

and Wildlife Service, Department of the Interior, Washington, D.C. 20240.

FOR FURTHER INFORMATION CONTACT:

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SUPPLEMENTARY INFORMATION: The 'Ewa Plains 'akoko (*Euphorbia skottsbergii* var. *kalaeloana*) is a shrub known only from the 'Ewa Plains of Oahu, Hawaii, in the vicinity of Barbers Point. Another variety of the same species (*Euphorbia skottsbergii* var. *skottsbergii*), which formerly was found closer to the shoreline in the same vicinity, was last seen in 1932 and is presumed extinct. The 'Ewa area has been subject to varying levels of disturbance over the past several hundred years and presently supports predominantly non-native vegetation dominated by kiawe (*Prosopis*) and koa haole (*Leucaena*), with remnant populations of native species. Unless measures are instituted to provide for the conservation of this plant, continued habitat degradation is likely to result in its extinction in the wild. It is one of two known survivors of four plant taxa originally endemic to the 'Ewa Plains.

Background

Section 12 of the Endangered Species Act of 1973 (the Act) directed the Secretary of the Smithsonian Institution to prepare a report on those 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 Director of the U.S. Fish and Wildlife Service published a notice the **Federal Register** (40 FR 27823) of his acceptance of the Smithsonian report as a petition under Section 4(c)(2) of the Act. The plants named in this petition were placed under review for addition to the list of endangered and threatened plants, and on June 16, 1976, the Director published a proposal (41 FR 24523) to list some 1,700 such taxa as Endangered. This proposal was based on the Smithsonian Institution's petition as well as comments and other information received by the Service. *Euphorbia skottsbergii* var. *kalaeloana* was thought to be extinct at the time of both the petition and the notice of review, and was included in both under that status, but was among the taxa proposed for listing as Endangered in 1976.

The Endangered Species Act Amendments of 1978 subsequently required that any proposal to list a species as Endangered or Threatened be

withdrawn unless made final within 2 years. A period of one year was allowed following passage of the Amendments on November 10, 1978, during which no proposals were to be withdrawn under this provision. On December 10, 1979, the Service published a notice of withdrawal of that portion of the June 16, 1976, proposal that had not been the subject of final action.

Euphorbia skottsbergii var. *kalaeloana* was again proposed for Endangered status on September 2, 1980 (45 FR 58166), based on information available at the time of the 1976 proposal and information gathered between that time and the date of the proposal's withdrawal, as well as new information provided under contract by the Department of Botany of the University of Hawaii (Char and Balakrishnan, 1979).

Regulations establishing prohibitions and permit procedures for Endangered and Threatened plant species appear at 50 CFR Part 17.

The Department has determined that this is not a major rule and does not require the preparation of a regulatory impact analysis under Executive Order 12291. Because this rule was proposed before January 1, 1981, a determination of effects on small entities is not required by the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). This rule does not contain information collection requirements that require approval by the Office of Management and Budget under the Paperwork Reduction Act (44 U.S.C. 3507).

Summary of Comments and Recommendations

A letter was sent to the Governor of the State of Hawaii on September 9, 1980, notifying him of the proposed rule listing *Euphorbia skottsbergii* var. *kalaeloana*. On September 16, 1980, notifications were sent to appropriate Federal agencies and other interested parties. The September 2, 1980, proposed rule invited all interested parties to submit factual reports or information that might contribute to the formulation of a final rule.

Comments were received from the Governor of Hawaii; the Department of the Army, Office of the Chief of Engineers; the Department of the Navy, Facilities Engineering Command; the U.S. Department of Agriculture, Forest Service; the Office of Biological Conservation of the Smithsonian Institution; and four private individuals.

