



J. K. Obata © Smithsonian Inst., 2005

Plants

Phyllostegia hirsuta

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

Hawai'i Natural Heritage Ranking - Critically

Imperiled (G1)

Endemism – O'ahu

Critical Habitat - Designated

SPECIES INFORMATION: A short-lived perennial member of the mint family (Lamiaceae), is an erect subshrub or vine with stems densely covered with coarse or stiff hairs. Flowers are white with the upper lip usually tinged with purple. Genus nearly endemic to Hawaiian Islands, except one species in Tahiti. Species endemic to O'ahu. Closely related to *P. parviflora*, and one possible hybrid known with *P. lantanoides*.

DISTRIBUTION: Historically, *Phyllostegia hirsuta* was known from widespread locations in the Wai'anae and Ko'olau Mountains on O'ahu.

ABUNDANCE: Currently, this species is found in 26 occurrences with a total of between 214 and 227 individuals from the ridge between Makaha and Waianae Kai to the south fork of North Palawai Gulch in the Wai'anae Mountains and from Kawainui Gulch in Kawailoa Training Area to south Kaukonahua drainage in the Ko'olau Mountains. Currently 146-172 plants observed, and it is estimated that there are fewer than 300 plants.

LOCATION AND CONDITION OF KEY HABITAT: On steep, shaded slopes, cliffs, ridges, gullies, and stream banks in mesic or wet forests dominated by *Metrosideros polymorpha* or a mixture of *Metrosideros polymorpha* and *Dicranopteris linearis* between 195 and 1,202 m (640 and 3,943 ft) elevation.

THREATS:

- Feral pigs and goats;
- Competition with alien plant species.

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>.

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>.

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.