

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

RIN 1018-AB42

Endangered and Threatened Wildlife and Plants; Proposed Endangered Status for a Plant, *Argyroxiphium kauense* (Ka'u silversword)**AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Proposed rule.

SUMMARY: The U.S. Fish and Wildlife Service (Service) proposes to list a plant, *Argyroxiphium kauense* (Ka'u silversword), as an endangered species under the authority contained in the Endangered Species Act of 1973, as amended (Act). This species is known only from 3 small populations totaling about 400 individuals, located on the island of Hawaii. The greatest immediate threat to the survival of this species is predation and habitat degradation by feral animals. Feral pigs prevent seedling establishment, and pigs and mouflon sheep prevent the plants from reaching maturity. The small population size with its limited gene pool compounded by a requirement for cross pollination, and single flowering within the lifetime of an individual plant, lead to threats associated with depressed reproductive vigor. Lava flows and associated wildfires also threaten this species. A determination that *Argyroxiphium kauense* is endangered would implement the Federal protection and recovery provisions provided by the Act. Comments and materials related to this proposal are solicited.

DATES: Comments from all interested parties must be received by October 5, 1990. Public hearing requests must be received by September 20, 1990.

ADDRESSES: Comments and materials concerning this proposal should be sent to Ernest F. Kosaka, Field Supervisor, U.S. Fish and Wildlife Service, 300 Ala Moana Boulevard, Room 6307, P.O. Box 50167, Honolulu, Hawaii 96850.

Comments and materials received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Joan E. Canfield, at the above address (808/541-2749 or FTS 551-2749).

SUPPLEMENTARY INFORMATION:**Background**

Argyroxiphium kauense was first collected above Kapapala on the south slope of Mauna Loa by C.N. Forbes in 1911. That and another sterile collection were identified as *Argyroxiphium sandwicense* var. *macrocephalum* Gray by D.D. Keck. After the first flowering and fruiting material were collected in 1956, *A. sandwicense* var. *kauense* was described by J.F. Rock and M.C. Neal (1957), who named the plant after Kau District where it grows. Later that year, O. and I. Degener (1957) elevated the new variety to species rank. All subsequent collections and confirmed sightings are from three areas: off Powerline Road in Upper Waiakea Forest Reserve (South Hilo District) where a fence surrounds one-third of an acre of occupied habitat, in the general vicinity of Ainapo Trail in both Kapapala Forest Reserve and Kahuku Ranch (Kau District) where an extremely sparse population spans a distance of approximately 15 miles, and at Ke a Pohina on Kahuku Ranch (Kau District) where a fence provides some protection to 5 acres of habitat. *Argyroxiphium kauense* is extant at at least two of those three localities (Elizabeth Powell, University of Puerto Rico, botanist, and Kaoru Sunada, retired florist, pers. comms., 1990). Although the Ainapo population has not been seen since 1986, it presumably still exists (William Paty, Hawaii Department of Land and Natural Resources *in litt.*, 1990; Jack Lockwood, U.S. Geological Survey, pers. comm., 1990). The species occurs on State and privately owned land (Carolyn Corn, Hawaii Department of Land and Natural Resources, pers. comm., 1990). Due to insufficient material, the identity of an historic collection from Hualalai (North Kona District) cannot be confirmed; it could possibly be *A. kauense* (Carr 1985, 1990; E. Powell, *in litt.*, 1990; E. Powell, pers. comm., 1990).

Argyroxiphium kauense is a rosette shrub, usually single stemmed, its vegetative stems about 1 to 24 inches (3

to 70 centimeters (cm)) long, and flowering stems about 2 to 8 feet (ft) (0.7 to 2.5 meters (m)) long. The leaves are very narrowly sword shaped, 3- to 4-angled in cross section, about 8 to 16 inches (20 to 40 cm) long and 0.2 inches (0.5 cm) wide at the middle, nearly covered with dense, silky, silvery gray hairs. The flowering stalk has many branches, each with a flowering head of 3 to 11 ray flowers each about 0.4 inches (1 cm) long, and 50 to 200 disk flowers each about 0.2 inches (0.6 cm) long. The white or yellow to wine red flowers bloom in August and September. The fruits are dry, black seeds.

