



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:
01EPIF00-2015-F-0025
01EPIF00-2016-F-0185

Commander Warren LeBeau
Director, Pacific Programs Office
Office of the Assistant Secretary of the Navy (OASN)
Energy, Installations and Environment (EI&E)
1000 Navy Pentagon
Washington, DC 20350-1000

Dear Commander LeBeau:

This responds to the Department of the Navy's (DON) October 11, 2018, request for reinitiation of formal consultation with the U.S. Fish and Wildlife Service (Service or USFWS) under section 7 of the Endangered Species Act (ESA) of 1973, as amended (16 U.S.C. 1531 et seq.). The request concerns the Service's July 19, 2017 Biological Opinion (BO) addressing the effects of relocating U.S. Marine Corps (USMC) personnel from Okinawa to Guam and related infrastructure construction and military training activities on listed species, including the endangered Mariana eight spot butterfly (*H. octocula marianensis*), the threatened *Cycas micronesica*, and three listed orchids; the endangered *Bulbophyllum guamense*, and the threatened *Dendrobium guamense* and *Tuberolabium guamense*. Specifically, new information on the status of these plants within the action area and subsequent clarifications to relevant conservation measures under the proposed action triggered the request for reinitiation. This document amends the July 19, 2017 BO, which is herein incorporated by reference. Only sections of the BO that have been modified, based on your request, are included below. The July 31, 2015 BO, July 19, 2017 BO and this BO amendment constitute your ESA section 7 compliance document.

This BO amendment is based on information provided in your October 11, 2018, BA supplement letter (DON 2017, subsequent phone and email conversations, and in person meetings on October 22 and 26, 2018). A complete decision record for this consultation is located in the Service's Pacific Islands Fish and Wildlife Office (PIFWO) in Honolulu, Hawaii.

2017 Biological Opinion Clarifications, Corrections, and Minor Modifications

On October 4, 2017, you informed us that pre-construction surveys for listed species were initiated within the Phase 1 construction project (J-001B) footprint at Finegayan. Those 2017 surveys revealed the presence of more of the listed orchids, referenced above, than had been found in the 2015/2016 pre-consultation surveys. In addition, the biologists authorized to collect

and outplant the listed plants noted that some of the plants were not healthy enough to survive transplantation. Therefore, the number of pre-project known individuals of each of these plant species described in several sections of the 2017 BO is no longer correct. However, the DON will maintain its commitment, described in the conservation measures and Table 6. This will result in no change to the number of individual plants present range-wide after the project, which was the basis of our 2017 non-jeopardy determination. For example:

The 2015/2016 surveys for *T. guamense* identified 4,922 individuals subject to removal and out-planting. In the 2017 consultation, the DON committed to translocating as many healthy *T. guamense* individuals as is feasible, with a proposed success criteria of the survival of a minimum of 1,000 individuals after one year. Pre-construction surveys conducted since the 2017 BO was completed have identified over 14,000 *T. guamense* within the project footprint, and the DON has currently translocated over 8,000 into the Forest Enhancement sites. The DON's commitment for a minimum of 1,000 *T. guamense* to survive translocation remains in place, however due to the excess number translocated the survival is likely to be much higher. The number of individuals of *B. guamense* and *D. guamense* are also likely to change between the 2015/2016 pre-consultation surveys and pre-construction surveys.

The number of *C. micronesica* to be translocated is likely to be lower than the 3,191 proposed in the 2017 BO. Post-consultation surveys conducted to evaluate the health of individual plants and whether or not they are healthy enough to survive transplantation have found that some adult *C. micronesica* are not healthy enough to survive transplantation due to infestation by the cycad aulacaspis scale (*Aulacaspis yasumatsui*).

You also informed us of a discrepancy in the 2017 BO regarding the estimated acreage of occupied Mariana eight-spot butterfly habitat likely to be impacted by the proposed action. The July 19, 2017 BO incorrectly stated that 350 ac of occupied habitat would be removed or degraded. This discrepancy was due to a mapping error. The correct analysis should have been for removal or degradation of 338 ac of occupied habitat. The number of known host plants (approximately 140) within the occupied habitat was reported correctly. This correction does not alter the findings and conclusions presented in the July 19, 2017 BO.

