Biological Assessment for Drum Removal Lonfit Ammunition Depot and Vicinity Formerly Used Defense Sites, Asan Guam

Task Order No. GU-NH-IESS(001)-EA-05

Prepared for

U.S. Army Corps of Engineers
Huntsville District

Prepared by

EA Engineering, Science, and Technology, Inc., PBC
1001 Army Drive, Suite 103
Barrigada, Guam 96913

May 2020
Version: FINAL
EA Project No. 6305302

This page intentionally left blank

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF ACRONYMS AND ABBREVIATIONS

BMP	Best Management Practice
ESA	Endangered Species Act
FUDS	Formerly Used Defense Site
N.C.N.	No Common Name
USACE	United States Army Corps of Engineers
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service

This page intentionally left blank

1. INTRODUCTION

1.1 PURPOSE AND OBJECTIVES

This Biological Assessment was prepared in accordance with Section 7 of the Endangered Species Act (ESA) (16 U.S. Code [U.S.C.] § 1536[c]) and its implementing regulations (50 Code of Federal Regulations § 402.12). The purpose of this Biological Assessment is to assess the potential effects of the drum removal at the Lonfit Ammunition Depot and Vicinity Formerly Used Defense Site (FUDS) on federally protected and proposed species and designated and proposed critical habitat. The proposed action includes activities associated with the removal and disposal of 62 drums containing either asphalt-like material or sodium hydroxide solution

The purpose of this proposed action is to clean up the Lonfit Ammunition Depot and Vicinity that was a FUDS, under the jurisdiction of the Secretary of Defense owned by, leased to, or otherwise possessed by the United States and transferred prior to 17 October 1986. The Lonfit Ammunition Depot and Vicinity is in the village of Asan, Guam. The site was also previously known as Area 6A, Fifth Field Depot, Ammunition Storage. Two ammunition storages still exist today, currently known as Quonset Hut A and Quonset Hut B. In 2012, abandoned drums and pontoons were disposed of, including treatment of petroleum-contaminated soil through chemical oxidation. A Removal Action Report documented that no further treatment was necessary at Quonset Hut A. In 2018, Quonset Hut B was found within the Lonfit Ammunition Depot and Vicinity. A total of 62 drums were identified and visually inspected. Representative samples of the waste were collected and analyzed during inspection. The material was determined to be non-hazardous but still needs to be cleaned up.

Early coordination and pre-consultation with the United States Fish and Wildlife Service (USFWS) was conducted during a series of meetings on 28 June and 26 August 2019, email exchanges from 8 September to 24 October 2019, a phone conversation on 30 October 2019, and a technical assistance request email from United States Army Corps of Engineers (USACE) to USFWS on 8 September 2019 with a response letter from USFWS on 23 October 2019 containing a list of ESA-protected species that could occur in the action area and a list of BMPs to avoid and minimize impacts to potential ESA-protected species. On March 30, 2020, the USACE contacted USFWS to clarify the types of information required in the Biological Assessment (BA). Then, on 25 April 2020, USACE confirmed that the species list sent on 23 October 2019 was still good. USFWS responded on 26 April 2020, with an email stating the species list sent on 23 October 2019 is still valid. This early coordination was conducted with USFWS Jacqueline Flores (Island team Manager, Mariana Islands), Tyler Willsey (Acting Island Team Manager), and Ferdinand Galsim (assigned biologist to the project).

1.2 PROPOSED ACTION

The proposed action for the drum removal includes activities associated with the removal and disposal of 62 drums containing either asphalt-like material or sodium hydroxide solution. The

proposed action includes activities to clean up the site by repackaging and disposing of the 62 drums properly for removal and disposal on the mainland. The proposed action is described in Section 2.

This page intentionally left blank

2. PROPOSED ACTION

USACE proposes to remove 62 drums in Quonset Hut B located at the Lonfit Ammunition Depot and Vicinity in the village of Asan, Guam. Fifty-nine drums contain an asphalt-like material and 3 contain basic liquid suspected to be a sodium hydroxide solution. The primary objective of this project is to repackage 62 drums in accordance with Department of Transportation requirements and transport them to a disposal facility on the United States mainland for proper disposal. The Quonset Hut structure is currently covered with soil and will require removal for access to the drums.

Due to their poor condition, the drums, material that may have leaked from the drums, and impacted soil within the Quonset hut will be placed into overpack drums for removal and appropriate disposal. Further details may be found in the project-specific work plan. The proposed action includes the following activities:

- Accessing the sites using the existing main and off-road vehicle roads to minimize vegetation removal
- Using heavy equipment (i.e., backhoe, trackhoe, and flatbed truck/dump truck) not exceeding the width of the existing road to remove drums along with any soil on the Quonset Hut floor or visibly stained soil within the vicinity
- Clearing approximately 0.5 acres of vegetation prior to removal of the metal structure
- Conducting a biological survey of federally protected species approximately 2 weeks prior to fieldwork.

