
DEPARTMENT OF THE INTERIOR
Fish and Wildlife Service**50 CFR Part 17**
Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Santalum freycinetianum* var. *lanaiense* (Lanai Sandalwood or 'Iliahi)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The U.S. Fish and Wildlife Service determines *Santalum freycinetianum* var. *lanaiense* (Lanai sandalwood or 'Iliahi) to be an endangered species under the authority of the Endangered Species Act of 1973, as amended. This plant is known only, from two areas, one at Kanepu'u, island of Lanai, and the other comprising the summit ridge system of the island of Lanai, County of Maui, Hawaii. The 39 known individuals of this variety are vulnerable to any substantial habitat alteration and face threats of grazing and browsing by feral animals, and rat predation on fruit, and the potential threats of taking and fire. The present rule is intended to provide the Lanai sandalwood the protection available under the Act.

EFFECTIVE DATE: The effective date of this rule is February 24, 1986.

ADDRESS: The complete file for this rule is available for inspection by appointment, during normal business hours, at the U.S. Fish and Wildlife Service, Lloyd 500 Building, 500 N.E. Multnomah Street, Suite 1692, Portland, Oregon 97232.

FOR FURTHER INFORMATION CONTACT: Mr. Wayne S. White, Chief, Division of Endangered Species, at the above address (503/231-6131 or FTS 429-6131).

SUPPLEMENTARY INFORMATION:**Background**

Santalum freycinetianum var. *lanaiense* is a small, gnarled tree with

leaves that vary from nearly round to twice as long as broad, and are dark green on the upper surface. The tree bears small clusters of bright red flowers. J.F. Rock discovered the sandalwood on the island of Lanai in 1910 and formally described it in 1913. Historically, it has been collected and/or reported from several widely spaced localities on the island. Sandalwood trade prior to this plant's discovery by the scientific community could have already reduced the number of trees by an unknown amount. Thirty-nine individuals of the variety are now known and are widely spaced over its range. These can be divided into two populations, one near Kanepu'u and the other near the summit of the island. Both populations occur on private lands owned by Castle and Cooke, Inc.

The species is found in a range of habitats from dry lowland forests on well drained barren soils to mesic forests on shallow soils at higher elevations. The habitat has been severely degraded by grazing and browsing of livestock and exotic game animals. Much of the native vegetation has been removed, increasing wind erosion of the fragile soils. Rat predation on developing fruit has all but eliminated reproduction (Carr 1981).

Section 12 of the Endangered Species Act of 1973 (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 Service published a notice in the *Federal Register* (40 FR 27823) of its acceptance of this report as a petition within the context of Section 4(c)(2) of the Act (petition acceptance is now governed by Section 4(b)(3) of the Act, as amended), and of its intention 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. The Lanai sandalwood 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 required that all proposals over 2 years old be

withdrawn. A one-year grace period applied to those proposals already more than two years old. Subsequently, 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 four other proposals that had expired (44 FR 70796); the notice of withdrawal included the Lanai sandalwood.

Santalum freycinetianum var. *lanaiense* was included in the December 15, 1980 (45 FR 82480), notice of review of plant taxa as a candidate for listing. On February 15, 1983, the Service published a notice (48 FR 6752) of its prior petition finding that sufficient information exists to indicate that listing of this taxon may be warranted in accordance with section 4(b)(3)(A) of the Act. On October 13, 1983, and again on October 13, 1984, the petition finding was made that listing this taxon was warranted, but precluded by other pending listing actions in accordance with section 4(b)(3)(B)(iii) of the Act; notification of the 1983 finding appeared in the **Federal Register** of January 20, 1984 (48 FR 2485). Such a finding required recycling of the petition pursuant to section 4(b)(3)(C)(i) of the Act. A reproposal, which constituted a finding in accord with Section 4(b)(3)(B)(ii) that listing of this taxon was warranted, was published on March 6, 1985 (50 FR 9086), based on information available at the time of the 1976 proposal and on information gathered after that time and summarized in a detailed status report prepared under contract by a University of Hawaii botanist (Carr 1981). The Service now determines the Lanai sandalwood to be an endangered species with the publication of this final rule.

Summary of Comments and Recommendations

In the March 6, 1985, proposed rule (50 FR 9086) 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, the county governments, Federal agencies, scientific organizations, and other interested parties were contacted and requested to comment. A newspaper notice that invited general public comment was published in the *Honolulu Star Bulletin* and the *Hawaii Tribune-Herald* on April 1, 1985. Three comments were received and are discussed below.

A member of the University of Hawaii Botany Department faculty expressed concern that critical habitat was not being designated for this species. He

stated that the locations of the remnant populations were identified in the proposed rule without according them any protection of their habitat. He continues that "persons seeking sandalwood now know where to find these plants though I believe the threat from this activity to be non-existent." The proposed rule states that "Thirty-nine individuals of the variety are now known and are widely spaced over its range. These can be divided into two populations, one near Kanepu'u and the other near the summit to the island." The Service believes that the distribution information is sufficiently vague so as not to reveal the exact locality of the plants. Few individuals in Hawaii collect rare or native woods, but there are several hobbyists active in this field. Most of these individuals are sincerely interested in the native flora, and would not damage a rare species. However, given the small population of this sandalwood, the loss of a single tree would be significant. Additionally, the Service is required to publish descriptions of critical habitat in local newspapers, making this information even more accessible to collectors, curiosity seekers, and vandals. The commenter also stated that land managers and planners need a definite location in which this plant is protected. The Service works closely with managers, planners, government agencies and others that need specific information on endangered species and their habitats. This is best handled on an individual basis as the needs of various agencies differ.