Conservation Measures to Avoid or Minimize Project Impacts

The project includes specific Conservation Measures that are designed to avoid or minimize adverse project effects to listed species and their habitats. In your reinitiation letter, the DON requested clarifications to several of your proposed conservation measures. Those changes are noted below, with the new or revised text in **bold**. All Conservation Measures in the 2015 and 2017 BOs (USFWS 2015a, 2017) remain intact and binding unless noted below.

The Service's effects analyses and conclusions in the July 19, 2017 BO assume that the proposed project conservation measures will be implemented in full. Any changes to, modifications of, or failure to implement these conservation measures may result in a need to reinitiate this consultation. Minor modifications to a Conservation Measure, which provide equal or greater protection than the measure as currently proposed, may be substituted by the DON with written

concurrence from the Service, rather than requiring reinitiation of the formal consultation. All of the Conservation Measures must be implemented prior to or concurrent with construction, unless otherwise stated.

Conservation Measures that will Contribute to the Recovery of Listed Plants

1. No change.
2. *Pre-construction Surveys, 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. **The pre-construction plant surveys are valid for three years, after which new surveys will be necessary. When new surveys are conducted, the associated individual project Work Plan must be submitted to the Service for review and approval within 12 months of completing the surveys.** If pre-construction surveys identify a listed plant species present in the construction area and the individuals cannot be avoided, then healthy plant material will be salvaged or available seeds will be collected, **and such material will be directly transplanted into protected habitat or Forest Enhancement Sites (Figure 5), or housed in a native plant nursery until they can be transplanted into protected habitat.** The ability to salvage the plants or collect seeds would be dependent on: (1) the health of the plant, (2) **the ability to safely salvage the whole plant, stem cuttings, or basal suckers,** (3) whether or not it would survive transplantation, or (4) whether the plant produces seed. A biologist **permitted under section 10(a)(1)(A) of the ESA for work with the subject species** would make the determination of “health.” Transplantation timing will be site specific. Plants that cannot be immediately transplanted shall be stored at **a plant nursery that meets the Hawaii Rare Plant restoration guidelines in accordance with the requirements of a valid 10(a)(1)(A) permit.**
3. *Native Plant Nursery.* The DON is developing a native plant nursery within the **Main Cantonment (Figure 5)**, for the storage and propagation activities of native and listed plant species, associated with the proposed action. Temporary locations adjacent to the Forest Enhancement Sites may also be developed in order to assist in the hardening off process for plants as they transition from the long-term nursery to Forest Enhancement Sites or other protected areas. **Until the DON nursery is available to accept plants, the DON intends to use native plant nurseries on Guam that meet the Hawaii Rare Plant Restoration guidelines.**
4. *Authorized Biologist Qualifications and Translocation Authorization Process.* All authorized biologists shall be considered agents of the DON and the Service for the purposes of conducting Conservation Measures described in this BO. Authorized biologists shall report directly to DON regarding all compliance issues or questions; this includes all draft and final reports of noncompliance (DON 2017a, p. 35). **Prior to commencing translocation of the Mariana eight spot butterfly, Guam tree snail, humped tree snail, and fragile tree snail** the DON shall submit a statement of qualifications for potential biologists to the Service. The Service will provide a response (either concurrence or a detailed explanation of why the person may not meet the qualifications) no later than 30 calendar days after the statement is sent. If after 30 calendar days there is no response from the Service, DON will assume concurrence

from the Service. The qualifications to work with the aforementioned species include the following:

- a. A bachelor's degree with an emphasis in **wildlife biology, zoology, ecology, or a related science**;
 - b. At least 100 documented hours of experience conducting propagation, translocation, transplantation, pest control, and monitoring of the aforementioned species or a closely related species; and
 - c. Applicant must provide contact information of three references familiar with their work related to b (above).
5. *Annual Reporting of Conservation Measures.* The authorized biologist shall record each observation of each species handled in annual monitoring reports. The authorized biologist will also include the type of activities (e.g., propagation, translocation) being conducted on each species and if relocated to another area, provide the location. **The annual reporting of the Conservation Measures shall include the salvage and translocation of threatened and endangered plant species covered under separate 10 (a)(1)(A) permit(s) for actions conducted in support of the Conservation Measures listed in the 2015 and 2017 BOs, as well as this reinitiation.**
 6. No change.