Argyroxiphium kauense is distinguished from closely related species by its narrower leaves, hairs not completely covering the leaf surface, and fewer ray flowers per head (Carr 1985, 1990).

Argyroxiphium kauense grows primarily in moist forest openings or bogs at about 5300 to 7600 ft (1600 to 2320 m) elevation, although plants also occur on well drained substrates in relatively dry sites (Carr 1990; Rick Warshauer, Hawaii State Office of Planning, *in litt.*, 1979; J. Lockwood, pers. comm., 1990). The substrate is 'a'a or pahoehoe lava, sometimes with wet humus, on flat to steep and irregular ground (Degener *et al.* 1976, Meyrat 1982). The vegetation is most typically dry scrub or scrub forest dominated by *Metrosideros polymorpha* ('ohi'a-lehua), with such associates as *Styphelia tameiameia*, *Coprosma ernodeoides*, *Dodonaea viscosa*, *Geranium cuneatum*, *Vaccinium reticulatum*, *Oreobolus furcatus*, *Gahnia* sp., *Deschampsia nubigena*, and *Carex alligata* (Hawaii Heritage Program 1989; Donald Reeser, formerly National Park Service, *in litt.*, 1974; R. Warshauer, *in litt.*, 1979). The open bog site shares those associates but is dominated by sedges (*Oreobolus*, *Rhynchospora chinensis* ssp. *spiciformis*, and *Carex montis-eeka*) (Clarke 1982).

The greatest immediate threat to the survival of *Argyroxiphium kauense* is damage from feral herbivores. Mouflon sheep and pigs have reduced this species' numbers considerably over the past two decades (Carr 1990; Clarke 1982; E. Powell, *in litt.*, 1985; E. Powell, Lani Stemmermann, University of Hawaii, Hilo and K. Sunada, pers. comms., 1990). Pigs prevent seedling establishment, and pigs and mouflon prevent the plants from reaching maturity (E. Powell, *in litt.*, 1985). As one example of the effects of feral animals on *A. kauense*, the Powerline Road population fell from about 1000 plants of all size classes in 1975 to 20 plants, all immature, in 1984 (E. Powell, *in litt.*,

1985). While portions of two populations have been fenced, one fence did not exclude mouflon or pigs entirely (E. Powell, *in litt.*, 1985). The entire species is currently estimated to number about 400 individuals (J. Lockwood, E. Powell, and K. Sunada, pers. comms., 1990). The small population size with its limited gene pool, compounded by a requirement for cross pollination and single flowering within the lifetime of an individual plant, comprise a serious potential threat to the reproductive vigor of this species, as do lava flows and associated wildfires (Kimura and Nagata 1980; Powell 1986; Linda Cuddihy, National Park Service, *in litt.*, 1990; E. Powell, pers. comm., 1990).

Federal government action on this species began as a result of Section 12 of the Act, which directed the Secretary of the Smithsonian Institution to prepare a report on plants considered to be endangered, threatened, or extinct. This report, designated as House Document No. 94-51, was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice in the **Federal Register** (40 FR 27823) accepting the report as a petition within the context of Section 4(c)(2) (now Section 4(b)(3)(A)) of the Act, and giving notice of its intention to review the status of the plant taxa named therein. In this and subsequent notices, *Argyroxiphium kauense* was treated as under petition for listing as endangered. As a result of this review, on June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1700 vascular plant species to be endangered pursuant to Section 4 of the Act. In 1978, amendments to the Act required that all proposals over 2 years old be withdrawn. A 1-year grace period was given to proposals already over 2 years old. On December 10, 1979, the Service published a notice in the **Federal Register** (44 FR 70796) of the withdrawal of that portion of the June 16, 1976, proposal that had not been made final, along with four other proposals that had expired.

