

5-YEAR REVIEW

Short Form Summary

Species Reviewed: *Pittosporum halophilum* (hō‘awa)

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, Hawaii, Guam, and 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:

Daniel Adamski, Biologist, PIFWO

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 *Pittosporum halophilum* (USFWS 2020). The evaluation by Daniel Adamski, Biologist, was reviewed by Lauren Weisenberger, Plant Recovery Coordinator, and 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 (<http://ecos.fws.gov/ecp/species/3905>).

Review Analysis:

Please refer to the previous 5-year review for *Pittosporum halophilum* published in the Federal Register on August 19, 2020 (available at https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3905.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 *Pittosporum halophilum*.

This a short-lived perennial shrub in the Pittosporaceae (pittosporum) family is endangered and found on Moloka‘i and its offshore islets. The status and trends for *Pittosporum halophilum* are provided in the tables below.

New Status Information:

- Currently, there are two wild populations totaling 36 individuals, four on the islet of Mōkapu and 32 on the islet of ‘Ōkala off the coast of Moloka‘i. All individuals were observed via drone surveys in 2023 (Plant Extinction Prevention Program [PEPP] 2024). One additional wild population with one individual was observed in 2010 on the sea cliffs of Kūka‘iwa‘a peninsula, however, the current status of the population is unknown (PEPP 2024).
- Currently, there are 11 founder lines represented in *ex situ* storage and propagation collections, including seeds in seed banks and plants in a living collection (Lyon Arboretum 2024; Olinda Rare Plant Facility [ORPF] 2024; National Tropical Botanical Garden [NTBG] 2025).

New Threats:

- None

New Management Actions:

- Monitoring and surveys—PEPP conducts surveys and monitoring of wild and reintroduced populations on Moloka‘i and its offshore islets. PEPP reported seedlings were observed at one reintroduced population within the Kalaupapa peninsula in 2023 (PEPP 2024).
- Feral ungulate control—PEPP monitors and maintains fenced exclosures to exclude ungulates (PEPP 2024).
- Nonnative plant control—PEPP controls nonnative plants within fenced populations of *Pittosporum halophilum* at reintroduced populations (PEPP 2024).
- Nonnative invertebrate control—PEPP controls ants at outplanting sites within the Kalaupapa peninsula (PEPP 2024).
- Nonnative vertebrate control—PEPP controls rats at outplanting sites within the Kalaupapa peninsula (PEPP 2024).
- Collection and propagation for genetic storage and reintroduction—
 - Lyon Arboretum Micropropagation Laboratory reports 21 explants representing two founders in micropropagation, and Lyon Arboretum Seed Conservation Laboratory reports 572 seeds in storage representing nine founder plants. (Lyon Arboretum 2024).
 - ORPF reports 15 potted plants in cultivation representing two founder plants from Mōkapu.
 - NTBG reports 2,271 seeds in storage representing three wild founders from Mōkapu and cultivated plants, and an additional 20 potted plants in cultivation. Between 2006 and 2019, 41 plants were outplanted at the NTBG Southshore Gardens, and in 2022, four plants were outplanted in the same area as a living collection (NTBG 2025).
- Reintroduction and translocation—
 - ORPF reports 103 plants sent out to Kalaupapa Cultural Center and 15 plants sent to Mōkapu in 2024 (ORPF 2024).
 - PEPP outplanted four individuals at ‘Ōkala in 2021, and one remained during monitoring in 2022. PEPP reintroduced over 250 plants at Kalaupapa between 2020 and 2021, however, goats destroyed a majority

of the outplants in 2022. Monitoring in 2023 revealed 35 plants remained (PEPP 2024). Finally, approximately 65 individuals were reintroduced at two sites at Kaholaiki Bay in 2022 and 2023. In 2024, 49 total individuals were observed during monitoring of the two sites (PEPP 2024).

Table 1. Status and trends of *Pittosporum halophilum* from listing through current 5-year review.

Date	No. wild individuals	No. outplanted	*Preventing Extinction Targets identified by HPPRCC	*Preventing Extinction Targets Completed?
2013 (Listing)	5	6	All threats managed in all 3 populations	Partially
			Complete genetic storage	Yes
			3 populations with 100 mature individuals each	No
2020 (5-year review)	7	82 planted, 40 remain	All threats managed in all 3 populations	Partially
			Complete genetic storage	Yes
			3 populations with 100 mature individuals each	No
2025 (5-year review)	36	122	All threats managed in all 3 populations	Partially
			Complete Genetic Storage	Partially
			Reproduction (i.e., viable seeds, seedlings, saplings) at all 3 populations	Partially
			3 populations with 100 mature individuals each	No

Table 2. Threats to *Pittosporum halophilum* and ongoing conservation efforts.