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

Northwest Field (NWF) Ungulate Control Area

Only the following paragraph and bullets in this section are being modified.

The DON will construct an ungulate exclusion fence to exclude feral ungulates from the LFTRC in the NWF (**Figure 5**). The ungulate exclusion fence would be **approximately 21,436 linear feet (6.5 km or 4.06 mi) total** in length and would tie-in to topographic barriers (i.e., cliffs) on each end. The DON is proposing to construct the LFTRC in the last remaining contiguous primary limestone forest habitat on Guam; therefore, by constructing the NWF Ungulate Fence, habitat not within the proposed range footprint would be protected from ungulates. Approximately 218 ac (88.2 ha), 66.7 ac (27.0 ha), and 97.1 ac (39.3 ha) of primary limestone forest, secondary limestone forest, and herbaceous scrub, respectively would be protected from ungulates over the life of the project.

In addition, the DON has made the following revisions and additions to the 2015 and 2017 Conservation Measures:

- **Approximately 2.3 miles (3.69 km) of the NWF Ungulate Control Fence** will be completed within two years of awarding the contract for construction of the portion of LFTRC that removes the existing Ritidian Ungulate Fence.
- **Approximately 1.76 miles (2.81 km) of the NWF Ungulate Control Fence** will be completed within three years of awarding the contract for construction of the portion of LFTRC that removes the existing Ritidian Ungulate Fence.
- **Ungulate management will be initiated prior to or concurrent with the removal of the Ritidian Ungulate Fence.**

- The DON will remove all ungulates from the NWF Ungulate Control Area within six months after completing the NWF Ungulate Fence (**Table 5**).

Listed Plant Species

DON expects that six endangered or threatened plant species (*B. guamense*, *C. micronesica*, *D. guamense*, *H. longipetiolata*, *T. rotensis*, and *T. guamense*) would be affected by the proposed action. Effects are expected to be in the form of entire habitat removal (i.e., clearing of vegetation and grading). The DON will conduct Conservation Measures specifically designed to address each listed plant species (**Table 6**). 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. The ability to salvage the plants would be dependent on the health of the plant and whether or not it would survive transplantation. A biologist **permitted under ESA section 10(a)(1)(A)** will make the determination of “health.” If DON is not able to meet the minimum percent survival ratio with whole plants or viable seeds from within the project footprint, then DON will pursue seed collection, tissue germination, and plant division and/or stem cuttings, as suitable to the species, from other sources outside the project footprint to provide seedlings to meet out-planting success targets (**Table 6**).

The contents of **Table 6** are not changed from the 2017 BO and it is incorporated by reference; however, the footnotes are revised to read:

- **The number of listed plant individuals to be salvaged is dependent on the health of the plant and whether or not it would survive transplantation or whether the plant produces seeds. The number of individuals salvaged may differ from the number represented in the “No. of Plants Subject to Removal” column in the 2017 BO because the known number of healthy plants found within the project footprint may increase or decrease based on the results of pre-construction surveys.**
- **Cycads salvaged prior to the issuance of the BO amendment must meet the survival criteria described in the 2017 BO. However, for cycads salvaged after this amendment, the material may be in the form of whole plants, stem cuttings or basal suckers, known as cycad pups. Cycad pup survival will be determined based on the cycad pup being established in the wild, not requiring any supplemental watering, fertilizer, or support structures, showing stem growth of at least 1.0 cm, as measured below the base of the existing leaves (fronds) since planting in the field.**

Environmental Baseline

The environmental baseline for the listed orchids and cycads may increase or decrease over time due to the health of individual plants and the timing of the pre-construction surveys. These changes are impossible to predict or report accurately.

Direct and Indirect Effects of the Action on the Mariana Eight Spot Butterfly

This subsection identifies changes to the July 19, 2017 BO due to a mapping error, which resulted in the estimated acreage of occupied Mariana eight spot butterfly habitat being reported incorrectly.