All comments received in the period from September 2, 1980 to December 19, 1980, have been considered in formulating this final rule. The Governor

DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination That *Euphorbia Skottsbergii* var. *Kalaeloana* ('Ewa Plains 'Akoko) Is an Endangered Species

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines the 'Ewa Plains 'akoko (*Euphorbia skottsbergii* Sherff var. *kalaeloana* Sherff) to be an Endangered species. This action is being taken because of extensive past and potential modification of this plant's only known range on the 'Ewa Plains, near Barbers Point, Oahu, Hawaii. The proposal seeks to provide protection to this species under the Endangered Species Act of 1973, as amended.

DATE: This rule becomes effective on September 23, 1982.

ADDRESS: Interested persons or organizations having questions concerning this action may address them to the Director (OES), U.S. Fish

opposed listing of this taxon on the basis that the Army Corps of Engineers and the private developer involved at Barbers Point are presently making adequate provisions for its perpetuation through the proposed establishment of sanctuaries and of transplanted populations within the 'Ewa Plains. He also cited the importance of the proposed deep-draft harbor to the people of Hawaii because of their heavy dependence on ocean transportation as a factor, stating that, "the listing of this plant will have a severe adverse economic and social impact on Hawaii."

Although the Service recognizes that private and governmental entities are presently involved in various activities aimed at ensuring the survival of the 'Ewa Plains 'akoko, it does not believe that the results of these efforts are yet conclusive. Presently available information, including that contained in comments summarized below, indicates a pattern of long-term decline and recent significant losses in this plant. Unless more effective means are applied to its conservation than have been heretofore, the Service believes it to be in danger of extinction throughout all of its range. The Service has conducted an informal consultation with the Army Corps of Engineers indicating that development of the harbor and dockside facilities is not likely to jeopardize the continued existence of the 'akoko, and thus would not be hindered by its listing.

Comments Concerning the Species' Status

All respondents, with the exception of the Governor and the Smithsonian Institution, which provided no information or recommendation, indicated that the status of the plant was such as to warrant listing as Endangered. The Navy originally recommended against listing, citing supposed abundance of the taxon at Barbers Point Naval Air Station. A survey of the station, however, conducted by the Service's Hawaii Area botanist and a Navy official, confirmed the Service's status report. Although subsequent surveys have confirmed the presence of more individuals of the species on the Naval Air Station than were indicated by the 1979 status report, the Navy no longer opposes the listing of this taxon.

The Army Corps of Engineers indicated that, "extinction throughout all or a significant portion of its range appears to be a real danger unless some protection status is afforded. We, therefore, fully support the proposed determination of Endangered status for *Euphorbia skottsbergii* var. *kalaeloana*."

In a memorandum dated September 29, 1980, transmitted by the Forest Service, their Pacific Islands Forester notes that, "development and land modification are rapidly causing fewer [sic] 'Ewa Plains 'akoko plants. A site with about 100 plants was bulldozed near the oil refinery a year ago. Additional plants on the west beach side of the harbor were cleared several weeks ago during quarrying operations. This included two AECOS experimental sites. Present estimates of plants around the harbor are between 500 and 1000 of an estimated 2,450 original plants 4 years ago."

In a letter dated September 25, 1980, Keith R. Woolliams, Director of Waimea Arboretum and Botanical Garden, indicated that a major sub-population of the 'akoko would shortly be bulldozed and that there were plans by the owner of the land involved to relocate 2000 plants from this site, but that he doubted the attempt would be successful because he knew of no provision for after-care and because the relocation was to be attempted at the worst time of year for transplanting.

Comments Regarding Present Recovery Efforts

The Governor noted that the James Campbell Estate, the major private landowner in the area in which the 'akoko occurs, had initiated propagation experiments as early as 1977 and 1978 and that some plants from these experiments are still alive in a nearby transplant site. He also stated that both the Campbell Estate and the Army Corps of Engineers are conducting studies regarding propagation, habitat, and population biology of the 'akoko.

