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## Plants

### *Schiedea adamantis*

#### SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

IUCN Red List Ranking- CR B1ab (i, iii, v); D

Hawai'i Natural Heritage Ranking- Critically

Imperiled (G1)

Endemism – O'ahu

Critical Habitat - Designated

**SPECIES INFORMATION:** This species was first collected on the slopes of Diamond Head Crater on O'ahu in 1955 and described as a valid new species in 1970. It is a small shrub known only from one population, and has survived in the Diamond Head Crater area despite the growing urbanization of the area. *Schiedea adamantis* exists under harsh conditions, buffeted by strong winds, high light intensity, low precipitation, and high temperatures. Since 1988, unusually prolonged drought conditions at Diamond Head have caused the decimation of the *Schiedea* population. Originally consisting of about 200 individuals, only two plants are currently known to be alive, though a few more may recover with increased precipitation.

**DISTRIBUTION:** Dry steep slopes in the Diamond Head Crater area of O'ahu. Known only on the northwest rim of Diamond Head Crater. The population occurs in an area approximately 11 meters (36 feet) by 22 meters (72 feet).

**ABUNDANCE:** Possibly only two remaining wild individuals in one population at Diamond Head. A few more individuals may recover with additional precipitation, but it is doubtful.

**LOCATION AND CONDITION OF KEY HABITAT:** Site now dominated by alien shrubs. On an old volcanic cone of consolidated ash.

#### THREATS:

- Competition from alien plants;
- Erosion;
- Limited genetic diversity;
- Drought;
- Fire;

- Habitat degradation (including soil compaction from hikers and sightseers on nearby trails).

**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:**

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US Fish and Wildlife Service. 1984. Final Listing, Endangered ETWP: Final Rule to List *Bidens cuneata* & *Schiedea adamantis* as End. Species; Federal Register Vol. 49, No. 34, (17-FEB-84), 49 FR 6099 6102, 4 pp.

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<http://ravenel.si.edu/botany/pacificislandbiodiversity/hawaiianflora/index.htm> [August, 2005].