

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Determination of Endangered Status and Critical Habitat for *Kokia drynarioides* (koki'o)****AGENCY:** Fish and Wildlife Service, Interior.**ACTION:** Final rule.

SUMMARY: The Service determines endangered status and critical habitat for the plant *Kokia drynarioides* (koki'o). This species is known only from one small wild population of about 15 individuals located in and near the Ka'upulehu Forest Reserve and the adjoining Pu'uwa'awa'a Ranch, county and island of Hawaii, State of Hawaii. The lone population is vulnerable to any substantial habitat alteration and faces numerous threats, including continued livestock damage, destruction of seeds by rodents, invasion of exotic species, and fire on and near the site where it occurs. This rule implements the protection provided by the Endangered Species Act of 1973, as amended, for *Kokia drynarioides* and its critical habitat.

EFFECTIVE DATE: The effective date of this rule is January 3, 1985.**ADDRESSES:** The complete file for this rule is available for inspection, by appointment, during normal business hours at the U.S. Fish and Wildlife Service, Regional Office, 500 N.E. Multnomah Street, Portland, Oregon 97232.**FOR FURTHER INFORMATION CONTACT:** Division Chief, Endangered Species, U.S. Fish and Wildlife Service, 500 N.E. Multnomah Street, Portland, Oregon 97232 (503/231-6131 or FTS 429-6131).**SUPPLEMENTARY INFORMATION:****Background**

Kokia drynarioides (koki'o, hauhele'ula or Hawaii tree cotton) is a member of the mallow family (Malvaceae). It is one of four native Hawaiian species belonging to this endemic genus and is the only koki'o growing on the island of Hawaii. There are no other wild trees on Hawaii with a combination of large red malvaceous flowers, palmately lobed leaves, and three large involucral bracts at the base of the flower and fruit. Initially collected during Cook's second visit to the Hawaiian Islands and described by Seemann in 1865, the species has undergone a steady population decline to a point at which only 15 plants are now known in the wild. The population was estimated at about 200 trees in 1929

(Degener and Degener, 1965). Cattle and feral herbivores have been responsible for most of the population decline; however, the recent invasion of an exotic bunch grass (fountaingrass, *Pennisetum setaceum*) has served to inhibit regeneration as well as increase the probability, extent and intensity of wildfires (Lamoureux, 1981).

Section 12 of the Endangered Species Act of 1973 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 Service published a notice in the **Federal Register** (40 FR 27823) of its acceptance of this report as a petition within the context of subsection 4(c)(2) of the Act, and of its intention thereby to review the status of the plant taxa named within. On June 16, 1976, the Service published a proposed rule in the **Federal Register** (41 FR 24523) to determine approximately 1,700 vascular plant taxa to be endangered species. This list was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document No. 94-51 and the July 1, 1975 **Federal Register** publication. *Kokia drynarioides* was included in the July 1, 1975 notice and the June 16, 1976 proposal. General comments on the 1976 proposal were summarized in an April 26, 1978 **Federal Register** publication (43 FR 17909). The Endangered Species Act Amendments of 1978 (Pub. L. 95-632) required that all proposals over 2 years old be withdrawn. On December 10, 1979 the Service published a notice of the withdrawal of that portion of the June 16, 1976 proposal that had not been made final, along with other proposals that had expired (44 FR 70796). *Kokia drynarioides* was repropoed for endangered status on September 12, 1983 (48 FR 40920). Critical habitat was proposed at that time.

Summary of Comments and Recommendations

In the September 12, 1983 proposed rule (48 FR 40920) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. Appropriate State agencies, county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice was published in the *Hawaiian Star Bulletin* on October 5, 1983, which invited general public comment.

Five written comments were received. Very little new information was provided, but four of the comments endorsed the proposed rule. A response from the Department of Land and Natural Resources of the State of Hawaii reported that in the 1950's there were a number of groves of 15 or more large healthy trees, which no longer exist. The State spokesman concurred with the proposed endangered status for the koki'o. He also expressed concern over management of such a large land area and suggested that a practical approach to simplify management procedures would be to develop management plans that would consider the koki'o and also other rare species within the area.

