

5-YEAR REVIEW

Short Form Summary

Species Reviewed: *Hibiscadelphus hualalaiensis* (hau kuahiwi)

Current Classification: Endangered

Federal Register Notice announcing initiation of this review:

[USFWS] U.S. Fish and Wildlife Service. 2023. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status reviews for 133 Species in Oregon, Washington, Idaho, Montana, California, Nevada, Hawaii, Guam, and the Commonwealth of the Northern Mariana Islands. Federal Register 88(56):17611–17614, March 23, 2023.

Lead Region/Field Office:

Region 1/Pacific Islands Fish and Wildlife Office (PIFWO), Honolulu, Hawai'i

Name of Reviewer:

Lauren Weisenberger, Plant Recovery Coordinator, PIFWO

Megan Laut, Recovery Program Manager, PIFWO

Methodology used to complete this 5-year review:

This review was conducted by staff of the Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S. Fish and Wildlife Service (Service) beginning in October 2023. The review was based on a review of current, available information since the last 5-year review for *Hibiscadelphus hualalaiensis* (USFWS 2020). The evaluation by Lauren Weisenberger, Plant Recovery Coordinator was reviewed by Megan Laut, Recovery Program Manager.

Background:

For information regarding the species' listing history and other facts, please refer to the Fish and Wildlife Service's Environmental Conservation On-line System (ECOS) database for threatened and endangered species (<https://ecos.fws.gov/ecp/species/1684>).

Review Analysis:

Please refer to the previous 5-year reviews for *Hibiscadelphus hualalaiensis* published in the Federal Register on January 18, 2008, August 3, 2015, and September 29, 2020 (available at https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/1177.pdf and https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/2275.pdf and https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3154.pdf) for a complete review of the species' status, threats, management efforts, and references cited. We are not aware of any significant new information regarding the species' biological status since listing to warrant a change in the Federal listing status of *H. hualalaiensis*.

This long-lived perennial tree in the Malvaceae (mallow) family is endangered and known from the island of Hawai‘i. The status and trends for *Hibiscadelphus hualalaiensis* are provided in the tables below.

New Status Information:

- There are no wild individuals of *Hibiscadelphus hualalaiensis* known on the island of Hawai‘i.
- There is representation of at least one wild plant from the last known population in *ex situ* storage.

New Threats:

- None reported.

New Management Actions:

- Monitoring and surveys—The Ka‘ūpūlehu Dryland Forest Preserve monitors a reintroduced population of *Hibiscadelphus hualalaiensis* (HFIA 2024).
- Ungulate monitoring and management—
 - State of Hawai‘i Department of Land and Natural Resources, Division of Forestry and Wildlife (DOFAW) and the Plant Extinction Prevention Program (PEPP) monitors and maintains fenced exclosures for the reintroductions of *H. hualalaiensis* at Pu‘u wa‘awa‘a, and Hawai‘i Forest Industry Association (HFIA) maintains and monitors a fenced exclosure at Ka‘ūpūlehu Dryland Forest Preserve (HFIA 2024, PEPP 2024).
- Captive propagation for genetic storage and reintroduction—
 - In 2021, the Ka‘ūpūlehu Dryland Forest Preserve collected 26 seeds from their reintroduction for propagation with low germination. In 2023, they collected 200 seeds for propagation; 111 seeds germinated and 18 seeds remain in their storage seed bank (HFIA 2024).
 - The Lyon Arboretum Seed Conservation Laboratory has 546 seeds in storage from cultivated and reintroduced stock (Lyon Arboretum 2025).
 - There are currently 1,078 seeds in storage representing one to three wild plants at Volcano Rare Plant Facility (VRPF 2024).
 - There are 180 seeds in storage from a 2006 reintroduced population at Pu‘u Wa‘awa‘a at the National Tropical Botanical Garden Seed Bank (NTBG 2025).
- Reintroduction and translocation—
 - There are estimated to be hundreds of individuals at three reintroduced population sites of *Hibiscadelphus hualalaiensis* at Pu‘u Wa‘awa‘a (PEPP 2024; J. VanDeMark pers. comm. 2025).
 - In 2023, the Ka‘ūpūlehu Dryland Forest Preserve planted 18 individuals in a fenced exclosure. All survived past the first year. In 2024, an additional 17 individuals were planted, of which 12 survived the first year (HFIA 2024).

Table 1. Status and trends of *Hibiscadelphus hualalaiensis* from listing through current 5-year review. Table 1a shows progress according to Interim Stabilization Goals; Table 1b show progress according to Preventing Extinction Goals.

Table 1a.