Under the proposed action, 338 ac (137 ha) of high quality limestone forest habitat containing nectar and host plants known to be used by foraging Mariana eight spot butterflies and larvae within and surrounding the proposed LFTRC at Ritidian Point will be removed or degraded as a result of the construction and operation of this facility. The proposed action will directly and permanently remove approximately 140 individual host plants (*E. calcareum* and *P. pedunculata*) for the Mariana eight spot butterfly.

Conclusion

With the exceptions discussed above, the information, analyses, and findings presented in the July 19, 2017 BO remain the same. This BO amendment addresses the new information on the changing number of individual orchids that have been discovered during pre-construction surveys, as well as those that may be found in future pre-construction surveys. This BO amendment also addresses the potential corresponding changes to the number of adult cycads being translocated due to the poor health of some adult individuals. This will result in no change to the number of individuals present range-wide after the project, which was the basis of our non-jeopardy conclusions for these species in the 2017 BO.

This BO amendment clarifies several Conservation Measures dealing with:

- Pre-construction surveys, General Listed Plant Salvage and Translocation;
- Native Plant Nursery;
- Authorized Biologist Qualifications and Translocation Authorization Process;
- Annual Reporting of Conservation Measures;
- Forest Enhancement Sites, Ungulate Eradication Areas, and BTS Exclusion Fences Northwest Field Ungulate Control Area; and,
- Listed Plant Species.

This BO amendment also corrects the acreage of occupied habitat for the Mariana eight spot butterfly. Due to a mapping error, the 2017 BO incorrectly stated the acreage to be 350 ac. Upon review and revision of the original maps, the correct acreage of Mariana eight spot butterfly habitat that will be removed or degraded by the proposed action is 338 ac. The number of individual host plants to be impacted within the occupied habitat area is still approximately 140. There will be no change in the number of habitat acres available to the Mariana eight spot butterfly after project implementation than as evaluated in the 2017 BO; therefore, our non-jeopardy conclusions for this species remains the same.

This BO amendment does not re-evaluate any other anticipated effects of the proposed action on listed species or critical habitat. The July 31, 2015 BO, the July 19, 2017 BO and this BO amendment were prepared in accordance with the requirements of section 7 of the ESA.

INCIDENTAL TAKE STATEMENT

This section identifies applicable changes to the Incidental Take Statement for the Mariana eight spot butterfly from the July 19, 2017 BO.

Amount or Extent of Take Anticipated

The Service anticipates that, over the construction phase of the proposed action, all Mariana eight spot butterflies of different life stages (i.e., egg cluster, caterpillar, chrysalis, and butterfly) found on identified host plants in 338 ac (137 ha) of occupied habitat within the LFTRC construction footprint are likely to be subject to take in the form of capture and re-location. Any harm occurring to any Mariana eight spot butterfly life stage during the relocation process would be exempted from take prohibitions as long as approved translocation protocols are followed.

The incidental take for the Mariana eight spot butterfly exempted under this incidental take statement will be exceeded if any Mariana eight spot butterfly host plants are found in areas outside of the 338 ac (137 ha) discussed above, if these additional areas are impacted by the project construction to an extent likely to cause take of the butterfly. Such take includes removal of its host plants.


Reinitiation – Closing Statement

This concludes the Service’s formal consultation on the action outlined in the DON’s formal consultation request. As provided in 50 CFR § 402.16, reinitiation of formal consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered; (3) the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the biological opinion; or, (4) a new species is listed or critical habitat designated that may be affected by the identified action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease immediately pending reinitiation.

Thank you for your ongoing efforts to conserve listed species. If you have questions, please contact Jacqueline Flores, Mariana Islands Team Manager, at (671) 989-6744 or via email at jacqueline_flores@fws.gov or Darren LeBlanc, Planning and Consultation Team Manager, at (808) 792-9403 or via email at darren_leblanc@fws.gov. In future communications with us regarding this project, please refer to this project by these reference numbers, 01EPIF00-2015-F-0025 and 01EPIF00-2016-F-0185.

Sincerely,

Mary M
Abrams

 Digitally signed by Mary M
Abrams
Date: 2018.10.30
17:26:01 -10'00'

Mary M. Abrams, Ph.D.
Field Supervisor
Pacific Islands Fish and Wildlife Office