The Forest Service's Pacific Islands Forester reports that, "an effort was made to transplant 469 plants in 1977 and 1978 by Kawahara Nursery and Garden Landscaping Company. Less than seven of the original plants are still alive in the nearby transplant site * * * Failure of transplanted plants to establish viable seedlings in the transplant site close to the ocean indicates the need to investigate habitat and population biology requirements of the plant * * *". He further states that " * * * the advanced 60-90 day notice of intention to list the plant is causing hasty transplant decisions to be made that could jeopardize Federal funding of the harbor." and that, "Several organizations are presently trying to transplant remaining 'akoko plants around the harbor—an effort known to cause heavy mortality in an already depleted gene pool—to guarantee no delay in the construction of the harbor."

Although the Service has not been able to confirm the figures provided by the Forest Service, information on file concerning transplants attempted in 1977 and 1978 by Kawahara Nursery and Landscaping indicate very low survival of transplanted individuals. Further transplant experiments undertaken by the Kawahara firm during 1979 were apparently unsuccessful, possibly as a result of inadequate after-care of the transplanted individuals.

The Army Corps of Engineers commented that:

In anticipation of formal listing and out of concern for the status of this rare plant, the Corps has initiated, by contract, a detailed investigation of the ecology and horticulture of *Euphorbia skottsbergii* var. *kalaeloana*. This study has been informally coordinated with area representatives of the FWS and is expected to yield valuable information regarding physical and biological constituent elements of the plant and ecological evaluations of present and potential habitat sites. Such information should facilitate the establishment of transplant and sanctuary sites and successful propagation of the species should these become necessary as a result of formal listing and the construction of the deep-draft harbor.

The Service believes that present conservation efforts aimed at maintaining the 'Ewa Plains 'akoko, while ultimately of use in developing management for this plant, do not yet effectively provide for its survival. In fact, some attempts at establishing protected populations by transplant may be actually contributing to the plant's decline. A coordinated conservation plan facilitated by this listing is believed vital to the plant's survival.

Comments Regarding the Appropriateness of Transplant as an Element in Recovery of the Species

The September 2, 1980, proposal stated that plans developed to ensure the continued existence of the 'akoko, "may include the establishment of new populations of this taxon in protected areas within the 'Ewa Plain as well as protection of existing populations on property presently under Federal control or acquired for this purpose." Dr. Clifford W. Smith, of the Department of Botany of the University of Hawaii, indicated that he did not support any plan to relocate the plant because, "This suggestion essentially accepts that if the deep-draft harbor proposal for the area is implemented the U.S. Government is prepared to support the deliberate eradication of the most significant population of this species in the wild."

As a general rule, it is the policy of the Service not to recommend

transplantation as a primary conservation measure for Endangered or Threatened plants. In the present case, transplant may be undertaken as a means of reintroducing the 'akoko into areas of its probably historic range from which it is now absent. It should be emphasized that transplant is envisioned as only one element in probable recovery efforts for this plant, which would also include protection for some existing populations. The Service also recognizes that any transplant should be undertaken only after a thorough investigation of the habitat requirements of the 'akoko, which are not presently well known, and use methods that have proven successful in establishing plants in the wild.

Dr. Gerald Carr, of the Department of Botany, University of Hawaii, expressed reservation concerning the eventual fate of transplanted populations of the 'akoko if development continues in the 'Ewa area. The Service appreciates this concern and intends that plans for the conservation of this plant include a means of permanently protecting representative populations within the 'Ewa Plains.

Both Mr. Woolliams and the Forest Service's Pacific Island Forester commented on the feasibility of methods of propagation and transplant and the probable need for some after-care of any possible transplants. Mr. Woolliams noted that, in his opinion, the easiest, cheapest, and most effective solution would be to fence off a portion of the area on which the plants presently occur and transplant plants from the surrounding area to within the enclosure. Although this may eventually prove feasible and effective, the Service does not believe that present information indicates that such an effort to increase local population density artificially would necessarily benefit the plant. If it is assumed that the plants exist in equilibrium with their habitat in those areas in which they presently occur and their numbers are limited by availability of suitable habitat and ability to colonize such habitat rather than an intrinsically low reproductive rate, it seems unlikely that an attempt to increase population density would be appropriate unless associated with some favorable alteration of habitat to support the greater density. At present, it is uncertain what kind of alteration, if any, might permit locally increased population density.

