

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

**Common Name:** Mauna Loa (= Ka`u) Silversword

**Scientific Name:** *Argyroxiphium kauense*

**Lead Region:** Region 1

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

### **Species Information:**

Status: Endangered

Recovery Priority Number or Listing Priority Number: 2

Recovery Plan or Candidate Assessment Form: U.S. Fish and Wildlife Service. 1995. Recovery plan for the Ka`u silversword, *Argyroxiphium kauense*. U.S. Fish and Wildlife Service, Portland, Oregon. 62+ pages.

Most Recent 5-year Review: July 21, 2009

Other: None.

Threats: The primary threats are habitat degradation by introduced ungulates (Factor A), competition with invasive introduced plant species (Factor E), predation by introduced ungulates (Factor C), potential predation by slugs (Factor C), predation of fruits by rodents (Factor B), and predation of native pollinators by introduced social insects (Factor E), lava flows (Factor E), and fire (Factor E).

**Target:** The target for this species is to maintain the current status as improving.

**Measure:** Increase the number of reintroduced populations and the total population size. The target number of reintroduced seedlings at the end of the five-year period is 32,000 to 33,000 seedlings across at least eight protected populations, with survivorship averaging at least 50 to 60 percent across the sites. This species takes up to 50 years to mature and reproduce, so there will most likely be no reproduction of the reintroduced plants within the five years, and therefore, downlisting or delisting is not expected to be achieved in five years.

### **Actions:**

1. Seedlings to reach a total of 32,000 to 33,000 reintroduced individuals will be generated through a managed breeding program following strict genetic protocols. The parties responsible for this action are the University of Hawaii Center for Conservation and Research Training's Volcano Rare Plant Facility and the non-profit Hawaiian Silversword Foundation. This will address recovery action #352, propagate silverswords for transplant into reintroduction sites. This action will partially address all listing factors and threats impacting this species, and will continue over all five years.
2. Reintroduce the seedlings into eight protected sites. The parties responsible for coordinating this action are the Hawaiian Silversword Foundation and Volcano Rare Plant Facility working collaboratively with the Plant Extinction Prevention Program, Hawaii

Volcanoes National Park, Hawaii Division of Forestry and Wildlife, Three Mountain Alliance, and private landowners. This will address recovery action #31, select sites to reestablish silverswords, recovery actions #353, transplant to reestablishment areas, and recovery action #354, review outplanting success annually and change methods as needed to enhance survival. This action will partially address all listing factors and threats impacting this species and will continue over all five years.

3. Control invasive introduced plant species within the protected sites. The party responsible for coordinating this action is the Hawaiian Silversword Foundation working collaboratively with the Plant Extinction Prevention Program, Hawaii Volcanoes National Park, Hawaii Division of Forestry and Wildlife, Three Mountain Alliance, and private landowners. This will partially address recovery action #12, manage habitat, addressing invasive introduced plant species threatening this species (Factor E), and will continue over all five years.

*Estimated costs of the actions:* Estimated costs of the actions are approximately \$100,000 per year for the five-year period, of which half would be provided by USFWS.

**Role of other agencies:** USFWS provides partial funding to the Hawaiian Silversword Foundation and the Volcano Rare Plant Facility, and functions as technical advisor to this project. As stated above, the recovery actions will be implemented by the Hawaiian Silversword Foundation and the Volcano Rare Plant Facility, working collaboratively with Hawaii Plant Extinction Prevention Program, Hawaii Volcanoes National Park, Hawaii Division of Forestry and Wildlife, Three Mountain Alliance, and private landowners. The cooperation of the other agencies is critical for the conservation of the species. The Volcano Rare Plant Facility is the only facility storing the remaining live material of the species. The continued cooperation of the landowners, allowing reintroduction and threat management, is critical for the preservation of the species.

**Role of other ESA programs:** Section 6 grants contribute funds to implement the actions necessary for the success of the species, including funding to the Volcano Rare Plant Facility.

**Role of other FWS programs:** Not applicable.

**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. If additional funding was approved, additional sites for reintroduction would be identified and protected (with fencing), and new reintroduced populations would be established, thereby increasing the total numbers of *Argyroxiphium kauense* populations and individuals. The additional actions would be implemented by the Hawaiian Silversword Foundation and Volcano Rare Plant Facility, working collaboratively with Hawaii Plant Extinction Prevention Program, Hawaii Volcanoes National Park, Hawaii Division of Forestry and Wildlife, Three Mountain Alliance, and private landowners. The estimated costs of fencing additional reintroduction sites and establishing additional reintroduced populations would be about \$50,000 to \$100,000 per year.