The Office of the Mayor, Hawaii County, with the recommendation of the county's Arborist Advisory Committee, gave full endorsement for the proposed rule. Attention was directed to the fact that the Committee has proposed a *Kokia drynarioides* found in the Manuka State Park for consideration as an exceptional tree of Hawaii County.

An endorsement for listing and designation of critical habitat was received from a person who identified herself as kama'aina from Ka'upulehu. She referred to her family's enjoyment of the tree, the opportunity for educational and aesthetic benefits to the beneficiaries of the Bishop Estate and the State through protection of the koki'o and the possible enhancement of conservation efforts by the Pacific Tropical Botanical Gardens from the listing. She expressed concern over the possible response of lessees of these lands. Another favorable response was received from a resident with botanical training. He again expressed concern over the possible reaction of lessees, and supported a Natural Area Reserve for the Pu'uwa'awa'a area.

The only comments critical of the proposed listing and critical habitat designation were received from an estate manager representing a landowner, Kamehameha Schools, Bernice Pauahi Bishop Estate. In summary the principal concerns of the estate manager were: (1) the effects that listing would have on income realized by the landowner from private lands proposed for critical habitat, (2) whether trees of this species might be found in other areas, (3) the size of the critical habitat proposed, and (4) the size, accuracy, and clarity of the map included in the proposed listing. He also stated concern about appropriate notification of landowners prior to publication of such proposals.

In answer to the first concern expressed above, the designation of

critical habitat will not automatically reduce potential or realized income from that property. Unless Federal activities, funding, or permits are required for a proposed activity in the area, no direct constraints involving plants on private property are imposed by the Endangered Species Act. If activities having Federal involvement that may affect the plant are planned for the area, the affected Federal agency must consult with the U.S. Fish and Wildlife Service regardless of whether critical habitat has been designated (see section 7(a)(2) of the Act).

It is highly doubtful that new populations of *Kokia drynarioides* will be found. This species has been of special interest to professional and amateur botanists since the early 1900's, due to its rarity and its beauty. A plan was published in 1916 for protection of the Koki'o (Young and Popenoe, 1916), but was never fully implemented (Rock, 1919; Lamoureux, 1981).

In response to the question of critical habitat size, the designation includes areas that are considered important to the survival and recovery of the species. The surviving koki'o trees are not found in dense stands but are scattered as mature trees throughout the designated area. Critical habitat is based upon the biological needs of the species being considered and the designation is based upon information obtained from botanists from Federal, State, and private organizations. However, recovery efforts are expected to include additional species surveys which may lead to changes in critical habitat boundaries.

In response to landowner concerns regarding the critical habitat map, additional checking of available records indicates that the information presented in the proposed rule is correct. We welcome further information if there are errors in the maps presented. Mapping individual trees as suggested is not appropriate for critical habitat designations, however, because locations change as existing trees die and new seedlings become established.

Our office in Honolulu will help the landowner to locate existing trees if requested, and can also share available information on the presence and status of any candidate species for listing as endangered or threatened. A plant candidate species list was published in 1975 and has been revised at intervals subsequently; this koki'o was one of the species originally included in that list. The Service endeavors to notify all individuals, including landholders, likely to be affected by a proposed regulation in time for comments to be received prior to any final action.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Kokia drynarioides* should be classified as an endangered species. Procedures found at Section 4(a)(1) of the Endangered Species Act (16 U.S.C. 1531 *et seq.*) and regulations promulgated to implement the listing provisions of the Act (codified at 50 CFR Part 424; under revision to accommodate 1982 Amendments—see proposal at 48 FR 36062, August 8, 1983) were followed. 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 *Kokia drynarioides* (Seem.) Lewt. (koki'o) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The habitat for this species has been greatly modified by many years of management as rangeland for livestock (see Factor C. below). The recent invasion of the exotic fountaingrass has further degraded the suitability of the habitat for seedling survival, and threatens also to increase the frequency, intensity and extent of wildfires, which may eliminate adult trees as well.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* Not applicable to this species.