The following Best Management Practices (BMPs) will also be implemented as part of the proposed action. These are measures to limit work to the extent feasible only to areas within the project area that have been previously developed or disturbed.

- Minimize potential adverse effects to federally protected butterflies by minimizing vegetation disturbance in the project area outside of already developed or disturbed areas.
- To avoid potential adverse effects to federally protected tree snails, avoid clearing understory and overstory forest vegetation outside existing developed areas within the project area.
- Conduct monitoring for threatened and endangered species each morning during vegetation clearing to ensure that no federally protected species are in the vicinity of the work. If species are encountered, appropriate measures, including stopping work until the species has transited out of the action area, will be employed.

Avoid potential adverse effects to federally protected plants by minimizing disturbance of native vegetation outside existing developed areas.

- There was a small stream located during the biological surveys approximately 25–30 feet off the north side of the action area. Construction activities will avoid any impacts to the stream located approximately 25–30 feet of the north side of the action area. Impacts could occur from ground disturbance activities, vegetation clearing, and the use of heavy equipment; therefore, BMPs, such as the use of silt fencing to protect the stream, will be employed to minimize impacts.

No other alternatives were considered for the proposed action, and no other alternatives are analyzed in this Biological Assessment.

2.1 ACTION AREA

The Lonfit Ammunition Depot and Vicinity is in the village of Asan, Guam (Figure 1). The action area for the biological field survey covers approximately 0.5 acres of surrounding savannah habitat with limited forested habitat occurring in association with ravines and drainages as shown in Figure 2. During surveys of the site, grassland and savannah habitat was encountered in the action area.

The environmental baseline includes the past and ongoing human and natural influences within the action area. Currently, the Lonfit Ammunition Depot and Vicinity is lying fallow with no known human activities. Past human influence is readily apparent at the site, which is disturbed, with existing off-road vehicle trails. The development of the Quonset Huts as part of past defense activities altered the use of the action area from a formerly natural site to a military use. Human activities have also resulted in an alteration of the habitat found in the action area from a formerly forested habitat to an open grassland savannah. This is likely due to burning of the site as part of hunting activities and, as a result, the site no longer provides limestone forested habitat. The habitat within the action area has been altered in more recent years by the colonization of non-native plant species, including swordgrass (*Miscanthus floridulus*), which is the dominant species in the action area. Overall, these actions have resulted in the development of a lower-quality habitat within the action area.

2.2 FEDERALLY PROTECTED SPECIES WITH THE POTENTIAL TO OCCUR WITHIN THE ACTION AREA

USACE continued ongoing communication with USFWS regarding federally protected species that may occur in the action area for the proposed action. USACE sent a letter to USFWS on 8 September 2019 requesting information on species with the potential to occur in the action area (Appendix A). USFWS responded to USACE on 24 October 2019, and identified species potentially present in the action area. Table 1 provides the list of species identified by USFWS and their potential to occur in the action area based on habitat requirements. These habitat requirements are based on the USFWS final rule for the determination of the listing of these

species under the ESA (USFWS 2015), and on available literature and studies of species habitat use. Information on current population data and trends of these species is scarce.

A biological survey was conducted on 30 October 2019 throughout the action area for federally protected species identified by USFWS as having the potential to occur in the action area. Details on the methods and results of this survey are provided in the Ecological Resources Plan (EA 2020). The purpose of the biological field survey completed on 30 October 2019 was to determine if federally protected species occur within the action area and to document and locate their occurrence, if observed. The objective of this survey was to ensure that actions associated with the drum removal at the Lonfit Ammunition Depot and Vicinity are consistent with the requirements of ESA Section 7 and to identify and avoid the potential impacts on federally protected species identified within or immediately adjacent to the action area. The savannah and grassland habitat in the action area is unlikely to support species that thrive in forested habitats, such as the federally protected *Bulbophyllum guamense, Dendrobium guamense, Tuberolabium guamense*, and *Tabernaemontana rotensis*. However, this habitat has the potential to support the occurrence of smaller savannah species such as *Phyllanthus saffordii* and *Hedyotis megalantha.*

No critical habitat is present within the action area.

