

Draft Compatibility Determination

Title

Compatibility Determination for Natural Resource Collection at Keālia Pond National Wildlife Refuge

Refuge Use Category

Natural Resource Collection

Refuge Use Type(s)

Plant Gathering (non-commercial)

Refuge

Keālia Pond National Wildlife Refuge

Refuge Purpose(s) and Establishing and Acquisition Authority(ies)

“...to conserve (A) fish and wildlife which, are listed as endangered or threatened species... or (B) Plants ...” 16 U.S.C. 1534, Endangered Species Act of 1973.

National Wildlife Refuge System Mission

The mission of the National Wildlife Refuge System, otherwise known as Refuge System, is 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 (Pub. L. 105-57; 111 Stat. 1252).

Description of Use

Is this an existing use?

No

What is the use?

Plant gathering (non-commercial). The collection of berries, fruits, grasses, marsh plants (e.g., cattails or sweet grass), seaweed, mushrooms, nuts, roots, wild rice or other plants, plant parts, or plant products for non-subsistence, non-research purposes.

The Refuge proposes the collection of limited material from native plants for cultural

practices, plant propagation, and other non-commercial uses with the approval of a Special Use Permit (SUP). This activity must occur under the stipulations of a valid SUP and approval under the direct supervision of the Refuge Manager or equivalent Refuge personnel.

Is the use a priority public use?

No

Where would the use be conducted?

This use will occur only in locations that are pre-approved in a corresponding SUP on Keālia Pond NWR where it is determined to be compatible with refuge management of natural resources. Collection activities will be focused on areas near existing trails to limit impacts to additional plants.

When would the use be conducted?

This use will occur only during times and seasons that are pre-approved in a corresponding SUP. Collection activities will occur when plants are flowering or have ample seeds. This occurs year around.

How would the use be conducted?

Nonsensitive plant species may be routinely removed or collected if the activities do not adversely affect wildlife species, habitat, or Refuge property, as permitted in an approved SUP. Through the SUP process the Refuge Manager will make case by case decisions about which plant materials and how much can be collected based on availability, condition of the plants, and convenience of refuge staff. The SUP will outline the specific location(s) and time(s) by which collection may occur. Individuals can submit a General SUP application (FWS Form 3-1383-G2020) or a Research SUP Form (3-1383-R) to the Refuge manager for approval. This Compatibility Determination (CD) only covers noncommercial natural resource gathering.

Plant collection will be conducted under the supervision of the Refuge Manager, or assigned staff. The permittee will be instructed on proper biosecurity measures to avoid introducing new invasive plants to the areas. Refuge staff will demonstrate and supervise permittees on how to remove the flower or cutting with the minimal damage to the plant. Flowers are usually removed by holding the plant stem and pinching the flower off. Seeds are collected from mature pods, which are easily removed from the plants, or off of the ground under the plant. When taking cuttings for propagation, only clean sharp scissors or pruners will be used. The amount of material removed will vary depending on the size and species of the plants and will be at the best judgment of the Refuge Manager or assigned staff to limit the detrimental impacts to the plants. Often the cuttings will be taken from native plants that are

being trimmed back during the routine maintenance around sidewalks, trails, and landscaping.

Why is this use being proposed or reevaluated?

The National Wildlife Refuge System Improvement Act of 1997 supports environmental education as one of six wildlife-dependent public uses. Plant collection can meet this objective by educating the public in the function and ecological role of plants through direct learning and interaction with nature. The collection and removal of certain native plants from the refuges onto participating partner's land for habitat restoration activities is an appropriate and beneficial purpose. As proposed, this activity will only remove limited material from native plants (e.g. seeds, flowers, cuttings), leaving the plant alive and undamaged.

This use supports the CCP Goal 6, "Through quality wildlife-dependent recreation and learning opportunities, visitors understand and appreciate the unique wildlife and habitats of Keālia Pond NWR" (USFWS 2011). Hawaiians have historically used native plants for cultural practices, medicine, food, and many other every day uses (Krause 2021). Because of habitat loss and changes in land-use practices, the once abundant native plants are now scarce across the landscape. Following the devastating fires across Maui in 2023, State and County agencies and community groups have increasingly been planting drought-resistant native plants along the wildland urban interface to protect neighborhoods and infrastructure from future wildfires. Native plants retain more moisture even during extended droughts and provide less fuel and ignition sources for wildfires compared to the dominant invasive weeds. The primary limitation for these community restoration efforts is the availability of native plant source material, including seeds and cuttings (Trauernicht et al. 2018). The success of Keālia Pond's habitat restoration project provides the largest source of native plant material to support these traditional uses and landscape restoration efforts.