C. *Disease or predation.* This plant is extremely palatable to livestock. Cattle browse on the mature trees and graze any seedlings that may appear above the fountaingrass. Rodents, especially the introduced roof rat, *Rattus rattus*, eat the seeds, often before they fall from the tree.

D. *The inadequacy of existing regulatory mechanisms.* A plan to protect *Kokia drynarioides* was drawn up in about 1915 (Young and Popenoe, 1916), but never thoroughly carried out (Rock, 1919). Continued use of the habitat for cattle pasture and subsequent incursion of the introduced fountaingrass have led to a continued decline of the population.

E. *Other natural or manmade factors affecting its continued existence.* The reduction in number of individuals of this species probably has a detrimental effect on the breeding system and genetic recombination in the species. The wild population exists entirely within the potential destruction area of a dormant volcano, between lava tongues of its 1800-1801 eruption.

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 make this rule final. Based on this evaluation, the preferred action is to list *Kokia drynarioides* as endangered. Due to the low number of extant trees and the threats posed to the species, threatened status is not appropriate. The designation of critical habitat is discussed below.

Critical Habitat

Critical habitat, as defined by Section 3 of the Act means: (i) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) that may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species.

Section 4(a)(3) of the Act requires that critical habitat be designated to the maximum extent prudent and determinable concurrently with the determination that a species is endangered or threatened. Critical habitat is being designated for *Kokia drynarioides* to include three areas totaling approximately 2,600 acres in the North Kona District on the Island of Hawaii. The exact boundaries are given in the Regulations Promulgation section. The critical habitat provides the necessary areas for survival, growth, and reproduction of *Kokia drynarioides*.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public or private) which may adversely modify such habitat or may be affected by such designation. Any activity that would significantly disturb the soil, topography, or other physical and biological components of the area in which *Kokia drynarioides* occurs could adversely modify its critical habitat. Existing and proposed land uses in the immediate locality of the population and in its surroundings must be carefully examined if such modifications are to be prevented. This might require enclosures to insure the establishment of seedlings and survival of existing trees and the removal of some lands from grazing. The State of Hawaii is currently considering Natural Area Reserve status for a portion of the Pu'uwa'awa'a Ranchlands.

Section 4(b)(2) of the Act requires the Service to consider economic and other

impacts of designating a particular area as critical habitat. The area designated as critical habitat covers some 3.86 square miles of private and State-owned land. This area is chiefly used for livestock grazing. No federal lands are involved, and the grazing requires no Federal funds or authorization. The main impact of designation as critical habitat is to restrict federally conducted, funded, or authorized activities. Thus designation of critical habitat will have no economic impact. Even if Federal activities were involved, they would not be barred unless their effect would be to jeopardize the species or to adversely modify that habitat. For these reasons, there should be no economic impact to the designation and restriction of critical habitat is unwarranted.

Available Conservation Measures

Conservation measures provided 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 States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking 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. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 and are now under revision (see proposal at 48 FR 29990; June 29, 1983). 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 a listed species or to destroy or adversely modify its critical habitat. If a Federal action may affect a listed species or its critical habitat, the responsible Federal agency must enter into formal consultation with the Service. With respect to the determination of endangered status and critical habitat for *Kokia drynarioides*, there are no known Federal actions that may be affected.

The Act and its implementing regulations found at 50 CFR 17.61, 17.62,

and 17.63 set forth a series of general trade prohibitions and exceptions that apply to all endangered plant species. With respect to *Kokia drynarioides*, all trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.61, 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 or offer for sale this species in interstate or foreign commerce. Certain exceptions can 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 species under certain circumstances. No such trade in this species is known. It is anticipated that few trade permits involving the species will ever be requested.