Table 1 Federally Protected Flora and Fauna Identified by USFWS as Potentially Occurring in the Action Area

Scientific Name	Common Name	Chamorro Name	Status	Potential to occur	Habitat
Flora					
Bulbophyllum guamense	Wild onion	Cebello halumtano	T	Possible	Epiphyte occurring most commonly in humid, moist areas on tree trunks and branches in forested habitats.
Cycas micronesica	Micronesian cycad	Fadang	T	Possible	Occurs in closed forest on coral limestone or coral sand.
Dendrobium guamense	N.C.N.	-	T	Possible	Epiphyte occurring in forested habitats in moist areas with filtered or direct sunlight.
Eugenia bryanii	N.C.N.	-	E	Possible	Most often occurs on cliffsides, also on coastal limestone and occasionally back strand.
Hedyotis megalantha	N.C.N.	Pau dedu	E	Possible	Occurs in open savannah, in clearings, and under forest canopy. Species is at risk from habitat loss due to agriculture, development, fire, and non-native animals.
Heritiera longipetiolata	N.C.N.	Ufa halomtanu	E	Possible	Restricted to limestone cliffs and plateaus.
Maesa walkeri	N.C.N.	-	T	Possible	Limestone ridges with no overstory and exposure to wind.
Nervilia jacksoniae	N.C.N.	-	T	Possible	Typically occurs in shady places in rocky areas with leaf litter.

Table 1 Federally Protected Flora and Fauna Identified by USFWS as Potentially Occurring in the Action Area

Scientific Name	Common Name	Chamorro Name	Status	Potential to occur	Habitat
Phyllanthus saffordii	N.C.N.	-	E	Possible	Suitable habitat – occurs in savannah badlands in areas with red clay soil. Species is threatened by habitat destruction from agriculture, development, non-native animals and from damage due to recreational vehicle use.
Psychotria malaspinae	N.C.N.	Aplokating palaoan	E	Possible	Occurs in limestone forest.
Solanum guamense	N.C.N.	Biringenas halumtanu	E	Possible	Occurs on limestone cliffs, terraces near the sea, and edge plants along roads.
Tabernaemontana rotensis	N.C.N.	-	T	Possible	Occurs on limestone plateaus, usually in areas with soil.
Tinospora homosepala	N.C.N.	-	E	Possible	Occurs on limestone; back strand – hangs from tall canopies.
Tuberolabium guamense	N.C.N.	-	T	Possible	Occurs in moist shady (~60% light) areas, common in higher elevations in southern Guam and older limestone forests in northern Guam.
Fauna					
Hypolimnas octocula marianensis	Mariana eight-spot butterfly	Ababbang	E	Possible	Host plant is known to occur on limestone karst.
Partula gibba	Humped tree snail	Akaleha’	E	Possible	Occurs in cool shaded forest.
Partula radiolata	Guam tree snail	Akaleha’	E	Possible	Occurs in cool shaded forest.
Pteropus mariannus	Mariana fruit bat	Fanihi	T	Possible	Sightings have been recorded in northern Guam during annual surveys for Mariana fruit bat.
Samoana fragilis	Fragile tree snail	Akaleha’ dogas	E	Possible	Occurs in cool, shaded forest.

NOTES:
T = Federally threatened.
E = Federally endangered.
N.C.N. = No common name.
Sources: E2M 2008; Guam Plant Extinction Prevention Program 2019; Hopper and Smith 1992; Kerr 2013; Rubinoff and Holland 2018; Wiles Aguon, and Davis 1995; University of Guam 2007; and USFWS 2014, 2015, and 2019.

