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Plants

Viola helenae

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

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

Endemism – Kaua'i

Critical Habitat - Designated

SPECIES INFORMATION: *Viola helenae* is a small, erect, unbranched subshrub (3-8 m tall), in the violet family (Violaceae). Leaves are long and narrow and clustered at the top of the plant. Flowers are pale lavender or white, occurring singly or in pairs on the upper leaf axis.

DISTRIBUTION: Wahiawa Mountains of Kaua'i.

ABUNDANCE: Currently 13 plants are known to exist.

LOCATION AND CONDITION OF KEY HABITAT: Wet forests and shrublands in gulch bottoms, gulch slopes, and on exposed ridgetops. Pig trails and rooting have been observed near this species. A second population is known to have gone extinct once strawberry guava established itself in the area.

THREATS:

- Habitat degradation by feral pigs;
- Fruit predation by rats;
- Competition from alien plant species;
- Stochastic extinction;
- Reduced reproductive vigor due to the small number of remaining individuals.

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:

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

US Fish and Wildlife Service. 1991. Final Listing, Endangered ETWP; Determination of Endangered Status for Five Plants from the Wahiawa Drainage Basin; Federal Register, Vol. 56 No. 183, (20-SEP-91), 56 FR 47695 47700, 6 pp.

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