

Compatibility Determination

USE: Traditional Gathering (noncommercial plant collection)

REFUGE NAME: Guam National Wildlife Refuge (NWR)

ESTABLISHING AND ACQUISITION AUTHORITIES:

Guam NWR was established administratively in 1993. At the time of establishment, the U.S. Fish & Wildlife Service (USFWS) policy did not require a notice to be posted in the Federal Register. The best record regarding refuge establishment is the “Final Environmental Assessment for the Proposed Guam National Wildlife Refuge” and the associated “Finding of No Significant Impact” (USFWS 1993). The refuge authorizing authorities most relevant to the four principle reasons Guam NWR was established are the Endangered Species Act (ESA); Fish and Wildlife Act; Migratory Bird Conservation Act; and, Refuge Recreation Act.

REFUGE PURPOSE(S):

Ritidian Unit Purposes

The Administration Act directs the Service to manage each refuge to fulfill the mission, to maintain and where appropriate, restore the refuge’s ecological integrity; and achieve the specific purposes for which the refuge was established. The Refuge purposes for the Ritidian Unit of Guam NWR are as follows:

- ... to conserve (A) fish or wildlife which are listed as endangered species or threatened species ... or (B) plants ...16 U.S.C. §1534 (Endangered Species Act of 1973)
- ... for the development, advancement, management, conservation, and protection of fish and wildlife resources ...16 U.S.C. § 742f (a) (4), (Fish and Wildlife Act of 1956)
- ... for use as an inviolate sanctuary, or for any other management purpose, for migratory birds. 16 U.S.C. § 715d (Migratory Bird Conservation Act)
- ... suitable for (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species ... 16 U.S.C. § 460k-1 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended).

National Wildlife Refuge System Mission:

To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans (Administration Act).

DESCRIPTION OF USE:

What is the Use?

This use is the gathering of fallen coconuts, picking breadfruit, and/or the collection of medicinal plant clippings for personal use. “Personal use” is for an individual’s own consumption or enjoyment and not for commercial use. Sale of the items collected from the refuge or any products made from these items by the individual is considered commercial use and is not allowed. This activity is not a priority public use, and this CD is a re-evaluation of an existing use at the Refuge.

Traditional Gathering was determined an Appropriate Use and Compatible activity on 25 September, 2009. Consistent with relevant policy (603 FW 1.11 B.), the Refuge completed an “Exceptional or Unique Circumstances Analysis” (see below).

**Exceptional or Unique Circumstances Analysis
for Traditional Gathering at Guam NWR**

The “Finding of Appropriateness of a Refuge Use” determination caused the Refuge to further clarify that Traditional Gathering could contribute to the public’s understanding and appreciation of the Refuge’s natural or cultural resources. Following the Refuge conditions for compatibility has established that Traditional Gathering will not materially detract from these resources or the public’s understanding and appreciation of them. Consistent with relevant policy (603 FW 1.11 B.), the Refuge has made a determination that the use is appropriate for the following reasons:

- The use does not materially interfere with or detract from the fulfillment of the Refuge System mission or the purposes of the Refuge in providing for the conservation and management of fish and wildlife and their habitats, as well as historic and cultural resources.
- The use has a positive impact towards public understanding and appreciation of the Refuge’s natural and cultural resources.
- Traditional gathering is an important activity to promote cultural identity and traditional cultural practices related to the Refuge’s cultural resources.
- All individuals are required to obtain permits; and, Refuge staff will continue to provide wildlife conservation, habitat management, and cultural resource information to permittees.

The CHamoru people of Guam have harvested the native plants for food, fiber, and medicine for the past 4,000 years. The two primary plant products gathered at the Guam NWR are *niyok* (coconut) and *lemmai* (breadfruit). Coconut milk is a popular cooking ingredient; and, coconut butter and oil can be either consumed or used topically. Coconut juice can be boiled to make molasses or spun to make palm sugar. Breadfruit can be prepared and eaten at all stages of maturity.

Yo’ámte and suruhanas (CHamoru healers) make traditional herbal medicines by practices that have been passed down from generation to generation. Medicinal plant collection at the Guam NWR involves taking cuttings from live plants through clipping leaves or stems. Plant material is collected in small amounts and plant mortality is avoided.

Where is the use conducted?

Gathering is permitted in any portion of the Ritidian Unit of the Refuge that is open to the public. These areas are located in the coastal back strand habitat of jungle vegetation.

When is the use conducted?