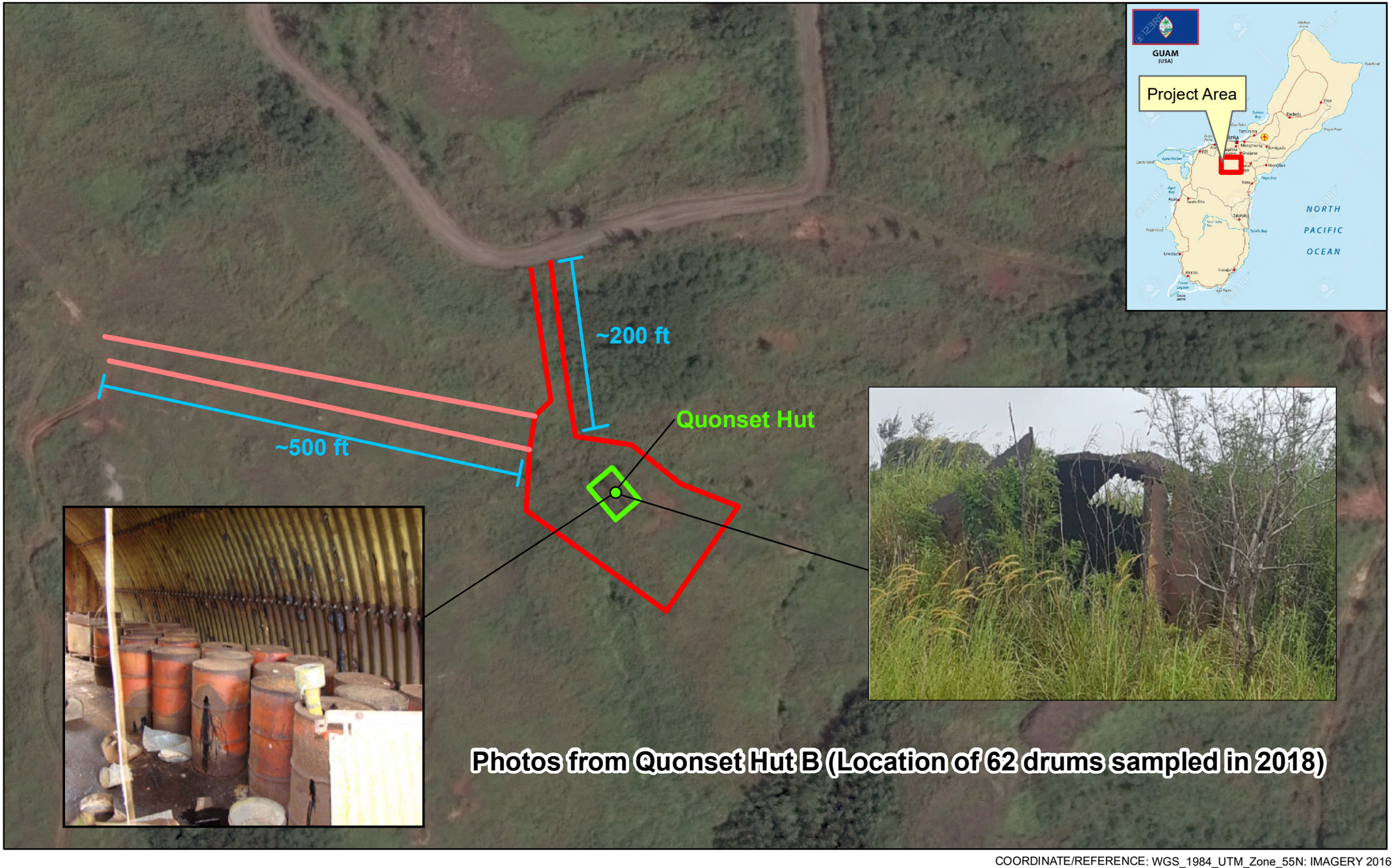
kfisk Path: C:\Users\kfisk\Desktop\Temp GIS data\Lonfit\Figure 1 Site Location Lonfit.mxd

1 inch equals 5,000 feet
(8.5 x 11) printout
0 0.375 0.75 1.5 Miles
N

Drum Removal
Lonfit Ammunition Depot and Vicinity
Asan, Guam

Figure 1
Site Location

This page intentionally left blank



COORDINATE/REFERENCE: WGS_1984_UTM_Zone_55N: IMAGERY 2016

Legend

- Area of Potential Effects
- APE Road Option 2

200 100 0 200 Feet

N

EA Engineering, Science, and Technology, Inc., PBC

1001 Army Drive, Suite 103,
Barrigada, 96913-1402

Drum Removal
Lonfit Ammunition Depot and Vicinity
Formerly Used Defense Sites, Asan, Guam
Contract No. W912DY-16-D-0012
Task Order No. W912DY19F0459

Figure 2
Area of Potential Effects

Drawing No.2_APE	Date: 04/20/20	Drawn By: KFisk	Project No. 6305303

This page intentionally left blank

3. SPECIES/CRITICAL HABITAT CONSIDERED IN THE ACTION AREA

3.1 SPECIES AND CRITICAL HABITAT

Section 7 of the ESA (16 U.S.C. 1536) requires federal agencies to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any federally protected endangered or threatened species or result in the destruction or adverse modification of critical habitat. Species with the potential to occur in the action area were provided in a 24 October 2019 letter from USFWS to USACE (Appendix A). This list is presented in Table 1. Species habitat requirements were compared to conditions occurring in the action area, and a biological survey was completed to determine if species or their habitat were present.

3.2 SPECIES OBSERVED IN THE ACTION AREA

The action area was noted as being dominated by swordgrass (*Miscanthus floridulus*), with no trees. No federally protected species were identified within the action area during the biological field surveys.

This page intentionally left blank

4. EFFECTS ANALYSIS

Biological field surveys were conducted on 30 October 2019 for federally threatened and endangered species within the action area. The biological field surveys were conducted to document the presence and potential impacts to federally protected threatened or endangered species in the action area. The objective of the biological field survey was to ensure that actions associated with the proposed action are consistent with the requirements of Section 7 of the ESA and to identify and avoid potential for impacts if federally protected species are identified within, or immediately adjacent to, the action area.

No federally protected species were observed during the biological field surveys within the action area.

The project is expected to have ***no effect*** on the federally protected species with no suitable habitat in the action area; these species are not anticipated to be present (Table 2). Several species were not observed during the biological survey, and suitable habitat for these species was not found. This includes federally protected orchid species and other flora that require moist, forested habitat; such habitat is not present in the action area. Given that these species were not observed during surveys and have no suitable habitat within the action area, the actions proposed as part of the project would not result in any effects to these species.

