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Plants

Wahine noho kula

Isodendrion pyriforme

SPECIES STATUS:

Federally Listed as Endangered

Genetic Safety Net Species

Hawai'i Natural Heritage Ranking

– Critically Imperiled (G1)

Endemism – Ni'ihau, O'ahu, Maui, Lāna'i, Moloka'i, Island of Hawai'i

Critical Habitat - Designated

SPECIES INFORMATION: *Isodendrion pyriforme*, a member of the violet family (Violaceae), is a small, branched shrub (0.8 to 2 meters tall) with pubescent branches. The leaves are papery in texture and elliptic in shape, much like the leaves of the unrelated pear tree. Fragrant flowers are bilaterally symmetrical with five green-yellow petals that are somewhat unequally (10 to 15 millimeters long) long and lobed, the lower being the longest. The fruit is a three-lobed capsule, 12 mm long with seeds that are olive with a dark spot near the middle. During drought periods, *I. pyriforme* will drop all but its newest leaves. After sufficient rains, the plants produce sweet-scented flowers, with seeds ripening one to two months later.

DISTRIBUTION: *I. pyriforme* formerly occurred on the islands of Ni'ihau, Moloka'i, O'ahu, Moloka'i, Lāna'i, and Hawai'i.

ABUNDANCE: This species was presumed extinct for over 100 years, until 1991, when four plants were found on State owned land on the island of Hawai'i. This land was being developed for residential housing and a golf course. Further searches of the site added an additional 50 to 60 plants to the known population, but due to pressure from residential and recreational development, as well as invasive species, there are now only 15 plants at this site.

LOCATION AND CONDITION OF KEY HABITAT: *Isodendrion pyriforme* is found on bare rocky hills and in wooded ravines in dry shrublands at low elevations from 363 to 964 m (1,191 to 3,162 ft). The habitat of this species is threatened by both residential and recreational development, and is heavily invaded by *Pennisetum sataceum* (fountain grass).

THREATS:

- Habitat conversion associated with residential and recreation development;
- Competition from alien species such as fountain grass;
- Fire;
- Stochastic extinction to do the small number of existing individuals.

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 historic 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:

- Survey for populations 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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