

Pritchardia viscosa
(Lo`ulu)

**5-Year Review
Summary and Evaluation**

**U.S. Fish and Wildlife Service
Pacific Islands Fish and Wildlife Office
Honolulu, Hawaii**

5-YEAR REVIEW

Species reviewed: *Pritchardia viscosa* (Lo`ulu)

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5-YEAR REVIEW

***Pritchardia viscosa*/Lo`ulu**

1.0 GENERAL INFORMATION

1.1 Reviewers

Lead Regional Office:

Region 1, Jesse D'Elia, Chief, Division of Recovery, (503) 231-2071.

Lead Field Office:

Pacific Islands Fish and Wildlife Office, Gina Shultz, Assistant Field Supervisor for Endangered Species, (808) 792-9400.

Cooperating Field Office(s):

N/A

Cooperating Regional Office(s):

N/A

1.2 Methodology used to complete the review:

This review was conducted by staff of the Pacific Islands Fish and Wildlife Office (PIFWO) of the U.S. Fish and Wildlife Service (USFWS) between June 2006 and June 2007. The National Tropical Botanical Garden provided most of the updated information on the current status of *Pritchardia viscosa*. They also provided recommendations for conservation actions that may be needed prior to the next five-year review. The evaluation of the lead PIFWO biologist was reviewed by the Plant Recovery Coordinator. These comments were incorporated into the draft five-year review. The document was then reviewed by the Recovery Program Leader and the Assistant Field Supervisor for Endangered Species before final approval.

1.3 Background:

1.3.1 FR Notice citation announcing initiation of this review:

USFWS. 2006. Endangered and threatened wildlife and plants; initiation of 5-year reviews of 70 species in Idaho, Oregon, Washington, Hawaii, and Guam. Federal Register 71(69):18345-18348.

1.3.2 Listing history

Original Listing

FR notice: USFWS. 1996. Endangered and threatened wildlife and plants; determination of endangered or threatened status for nineteen plants from the island of Kauai, Hawaii; final rule. Federal Register 61(198):53070-53089.

Date listed: October 10, 1996

Entity listed: Species

Classification: Endangered

Revised Listing, if applicable

FR notice: N/A

Date listed: N/A

Entity listed: N/A

Classification: N/A

1.3.3 Associated rulemakings:

USFWS. 2003. Endangered and threatened wildlife and plants; final designation or nondesignation of critical habitat for 95 plant species from the islands of Kauai and Niihau, HI; final rule. Federal Register 68(39):9116-9479.

Critical habitat has not been designated for this species due to instances of vandalism, collection, and commercial trade. It was determined that designation would not provide sufficient benefits to outweigh the increased risks of designation of critical habitat (USFWS 2003).

1.3.4 Review History:

Species status review [FY 2006 Recovery Data Call (September 2006)]:
Declining

Recovery achieved:

1 (0-25%) (FY 2006 Recovery Data Call)

1.3.5 Species' Recovery Priority Number at start of this 5-year review:

5

1.3.6 Current Recovery Plan or Outline

Name of plan or outline: Addendum to the recovery plan for the Kauai plant cluster. 1998. U.S. Fish and Wildlife Service, Portland, Oregon. 84+ pages.

Date issued: August 23, 1998

Dates of previous revisions, if applicable: N/A

2.0 REVIEW ANALYSIS

2.1 Application of the 1996 Distinct Population Segment (DPS) policy

2.1.1 Is the species under review a vertebrate?

Yes
 No

2.1.2 Is the species under review listed as a DPS?

Yes
 No

2.1.3 Was the DPS listed prior to 1996?

Yes
 No

2.1.3.1 Prior to this 5-year review, was the DPS classification reviewed to ensure it meets the 1996 policy standards?

Yes
 No

2.1.3.2 Does the DPS listing meet the discreteness and significance elements of the 1996 DPS policy?

Yes
 No

2.1.4 Is there relevant new information for this species regarding the application of the DPS policy?

Yes
 No

2.2 Recovery Criteria

2.2.1 Does the species have a final, approved recovery plan containing objective, measurable criteria?

Yes
 No

2.2.2 Adequacy of recovery criteria.

2.2.2.1 Do the recovery criteria reflect the best available and most up-to date information on the biology of the species and its habitat?