Table 2 Species with a Section 7 Determination of No Effect

Scientific Name	Common Name	Status	Rationale
Flora			
Bulbophyllum guamense	Wild onion	T	Species was not observed during the biological survey. Because no trees are present in the action area, the site is not suitable habitat for this species.
Cycas micronesica	Micronesian cycad	T	Species was not observed during the biological survey. Because no trees are present in the action area, the site is not suitable habitat for this species.
Dendrobium guamense	N.C.N.	T	Species was not observed during the biological survey. Because no trees are present in the action area, the site is not suitable habitat for this species.
Eugenia bryanii	N.C.N.	E	Species was not observed in the action area during the biological survey and the site does not provide suitable habitat.
Heritiera longipetiolata	N.C.N.	E	Species was not observed in the action area during the biological survey and the site does not provide suitable habitat.
Maesa walkeri	N.C.N.	T	Species was not observed in the action area during the biological survey and the site does not provide suitable habitat.
Nervilia jacksoniae	N.C.N.	T	Species was not observed during the biological survey. Because no trees are present in the action area, the site is not suitable habitat for this species.
Psychotria malaspinae	N.C.N.	E	Species was not observed during the biological survey. The savannah/grassland habitat present in the action area is not suitable for this species.

Scientific Name	Common Name	Status	Rationale
Solanum guamense	N.C.N.	E	Species was not observed in the action area during the biological survey and the site does not provide suitable habitat.
Tabernaemontana rotensis	N.C.N.	T	Species was not observed in the action area during the biological survey and the site does not provide suitable habitat.
Tinospora homosepala	N.C.N.	E	Species was not observed in the action area during the biological survey and the site does not provide suitable habitat.
Tuberolabium guamense	N.C.N.	T	Species was not observed during the biological survey. Because no trees are present in the action area, the site is not suitable habitat for this species.
Fauna			
Hypolimnas octocula marianensis	Mariana eight-spot butterfly	E	Species was not observed during the biological survey and no host plants were identified in the action area. The savannah/grassland habitat at the site was determined to be unsuitable for the species.
Partula gibba	Humped tree snail	E	Species was not observed during the biological survey and the savannah/grassland habitat at the site was determined to be unsuitable for the species.
Partula radiolata	Guam tree snail	E	Species was not observed during the biological survey and the savannah/grassland habitat at the site was determined to be unsuitable for the species.
Pteropus mariannus	Mariana fruit bat	T	Species was not observed during the biological survey and no suitable roosting trees were identified. In addition, no trees are present at the site.
Samoana fragilis	Fragile tree snail	E	Species was not observed during the biological survey and the savannah/grassland habitat at the site was determined to be unsuitable for the species.

Notes:
T = Federally threatened.
E = Federally endangered.
N.C.N. = No common name.

Although *Hedyotis megalantha* and *Phyllanthus saffordii* were not observed during the biological survey, suitable habitat for these plant species exists within the action area. Because these species were not observed during the surveys, direct effects to individuals are unlikely from project activities. Project activities, including clearing of vegetation, use of heavy equipment, and the creation of fugitive dust could result in impacts to suitable habitat, which would have an indirect effect on these species. However, the action area is a previously disturbed site that has been used for military purposes for several years. It is dominated by non-native swordgrass and currently provides degraded habitat for *H. megalantha* and *P. saffordii*. Heavy equipment use and other activities associated with the removal of the drums would largely be restricted to existing jeep trails and previously disturbed areas, and clearing of vegetation

would be minimal. Impacts from clearing and the use of heavy equipment would be relatively temporary in nature.

Overall, the impacts of these actions are anticipated to be insignificant, as these species were not observed within the action area. Actions that may impact suitable habitat in the action area, and thus have indirect impacts on federally protected plant species are minimal and are anticipated to have an insignificant effect on these species. In addition, suitable habitat in the action area is currently degraded. The BMPs suggested by USFWS are presented in Section 5 as conservation measures to be implemented. These BMPs would reduce the potential for impacts to federally protected species from the proposed action. It is anticipated that the proposed action ***may affect, but is not likely to adversely affect*** *H. megalantha* and *P. saffordii* (Table 3).

