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Plants

Ma'o hau hele

Hibiscus brackenridgei subsp. *mokuleianus*

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

Hawai'i Natural Heritage Ranking - Critically Imperiled; Subspecies Possibly Extinct (G1TH)

Endemism – Kaua'i, O'ahu

Critical Habitat - Designated

SPECIES INFORMATION: *Hibiscus brackenridgei* subsp. *mokuleianus*, a member of the mallow family (Malvaceae), is a sprawling to erect shrub or small tree up to 5 m (16 ft) tall. Most plant parts (young branches, leaves, and some flower parts) vary in the degree of hairiness. The leaves, about 5 to 15 cm (2 to 6 in) long and equally wide, have three to seven lobes but are generally heart-shaped in outline. Beneath each leaf stalk is a pair of very thin stipules (leaf-like appendages), 5 to 15 mm (0.2 to 0.6 in) long, that fall off early in development, leaving an elliptic scar. Flowers are borne singly or in small clusters. The petals, between 3.5 and 8 cm (1.4 and 3.1 in) long, are yellow, usually with a maroon spot in the center of the flower. Each triangular calyx lobe is reddish to yellow, and usually has a raised, elongated gland on the midrib. Seven to ten bracts are attached below the calyx. The staminal column, which has anthers attached to the upper three-fourths or nearly to the base, extends beyond the petals. The fruits are somewhat round or oval capsules 1.1 to 2 cm (0.4 to 0.8 in) long that have a beak-like appendage at one end.

DISTRIBUTION: O'ahu- Scattered in the Wai'anae Mountains from Pu'u Pane to Kealia-Kawaihapai, and Dillingham Military Reservation. It was once thought to have occurred on Kaua'i from Lihue and Olokele Canyon.

ABUNDANCE: Approximately 100-300 individuals total are known to remain.

LOCATION AND CONDITION OF KEY HABITAT: Occurs in lowland dry to mesic forest and shrubland from 120-240 m in elevation.

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. Outplanting has occurred at The Nature Conservancy's Honouliuli Preserve in a fenced enclosure. 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:

Center for Plant Conservation, 2005. National Collection of Endangered Plants.
http://www.centerforplantconservation.org/ASP/CPC_NCList_Quick.asp.

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

US Fish and Wildlife Service. 1994. Endangered Status for 12 Plants From the Hawaiian Islands, Vol. 59, No. 217, (10-11-1994), 59 FR 56333 56351, 19 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].