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Plants

Lo'ulu

Pritchardia aylmer-robinsonii

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Ranking - CR A1ace+2ce, B1+2abcde, D

Endemism – Ni'ihau

Critical Habitat - Designated

SPECIES INFORMATION: *Pritchardia aylmer-robinsonii* of the palm family (Arecaceae) is a fan-leaved tree about 7 to 15 m (23 to 50 ft) tall with a trunk approximately 20 to 30 cm (8 to 12 in.) in diameter. The upper and lower leaf surfaces are green and hairless, and leaf segments are rather thin and drooping. The lower surfaces of the petiole and the leaf ribs are covered with dense, tan wool. The branched, hairless flower clusters are located among the leaves and are no longer than the petioles. Each flower is comprised of a cup-shaped, three-lobed calyx; three petals; six stamens; and a three-lobed stigma. The spherical, hard, black fruit is 1.8 to 2 cm (0.7 to 0.8 in.) in diameter. This species is distinguished from others of the genus by the thin leaf texture and drooping leaf segments; the tan woolly hairs on the underside of the petiole and the leaf blade base; the stout hairless flower clusters that do not extend beyond the fan-shaped leaves; and the smaller spherical fruit.

DISTRIBUTION: Historically, *Pritchardia aylmer-robinsonii* was found at three sites in the eastern and central portions of the island of Ni'ihau. Trees were found on Ka'ali Cliff and in Mokouia and Ha'ao Valleys at elevations between 70 and 270 m (230 and 890 ft).

ABUNDANCE: The most recent observations indicate two plants still remain on Ka'ali Cliff.

LOCATION AND CONDITION OF KEY HABITAT: Originally a component of the Coastal Dry Forest, this species now occurs only in a rugged and steep area where it receives some protection from grazing animals. The substrate in the seepage area is rocky talus. *Prosopis pallida* (kiawe), an introduced tree, is one of the palm's few associated plant taxa. Other native plants that have been found in the area include *Brighamia insignis* ('olulu), *Cyperus trachysanthos* (pu'uka'a), *Lipochaeta lobata* var. *lobata* (nehe), and *Lobelia niihauensis*.

THREATS:

- Cattle (*Bos taurus*), goats (*Capra hircus*), sheep (*Ovis aries*), and pigs (*Sus scrofa*) have decreased available habitat for *Pritchardia aylmer-robinsonii* as well as directly damaging trees, seedlings, and/ or seeds;
- Extinction from naturally occurring events;
- Reduced reproductive vigor due to the small number of reproductive plants;
- Roof rats (*Rattus rattus*) are a potential threat to this species since they eat the seeds of some palms of this genus and are found on Ni'ihau.

CONSERVATION ACTIONS: The goals of conservation actions are not only to protect current populations, but also to establish new populations to reduce the risk of extinction. This species is being cultivated at the National Tropical Botanical Garden, both in living collections and managed re-introduction sites. The USFWS has developed a recovery plan that details specific tasks needed to recover this species. In addition to common statewide and island conservation actions, specific actions include:

- Survey historical range for surviving populations;
- Establish secure *ex-situ* stocks with complete representation of remaining individuals;
- Augment wild population and establish new populations in safe harbors.

MONITORING:

- Continue surveys of population and distribution in known and likely habitats;
- Monitor plants for insect damage and plant diseases.

RESEARCH PRIORITIES:

- Develop proper horticultural protocols and pest management;
- Survey *ex-situ* holdings and conduct molecular fingerprinting;
- Conduct pollination biology and seed dispersal studies;
- Map genetic diversity in the surviving populations to guide future re-introduction and augmentation efforts.

References:

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