Table 3 Species with a Section 7 Determination of May Affect, Not Likely to Adversely Affect

Scientific Name	Common Name	Status	Rationale
Flora			
Hedyotis megalantha	N.C.N.	E	Species was not observed in the action area during the biological survey; however, suitable habitat is present in the action area . Activities associated with the proposed action could have adverse effects on suitable habitat, including clearing of vegetation, and the use of heavy equipment. These activities could result in fugitive dust, soil compaction, and introduction of invasive species. However, the activities associated with the removal of the drums would largely be restricted to existing jeep trails and previously disturbed areas, and clearing of vegetation would be minimal. Habitat in the action area is already degraded and the site has long been used for military activities. Conservation measures detailed below would ensure that the proposed action was not likely to adversely affect this species or suitable habitat in the action area.
Phyllanthus saffordii	N.C.N.	E	Suitable habitat for this species was observed in the action area; however, the species was not found during the biological survey. Activities associated with the proposed action could have adverse effects on suitable habitat, including clearing of vegetation, and the use of heavy equipment. These activities could result in fugitive dust, soil compaction, and introduction of invasive species. However, the activities associated with the removal of the drums would largely be restricted to existing jeep trails and previously disturbed areas, and clearing of vegetation would be minimal. Habitat in the action area is already degraded and the site has long been used for military activities. Conservation measures detailed below would ensure that the proposed action was not likely to adversely affect this species or suitable habitat in the action area.

NOTES:
E = Federally endangered.
N.C.N. = No common name.

Other potential projects in the project vicinity have the potential to impact federally protected species. However, there are no known current or future additional projects within the action area that would have the potential to affect federally protected species. The proposed action is not anticipated to result in cumulative impacts to federally protected species.

5. CONCLUSION AND DETERMINATION OF EFFECTS

No federally listed species were observed in the action area during the biological field survey on 30 October 2019. The proposed action would have no effect on the species presented on Table 2, based on the rationale provided and their absence during the biological surveys.

Based on the biological survey conducted **o**n October 30, 2020 and the discussion in the effects analysis, the proposed action would have an insignificant impact to federally protected species *Hedyotis megalantha* and *Phyllanthus saffordii*. Though these species were not observed during the survey, the action area may have suitable habitat to support these species and BMPs would be implemented, minimizing the potential direct and indirect effects to *H. megalantha* and *P. saffordii*. Thus, the USACE has determined that the removal of the drums in the proposed action for the Lonfit Ammunition Depot and Vicinity, may affect, but is not likely adversely affect *H. megalantha* and *P. saffordii***.**

The following BMPs or conservation measures provided in Section 2 will be employed to minimize potential impacts to federally protected species with the potential to occur in the action area. These are measures to limit work to the extent feasible only to areas within the project area that have been previously developed or disturbed.

- Minimize potential adverse effects to federally protected butterflies by minimizing vegetation disturbance in the project area outside of already developed or disturbed areas.

- To avoid potential adverse effects to federally protected tree snails, avoid clearing understory and overstory forest vegetation outside existing developed areas within the project area.

- Conduct monitoring for threatened and endangered species each morning during vegetation clearing to ensure that no federally protected species are in the vicinity of the work. If species are encountered, appropriate measures, including stopping work until the species has transited out of the action area, will be employed.

- Avoid potential adverse effects to federally protected plants by minimizing disturbance of native vegetation outside existing developed areas.

- There was a small stream located during the biological surveys approximately 25–30 feet off the north side of the action area. Construction activities will avoid any impacts to the stream located approximately 25–30 feet of the north side of the action area. Impacts could occur from ground disturbance activities, vegetation clearing, and the use of heavy

equipment; therefore, BMPs, such as the use of silt fencing to protect the stream, will be employed to minimize impacts.

This page intentionally left blank

6. LITERATURE CITED

EA Engineering, Science, and Technology, Inc., PBC (EA). 2020. Draft Ecological Resources Plan, Drum Removal, Lonfit Ammunition Depot and Vicinity, Formerly Used Defense Sites, Asan, Guam. Prepared for the U.S. Army Corps of Engineers. April.

Engineering-Environmental Management (E2M). 2008. *Final Mariana Fruit Bat Management Plan for Anderson Air Force Base, Guam.* Prepared for Anderson Air Force Base. August.

Guam Plant Extinction Prevention Program. 2019. Plant List. Available online: http://www.gpepp.org/. Accessed September 18, 2019.

Hopper, D.R., and B.D. Smith. 1992. Status of Tree Snails (Gastropoda: Partulidae) on Guam, with a Resurvey of Sites Studied by H.E. Crampton in 1920. *Pacific Science* 46(1): 77-85.

Kerr, Alexander M. 2013. *The partulid tree snails (Partulidae: Stylommatophora) of the Mariana Islands, Micronesia.* University of Guam Marine Laboratory Technical Report 152. May.

Rubinoff, D. and B. Holland. 2018. The conservation status of two endangered Mariana butterflies, *Hypolimnas octocula marianensis* and *Vagrans egistina* (Nymphalidae). *Journal of the Leptidopterists' Society* 72(3): 1-9.

University of Guam. 2007. *Survey of Tabernaemontana rotensis on Anderson Air Force Base.* Final Report. February.

United States Fish and Wildlife Service (USFWS). 2014. *Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for 21 Species and Proposed Threatened Status for 2 Species in Guam and the Commonwealth of the Northern Mariana Islands; Proposed Rule*. Federal Register Vol. 77, No. 190: 59364-59413. October 1.

