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Plants

Aiea

Nothocestrum peltatum

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Ranking - CR C2a, D

Hawai'i Natural Heritage Ranking - Critically Imperiled (G1)

Endemism – Kaua'i

SPECIES INFORMATION: A member of the nightshade family (Solanaceae), *N. peltatum* is a small tree up to 8 m tall with ash-brown bark and woolly stems. The leathery leaves are usually peltate and measure 6 to 23 cm long by 3.5 to 7.5 cm wide. The densely hairy flowers number up to 10 per cluster. The orange berries are 13 to 14 cm long and contain numerous irregularly shaped seeds.

DISTRIBUTION: Located at Kalalau Lookout, Awaawapuhi and Makaha Valleys, Nualolo, Kawaiula and Waimea Canyon.

ABUNDANCE: There are a total of 15 plants known.

LOCATION AND CONDITION OF KEY HABITAT: Found in *Acacia koa*-*Metrosideros polymorpha* dominated Montane Mesic Forests. Other associated species include *Psychotria mariniana*, *Melicope anisata*, *M. barbigera*, *Pouteria sandwicensis*, *Dodonaea viscosa*, *Dianella sandwicensis*, *Tetraplasandra kawaiensis*, and *Claoxylum sandwicensis*. This species usually inhabits deep rich soil on steep slopes, at elevations between 915 to 1,220 m.

THREATS:

- Habitat degradation by feral pig, deer and goats;
- Catastrophic extinction through environmental events, possible land slides, fire;
- Predation by rats that eat seeds;
- Competition with non-native plant taxa (*Rubus argutus*, *Hedychium gardnerianum*, *Erigeron karvinskianus*).

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. 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:

Center for Plant Conservation, 2005. National Collection of Endangered Plants. http://www.centerforplantconservation.org/ASP/CPC_NCList_Quick.asp.

Hawai'i Natural Heritage Program. 2005. Hawaii Natural Heritage Program Search, <http://www.hinhp.org>.

International Union for Conservation of Nature and Natural Resources, 2004, IUCN Red List of Threatened Species: Data Base Search, <http://www.redlist.org/search/search-basic.html>.

US Fish and Wildlife Service. 1991. Final Listing, Endangered ETWP; Determination of Endangered Status for Six Plants from the Island of Lanai, Hawaii; Federal Register, Vol. 56 No. 183, (20-SEP-91), 56 FR 47686-47695, 9 pp.

Wagner, W. L., D. R. Herbst, and D. H. Lorence. 2005. Flora of the Hawaiian Islands website. <http://ravenel.si.edu/botany/pacificislandbiodiversity/hawaiianflora/index.htm> [August, 2005].

Wagner, W.L., Herbst, D.R., and Sohmer, S.H., 1999. Manual of the Flowering Plants of Hawai'i—Revised Edition. Honolulu, HI: University of Hawaii Press and Bishop Museum Press. 1853p.