# 5-YEAR REVIEW

Short Form Summary

**Species Reviewed**: *Pritchardia lanigera* (loulu)

**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 *Pritchardia lanigera* (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/5812*).

**Review Analysis:**

Please refer to the previous 5-year review for *Pritchardia lanigera* published in the Federal Register on September 30, 2020 (available at *https://ecosphere-documents-production-public.s3.amazonaws.com/sams/public_docs/species_nonpublish/3189.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 *Pritchardia lanigera*.

This long-lived perennial tree in the Arecaceae (palm) family is endangered and found on the island of Hawai‘i. The status and trends for *Pritchardia lanigera* are provided in the tables below.

New Status Information:

- At the time of the 5-year review in 2020, there were approximately 150 to 200 widely scattered plants in Hāmākua-Pali and Kohala Forest Reserve (FR), with unknown numbers in the Hāmākua FR, Mānowai‘ale‘e FR, Hilo FR, and the Ka‘ū FR. There has been no reported monitoring since, and the estimates remain unchanged (Plant Extinction Prevention Program [PEPP] 2024; Hawai‘i Volcanoes National Park [HVNP] 2024).
- Currently, there are approximately four founder lines represented in *ex situ* storage and propagation collections, including plants in a nursery or living collection (National Tropical Botanical Garden [NTBG] 2024; Volcano Rare Plant Facility [VRPF] 2024).

New Threats:

- Coconut rhinoceros beetle (CRB). CRB is a highly destructive beetle that feeds on growing leaves of palm trees and is native to Southeast Asia. It uses its large horn and legs to dig into the crown of palm trees and can cause destruction of the tree (Big Island Invasive Species Committee [BIISC] 2025). At least 23 adult beetles have been detected near the Kona Airport and surrounding area in 2025 (BIISC 2025).

New Management Actions:

- Monitoring and surveys—PEPP and HVNP staff survey for individuals of *Pritchardia lanigera* (PEPP 2024; HVNP 2024).
- Ungulate monitoring and control—PEPP and HVNP staff monitor fences and excludes ungulates from habitat that supports *Pritchardia lanigera* (PEPP 2024; HVNP 2024).
- Collection and propagation for genetic storage and reintroduction—
    - NTBG reports three individuals planted in a living collection at Southshore Garden between 1993 and 2024. Eight seeds were collected in 2024 from one of the three individuals (NTBG 2024).
    - VRPF reports 22 individuals in propagation representing four founders (VRPF 2024).
- Translocations—VRPF and HVNP outplanted approximately 130 individuals from 2011 to 2019, and approximately 116 individuals remained in 2019. No monitoring has been reported since 2019 (VRPF 2024; HVNP 2024).

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

| Date | No. wild individuals | No. Outplanted | Stabilization Targets identified by HPPRCC | Stability Goals Completed? |
|---|---|---|---|---|
| **2013 (Listing)** | <220 | Unknown | All threats managed in the 3 populations | Partially |
| | | | Complete genetic storage | Partially |
| | | | 3 populations with 25 individuals each | No |

**Table 1b.**

| Date | No. wild individuals | No. outplanted | Preventing Extinction Targets identified by HPPRCC* | *Preventing Extinction Targets Completed? |
|---|---|---|---|---|
| **2020 (5-year review)** | 150–200 | <116 (ca 130 planted) | All threats managed in all 3 populations | Partially |
| | | | Reproduction (i.e., viable seeds, seedlings, saplings) at all 3 populations | No |
| | | | Complete genetic storage | Partially |
| | | | 3 populations with 25 mature individuals each | Partially |
| **2025 (5-year review)** | 150–200 | ca 116 | All threats managed in all 3 populations | Partially |
| | | | Complete genetic storage | Partially |
| | | | Reproduction (i.e., viable seeds, seedlings, saplings) at all 3 populations | No |
| | | | 3 populations with 25 mature individuals each | Partially |

* 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 *Pritchardia lanigera* and ongoing conservation efforts**.

| Threat | Listing factor | Current Status | Conservation/ Management Efforts |
|---|---|---|---|
| Ungulate degradation of habitat | A | Ongoing | Partial, exclosures at Puʻu O Umi NAR and Kaʻū |
| Degradation of habitat by established ecosystem altering invasive plant species | A | Ongoing | Partial, nonnative plant control at Puʻu O Umi NAR and Kaʻū |
| Climate change degradation and loss of habitat, including hurricanes | A | Ongoing | None |
| Overcollection | B | Ongoing | None |
| Predation and herbivory by ungulates | C | Ongoing | Partial, exclosures at Puʻu O Umi NAR and Kaʻū |
| Predation and herbivory by rats | C | Ongoing | None |
| Predation by nonnative invertebrates—Two-spotted leafhopper, and beetles | C | Potential | None |
| Coconut rhinoceros beetle (CRB) | C | Ongoing | Trapping, HDOA rules, and BIISC management |
| Inadequacy of regulatory mechanisms | D | Ongoing | Partial, exclosures at Puʻu O Umi NAR and Kaʻū |
| Lack of regeneration | E | Ongoing | Partial, collection, propagation, and reintroduction |

**Synthesis:**
Currently there are approximately 150–200 wild individuals of *Pritchardia lanigera* on the island of Hawaiʻi. Some individuals are provided protection from ungulates by fencing, and nonnative plant control. Seed collections, propagation, and reintroductions are ongoing.

Stabilizing (interim) and preventing extinction targets, and downlisting, and delisting criteria are provided in the Recovery Plan for 15 species from the Island of Hawaiʻi (USFWS 2023). 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.

*Pritchardia lanigera* 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 they now occur or 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 (Table 1). There is only one population that has at least 25 reproducing individuals, there is no observed regeneration, genetic storage is not complete, and all threats are not being managed (Table 2). Therefore, *Pritchardia lanigera* 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 known populations of *Pritchardia lanigera* to assess resiliency and make collections.
  - Continue surveys for populations of *Pritchardia lanigera* in areas of potentially suitable habitat.
  - Determine suitable locations for reintroductions.
- Ungulate monitoring and control—Continue to maintain existing fences and construct new fences 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 *Pritchardia lanigera.*
- Site and habitat protection—
  - Develop and implement effective control measures to reduce the impacts of destruction by overcollection and climate change impacts, including hurricanes.
  - Develop and implement effective control measures to reduce the impact of invasive invertebrate and rodent predation.
  - Continue to implement control and trapping of CRB.
- 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.

- Research—
  - Conduct genetic studies to determine genetic variation within the population (and between populations) and plan an effective breeding program.
- 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.

[NTBG] National Tropical Botanical Garden. 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. *Pritchardia lanigera* 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/3189.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] U.S. Fish and Wildlife Service. 2023. Recovery plan for 15 species from the Island of Hawai‘i . Portland, OR. 85 pp. + appendices.

[VRPPF] Volcano Rare Plant Propagation 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.

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SIGNATURE PAGE for 5-YEAR REVIEW of *Pritchardia lanigera* (loulu)

**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**

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