———, 2015. *Endangered and Threatened Wildlife and Plants; Endangered Status for 16 Species and Threatened Status for 7 Species in Micronesia*. Federal Register, 80(190), 59424–59497.

———.. 2019. *Species List Request for Drum Removal for Lonfit Planning Project in Asan, Guam.* Letter from Tyler Willsey (USFWS) to Madelyn Martinez (USACE). 24 October.

Wiles, G.J., Aguon C.F., and G.W. Davis. 1995. The Status and Distribution of Endangered Animals and Plants in Northern Guam. *Micronesia* 28(1): 31-49.

This page intentionally left blank

7. LIST OF CONTACTS MADE AND PREPARERS

Contacts:

- Jacqueline Flores – USFWS
- Toni Mizerek – USFWS

List of Preparers:

- Daniel Savercool, CSE, CERP – Senior Biologist, EA
- Kathryn Cerny-Chipman – Biologist, EA
- Christopher Rosario – Biologist, EA

This page intentionally left blank

Appendix A

United States Fish and Wildlife Service Correspondence

This page intentionally left blank

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Pacific Islands Fish and Wildlife Office
300 Ala Moana Boulevard, Room 3-122
Honolulu, Hawaii 96850

In Reply Refer To:
01EPIF00-2019-SL-0473

Madelyn T. Martinez
Biologist – Military/IIS Section
U.S. Army of Corps of Engineers
Honolulu District – PPE Bldg. 230 Rm 104
Fort Shafter, HI 96858-5440
(808)-835-4103

Subject: Species List Request for Drum Removal for Lonfit Planning Project in Asan, Guam

Dear Ms. Martinez:

The U.S. Fish and Wildlife Service (Service) received your letter on September 8, 2019, requesting for a list of threatened and endangered animal and plant species, or designated critical habitat that may be present in your project site. The proposed project is to remove and dispose 62 abandoned drums from the Quonset Hut B. The 59 drums contain asphalt-like material and three drums contain basic liquid suspected to be a sodium hydroxide solution.

The current activities of the project include:

1. Accessing the sites using the existing main and off-road vehicle (ORV) roads to minimize vegetation removal.
2. Using heavy equipment (i.e. backhoe, trackhoe, and flatbed truck/dump truck) not exceeding the width of the existing road to remove drums along with any soil on the Quonset hut floor or visibly stained soil within the vicinity.
3. Clearing approximately 0.5 acre of vegetation prior to the removal of the metal structure.
4. Conduct biological survey of listed species approximately 2 weeks prior to fieldwork.

All drums are to be shipped off-island for disposal and the tentative schedule to implement this project is on January 2020.

We reviewed the proposed project pursuant to the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). The project map outlines a forested area. Based on the information you provided and the pertinent information in our files, we have determined that the federally threatened Mariana fruit

bat (*Pteropus mariannus mariannus*) may occur within or pass through the project site. Federally endangered snails such as humped tree snail (*Partula gibba*), Guam tree snail (*Partula radiolata*), and fragile tree snail (*Samoana fragilis*) may also occur. The federally endangered Marianas eight-spot butterfly (*Hypolimnas octocula marianensis*) may be present and can be found on two local forest herbs, *Procris pedunculata* (no common name (NCN)) and *Elatostema calcareum* (tapun ayuyu). The federally endangered *Eugenia bryanii* (NCN), *Heritiera longipetiolata* (ufa halumtanu), *Psychotria malaspinae* (aplokating palaoan), *Solanum guamense* (biringenas halumtano), and the *Tinospora homosepala* (NCN) may occur in your project site. The federally threatened *Cycas micronesica* (fadang), *Maesa walkeri* (NCN) and *Tabernaemontana rotensis* (NCN), the federally threatened epiphytic orchids *Bulbophyllum guamense* (siboyas halumtanu), *Dendrobium guamense* (NCN), *Tuberolabium guamense* (NCN), and the federally endangered ground orchid *Nervilla jacksoniae* (NCN) may also occur in your project site.

The project site may be within or adjacent to a savanna/grassland habitat. The federally endangered *Hedyotis megalantha* (pau do'do') and *Phyllanthus saffordi* (NCN) may also occur in the area.

Best Management Practices (BMPs)
The Service offers the following BMPs to assist in your planning process so that impacts to trust resources can be avoided. However, species survey methodologies of botanical and listed species may be requested.

Mariana fruit bat
The Mariana fruit bat (*Pteropus mariannus mariannus*) is a medium-sized bat measuring 195 to 250 mm from head to rump, with a wingspan of 860 to 1065 mm. The mantle and sides of the neck are bright gold but may be pale gold or pale brown. In bats primarily forage and roost in native limestone forest. They may be found in other forest types and occasionally in other habitats including farms, savannas, and mangroves. Fruit bats sleep during much of the day; bats gradually depart colonies for several hours around sunset to forage. Major threats to fruit bats include noise, light at night, habitat loss, and physical disturbances.