Date	No. Wild Individuals	No. Outplanted	Stabilization Criteria Identified in Recovery Plan	Stabilization Criteria Completed?
1996 (listing)	0	22	All threats managed in all 3 populations	No
			Complete genetic storage	Yes
			3 populations with 25 mature individuals each	No
2008 (5-year review)	0	ca 100	All threats managed in all 3 populations	Partial, all reintroductions fenced
			Complete genetic storage	Yes
			3 populations with 25 mature individuals each	Partial, natural recruitment of 10 observed
2015 (5-year review)	0	ca 105	All threats managed in all 3 populations	Partial, all reintroductions fenced
			Complete genetic storage	Yes
			3 populations with 25 mature individuals each	Partial, 1 reintroduced populations >25

Table 1b.

Date	No. wild individuals	No. Outplanted	Preventing Extinction Criteria Identified by HPPRCC*	Preventing Extinction Criteria* Completed?
2020 (5-year review)	0	ca 200	All threats managed in all 3 populations	Partial, reintroduced populations fenced
			Complete genetic storage	Yes
			Reproduction (i.e., viable seeds, seedlings) at all 3 populations	Partial
			3 populations with 25 mature individuals each	No
2025 (5-year review)	0	35 planted; 100s persist	All threats managed in all 3 populations	Partially, reintroduced populations fenced
			Complete genetic storage	Yes
			Natural reproduction at all 3 populations	Partial
			3 populations with 25 mature individuals each	Partial, but uncertain

*The Preventing Extinction Stage was established in 2011. Prior to 2011, the Interim Stabilization Stage was the first stage towards recovery (now it is the second stage after Preventing Extinction).

Table 2. Threats to *Hibiscadelphus hualalaiensis* and ongoing conservation efforts.

Threat	Listing factor	Current Status	Conservation/ Management Efforts
Agriculture and urban development	A	Ongoing	None
Ungulate destruction and degradation of habitat	A	Ongoing	Partial, all reintroduced populations are fenced
Established ecosystem altering invasive plant species degradation of habitat and competition	A	Ongoing	Partial, some weed control ongoing
Degradation and destruction of habitat by fire	A	Ongoing	Partial, Pu‘uwa‘awa‘a fire management approach
Climate change degradation or loss of habitat	A	Ongoing	Partial, secondary reintroduction site
Predation and herbivory by rodents	C	Ongoing	None
Predation by invertebrates	C	Ongoing	None
Nonnative birds–nectar robbing	C		None
Reduced viability due to low numbers	E	Ongoing	Partial, collection, propagation, and reintroduction

Synthesis:

Currently, there are no wild individuals of *Hibiscadelphus hualalaiensis*. There are at least two reintroduced populations, one estimated to contain hundreds of individuals. There are seeds in storage that represent one to three maternal lines, and propagation and reintroduction are ongoing.

Interim stabilization targets, and Downlisting and Delisting objectives are provided in the Big Island II: Addendum to the Recovery Plan for the Big Island Plant Cluster, and have been updated according to the draft revised recovery objective guidelines developed by the Hawai‘i and Pacific Plants Recovery Coordinating Committee (HPPRCC 2011, USFWS 1998). The HPPRCC identifies an additional initial objective, the Preventing Extinction Stage, in addition to the Interim Stabilization, Downlisting, and Delisting objectives. Furthermore, life history traits such as breeding system, population size fluctuation or decline, and reproduction type (sexual or vegetative), have been included in the calculation of goals for the number of populations and reproducing individuals for each stage. The goals for each stage remain grouped by life span defined as annual, short-lived perennial (fewer than 10 years), or long-lived perennial.

Hibiscadelphus hualalaiensis is a long-lived perennial tree. To prevent extinction, which is the first milestone in recovering the species, the taxon must be managed to control threats (e.g., fenced) and have 50 individuals (or the total number of individuals if fewer than 50 exist) from each of three populations represented in *ex situ* (secured off-site, such as a nursery or seed bank) collections that are well managed. In addition, a minimum of a total of three populations should be documented on the island of Hawai‘i where the species occurred historically and each of these populations must be naturally reproducing (i.e., viable seeds, seedlings) with a minimum of 25 mature, reproducing individuals per population.

The preventing extinction goals for this species have not been met. There are populations estimated with over 25 individuals, but reproduction and recruitment are unknown. Genetic storage is complete, but not all threats are being controlled, including loss of suitable habitat from development and agriculture and predation by rodents (Tables 1a, 1b, Table 2). Therefore, *H. hualalaiensis* meets the definition of Endangered as it remains in danger of extinction throughout its range.

Recommendations for Future Actions:

No significant new information regarding the species’ biological status has been reported since the last 5-year review in 2020. Thus, the following recommendations for future actions are updated or reiterated for the 5-year review for 2025.

