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Plants

Haha

Cyanea superba subsp. *superba*

SPECIES STATUS:
Federally Listed as Endangered
Genetic Safety Net Species
IUCN Red List Ranking – Extinct in the Wild (EW)
Hawai'i Natural Heritage Ranking - Subspecies
Critically Imperiled (G1T1)
Endemism – O'ahu
Critical Habitat - Designated

SPECIES INFORMATION: *Cyanea superba* subsp. *superba* is a perennial plant in the bellflower family (Campanulaceae) and is geographically isolated and morphologically very different from its closest relatives. It grows to 6 m (20 ft) tall, and has a terminal rosette of large leaves each 50 to 100 cm long and 10 to 20 cm wide, atop a simple, unbranched trunk. Its numerous white or cream colored flowers are in pendent inflorescences hanging 20 to 35 cm (8 to 14 in) below the leaves.

DISTRIBUTION: One population is on State land in Pahole Gulch, while the other grows on Federal property in Kahanahaiki Valley, Wai'anae Mountains, O'ahu.

ABUNDANCE: More than 60 plants in two subpopulations were known in the 1970s. The subspecies (and species) then declined down to only one subpopulation containing about five plants. Those plants have now disappeared, and the taxon is apparently now extinct in the wild.

LOCATION AND CONDITION OF KEY HABITAT: *Cyanea superba* grows in the understory on sloping terrain on a well drained, rocky substrate between 535 and 700 m (1,760 and 2,200 ft) in elevation. The understory is heavily shaded by canopy species including *Aleurites moluccana* (kukui) and *Pisonia brunoniana* (papala kepau).

THREATS:

- Degradation of its habitat due to the introduction of alien plants and animals;
- The potential of destruction by wildfires generated in a nearby military firing range;
- Damage directly to the plants and their habitat by feral pigs;
- Range of this species makes it vulnerable to small, local, environmental disturbances;

- Limited gene pool may depress reproductive vigor.

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

- 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.

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