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Plants

Phyllostegia knudsenii

SPECIES STATUS:

Federally Listed as Endangered
Hawai'i Natural Heritage Ranking- Critically Imperiled (G1)
Critical Habitat - Designated
Endemism – Kaua'i
Critical Habitat - Designated

SPECIES INFORMATION: *Phyllostegia knudsenii*, a member of the mint family (Lamiaceae), is an erect, perennial herb or vine. The opposite leaves are limp, ovate, faintly pubescent, 11.5 to 18 cm (4.5 to 7 in) long, and 5.1 to 9 cm (2 to 3.5 in) wide. Flowers are borne in groups of two to four along a flower stalk 4 to 6.5 cm (1.6 to 2.6 in) long. The corolla is 6 to 8 mm (0.2 to 0.3 in) long. The fruits are four black fleshy nutlets in each flower and are 1.5 to 2 mm (0.06 to 0.08 in) long. This species differs from others in this genus in its specialized flower stalk. It differs from the closely related *Phyllostegia floribunda* in often having four flowers per group.

DISTRIBUTION: Waimea district, Kaua'i.

ABUNDANCE: One plant is extant.

LOCATION AND CONDITION OF KEY HABITAT: This species is found in 'ōhi'a lowland mesic forest at 865 m (2,840 ft) elevation, on State owned land. Feral goats and pigs pose a serious threat of degrading this habitat. Associated species include olomea, *Cyrtandra kauaiensis* (ulunahale), *Cyrtandra paludosa* (moa), *Elaeocarpus bifidus* (kalia), *Cryptocarya mannii* (holio), *Doodia kunthiana*, *Selaginella arbuscula*, and lama.

THREATS:

- Feral goats;
- Pigs;
- Landslides;
- Alien plants.

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. 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 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>.

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>.

US Fish and Wildlife Service. 1991 Final Listing, Endangered ETWP; Determination of Endangered or Threatened status for Nineteen Plant Species From the Island of Kauai, Hawaii; Federal Register, Vol. 61, No. 198, (10-OCT-91), FR 53070-53089, 20 pp.

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].

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.