Keālia Pond's support of traditional practices, historical uses, and habitat restoration will increase the public's understanding and appreciation of the Refuge's resources and mission. It will also strengthen relationships with the local community, encouraging visitation, volunteering, and support for the Refuge (Trulio 2005).

Availability of Resources

Adequate funding and staff exist to manage plant collection activities at Keālia Pond NWR. Administrative staff costs associated with this use consist of Refuge staff time to review proposals, process SUPs, evaluate impacts, oversee collection activities and ensure plant collection is accomplished safely with minimal impact to the plants. This administrative cost would include an anticipated one-time cost of \$150 and an annual expense of \$300 per year. The plants themselves are managed and maintained as part

of the Refuge's long-term habitat restoration work. Several species of plants are present in vast abundance. Collecting seeds, flowers, and cuttings will have no impact on their overall health or their ability to self-propagate.

Anticipated Impacts of the Use

Potential impacts of a proposed use on the refuge's purpose(s) and the Refuge System mission

The effects and impacts of the proposed use of refuge resources, whether adverse or beneficial, are reasonably foreseeable and have a reasonably close causal relationship to the proposed use. This CD includes the written analyses of the environmental consequences to a resource only when the resource is considered to be an "affected resource" due to the potential effects on that resource being more than negligible. Only the impacts to soils, vegetation and wildlife are discussed in the content to follow; all other resources not being more than negligibly impacted by the action have been dismissed from further analyses.

Short-term impacts

The short-term impacts to native plants or wildlife from this activity should be minimal (Blanc et al. 2006; Knight et al. 1995a; Knight et al. 1995b). Permittees will only be allowed to harvest from healthy mature plants identified by Refuge staff. Harvesting will not occur on endangered, threatened, or rare plants. The amount of plant material harvested will not be detrimental to the overall plant. Refuge staff routinely remove seeds and take cuttings from plants to use to propagate new plants in the nursery without any noticeable impacts to the plants. Removal of flowers will only be allowed on species that produce a surplus of flowers. Only half of the flowers on any given plant will be harvested at any time.

Disturbance or damage to native plants may result from improper handling of plants during the harvesting of material. To minimize disturbance to ground cover plants or compaction of soils, the designated collection areas will be located along existing trails that are already open to the public. A small number of native plants may be trampled by collectors but this will be minimized by proximity of collection sites to existing public trails. The SUP stipulations will include best management practices for removing the material and Refuge staff will directly train or supervise the activity where disturbance is more likely.

Collectors can be vectors for invasive plants when seeds or other parts of the plant are moved from one area to another. The SUP stipulations will direct collectors to clean their clothing and shoes before entering the native plant areas.

Collection activities directly remove plant material from the Refuge, but the SUP and stipulations ensure that the removal will not affect population levels. Only cuttings, seeds, and flowers will be taken from plants, leaving the host plant healthy and

capable of producing further growth.

Although numerous native insect species utilize the native plants, the proposed activity is unlikely to be impactful because only a small percentage of the plant material will be removed.

Long-term impacts

The long-term impacts to the native plants will be minimal. Many of the plants that will be used are occasionally trimmed back to control growth into trails. Some plants produce many thousands of surplus seeds beyond what can be harvested for habitat restoration efforts or needed for natural reproduction. Many of the plants respond positively to occasional trimming and harvesting of surplus seeds.

The Refuge staff are engaged in a long-term project to transform large portions of the refuge from invasive-dominated to habitat with a community of native plants. This process is intensive and includes frequent aggressive management actions, including invasive weed control, during which native plants can be damaged. Refuge staff also routinely remove seeds and collect cuttings to produce additional outplants for the long-term restoration project. These management activities will be far more impactful than the expected impacts of the proposed collection of plant material for permittees.