Comments Regarding the Designation of Critical Habitat

The September 2 proposal expressed the view of the Service that the overwhelmingly non-native vegetation

in which the 'akoko now occurs could not be said to be essential to its survival and thus that no Critical Habitat could be specified for this plant. The Army Corps of Engineers agreed with this view.

Dr. Gerald Carr, of the Department of Botany, University of Hawaii, agreed that very little remained of the native ecosystem of which the *Euphorbia* was originally a part, but suggested that some Critical Habitat be defined for the plant at some time so that it " * * * will have a refuge somewhere on the 'Ewa coral plains where it has some chance of survival. After all, this is the only place that the species has demonstrated its ability to survive."

The Service agrees that conservation of this taxon should be focused on its maintenance within the 'Ewa coral plain. It believes, however, that for the foreseeable future, this should be accomplished without a designation of Critical Habitat because the knowledge necessary to identify constituent elements critical to the survival of the plant is not available. Should such information become available at some future time, the Service will consider designation of Critical Habitat.

Conclusion

After a thorough review and consideration of all the available information, the Service has determined that *Euphorbia skottsbergii* Sherff var. *kalaaloana* Sherff is in danger of becoming extinct throughout all of its range. Section 4(a) of the Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (45 FR 13010-13028, codified at 50 CFR Part 424) set out five general classes of factors to be considered in making any such determination. The Service has determined that *Euphorbia skottsbergii* var. *kalaaloana* is primarily affected by factors 1 and 5. All five factors as they apply to the status of *Euphorbia skottsbergii* var. *kalaaloana* are:

1. *Present or Threatened destruction, modification, or curtailment of habitat or range.* The precise natural range of this taxon is unknown, but probably did not go beyond the coralline plains of the 'Ewa area. The loss of native habitat within this area began with Polynesian settlement of the islands and has continued down to the present. This has been so thorough that no completely native habitat can be said to be present any longer. Documented loss of the predominantly non-native vegetation in which the *Euphorbia* now occurs, with concomitant loss of a significant number of *Euphorbia* plants has continued to the present.

2. *Overutilization for commercial, sporting, scientific, or educational purposes.* Does not apply to this species.

3. *Disease or predation (including grazing).* None known.

4. *Inadequacy of existing regulatory mechanisms.* This taxon is not presently regulated.

5. *Other natural or manmade factors affecting continued existence.* Although the principal factor endangering this taxon is past and potential loss of habitat, it is possible that its reproductive success has been affected by decline of native pollinating insects. Competition from aggressive weedy species that now dominate vegetation in the area has also undoubtedly been a factor in its decline.

Critical Habitat

The Act defines Critical Habitat as:

(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of Section 4 of [the] Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific area outside the geographic area occupied by the species at the time it is listed in accordance with the provisions of Section 4 of [the] Act, upon a determination by the Secretary that such areas are essential for the conservation of the species.

Section 4(a)(1) of the Act requires that, to the maximum extent prudent, Critical Habitat be specified for a species at the time it is proposed for listing as Endangered or Threatened.

No Critical Habitat was specified in the September 2, 1980 proposal because, "[The] species proposed for listing as Endangered no longer is found in a native habitat and, although it survives in non-native vegetation, the greatly altered ecosystem in which it occurs cannot reasonably be said to be essential to its conservation." The Service continues to believe that essential elements cannot presently be identified in the habitat occupied by the 'akoko. Should further study of its physical and biological requirements pursuant to a coordinated conservation plan, as described previously, identify areas deemed essential to its conservation, they may be designated as Critical Habitat.