The Service published an updated Notice of Review for plants on December 15, 1980 (45 FR 82480), September 27, 1985 (50 FR 39525), and February 21, 1990 (55 FR 6183), including *Argyroxiphium kauense* as a Category 1 candidate, meaning that the Service had substantial information indicating that a proposal for listing is warranted. Section 4(b)(3)(B) of Act requires the Secretary to make findings on certain pending petitions within 12 months of their receipt. Section 2(b)(1) of the 1982 amendments further requires all

petitions pending on October 13, 1982, be treated as having been newly submitted on that date. The latter was the case for *A. kauense* because the Service had accepted the 1975 Smithsonian report as a petition. On October 13, 1983, the Service found that the petitioned listing of this species was warranted, but precluded by other pending listing actions, in accordance with Section 4(b)(3)(B)(iii) of the Act; notification of this finding was published on January 20, 1984 (49 FR 2485). Such a finding requires the petition to be recycled, pursuant to section 4(b)(3)(C)(i) of the Act. The finding was reviewed in October of 1984, 1985, 1986, 1987, 1988, and 1989. Publication of the present proposal constitutes the final 1-year finding.

Summary of Factors Affecting the Species

Section 4 of the Endangered Species Act (16 U.S.C. 1533) and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act set forth the procedures for adding species to the Federal list. A species may be determined to be an endangered or threatened species due to one or more of the five factors described in section 4(a)(1). These factors and their application to *Argyroxiphium kauense* (Rock & Neal) Degener & I. Degener (Ka'u silversword) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Feral and domesticated animals (goats, pigs, sheep, and cattle) have altered and degraded the vegetation of much of Hawaii, including the areas where *Argyroxiphium kauense* may have formerly grown, and where it still exists (Mitchell 1981; Scott *et al.* 1986; Tomich 1986; E. Powell, *in litt.* 1985). The former range of this species may have extended in a band around the south and southeast flanks of Mauna Loa at about 6000 ft (1830 m) elevation, as well as its northeast flank, and possibly also included Hualalai (E. Powell, *in litt.*, 1985, 1990; E. Powell, pers. comm., 1990). During the 1930's the territorial government built "the Kau fence" on Mauna Loa's southeast flank to keep feral goats of the lava uplands from invading the lower forests. Thus these animals may well have reduced the range of *A. kauense* (Tomich 1986). Whereas specific documentation that feral animals reduced the former range of this species is lacking, there is specific recent documentation of feral mouflon sheep, pigs, and goats damaging and consuming *A. kauense*, and mechanically disturbing the adjacent ground (Clarke 1982; Stone

1985; E. Powell, *in litt.*, 1985; D. Reeser, *in litt.*, 1974; R. Warshauer, *in litt.*, 1979).

When rooting, feral pigs knock over and uproot plants; this activity caused the precipitous drop in the Powerline Road population (E. Powell, *in litt.*, 1985). The fence erected at that site for the Upper Waiakea Bog Plant Sanctuary did not enclose the entire population (C. Corn, L. Cuddihy, and L. Stemmermann, pers. comms., 1990). Pigs have severely disturbed the remainder of the bog, destroying all unfenced *Argyroxiphium kauense* plants except two new seedlings as of 1989 (E. Powell *in litt.*, 1990; E. Powell, pers. comm., 1990). Pig rooting has thus destroyed former habitat and continues to destroy potential habitat of this species. In contrast, within the fenced Sanctuary, the population has increased from 20 to 77 individuals in 5 years (E. Powell, *in litt.*, 1990). Pigs have also uprooted seedlings of *A. kauense* at the Ke a Pohina population, and have uprooted other native species at all three extant populations (E. Powell, *in litt.*, 1985; R. Warshauer, *in litt.*, 1979). While abundant seedlings of *A. kauense* have been noted at sites where pig rooting has occurred, subsequent rooting up of seedlings outweighs the extent to which pigs temporarily provide sites for seedling establishment (E. Powell, *in litt.*, 1985, 1990; Charles Wakida, Hawaii Department of Land and Natural Resources, pers. comm., 1990). Rooted up ground also provides sites for invasion by more aggressive alien plant species. Alien plants are common at the Powerline Road population and may be spreading in response to pig rooting, as is the case in other Hawaiian bogs (where weeds often spread at the expense of another *Argyroxiphium* species) (Clarke 1982; Loope *et al.* 1990; Medeiros *et al.* 1990; L. Cuddihy, pers. comm., 1990). While alien plants pose a potential threat, they are not a serious threat to *A. kauense* at present (Karen Asherman, formerly The Nature Conservancy, Hawaii, *in litt.*, 1985; L. Cuddihy and E. Powell, pers. comm., 1990).

