



N. Tangalin, NTBG

Plants

Haha

Cyanea stictophylla

STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Ranking – Critically Endangered (CR C2a)

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

Endemism - Island of Hawai'i

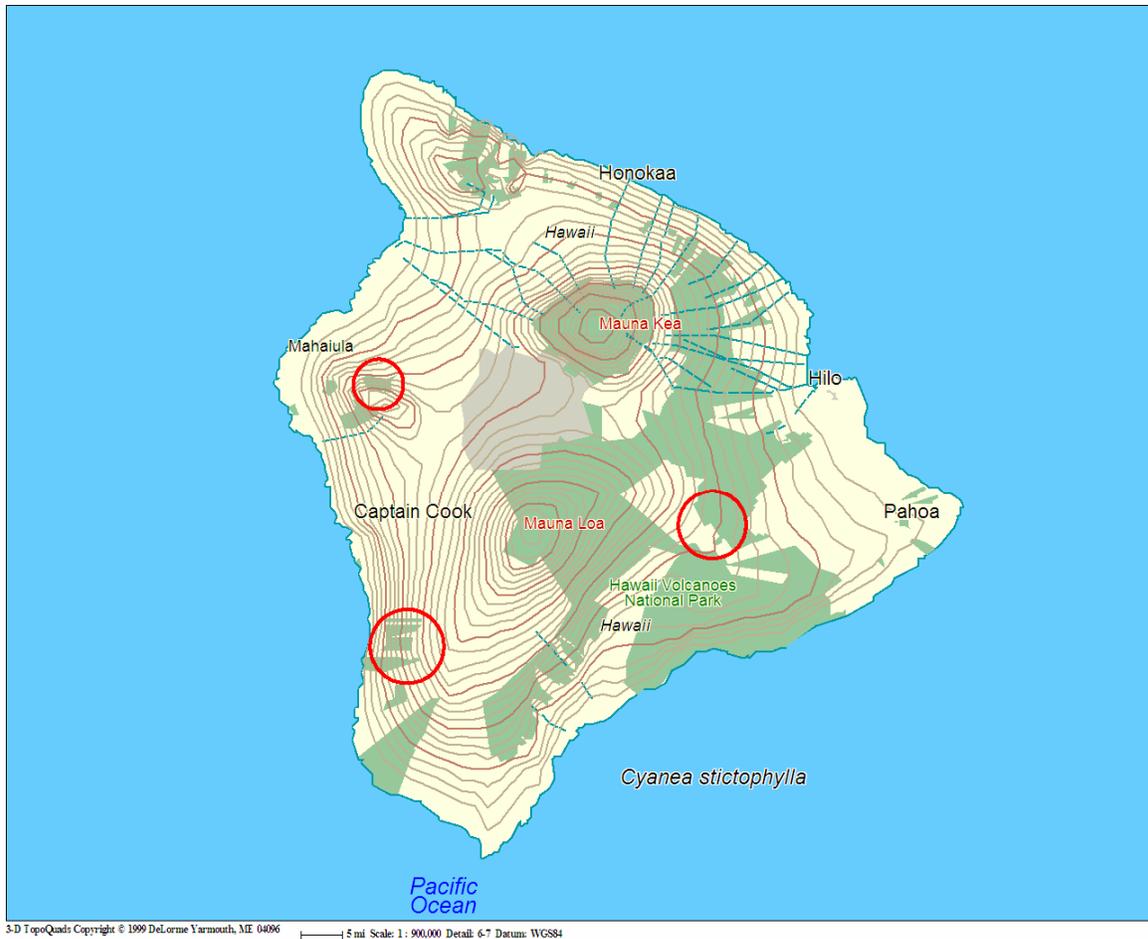
Critical Habitat - Designated

SPECIES INFORMATION: *Cyanea stictophylla*, a member of the bellflower family (Campanulaceae) is a shrub or tree 2 to 20 ft (0.6 to 8 m) tall, sometimes covered with small, sharp projections. The alternate, stalked, oblong, shallowly lobed, toothed leaves are 7.8 to 15 in (20 to 38 cm) long and 1.6 to 3.1 in (4 to 8 cm) wide. Clusters of five or six flowers have main flowering stalks 0.4 to 1.6 in (1 to 4 cm) long; each flower has a stalk 0.3 to 0.9 in (0.7 to 2.2 cm) long. The hypanthium is topped with five calyx lobes 0.1 to 0.2 in (2 to 4 mm) long and 0.04 to 0.1 in (1 to 2 mm) wide. The yellowish-white or purple petals, 1.4 to 2 in (3.5 to 5 cm) long, are fused into an arched, five-lobed tube about 0.2 in (5 to 6 mm) wide. The spherical berries are orange. This species differs from others in the genus by its lobed, toothed leaves and its larger flowers with small calyx lobes and deeply lobed corollas.

DISTRIBUTION: Historically, *Cyanea stictophylla* was known only from the island of Hawai'i on the western, southern, southeastern, and eastern slopes of Mauna Loa.

ABUNDANCE: The species is known to be extant near Keauhou and in South Kona on privately owned land, and at Pu'u wa'a wa'a. The 3 known populations which extend over a distance of about 38 by 10 mi. (61 by 16 km), contain a total of approximately 15 individuals as of 1994. Six plants remain at Kukuiopae, and 10 plus plants at Olelomoana.

LOCATION AND CONDITION OF KEY HABITAT: This species, sometimes growing epiphytically, is found in koa and 'ōhi'a dominated lowland mesic and wet forests at elevations between 3,500 and 6,400 ft. Associated native species include tree ferns, *Melicope volcanica* (alani), and *Urera glabra* (opuhe).



THREATS:

- Grazing and trampling by feral cattle;
- Competition from alien plant species;
- Stochastic extinction due to a small number of remaining individuals;
- Reduced reproductive vigor due to the small number of existing populations and individuals.

CONSERVATION ACTIONS: The goals of conservation actions are to not only protect current populations, but to also establish further populations to reduce the risk of extinction. Forty six individuals have been planted in enclosures at Pu’u wa’a wa’a and Ka’u Forest Reserve. 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:

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> [August 2005].

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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.

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