Public Review and Comment

The draft compatibility determination will be available for public review and comment for 14 days. The public will be made aware of this comment opportunity through our social media outlets and the refuge website. A hard copy of this document will be posted at the Refuge Headquarters (Milepost 6 Maui Veterans Highway, Kihei, HI 96753). It will be made available electronically on the refuge website <https://www.fws.gov/refuge/kealia-pond>. Please let us know if you need the documents in an alternative format by emailing kealiapondnwr@fws.gov. Concerns expressed during the public comment period will be addressed in the final.

Determination

Is the use compatible?

Yes

Stipulations Necessary to Ensure Compatibility

The following stipulations are required to ensure compatibility of this activity:

- 1) A Special Use Permit (SUP) application is required for any plant collection activity. The application is reviewed by Keālia Pond NWR staff for the potential

value and impact to the Refuge's natural resources. Each Special Use Permit will list specific specimen collection restrictions.

- 2) Failure to comply with the provisions of the SUP results in the revocation of permit privileges. The principal authority must submit a SUP application for approval to the Refuge.
- 3) All work must be coordinated with the Refuge Manager, or designated staff member.
- 4) Collections must adhere to the requirements indicated in the SUP.
- 5) Refuge staff must be present during times of natural resource collections to assess potential impacts; to ensure SUP adherence; and to determine if approved the activities and SUP need terminating because of adverse impacts.
- 6) All Refuge rules and regulations must be followed unless otherwise exempted in writing by the project leader.
- 7) The Refuge Manager may suspend an existing SUP or reject new SUPs without notice.

Justification

As proposed, plant gathering allows interested individuals or small groups access to this use at a level that the Refuge can sustainably accommodate. Many species of native plants important in Hawaiian cultural practices have mostly disappeared from the landscape due to intensive agricultural, invasive species, and development. Many local community groups are also working to create "green strips" of native drought-resistant plants to protect neighborhoods from wildfires. They are frequently looking for suitable locations to harvest source material for propagating plants in nurseries. Because of the success of a Burned Area Rehabilitation (BAR) project from 2019-2024, Keālia Pond NWR now includes one of the largest populations of dry tropical forest plants found anywhere in the State of Hawaii. Keālia Pond's more than 30 acres of restored dry tropical forest includes 35 species of plants, many of which are endemic to Hawaii. This forest is healthy, self-sustaining, and produces an abundance of seeds and flowers.

By its nature, plant and animal product collecting would have direct effects on individual plants. However, significant effects to abundance, diversity, or health of Refuge populations are not anticipated because the number of gatherers is expected to be small and their visits to the Refuge infrequent. Only materials considered to be in abundance would be harvested. No plants would be removed, only plant parts including seeds, flowers, and limited cuttings. Consistent with the stipulations above, the Service would regulate and monitor this activity to ensure it was managed on a sustained yield basis.

The goals of the NWRS include providing an understanding and appreciation of fish and wildlife ecology, wildlife habitat and human environmental roles. The Service strives to provide priority public uses when compatible with the purpose and goals of the Refuge and the mission of the NWRS. The National Wildlife Refuge System Improvement Act of 1997 identifies environmental education and interpretation as priority public uses for National Wildlife Refuges, along with hunting, fishing, wildlife observation and photography. This use, while not wildlife dependent, is a traditional use that contributes to environmental education and awareness.

The stipulations outlined above would help ensure that the use is compatible at Keālia Pond National Wildlife Refuge. Plant gathering, as outlined in this compatibility determination, would not conflict with the national policy to maintain the biological diversity, integrity, and environmental health of the refuge. Based on available science and best professional judgement, the Service has determined that the plant gathering at Keālia Pond National Wildlife Refuge, in accordance with the stipulations provided here, would not materially interfere with or detract from the fulfillment of the National Wildlife Refuge System mission or the purpose of the Keālia Pond National Wildlife Refuge. Rather, appropriate and compatible plant gathering contributes to the Refuges goal for environmental education and connection to nature.

Signature of Determination

Refuge Manager Signature and Date

Signature of Concurrence

Assistant Regional Director Signature and Date

Mandatory Reevaluation Date

2035

Literature Cited/References

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