Threat	Listing factor	Current Status	Conservation/ Management Efforts
Ungulate destruction and degradation of habitat	A	Ongoing	Partial, fencing at some populations
Established ecosystem altering invasive plant species degradation of habitat	A	Ongoing	Partial, nonnative plant control within fenced populations
Fire destruction and degradation of habitat	A	Ongoing	Fire management plan for Kalaupapa
Stochastic events, including hurricanes and landslides	A	Ongoing	Partial, propagation and outplanting ongoing
Predation or herbivory by nonnative invertebrates, rats	C	Ongoing	Partial, rat control at some sites
Inadequacy of existing regulatory mechanisms	D	Ongoing	None
Limited numbers	E	Ongoing	Partial, seed collections, propagation, and outplanting ongoing
Established invasive plant species competition	E	Ongoing	Partial, nonnative plant control within fenced populations

Synthesis:

Currently there are at least 36 wild individuals of *Pittosporum halophilum* on the offshore islets off the coast of Moloka‘i. Individuals are provided protection from ungulates by fencing, and nonnative plant control. Seed collections, seed storage, and propagation are ongoing.

Stabilizing (interim) and preventing extinction targets, and Downlisting and Delisting criteria are provided in the Recovery Plan for 44 Species from Maui Nui (Islands of Maui, Moloka‘i, and Lāna‘i) (2023) and recovery objective guidelines developed by the Hawai‘i and Pacific Plants Recovery Coordinating Committee (HPPRCC 2011). 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.

Pittosporum halophilum is a short-lived perennial shrub and obligate outcrosser. 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 three populations should be documented on Moloka'i and its offshore islets where they now occur or occurred historically and each of these populations must be naturally reproducing (i.e., viable seeds, seedlings), with a minimum of 100 mature, reproducing individuals per population.

The preventing extinction goals for this species have not been met (Table 1). Although genetic storage is almost complete, all threats are not being managed (Table 2), and there are not three populations with 50 reproducing individuals. Therefore, *Pittosporum halophilum* 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 all known populations of *Pittosporum halophilum*
 - Continue surveys for populations of *Pittosporum halophilum* in areas of potentially suitable habitat, including using drones to survey inaccessible cliff habitat.
 - Determine suitable locations for reintroductions.
- Ungulate monitoring and control—Continue to maintain fenced exclosures and construct new fences as needed to protect individuals from the negative impacts of browsing by ungulates.
- Invasive nonnative plant monitoring and control—Control established ecosystem-altering nonnative invasive plant species, and those that compete with *Pittosporum halophilum*.
- Site and habitat protection—Develop and implement effective control measures to reduce the impacts of destruction by fire, hurricanes, and landslides.
- Fire prevention and control—Develop and implement fire prevention management plans.
- Protection from predation and herbivory from rodents—Develop and implement effective control measures to reduce the impact of invasive vertebrate predation.
- Climate change adaptation strategy—Research suitability of habitat for viability of species, including where to conduct translocations in the future due to the impacts of climate change.
- Captive propagation for genetic storage and reintroduction—Continue to maintain collection and propagation efforts for maintenance of genetic stock and for reintroduction.
- Build resiliency, redundancy, and representation—Increase species' viability through habitat restoration, threat control, and reintroduction and translocation into suitable habitat that is being managed for known threats to this species to reduce impacts of reduced viability due to low numbers.

- Alliance and partnership development—Continue to work with partners and other land managers in planning and implementation of ecosystem-level restoration and management to benefit this species.

References:

- [HPPRCC] Hawai‘i and Pacific Plants Recovery Coordinating Committee. 2011. Revised recovery objective guidelines. 8 pp.
- Lyon Arboretum. 2024. 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.
- [NTBG] National Tropical Botanical Garden. 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.
- [ORPF] Olinda Rare Plant Facility. 2024. 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. Plant Extinction Prevention Program FY 2023 annual report Oct 1, 2023-Sep 30, 2024), USFWS CFDA Program #15.657, Endangered Species Conservation-Recovery Implementation Funds, Coop Agreement F14AC00174, December 24, 2016, UH Mānoa, PCSU, PEPP. 56 pp.
- [USFWS] U.S. Fish and Wildlife Service. 2020. *Pittosporum halophilum* 5-year review summary and evaluation. USFWS Pacific Islands Fish and Wildlife Office, Honolulu, HI. https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3905.pdf.
- [USFWS] 2023. Endangered and Threatened Wildlife and Plants; Initiation of 5-Year Status reviews for 133 Species in Oregon, Washington, Idaho, Montana, California, Hawaii, Guam, and the Northern Mariana Islands. Federal Register 88(56): 17611–17614, March 23, 2023.
- [USFWS] 2023. Recovery plan for 44 Species from Maui Nui (Islands of Maui, Moloka‘i, and Lāna‘i). Portland, OR. 94 pp. + appendices.

U.S. FISH AND WILDLIFE SERVICE
SIGNATURE PAGE for 5-YEAR REVIEW of *Pittosporum halophilum* (hō‘awa)

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
- No Change in listing status

For Field Supervisor, Pacific Islands Fish and Wildlife Office

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