Effects of This Rule

The Act and implementing regulations published in the Federal Register of June 24, 1977 set forth a series of general prohibitions and exceptions which apply to all Endangered plant species. These

regulations are found at 50 CFR 17.61, and are summarized below.

With respect to *Euphorbia skottsbergii* var. *kalaeloana*, all prohibitions of Section 9(a) of the Act, as implemented by § 17.61, will apply. These prohibitions, in part, 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, or sell this species or offer it for sale in interstate or foreign commerce. Certain exceptions apply to agents of the Service and State conservation agencies. The Act and § 17.62 also provide for the issuance of permits to carry out otherwise prohibited activities involving Endangered or Threatened species under certain circumstances.

Because *Euphorbia skottsbergii* var. *kalaeloana* is not presently traded commercially or exported, these prohibitions are not likely to have significant effects. Some imports and exports in the course of scientific research may have to be conducted under permit from the Service.

Section 7(a) of the Act also requires that Federal agencies carry out programs for the conservation of Endangered and Threatened species and that they ensure that actions they authorize, fund, or carry out are not likely to jeopardize the continued existence of such species. A procedure is also established whereby particular Federal actions may be exempted from compliance with section 7(a). Provisions for interagency cooperation in complying with Section 7(a) of the Act are codified at 50 CFR Part 402. The present rule will allow the U.S. Army Corps of Engineers and the U.S. Navy's Barbers Point Naval Air Station to consult formally with the U.S. Fish and Wildlife Service concerning their activities in the Barbers Point area insofar as they might affect the 'Ewa Plains 'akoko, so that plans can be developed to ensure its continued existence. Such plans may include the establishment of new populations of this taxon in protected areas within the 'Ewa Plain as well as protection of existing populations on property presently under Federal control or acquired for this purpose. The present rule is not expected to significantly affect the harbor development or management of the Naval Air Station.

National Environmental Policy Act

An Environmental Assessment has been prepared in conjunction with this rule. It is on file at the Service's Office of Endangered Species, 1000 North Glebe Road, Arlington, Virginia, and

may be examined by appointment during regular business hours. This Assessment forms the basis for a decision that the present rule is not a major Federal action that would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969.

Information Sources

U.S. Army Engineer District, Honolulu, Hawaii 1978. Barbers Point Harbor-Design Memorandum No. 1, Plan Formulation.
 Char. W. P. and N. Balakrishnan 1979. 'Ewa Plains Botanical Survey, Department of Botany, University of Hawaii at Manoa.

Author

This rule is published under the authority contained in the Endangered Species Act of 1973, as amended (16

U.S.C. 1531 *et seq.*; 87 Stat. 884). The primary author of this proposed rule is Dr. John Fay, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1975).

List of Subjects in 50 CFR Part 17

Endangered and Threatened wildlife, Fish, Marine mammals, Plants (agriculture).

Regulation Promulgation

PART 17—ENDANGERED AND THREATENED WILDLIFE AND PLANTS

Accordingly, § 17.12 of Part 17 of Chapter I of Title 50 of the U.S. Code of Federal Regulations is amended, as set forth below.

1. Section 17.12 is amended by adding, in alphabetical order by family, genus, and species, the following plant taxon:

| Species | | Historic range | Status | When listed 118 | Critical habitat | Special rule |
|--|-------------------------|----------------|--------|-----------------|------------------|--------------|
| Scientific name | Common name | | | | | |
| Euphorbiaceae—Spurge family: <i>Euphorbia skottsbergii</i> var. <i>kalaeloana</i> . | 'Ewa Plains 'akoko..... | USA (HI)..... | E..... | | NA..... | NA. |

Dated: August 3, 1982.

G. Ray Arnett,

Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 82-23010 Filed 8-23-82; 8:45 am]

BILLING CODE 4310-55-M