

Cyanea shipmanii

D. Wass

Plants

Haha

Cyanea shipmanii

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

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

Endemism - Island of Hawai'i

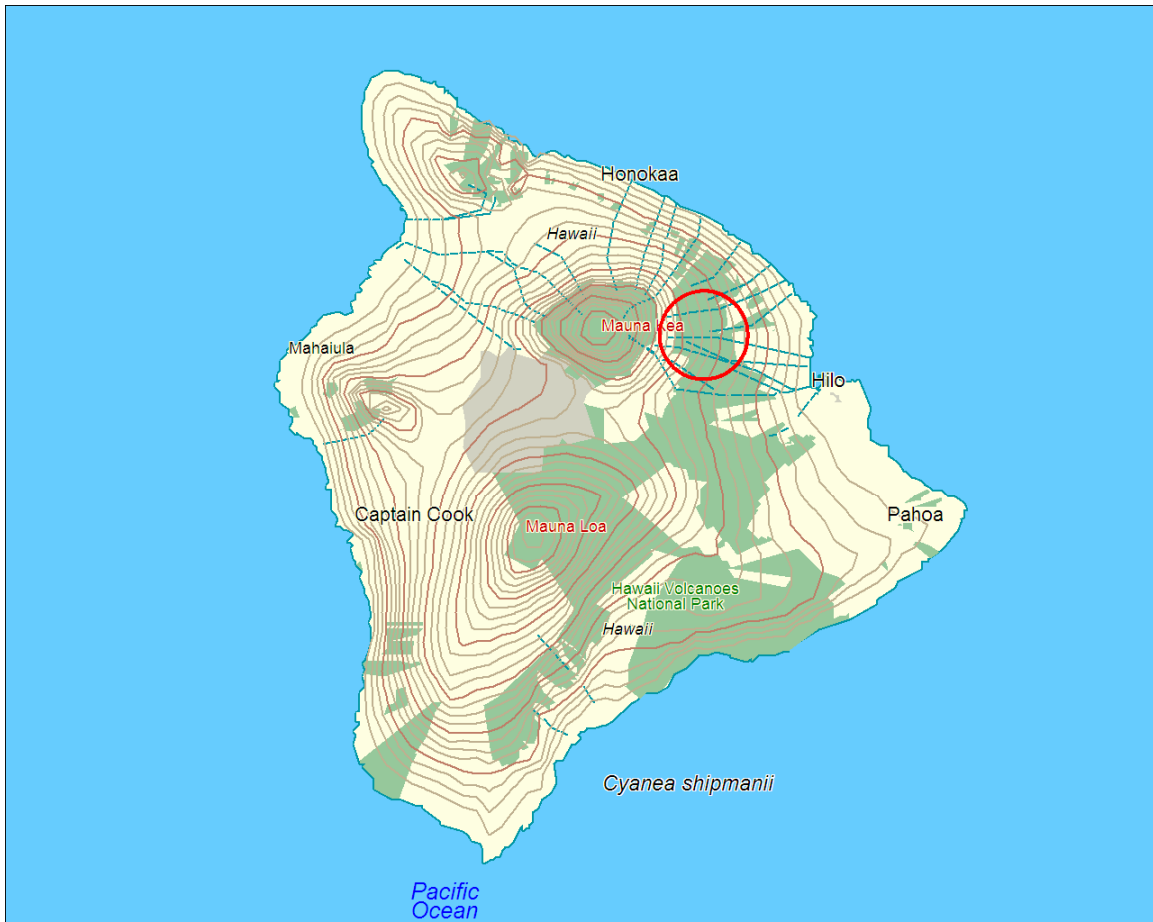
Critical Habitat - Designated

SPECIES INFORMATION: *Cyanea shipmanii*, a member of the bellflower family (Campanulaceae), is an unbranched or few-branched shrub 8 to 13 ft (2.5 to 4 m) tall with small sharp projections, especially in young plants. The alternate, stalked leaves are 6.7 to 12 in (17 to 30cm) long, 2.8 to 5.5 in (7 to 14 cm) wide, and deeply cut into 20 to 30 lobes per leaf. Flowers are covered with fine hairs and are clustered in groups of 10 to 15, the main stalk 0.4 to 1.2 in (1 to 3 cm) long and each flower stalk 0.4 to 0.6 in (1 to 1.5 cm) long. The hypanthium is topped with five small calyx lobes. The pale greenish-white petals, 1.2 to 1.4 in (3 to 3.6 cm) long, are fused into a curved five-lobed tube 0.1 to 0.2 in (3 to 4 mm) wide. The fruit is an ellipsoid berry. This species differs from others in the genus by its slender stems, stalked, pinnately lobed leaves, and smaller flowers.

DISTRIBUTION: *Cyanea shipmanii* is known from only one population, located on the island of Hawai'i on the eastern slope of Mauna Kea, at 1,800-1,900 m elevation. Known from type locality of Pua akala.

ABUNDANCE: When originally discovered, only one mature plant was found, with a total population size of fewer than 50 individuals. In 1994, 2 plants were reported at Pu'u akala, and 2 plants at Hakalau.

LOCATION AND CONDITION OF KEY HABITAT: The Pu'u akala population is located on privately owned land. This species typically grows in koa- and 'ōhi'a dominated montane mesic forests at elevations between 5,400 and 6,200 ft (1,650 and 1,900 m). Associated native species include *Ilex anomala* (kawa'u) and *Myrsine lessertiana* (kolea).



THREATS:

- Feral pigs;
- Competition from alien plant species;
- Stochastic extinction due to small number of individuals;
- Loss of reproductive vigor due to small population size.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but also establish further populations to reduce the risk of extinction. 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 historic 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:

- Survey for populations 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:

Hawai'i Natural Heritage Program. 2005. Hawaii Natural Heritage Program Search, <http://www.hinhp.org/printpage.asp?spp=PDMAL0H0A0> [August 2005].

NTBG. 1994. Perlman, Steve. Field Data Booklet, SP 14154 and 14179. Unpublished data.

USFWS. 1994. Final Listing, Endangered ETWP; Determination of Endangered or Threatened Status for 21 Plants From the Island of Hawaii, State of Hawaii. Federal Register, Vol. 59, No. 43, (04-MAR-94), 59 FR 10305-10325, 21 pp.

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.