 (2 dots, 2 unreadable, VP, C5, D6, SA, U2, G3, DV, WC)
		P. gibba	3	--	O	**	**	**	0	--	O
		TOTAL	**96**	**61**	**21**	**	**	**	**113**	**23**	**37**
29	13 & 14 Mar 2020	*P. radiolata*	**89**	10 (3 dots, 1 unreadable, 33, VD, ZD, ZJ, ZW, VB)	17 (2 unreadable, KK, CO)	69	25 (8 dots, 7 unreadable, YN, LA, WN, XD, LN, LQ, GF, LU, QA, QC)	1 (none marked)	171	28 (8 dots, 3 unreadable, 93, IR, HS, MP, 63, IF, HZ, QZ, VL, T9, 88, YB, HR, ON, EG, UM, HX)	60 (5 dots, 1 unreadable, OA, HB, H7, H8, D9, SJ, EH, B5, I3, 92)
		P. gibba	**12**	--	0	5	--	1	0	--	0
		TOTAL	**101**	**10**	**17**	**74**	**25**	**2**	**171**	**28**	**60**
30	27 Mar 2020	*P. radiolata*	92	16 (4 dots, 6 unreadable, WR, TU, X9, ZW, ZJ, PZ)	11 (1 dot, 1 unreadable, YJ, NJ, FJ)	75	21 (11 dots, 8 unreadable, ZN, LZ)	1 (none marked)	132	7 (2 dots, 1 unreadable, G9, SL, GX, LQ)	49 (6 dots, 3 unreadable, F3, T5, 35, HY, TZ 14, VE, UZ SK)
		P. gibba	5	--	0	5	--	0	0	--	0
		TOTAL	**97**	**16**	**11**	**80**	**21**	**1**	**132**	**7**	**49**
31	13 Apr 2020	*P. radiolata*	38	13 (2 dots, 9 unreadable, X9, R5)	18 (3 dots, U6, JW, ZU, MS)	66	14 (6 dots, 4 unreadable, XC, Y7, MA, WT)	1	161	20 (7 dots, 6 unreadable, YS, EQ, YV, S6, HS, SU, 11)	71 (5 dots, 2 unreadable, YZ, JD, 18, ZA, L1, JX, 06, 71, M4, SC, VK, JW)
		P. gibba	4	--	1	2	--	0	0	--	0
		TOTAL	**42**	**13**	**19**	**68**	**14**	**1**	**161**	**20**	**71**

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32	24 Apr 2020	*P. radiolata*	45	6 (1 dot, 3 unreadable, X9, RE)	27 (1 dot, 3 unreadable, ZV, WN, AK, FX, 69)	49	10 (2 dots, 2 unreadable, Y7, XB, BB, MA, WT, JJ)	0	176	18 (6 dots, 5 unreadable, 93, HE, YY, UG, AQ, EA HS)	64 (2 dots, 3 unreadable, JL, TH, ZX, AI, XV, 96, 04, VX, SR, T8)
		P. gibba	13	--	0	1	--	0	0	--	0
		TOTAL	**58**	**6**	**27**	**50**	**10**	**0**	**176**	**18**	**64**
33	08 May 2020	*P. radiolata*	51	2 (1 unreadable, X9)	19 (3 unreadable, TH, JF, WI, GC)	28	11 (4 dots, 3 unreadable, JJ, WT, TV OG)	0	223	28 (7 dots, 9 unreadable, WO, LU, EA, TC, QS, FT, QL, RZ, QQ, YS, 11, IL)	90 (9 dots, 4 unreadable, QU, JC, IC, EC, IS, GT, HW, VS, XY)
		P. gibba	3	--	1	1	--	0	0	--	0
		TOTAL	**54**	**2**	**20**	**29**	**11**	**0**	**223**	**28**	**90**
34	22 May 2020	*P. radiolata*	51	3 (1 dot, 1 unreadable, X9)	18 (3 dots, 2 unreadable, 34, AO, VE)	29	5 (2 dots, 1 unreadable, JJ, MA)	1	139	18 (6 dots, 5 unreadable, S5, B2, YS, IA, S6, Q7, G7)	16 (4 dots, 4 unmarked, IO, SP, IP, OD, XW, 03, FI, XZ)
		P. gibba	2	--	0	4	--	0	0	--	0
		TOTAL	**53**	**3**	**18**	**33**	**5**	**1**	**139**	**18**	**16**

** monitoring event on 10 February 2019 was interrupted due to security concern; ground shell monitoring completed, live and marked snail observation at Lower 2 was incomplete*
***Lower Site 1 and 2 monitoring on 28 February 2020 were inadvertently combined*