Yes
 No

2.2.2.2 Are all of the 5 listing factors that are relevant to the species addressed in the recovery?

Yes
 No

2.2.3 List the recovery criteria as they appear in the recovery plan, and discuss how each criterion has or has not been met, citing information:

A synthesis of the threats (Factors A, B, C, D, and E) affecting this species is presented in section 2.4.

Stabilizing, downlisting, and delisting objectives are provided in the addendum to the recovery plan for the Kauai plant cluster (USFWS 1998), based on whether the species is an annual, a short-lived perennial (fewer than 10 years), or a long-lived perennial. In order for *Pritchardia viscosa*, a long-lived perennial, to be considered stable, the existing population must be managed to control threats, (e.g., fenced) and be represented in an *ex situ* (off-site) collection. Additionally, a minimum total of three populations should be documented on Kauai, and each population must be naturally reproducing and increasing in number with a minimum of 25 mature individuals per population (USFWS 1998).

This recovery objective has not been met.

For downlisting, a total of five to seven populations of *Pritchardia viscosa* should be documented on Kauai. Each of these populations must be naturally reproducing, stable, or increasing in number, and secure from threats, with a minimum of 100 mature individuals per population. In addition, each population should persist at this level for a minimum of five consecutive years before downlisting is considered (USFWS 1998).

This recovery objective has not been met.

For delisting, a total of eight to ten populations should be documented on Kauai. Each of the populations must be naturally reproducing, stable or increasing in number, and secure from threats, with a minimum of 100 mature individuals per population. Each population should persist at this level for a minimum of five consecutive years (USFWS 1998).

This recovery objective has not been met.

2.3 Updated Information and Current Species Status

In addition to the status summary table below, information on the species' status and threats was included in the final critical habitat rule referenced above in section I.C.5 ("Associated Rulemakings") and in section II.D ("Synthesis")

below, which also includes any new information about the status and threats of the species.

Status of *Pritchardia viscosa* from listing through 5-year review.

| Date | No. wild inds | No. outplanted | Stability Criteria | Stability Criteria Completed? |
|-------------------------|----------------------|-----------------------|---|--------------------------------------|
| 1996 – listing | 3 | 0 | All threats managed in all 3 populations | No |
| | | | Complete genetic storage | No |
| | | | 3 populations with 25 mature individuals each | No |
| 1998 – recovery plan | 4 | 0 | All threats managed in all 3 populations | No |
| | | | Complete genetic storage | Yes |
| | | | 3 populations with 25 mature individuals each | No |
| 2003 – critical habitat | 3 | 0 | All threats managed in all 3 populations | No |
| | | | Complete genetic storage | Partially |
| | | | 3 populations with 25 mature individuals each | No |
| 2007 – 5-yr review | 4 | 0 | All threats managed all 3 populations | No |
| | | | Complete genetic storage | Partially |
| | | | 3 populations with 25 mature individuals each | No |

2.3.1 Biology and Habitat

2.3.1.1 New information on the species’ biology and life history:

2.3.1.2 Abundance, population trends (e.g. increasing, decreasing, stable), demographic features (e.g., age structure, sex ratio, family size, birth rate, age at mortality, mortality rate, etc.), or demographic trends:

2.3.1.3 Genetics, genetic variation, or trends in genetic variation (e.g., loss of genetic variation, genetic drift, inbreeding, etc.):

2.3.1.4 Taxonomic classification or changes in nomenclature:

2.3.1.5 Spatial distribution, trends in spatial distribution (e.g. increasingly fragmented, increased numbers of corridors, etc.), or historic range (e.g. corrections to the historical range, change in distribution of the species' within its historic range, etc.):

2.3.1.6 Habitat or ecosystem conditions (e.g., amount, distribution, and suitability of the habitat or ecosystem):

2.3.1.7 Other:

2.3.2 Five-Factor Analysis (threats, conservation measures, and regulatory mechanisms)

2.3.2.1 Present or threatened destruction, modification or curtailment of its habitat or range:

2.3.2.2 Overutilization for commercial, recreational, scientific, or educational purposes:

2.3.2.3 Disease or predation:

2.3.2.4 Inadequacy of existing regulatory mechanisms:

2.3.2.5 Other natural or manmade factors affecting its continued existence:

2.4 Synthesis

Pritchardia viscosa has been rare for many years, with only one population known on the northern side of Kauai. There were 11 individuals known before Hurricane Iniki in 1992. Currently, there are two individuals to the west of the road and one mature and one juvenile to the east of the Powerline Trail jeep road (National Tropical Botanical Garden 2006). The area where *Pritchardia viscosa* grows is *Dicranopteris linearis* (uluhe) lowland wet forest (National Tropical Botanical Garden 2006).