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* The species is of some horticultural and ornamental interest (now growing at Kew Gardens), and in the past seed was collected for propagation (Degener *et al.* 1976). However, such activity is not minimal. Taking and vandalism are potential threats that could result from increased specific publicity.

C. *Disease or predation.* As noted in factor A, feral mouflon sheep, pigs, and goats are known to feed on

Argyroxiphium kauense (Clarke 1982; E. Powell, *in litt.*, 1985; D. Reeser, *in litt.*, 1974; Gerald Carr, University of Hawaii, Botany Department, and K. Sunada, pers. comm., 1990). Grazing by mouflon either kills plants or causes them to resprout with multiple stems and greatly reduced vigor (E. Powell, *in litt.*, 1985). The Ke a Pohina population of *A. kauense* declined markedly as a result of the activities of a herd of an estimated 200 mouflon (K. Asherman, *in litt.*, 1985). In 1974, the year mouflon were released, this population numbered thousands of plants, including 250 mature, flowering individuals with rosettes up to 3 ft (1 m) in diameter (Degener *et al.* 1976; K. Asherman, *in litt.*, 1985; L. Stemmermann, pers. comm., 1990). Two years later, only 2071 plants with a diameter over 3 inches (8 m) were counted at this population (Charles Lamoureux, University of Hawaii, Botany Department, pers. comm., 1990). Eight years later, there were about 2000 plants, but only 1 was in flower and less than 5% of the plants were larger than 10 inches (25 cm) in diameter (E. Powell, *in litt.*, 1985, 1990). The population has continued to decline, and now number fewer than 300 individuals (K. Sunada, pers. comm., 1990). Almost all larger (mature) plants were dead and grazing damage was evident on plants as small as 2 inches (5 cm) in diameter, even within the fence erected by Kahuku Ranch to protect this species (E. Powell, *in litt.*, 1985, 1990). Mouflon had eaten the growing tips of nearly all large individuals, giving this population little promise of regeneration (G. Carr and L. Stemmermann, pers. comms., 1990).

Argyroxiphium kauense and *Machaerina* were the only species showing signs of browse damage (E. Powell, *in litt.*, 1990). Mouflon may possibly threaten the Ainapo population as well.

Grazing damage by pigs on the leaves and stems of *Argyroxiphium kauense*, and grazing damage on leaves that had regrown following grazing are documented for the Powerline Road population (Clarke 1982). Predation by pigs is a potential threat to all populations of this species. While Kahuka Ranch and the State have fenced the greater part of the two largest populations of this species, the widely scattered Ainapo population is not protected from feral animals by fencing. Heavy browsing damage by feral goats to the apex and lateral leaves of *A. kauense* was documented in 1974 at the Ainapo population (D. Reeser, *in litt.*, 1974). Goats are a potential threat to the other populations of *A. kauense* (L. Cuddihy, E. Powell, C. Wakida, pers.

comms., 1990). Cattle grazing may possibly threaten the Ainapo population (E. Powell, pers. comm., 1990). Despite claims that alien insects threaten this species, only native pollinators and other native insects have been confirmed as damaging seed, and only to a minor extent (Degener *et al.* 1976; Kimura and Nagata 1980; E. Powell, pers. comm., 1990). Most of the seed collections examined by Powell (*in litt.*, 1990) had negligible seed parasitism. *Tephritis* sp. larvae primarily consume inviable seed, so that even the few collections with appreciable seed parasitism did not affect the seed set negatively (E. Powell, *in litt.*, 1990). No significant threats to *A. kauense* from disease are currently known.