Mariana eight-spot butterfly
The Mariana eight-spot butterfly (*Hypolimnas octocula mariannensis*) is endemic to Guam and Saipan. On Guam, there are at least six distinct populations of the Mariana eight-spot butterfly (Lindstrom and Benedict 2014, p. 9).

The Mariana eight-spot butterfly appears to be constrained by available host plants. Larvae of Mariana eight-spot butterfly feed on two native plants: *Elatostema calcareum* and *Procris pedunculata* (Campora and Lee 2009, p. 1; Moore 2014, p. B16). Both host plants are from the family Urticaceae and occur in wet, native forest areas with exposed limestone karst. Schreiner and Nafus (1996) noted a close association in the occurrence of the butterfly's life stages with the presence of host plants (p. 2).

Minimize potential adverse effects to listed butterflies by minimizing vegetation disturbance outside of existing developed areas. Cutting and removing vegetation has the potential to increase microsite sunlight and wind conditions, which may result in invasion of non-native plants or reduction in germination, growth, and reproduction of butterfly host plants.

Snails
The humped tree snail (*Partula gibba*), Guam tree snail (*Partula radiolata*), fragile tree snail *(Samoana fragilis*) are endemic to the Mariana Islands and occur in forested areas of Guam, Rota, Saipan, Tinian, and multiple northern islands. Tree snails tend to occur in cooler, shaded forests with high humidity and reduced air movement (Crampton 1925). Threats to tree snails include habitat loss, habitat degradation from ungulates and other invasive species, and predation from introduced species such as rats and the

manokwari flatworm (*Platydemus manokwari*). Snails, when present, are generally found within the first 5 minutes of searching (Hopper and Smith 1992).

To avoid potential adverse effects to listed tree snails, avoid clearing understory and overstory forest vegetation outside existing developed areas. Intact vegetation is important for maintaining microclimates and air movement conditions that allow snails to survive in a given area.

Plants
Listed plants may occur on the project site. Avoid potential adverse effects to listed plants by minimizing disturbance of native vegetation outside existing developed areas. Cutting and removing vegetation has the potential to increase microsite sunlight and wind conditions which may result in invasion of non-native plants or reduction in germination, growth, and reproduction of listed plants.

The Service also determined that there are no designated critical habitat exists within or near the project site.

For questions regarding bird species federally protected under the Migratory Bird Species Act, and for a migratory bird species list for your project area, please contact Jenny Hoskins at jenny hoskins@fws.gov or (808) 281-9129.

If it is determined that the proposed project may affect federally listed species, we recommend that you contact our office early in the planning process so that we may assist you with the ESA compliance. We appreciate your efforts to conserve listed species and native ecosystems pursuant to the ESA. If you have additional questions, please contact Ferdinand Galsim at (671) 989 – 6745; e-mail: ferdinand_galsim@fws.gov. In future communications with us regarding this project, please refer to reference number: 2019-SL-0473. To expedite the Service's response to any future official correspondence, please address it to pifwo_admin@fws.gov.

Sincerely,

TYLER WILLSEY Digitally signed by TYLER WILLSEY Date: 2019.10.24 08:24:39 +10'00'

Jacqueline Flores
Island Team Manager
Mariana Islands

cc: Celestino Aguon, Chief, Division of Aquatics and Wildlife Resources

References

Crampton H.E. 1925. Studies on the variation, distribution, and evolution of the genus Partula. Carnegie Institution of Washington, 1916. 140 pp.

Campora C, Lee S. 2009. Survey for the Mariana eight spot butterfly, Hypolimnas octocula marianensis (Lepidoptera: Nymphalidae), in the Pagat Route 15 area of Yigo Village, Guam. Page 16 pp.

Hopper, D. R. and B. D. Smith. 1992. Status of tree snails (*Gastropoda: Partulidae*) on Guam, with a resurvey of sites studied by H.E. Crampton in 1920. Pacific Science 46: 77-85.

Lindstrom DP, Benedict JC. 2014. Federal Candidate Species Surveys on Guam. Prepared for NAVFAC Marianas. University of Guam, Agana, Guam.

Moore A. 2014. Appendix B, The Mariana Eight Spot Butterfly, Hypolimnas octocula marianensis and the Mariana Wandering Butterfly, Vagrens egistina, of the Mariana Islands, Micronesia. Page 20 pp. in D. P. Lindstrom and J. C. Benedict, editors. Federal Candidate Species Surveys.

Schreiner IH, Nafus DM. 1996. Survey of rare butterflies in the Mariana Islands. Preliminary report. US Fish and Wildlife Service unpublished report.