The main threats, habitat degradation by feral pigs (Factors A and D), invasive introduced plant species (Factor E), rat predation (Factor C), and illegal seed collection (Factor B) continue to occur and the low number of individuals left in the wild makes the species vulnerable to extinction from stochastic events such as hurricanes (Factor E) (Perlman 2006; USFWS 1998 and 2003; National Tropical Botanical Garden 2006).

Pritchardia viscosa is being propagated for restoration and genetics storage at the National Tropical Botanical Garden. Some of these have been outplanted in the Hawaii Division of Forestry and Wildlife enclosure fences at Kalalau Rim and Wailua Experimental Station in 2005 (E. Coulombe, National Tropical Botanical Garden, pers. comm. 2006). In addition, five trees were outplanted at the National Tropical Botanical Garden's for *ex situ* storage and appear to be doing well and approximately 15 additional plants in the nursery can be outplanted once a protected site is established (National Tropical Botanical Garden 2006).

The stabilization and recovery goals for this species have not been met, as currently only four wild individuals are known and no outplanted individuals are yet reproductive. Therefore, *Pritchardia viscosa* meets the definition of endangered as it remains in danger of extinction throughout its range.

3.0 RESULTS

3.1 Recommended Classification:

Downlist to Threatened

Uplist to Endangered

Delist

Extinction

Recovery

Original data for classification in error

No change is needed

3.2 New Recovery Priority Number: N/A

Brief Rationale:

3.3 Listing and Reclassification Priority Number: N/A

Reclassification (from Threatened to Endangered) Priority Number: _____

Reclassification (from Endangered to Threatened) Priority Number: _____

Delisting (regardless of current classification) Priority Number: _____

Brief Rationale:

4.0 RECOMMENDATIONS FOR FUTURE ACTIONS

- Collect material for all mature individuals for seed storage testing.
- Fence the trees on the east side of the trail to prevent further damage by pigs.
- Augment the population at only known location through outplanting, from plants being grown at National Tropical Botanical Garden and elsewhere.
- Continue planting for genetic storage.
- Determine how to reduce the threat of theft and illegal seed collection.

5.0 REFERENCES

National Tropical Botanical Garden. 2006. Database query for *Pritchardia viscosa* localities. September 29, 2006. Unpublished.

Perlman, S. 2006. Summary of Field Notes for *Pritchardia viscosa* from 1992 through 2006. National Tropical Botanical Garden. Unpublished.

[USFWS] U. S. Fish and Wildlife Service. 2003 . Endangered and threatened wildlife and plants; final designation or nondesignation of critical habitat for 95 plant species from the islands of Kauai and Niihau, HI; final rule. Federal Register 68(39):9116-9479.

[USFWS] U. S. Fish and Wildlife Service. 1998. Endangered and threatened wildlife and plants; addendum to the Recovery Plan for the Kauai plant cluster. U.S. Fish and Wildlife Service, Portland, Oregon. 84+ pages.

[USFWS] U. S. Fish and Wildlife Service. 1996. Endangered and threatened wildlife and plants; determination of endangered or threatened status for nineteen plant species from the island of Kauai, Hawaii; final rule. Federal Register 61(198):53070-53089.

Personal and Written Communications:

Coulombe, Ellen. 2006. Administrative Assistant, Conservation Dept., National Tropical Botanical Garden, e-mail to V. Caraway, Hawaii Dept of Forestry and Wildlife, May 10, 2006.

Signature Page
U.S. FISH AND WILDLIFE SERVICE
5-YEAR REVIEW of *Pritchardia viscosa* (Lo`ulu)

Current Classification: E

Recommendation resulting from the 5-Year Review:

- Downlist to Threatened
- Uplist to Endangered
- Delist
- No change needed

Appropriate Listing/Reclassification Priority Number, if applicable: _____

Review Conducted By:

Marilet A. Zablan, Recovery Program Leader and Acting Assistant Field Supervisor for Endangered Species, June 24, 2007

Marie Brueggmann, Plant Recovery Coordinator, April 2, May 24, and June 29, 2007

Annie P. Marshall, Fish and Wildlife Service Biologist, February 16, 2007

Approve Patricia Date 4/18/08
Lead Field Supervisor, Fish and Wildlife Service