- Surveys and monitoring—
 - Continue to monitor reintroductions of *Hibiscadelphus hualalaiensis*, especially for population structure, reproduction, and health.
 - Determine sites that have the highest likelihood of successful reintroductions.
- Ungulate monitoring and control—Monitor and maintain existing exclosures and construct new exclosures as needed to protect individuals from the negative impacts of feral ungulates.
- Invasive nonnative plant monitoring and control—Continue to control established ecosystem-altering nonnative invasive plants and those that compete with *H. hualalaiensis* at all populations.
- Climate change adaptation strategy—Assess the modeled effects of climate change on this species and use to determine future landscape needed for its recovery.
- Predator and herbivore monitoring and control—
 - Implement effective control measures for rodents at all reintroduction sites
 - Research the effects of nectar-robbing by nonnative birds and determine effective control measures if determined to be necessary.
 - Research effects of damage caused by moths and effective control measures if determined to be necessary.
- Captive propagation for genetic storage and reintroduction—Continue collection and propagation efforts for reintroduction.
- Reintroduction and translocation—Continue to reintroduce individuals into suitable habitat that is being managed for known threats.

- Build resiliency, redundancy, and representation—Increase species’ viability through habitat restoration, threat control, and translocations into suitable habitat that is being managed for known threats.
- Alliance and partnership development—Continue to work with partners in planning and implementation of ecosystem-level restoration and management to benefit this species.

References:

[HFIA] Hawai‘i Forest Industry Association. 2024. Annual permit report for Threatened and Endangered Species for the State of Hawai‘i Department of Land and Natural Resources Division of Forestry and Wildlife for the Ka‘ūpūlehu Dryland Forest Preserve. 5 pp.

[HPPRCC] Hawai‘i and Pacific Plants Recovery Coordinating Committee. 2011. Revised recovery objective guidelines. 8 pp.

Lyon Arboretum. 2025. Report on controlled propagation of listed species, as designated under the U.S. Endangered Species Act. Unpublished report submitted to the U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, Honolulu, Hawai‘i.

[PEPP] 2024. U.S. Fish and Wildlife Service CFDA Program #15.657, Endangered Species Conservation—Recovery Implementation Funds, Plant Extinction Prevention Program Fiscal Year 2024 Interim Performance Report (October 1, 2023—September 30, 2024). Cooperative Agreements F10AC00532, F22AC02205, F23AC01766. 56 pp.

National Tropical Botanical Garden [NTBG]. 2025. Report on controlled propagation of listed species, as designated under the U.S. Endangered Species Act. Unpublished report submitted to the U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, Honolulu, Hawai‘i.

[USFWS] U.S. Fish and Wildlife Service. 1998. Big Island II: Addendum to the recovery plan for the Big Island plant cluster. Portland, OR. 69 pp. + appendices.

[USFWS] 2008. *Hibiscadelphus hualalaiensis* (hau kuahiwi) 5-year review summary and evaluation. Pacific Islands Fish and Wildlife Office, Honolulu. 6 pp.

https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/1177.pdf

[USFWS] 2015. *Hibiscadelphus hualalaiensis* (hau kuahiwi) 5-year review summary and evaluation. USFWS Pacific Islands Fish and Wildlife Office, Honolulu, HI. 8 pp.

https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/2275.pdf

[USFWS] 2020. *Hibiscadelphus hualalaiensis* (hau kuahiwi) 5-year review summary and evaluation. USFWS Pacific Islands Fish and Wildlife Office, Honolulu, HI. 9 pp.
https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3154.pdf

[USFWS] 2023. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status reviews for 133 Species in Oregon, Washington, Idaho, Montana, California, Nevada, Hawaii, Guam, and the Commonwealth of the Northern Mariana Islands. Federal Register 88(56):17611–17614, March 23, 2023.

Volcano Rare Plant Facility [VRPF]. 2025. Report on controlled propagation of listed species, as designated under the U.S. Endangered Species Act. Unpublished report submitted to the U.S. Fish and Wildlife Service, Pacific Islands Fish and Wildlife Office, Honolulu, Hawai‘i.

U.S. FISH AND WILDLIFE SERVICE
SIGNATURE PAGE for 5-YEAR REVIEW of *Hibiscadelphus hualalaiensis* (hau
kuahiwi)

Pre-1996 DPS listing still considered a listable entity? N/A

Recommendation resulting from the 5-year review:

- Delisting
- Reclassify from Endangered to Threatened status
- Reclassify from Threatened to Endangered status
- X No Change in listing status

For Field Supervisor, Pacific Islands Fish and Wildlife Office

Date _____