Section 9(a)(2)(B) of the Act, as amended in 1982, prohibits the removal and reduction to possession of endangered plant species from areas under Federal jurisdiction. The new prohibition now applies to *Kokia drynarioides*. Permits for exceptions to this prohibition are available through section 10(a) of the Act, until revised regulations are promulgated to incorporate the 1982 Amendments. Proposed regulations implementing this new prohibition were published on July 8, 1983 (48 FR 31417) and it is anticipated that these will be made final following public comment. *Kokia drynarioides* is known only from State and private lands. It is anticipated that few if any permits for collecting will be requested. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1903).

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by 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).

Regulatory Flexibility Act and Executive Order 12291

The Department of the Interior has determined that designation of critical habitat for this species will not

constitute a major action under Executive Order 12291 and certifies that this designation will not have a significant economic effect on a substantial number of small entities under the Regulatory Flexibility Act (5 U.S.C. 601 *et seq.*). No significant economic or other impacts are expected to result from the designation of critical habitat for the koki'o. The critical habitat area is located on State and private lands in Hawaii County, State and island of Hawaii. There is no known involvement of Federal funds or permits for the State or private lands within the critical habitat designation. No direct costs, enforcement costs or information collection or recordkeeping requirements are imposed on small entities by the designation. These determinations are based on a Determination of Effects that is available at the U.S. Fish and Wildlife Service, 500 N.E. Multnomah Street, Portland, Oregon.

Literature Cited

Literature Cited
 Degener, O., and I. Degener. 1965. Flora Hawaiiensis. Family: 221. Genus: *Kokia*. Species: *drynarioides*. Honolulu.
 Lamoureux, C.H. 1981. Status report on *Kokia drynarioides*. Research Corporation of the University of Hawaii under Contract 14-18-0001-79096 to the U.S. Fish and Wildlife Service. 28 pp.
 Rock, J.F. 1919. The Hawaiian genus *Kokia*, a relative of the cotton. Terr. Hawaii Bd. Agr. For. Botanical Bull. 6:1-22.
 Young, R.A., and P. Popenoe. 1916. Saving the Koki'o tree. J. Heredity 7(1):24-28.

Author

The primary author of this rule is Carol A. Wilson, U.S. Fish and Wildlife Service, 500 N.E. Multnomah Street, Portland, Oregon 97232 (503/231-6131 or FTS 429-6131). George E. Drewry of the Service's Washington Office served as editor.

List of Subjects in 50 CFR Part 17

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

Regulations Promulgation

PART 17—[AMENDED]

Accordingly, Part 17, Subchapter B of Chapter I, Title 50 of the Code of Federal Regulations, is amended as set forth below:

2. Amend § 17.12(h) by adding the following, in alphabetical order, under Malvaceae 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					
Malvaceae—Mallow Family:						
<i>Kokia drynarioides</i>	koki'o (=Hau-hele'ula Hawaii tree cotton).	U.S.A. (HI)	E		17.96(a)	NA.

1. The authority citation for Part 17 reads as follows:

Authority: Pub. L. 93-205, 87 Stat. 884; Pub. L. 94-359, 90 Stat. 911; Pub. L. 95-632, 92 Stat. 3751; Pub. L. 96-159, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531, *et seq.*).

3. Amend § 17.96(a) by adding critical habitat of *Kokia drynarioides* as follows (the position of this entry under § 17.96(a) will follow the same sequence as the species occurs in § 17.12):

§ 17.96 Critical habitat—plants.