D. The inadequacy of existing regulatory mechanisms. One population of *Argyroxiphium kauense* and an extension of another are located on private land. The remaining populations are in State forest reserves or plant sanctuaries. State regulations prohibit the removal, destruction, or damage of plants found on State lands. However, these regulations are difficult to enforce due to limited personnel. Hawaii's endangered species act (HRS, Sect. 195D-4(a) states that "Any species of wildlife or plant that has been determined to be an endangered species pursuant to the Endangered Species Act (of 1973) shall be deemed to be an endangered species under the provisions of this chapter * * *". Further, the State may enter into agreements with Federal agencies to administer and manage any area required for the conservation, management, enhancement, or protection of endangered species (Sect. 195D-5(c)). Funds for these activities could be made available under section 6 of the Act (State Cooperative Agreements) if the species were listed as threatened or endangered. Listing of *A. kauense* will therefore reinforce and supplement the protection available to this species under State law. The Act will also offer additional protection to the species, in that it is now a violation of the Act if any person knowingly violates certain State laws or regulations applicable to the species. Listing under the Act will augment State and private conservation measures for this species by providing for habitat protection through recovery planning.

E. Other natural or manmade factors affecting its continued existence. The small size of the three extant populations (most recently estimated at under 300, 79, and "a few dozen" individuals) makes the species more vulnerable to certain threats (J. Lockwood, E. Powell, and K. Sunada,

pers. comms., 1990). The limited gene pool may further depress reproductive vigor, or a single man caused or natural environmental disturbance could easily destroy a significant percentage of the known extant individuals. Two aspects of the reproductive system of *Argyroxiphium kauense* further exacerbate this problem: individual plants flower only once and then die, and flowers must be cross pollinated from a different plant (Power 1988; E. Power, *in litt.*, 1990). Thus if only a few plants flower at the same time, or if flowering plants are too widely separated for pollination by insects, no seed will be set. The survival of small, isolated populations with already depressed reproductive vigor is therefore threatened. Lava flows and the wildfires they ignite are another serious potential threat to all populations of *A. kauense* (Degener *et al.* 1976; Kimura and Nagata 1980; L. Cuddihy, *in litt.*, 1990; E. Powell, pers. comm., 1990). The only large population is located within a half mile of a 1950 flow from the active southwest rift of Mauna Loa. In 1984 a lava flow approached the Powerline Road population, where fire is also a potential threat to *A. kauense* in dry years (E. Powell, *in litt.*, 1990; L. Stemmermann, pers. comm., 1990).

The Service has carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by this species in determining to propose this rule. Based on this evaluation, the preferred action is to list *Argyroxiphium kauense* as endangered. The low remaining number of individuals, poor species reproductive potential, and vulnerability to destruction by feral animals and lava flows indicate that the species is in danger of extinction throughout all or a significant portion of its range, and therefore fits the Act's definition of endangered.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary propose critical habitat at the time the species is proposed to be listed as endangered or threatened. The Service finds that designation of critical habitat is not presently prudent for this species. Such a determination would result in no known benefit to *Argyroxiphium kauense*. Parts of two of the three extant populations are on State land; State government agencies can be alerted to the presence of the plant without the publication of critical habitat description and maps. The publication of such descriptions and maps would

potentially increase the degree of threats from taking or vandalism because live specimens of *A. kauense* would be of interest to curiosity seekers or collectors of rare plants. Publication of critical habitat descriptions and maps would make *A. kauense* more vulnerable to collection and increase enforcement problems. All involved parties and landowners have been notified of the location and importance of protecting this species' habitat. Protection of the species' habitat will be addressed through the recovery process. Therefore, it would now be prudent to determine critical habitat for *Argyroxiphium kauense*.