For all proposed activities, the use would be allowed during daylight hours between 8:00 a.m. - 3:00 p.m. only. Plant collection permits will not be issued after 2:30 p.m. Collection can occur year round. Entry on all or portions of individual areas may be temporarily suspended and posted closed due to unusual or critical conditions affecting land, water, vegetation, wildlife populations or public safety.

Why is the use being proposed?

Participating in Traditional Gathering activities allows the public to reconnect with traditional cultural practices; builds connections to the Refuge through personal outdoor experiences that engage the senses; and, helps to foster an appreciation of the outdoors.

AVAILABILITY OF RESOURCES:

Access trails, parking lots, roads, and other facilities are in place to support this use. Regulation signs and pamphlets will need to be updated to reflect the changes outlined in this compatibility determination. Administering this use can be done with existing resources for on-going operations, maintenance and public information. The first year of administering this use is estimated at a cost of \$5,000.

| Itemization | Annual (FY20 \$) | One Time |
|--|------------------|--------------|
| Park Ranger, GS-7* (½ x 200 x \$17.87) ½ hour public education, monitoring, and administration of each permit | \$1,790 | |
| Permit printing (200 x \$0.10) | \$20 | |
| Regulation Signs at bulletin boards (\$250 x 2) and annual maintenance | \$20 | \$500 |
| Security Contract, salary and benefits for 100 hours to help monitor public use | \$2,670 | |
| Total | \$4,500 | \$500 |

*GS rate dependent on grade/step of qualified staff member. GS-7, step 1 used for estimation

ANTICIPATED IMPACTS OF THE USE:

Short-term Impacts:

Traditional Gathering activities could cause temporary disturbance to wildlife. The endangered fanihi (Mariana fruit bat ~ *Pteropus mariannus*) feeds on the flowers and fruit of the breadfruit tree and native tree snails are found on both coconut palms and breadfruit trees. However, disturbance caused by these uses is expected to be localized, of short duration and would not adversely impact overall populations.

Due to thousands of years of domestication, coconuts and breadfruit on Guam have high levels of hybridization with a variety of non-native cultivars. Gathering of coconuts and breadfruit in accordance with Refuge regulations is not expected to adversely affect fish and wildlife populations or the biological integrity, diversity, and environmental health of the Refuge as it is defined in Service policy. Medicinal plant material is collected in small amounts through clipping leaves or stems, and plant mortality should not occur.

Some habitat trampling or disturbance may occur with foot-traffic to collection areas, but no more than other uses such as wildlife observation while hiking. Short-term impacts are minimal

and not significant due to the current number of users. Presently, this use is estimated at 200 visits annually and is expected to fluctuate slightly in the future in correlation to the quantity of fruit produced in a given year and the number of days the Refuge is open to the public. Gathering occurs in the same areas as other public uses and, when practiced at prescribed levels, is not expected to harm Refuge habitats. Climbing coconut palms or breadfruit trees at the Refuge for harvesting is not permitted due to the dangers of falling and breaking branches. Coconuts may only be collected from the ground. Fallen coconuts and breadfruit would otherwise be cleared from public trails by maintenance staff if the public did not collect them for personal uses.

If for some unanticipated reason the level of use increases a significant degree, then a new compatibility determination would be required and regulating measures could be evaluated with subsequent public comment.

Indirect and Cumulative Impacts:

People can be vectors for invasive species by moving seeds or other propagules and insects from one area to another. The threat of invasive species will always be an issue requiring annual monitoring and treatment. Refuge staff will work to monitor for early detection of invasive species and will educate the visiting public on the environmental damage and conservation challenges they present. The coconut rhinoceros beetle (CRB), *Oryctes rhinoceros*, is an invasive species currently affecting coconut palms across the island. Refuge staff continue to monitor and address CRB infestations through current treatment methods.

Anticipated indirect impacts of Traditional Gathering include an appreciation for the outdoors and reconnecting visitors to their cultural heritage. The USFWS will bring yo'ámte, suruhanas, and biologists together to expand our knowledge to help sustain traditional gathering opportunities. Allowing this use in combination with other uses is not expected to have a cumulative impact to wildlife or habitats of the refuge.

PUBLIC REVIEW AND COMMENT:

During the 30-day public comment period ending October 30, 2020, the USFWS received written comments, with 2 e-mail letters in support of allowing Traditional Gathering at Guam NWR. No comments opposing the activity were received. The USFWS response to comments is posted on the Webpage at <https://www.fws.gov/refuge/guam/>.

