

## U.S. FISH AND WILDLIFE SERVICE - SPOTLIGHT SPECIES ACTION PLAN

**Common Name:** No common name

**Scientific Name:** *Lobelia monostachya*

**Lead Region:** Region 1

**Lead Field Office:** Pacific Islands Fish and Wildlife Office

**Species Information:**

Status: Endangered

Recovery Priority Number or Listing Priority Number: 5

Recovery Plan or Candidate Assessment Form: U.S. Fish and Wildlife Service. 1998. Recovery plan for the Oahu plants. U.S. Fish and Wildlife Service, Portland, Oregon. 207 pages, plus appendices.

Most Recent 5-year Review: January 18, 2008.

Other: U.S. Fish and Wildlife Service. 2003. Endangered and threatened wildlife and plants: final designation or nondesignation of critical habitat for 101 plant species from the island of Oahu, HI: final rule. Federal Register 68(116):35949-36406.

Threats: *Lobelia monostachya* is threatened by competition with invasive introduced plant species (Factor E), fruit predation by rats (Factor C), habitat degradation by feral pigs (Factor A), and reduced reproductive vigor due to the small number of remaining individuals (Factor E).

**Target:** The target for this species is to prevent species extinction. Currently, there are ten wild individuals in two populations, one reintroduced population with six immature individuals, and one reintroduced population with 17 mature individuals.

**Measure:** Maintain this species in the wild and existing reintroduced populations, increase each existing reintroduced population to 50 individuals, establish one additional population, and maintain the six individuals that are currently in cultivation.

**Actions:**

1. Continue preserving the genetic material of the six individuals currently in storage. Two of the 10 wild individuals are perched in the middle of a 500-foot cliff face and are not accessible by ropes. Genetic material cannot be obtained from these two individuals. Two other individuals are single rosette seedlings and may not reach reproductive maturity within the next five years. The parties responsible for this action are University of Hawaii Harold L. Lyon Arboretum's Micropropagation Laboratory, University of Hawaii Center for Conservation and Research Training's Seed Storage Laboratory, and Hawaii Division of Forestry and Wildlife's Pahole Rare Plant Facility. This will address recovery action #145, propagate and maintain genetic stock *ex situ*; and partially address recovery action #5, reestablish wild populations within historic range. This action will partially address all listing factors and threats impacting this species and will continue over all five years.

2. Select a third reintroduction site for *Lobelia monostachya*. The party responsible for this action is the Plant Extinction Prevention Program. This will begin addressing recovery action #52, develop and implement specific plans for reestablishment. This action will partially address all listing factors and threats impacting this species and will be initiated in year 1 and completed by year 3.
3. Propagate a minimum of 200 seedlings from seed previously collected and stored at the University of Hawaii Center for Conservation and Research Training's Seed Storage Facility, with equal numbers of seed from each of the six lineages for propagation, over as many of the five years as necessary to reach 200 seedlings. The parties responsible for this action are Harold L. Lyon Arboretum's Micropropagation Laboratory, the University of Hawaii Center for Conservation and Research Training's Seed Storage Facility, and the Hawaii Division of Forestry and Wildlife's Pahole Rare Plant Facility. This will begin addressing recovery actions #2, expand existing populations and #52, develop and implement specific plans for reestablishment. This action will partially address all listing factors and threats impacting this species and will be completed by year 3.
4. Reintroduce at least 50 seedlings into each population during the wet season starting in year 2 or 3 and continuing through year 5, depending on how long the plants take to reach a suitable size for reintroduction. The party responsible for this action is the Plant Extinction Prevention Program. This will begin addressing recovery action #52, develop and implement specific plans for reestablishment. This action will partially address all listing factors and threats impacting this species and will be completed by year 3.
5. Monitor reintroduced seedlings for vigor, health, maturity, and reproduction through year 5, to maintain survival of 25 percent or more of the seedlings in a healthy condition over the 5 years. The party responsible for this action is the Plant Extinction Prevention Program. This will address recovery action #4, develop and implement a long-term monitoring program. This action will partially address all listing factors and threats impacting this species and will continue over all 5 years.
6. Control rats in wild and reintroduced populations throughout the 5 years, so that no damage is evident. The party responsible for this action is the Plant Extinction Prevention Program. This will address recovery action #144, control rodents, if necessary. This action will partially address the threat of rats (Factor C) and will continue over all 5 years.
7. Fence all three reintroduction sites by the end of year 5. The party responsible for this action is the Plant Extinction Prevention Program. This will address recovery action #1411, construct and maintain fencing to control ungulates. This action will partially address the threat from feral ungulates (Factor A) and will be completed by year 5.
8. Control invasive introduced plants at each population throughout the 5 years, removing by hand wherever possible or with herbicide only where appropriate, to achieve a surrounding habitat consisting of 75 percent or more native plant species by year 5. The party responsible for this action is the Plant Extinction Prevention Program. This will address recovery action #142, control alien plants. This action will partially address the threat from competition with invasive introduced plant species (Factor E) and will continue over all 5 years.

*Estimated costs of the actions:*

<u>Action</u>	<u>Estimated cost (all figures approximate)</u>	
	<u>Ecological Services</u>	<u>Partners</u>
1. Continue preserving the genetic material	\$4,500	\$20,500
2. Select a third reintroduction site	\$0	\$2,000
3. Propagate a minimum of 200 seedlings	\$0	\$7,500
4. Reintroduce at least 50 seedlings at each population	\$20,000	\$5,000
5. Monitor reintroduced seedlings	\$4,000	\$1,000
6. Control rats	\$1,500	\$,500
7. Fence reintroduction sites	\$30,000	\$20,000
8. Control invasive introduced plants	\$0	\$3,000

**Role of other agencies:** The Plant Extinction Prevention Program, partially funded by USFWS, conducts the ongoing on-the-ground recovery actions for this species, and oversees the implementation of any *ex situ* actions. The cooperation of the Harold L. Lyon Arboretum's Micropropagation Laboratory and the University of Hawaii Center for Conservation and Research Training's Seed Storage Laboratory is critical for the preservation of the species. These are the only facilities storing the remaining live material of the species. The Hawaii Division of Forestry and Wildlife's Pahole Rare Plant Facility is also critical for propagating material from the Harold L. Lyon Arboretum's Micropropagation Laboratory to the size that it can be reintroduced into the wild. The continued cooperation of the landowners, allowing *in situ* the management, is also critical for the preservation of the species.

**Role of other ESA programs:** Section 6 grants contribute funds to implementing the actions necessary for the success of the species, including funding to the Hawaii Division of Forestry and Wildlife's Pahole Rare Plant Facility.

**Role of other FWS programs:** The Partners program has provided funding to one of the landowners for the reintroduction of this and four other rare plant species in the past.

**Additional funding analysis:** The actions described above cannot be undertaken nor the stated target reached without the estimated funding from the Service and outside sources described above. Even if additional funding was received and available the completion of actions may not be met in this short period of time. The length of time required is based on the limited amount of genetic material available for propagation and the growth period of the species.