Available Conservation Measures

Conservation measures provide to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the State and requires that recovery actions be carried out for all listed species. Since *Argyroxiphium kauense* is known to occur on State land, cooperation between Federal and State agencies is necessary to provide for its conservation. The protection required on Federal agencies and the prohibitions against certain activities involving listed plants are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat, if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR part 402. Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action is likely to jeopardize the continued existence of a proposed species or result in destruction or adverse modification or proposed critical habitat. If a species is listed subsequently, section 7(a)(2) requires Federal agencies to ensure that activities they authorize, fund, or carry out are not likely to jeopardize the continued existence of such a species or to destroy or adversely modify its critical habitat. If a Federal action may affect a list species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. No Federal involvement is

known or anticipated that would affect this species, as all known sites are on State or private owned land.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62, and 17.63 for endangered plant species set forth a series of general trade prohibitions and exceptions that apply to all endangered plants. With respect to *Argyroxiphium kauense*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, would apply. These prohibitions, in part, would make it illegal for any person subject to the jurisdiction of the United States to import or export, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale this species in interstate or foreign commerce, or to remove and reduce to possession the species from areas under Federal jurisdiction. In addition, the Act would prohibit the malicious damage or destruction of the species on any area under Federal jurisdiction, or the removal, cutting, digging up, damaging or destroying of the plant on any other area in knowing violation of any State law or regulation or in the course of any violation of a State criminal trespass law. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 17.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered plant species under certain circumstances. It is anticipated that few trade permits would ever be sought or issued because the species is uncommon in cultivation and is very rare in the wild.

Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Office of Management Authority, U.S. Fish and Wildlife Service, P.O. Box 3507, Arlington, Virginia 22203-3507 (703/358-2104 or FTS 921-2232).

Public Comments Solicited

The Service intends that any final action resulting from this proposal will be as accurate and as effective as possible. Therefore, comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning this proposed rule are hereby solicited. Comments particularly are sought concerning:

- (1) Biological, commercial trade, or other relevant data concerning any treat (or lack thereof) to this species;
- (2) The location of any additional populations of this species and the reasons why any habitat should or should not be determined to be critical

habitat as provided by Section 4 of the Act:

(3) Additional information concerning the range, distribution, and population size of this species; and

(4) Current of planned activities in the subject area and their possible impacts on the species.

Any final decision on this proposal to list *Argyroxiphium kauense* will take into consideration the comments and any additional information received by the Service, and such communications may lead to a final regulation that differs from this proposal.

The Endangered Species Act provides for a public hearing on this proposal, if requested. Requests must be received within 45 days of the date of publication of the proposal. Such requests must be made in writing and addressed to the Field Supervisor (see **ADDRESSES** section).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined under the authority of the National Environmental Policy Act of 1969, need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. A notice outlining the Service's reasons for this determination was published in the **Federal Register** on October 25, 1983 (48 FR 49244).

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Author

The primary author of this proposed rule is Dr. Joan E. Canfield, Pacific Islands Office, see ADDRESSES section.

List of Subjects in 50 CFR Part 17

Endangered and threatened species, Exports, Imports, Reporting and record-keeping requirements, and Transportation.

Proposed Regulation Promulgation

PART 17—[AMENDED]

Accordingly, it is hereby proposed to amend part 17, subchapter B of chapter I, title 50 of the Code of Federal Regulations, as set forth below:

1. The authority citation for part 17 continues to read as follows:

Authority: 16 U.S.C. 1361-1407; 16 U.S.C. 1531-1543; 16 U.S.C. 4201-4245; Pub. L. 99-625, 100 Stat. 3500; unless otherwise noted.

2. It is proposed to amend § 17.12(h) by adding the following, in alphabetical order under the family Asteraceae to the List of Endangered and Threatened Plants:

§ 17.12. Endangered and threatened plants.

* * * * *
 (h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Asteraceae—Aster family:						
<i>Argyroxiphium kauense</i>	Ka'u silversword	U.S.A. (HI)	E	NA	NA

Dated: July 17, 1990.
 James C. Leupold,
 Acting Director, Fish and Wildlife Service.
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