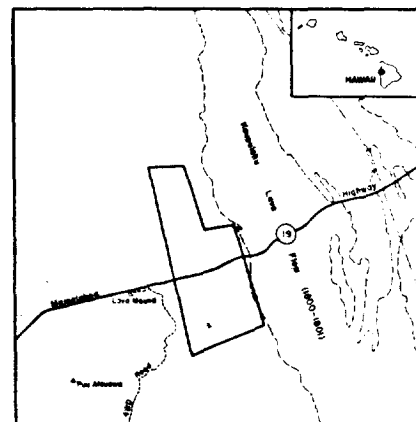
(a) * * *

Malvaceae—*Kokia drynarioides*

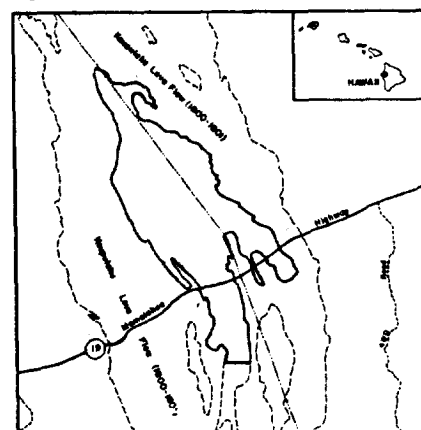
Kokia drynarioides (koki'o)

Hawaii, Island and County of Hawaii, North Kona District, three areas totaling approximately 2,600 acres.

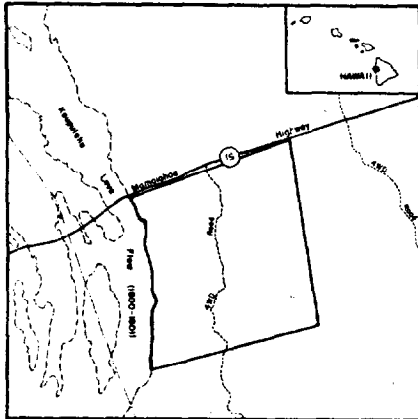
1. Ka'upulehu Ahupua'a area, bounded as follows: from a point of origin at Universal Transverse Mercator (UTM) coordinate 925880 near or on the west boundary of the Ka'upulehu 1800-1801 lava flow (approximately at intersection of said west boundary and 2600 ft elevation contour); thence west southwesterly approximately 864 ft to UTM coordinate 914875 (also near 2600 ft elevation contour); thence north northwesterly approximately 1987 ft to UTM coordinate 909899 (near the 1400 ft elevation contour); thence east northeasterly approximately 378 ft to UTM coordinate 913900 (also near the 1400 ft elevation contour); then south southeasterly approximately 720 ft to UTM coordinate 916891; thence east northeasterly approximately 320 ft to UTM coordinate 920892 (near the said west boundary of the 1800-1801 lava flow); thence south southeasterly approximately 1140 ft to the point of origin. Included in this area is Ka'upulehu Forest Reserve, Section B.



2. Ka'upulehu Ahupua'a and Pu'uwa'awa'a Ahupua'a boundary area, identified as follows: An unnamed kipuka (discontinuity) in 1800-1801 lava that straddles the boundary between Ka'upulehu and Pu'uwa'awa'a Ahupua'a and also crosses Mamalahoa Highway between 2400 and 1000 feet of elevation. Excluded is a small tongue of the said kipuka that extends south of UTM coordinate 941885 at approximately 2400 ft of elevation and above. UTM coordinate 931924 marks the low elevation end of the said kipuka.



3. Pu'uwa'awa'a Ahupua'a area, identified as follows: Halepi'ula 3, Waimea Paddock of Pu'uwa'awa'a Ranch, which lies south of (upslope) and abuts Mamalahoa Highway just east of the boundary between Ka'upulehu and Pu'uwa'awa'a Ahupua'a. East boundary of the 1800-1801 Ka'upulehu lava flow is the west boundary of the paddock. The paddock corners are near UTM coordinates 948901 (NW), 985909 (NE) 973886 (SE), and 971879 (SW).



Primary constituent elements of critical habitat are appropriate soil type, climate, protection from grazing damage, protection from aggressive exotic weeds, and presence of suitable pollinators.

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Dated: November 6, 1984.

G. Ray Arnett,
Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 84-31575 Filed 12-3-84; 8:45 am]

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