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Plants

Viola lanaiensis

SPECIES STATUS:

Federally Listed as Endangered
Genetic Safety Net Species

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

SPECIES INFORMATION: *Viola lanaiensis* is one of seven species of violets native to the Hawaiian Islands. *Viola lanaiensis*, as well as the other Hawaiian violets, possess woody stems, which is unique among the members of the Violet family. *Viola lanaiensis* produces small flowers that are white and purple tinged, and lance-shaped leaves which form clusters on its stem tips.

DISTRIBUTION: Lanaihale, Lana'i.

ABUNDANCE: Four populations with less than 80 individuals total.

LOCATION AND CONDITION OF KEY HABITAT: *Viola lanaiensis* has been observed on moderate to steep slopes from lower gulches to ridgetops, 850 to 980 meters in elevation in mesic to wet forest.

THREATS:

- Browsing by deer;
- 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 further populations to reduce the risk of extinction. Currently, the remaining wild plants are enclosed within protective fencing to prevent browsing and grazing activities. 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 Six Plants from the Island of Lanai, Hawaii; Federal Register, Vol. 56 No. 183, (20-SEP-91), 56 FR 47686 47695, 10 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.

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].