Determination:

- Use is Not Compatible
- Use is Compatible with Following Stipulations

STIPULATIONS NECESSARY TO ENSURE COMPATIBILITY:

1. A Plant Collection Permit is required and the permit holder must be present on site during all gathering activities.
2. An individual must obtain a new permit for each gathering trip, limited to two trips per month.
3. Permittees are allowed to collect up to 10 lemmai (breadfruit) and/or dukduk (seeded breadfruit) per gathering trip. The total count of all lemmai and dukduk in combination is limited to 10.
4. Permittees are allowed to collect up to 50 ripe/mature niyok (coconuts) per gathering trip.
5. Plant products are for personal use only and cannot be sold or traded. Sale of plant products collected on the refuge is a commercial activity which is prohibited.
6. Collection methods should consider the status and biology of the plant collected. On-going education and outreach is imperative to update the public about sustainable collection.
7. Digging up of plants or their roots and/or tubers is prohibited.
8. No other vegetation is to be cut or removed when collecting plants. The cutting of coconut fronds and lemmai branches, cutting or pulling vines out of trees, or damaging adjacent vegetation while harvesting is prohibited.
9. Introducing, planting, or cultivation of plants on the Refuge for harvest is prohibited.
10. Disturbance to and/or collecting items from cultural/archaeological sites is prohibited.
11. Permittees may not climb trees or coconut palms. Hard hat and eye protection are recommended to mitigate for falling fruit, dead branches, and other debris.
12. The following plants **may not** be collected, harvested, or removed from the Refuge:
 - a. Green **Niyok** (*Cocos nucifera*) - Green coconuts are young and not completely ripened, only fully mature brown coconuts may be harvested.
 - b. **Hâyun lågu** (*Serianthes nelsonii*) - endemic endangered tree. Biologists will continue out-planting nursery-propagated hâyun lågu plants to promote continued existence of the tree.
 - c. **Procris** (*Procris pedunculata*) – host plant for the larvae of the endangered Mariana Eight-spot butterfly (*Hypolimnas octocula marianensis*). Biologists will continue out-planting nursery-propagated procris plants to support the butterflies.

- d. **Tupun ayuyu** (*Elatostema calcareum*) - Also known as 'cane of the coconut crab', tupun ayuyu act as a critical water source for ayuyu (coconut crab - *Birgus latro*) during the drier times of the year and it is also a host plant for the endangered Mariana Eight-spot butterfly.
- e. **Potpotot palao'an** (*Peperomia mariannensis*) – Peperomia is a critical native forest understory species that is in decline. Biologists will continue out-planting nursery-propagated potpot plants to restore native forest composition.
- f. **Fadang** (*Cycas micronesica*) is a threatened native species of cycad plant in decline due to non-native insect threats and island-wide mortality.
- g. **Lada** (*Morinda citrifolia*), **papåya** (*Carica papaya*), **talisai** (*Terminalia catappa*), **påhong** (*Pandanus dubius*), and **kafu** (*Pandanus tectorius*) are all food supply for the endangered fanihi and may not be harvested.
- h. **Lumot** – Mosses are an integral part of the native forest habitat. Non-native ungulates have taken a huge toll by digging and rolling over of rocks and removal of understory that helps to preserve the humidity of the undergrowth. Any removal of lumot (moss) contributes to the drying out of the understory and perpetuates loss of the native forest.

JUSTIFICATION:

Traditional Gathering has been determined compatible provided the above stipulations are implemented. This use is being permitted as it will not diminish the primary purposes of the Refuge. This use will meet the mission of the National Wildlife Refuge System by providing outdoor recreational opportunities for the benefit of the American public while conserving fish, wildlife and plant resources on these lands. This use is an important component of the CHamoru culture and provides cultural connections to CHamoru heritage.

These activities will produce little impact to wildlife or habitat since they are non-motorized, involve few visitors, and disturbance is local and short in duration. Due to the relatively small number of participants for these activities and the personal-use-only stipulation, the amount of plants or parts harvested will not create any shortage of wild foods for any particular wildlife species. The small number of visitors for these uses is also not likely to create conflict with other users of the Refuge.

Refuge infrastructure is already in place and will be sufficient to facilitate and administer this use into the future.

Refuge Determination:

Signature:

Refuge Manager:

X *Tammy Summers* 12/1/2020

(Signature and Date)

Concurrence:

Regional Chief:

X _____

(Signature and Date)

Mandatory 10 or 15-year Re-evaluation Date:

November 2030

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