Castle and Cooke, Inc., the landowners, opposed the listing of the Lanai sandalwood as an endangered species, but stated that they are sensitive to the efforts to protect the species and will fully cooperate with conservation actions by Federal and State agencies should the plant be listed. Their main concern is the impact that the listing of the Lanai sandalwood would have upon their long-term land management plans. As this species is not involved in exportation or interstate or foreign commerce, and as no individuals are growing on Federal property, the prohibitions of Section 9 of the Act are not pertinent. However, the listing of the plant automatically invokes the Hawaii State Law with its more restrictive prohibition of "take." Castle and Cooke noted that, " * * * a significant modification of the environment can be prohibited as 'taking.' As a result, Castle and Cooke's long term plans and operations on Lanai will be affected by custodial responsibilities for the endangered

species to avoid litigation to enjoin activities that allegedly have an effect on the species." The Service recognizes that prohibitions applied to private entities under State law are more restrictive than those of the Act; however, the Service is required to base its decision in listing a species solely on biological grounds.

A letter from the Director of the Waimea Arboretum and Botanical Garden strongly supported the listing of the Lanai sandalwood as an endangered species.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Santalum freycinetianum* var. *lanaiense* 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) 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 *Santalum freycinetianum* Gaud. var. *lanaiense* Rock (Lanai sandalwood or 'iliahi) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* Only 39 individuals of this taxon are presently known to be extant (Peter Connally, State Conservation Officer, Lanai City, pers. comm.). The recent decline in numbers of the species is largely due to loss of habitat. Natural vegetation has been eliminated over vast areas of Lanai and native dryland forests have been severely degraded (Spence and Montgomery 1976). Agricultural development has removed large tracts of native vegetation, first for pasture and later for pineapple production. Cattle, sheep, and axis deer, which have been introduced into this area, have removed and trampled vegetation, contributing to severe erosion of soils.

B. *Overutilization of commercial, recreational, scientific, or educational purposes.* Extensive removal of Hawaiian sandalwoods for trade occurred from 1790 to 1820. The wood is valued for its fragrance and beauty and was used in making incense and in decorative woodworking. Although the species is no longer common enough for profitable commercial use, it may be threatened by individuals seeking the wood.

C. *Disease or predation.* The Lanai sandalwood is grazed by introduced animals, including axis deer maintained for hunting, as demonstrated by the high browse line on the few remaining trees. Fruit predation by rats has resulted in virtual lack of reproduction in this taxon.

D. *The inadequacy of existing regulatory mechanisms.* No regulatory mechanisms exist at the present time to protect this taxon. Federal listing would automatically invoke listing under Hawaii State law, which prohibits taking and encourages conservation by State government agencies.

E. *Other natural or manmade factors affecting its continued existence.* Only one sapling has recently been observed, indicating that reproduction of *Santalum freycinetianum* var. *lanaiense* is almost non-existent. Several factors may contribute, including reduction of the breeding population and rodent damage to fruit. The low numbers of individuals remaining has greatly reduced the gene pool for the species and may threaten its adaptive potential.

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 *Santalum freycinetianum* var. *lanaiense* as endangered. The species is listed as endangered due to the imminent threat of extinction. This choice reflects the strong likelihood that, without the institution of appropriate conservation measures, the species will become extinct. The conditions leading to a listing without critical habitat designation are discussed below.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, the Secretary designate any habitat of a species which is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for this species at this time. As discussed under Factor "B" in the "Summary of Factors Affecting the Species," and the University faculty member's comments in the "Summary of Comments and Recommendations," sandalwood is used for incense and decorative wood products and in the past Hawaiian species of *Santalum* were extensively harvested; today there is a limited interest in sandalwood by hobbyists. Collecting is an activity difficult to enforce against and is not regulated by the Endangered Species

Act with respect to plants, except for prohibitions against exportation, interstate or foreign commerce, or removal and reduction to possession of endangered plants from lands under Federal jurisdiction. Publication of critical habitat descriptions would make this species even more vulnerable to collection and increase enforcement problems. Therefore, it would not be prudent to determine critical habitat for *Santalum freycinetianum* var. *lanaiense* at this time.

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, if any is designated. 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. *Santalum freycinetianum* var. *lanaiense* is found on private land. No Federal action currently exists or is anticipated with regard to this species.

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 *Santalum freycinetianum* var. *lanaiense*, 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 persons 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 trade in this species has been known since 1820. It is anticipated that few trade permits will be sought or issued for *Santalum freycinetianum* var. *lanaiense*.

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. This prohibition applies to *Santalum freycinetianum* var. *lanaiense* if it were to be found on Federal land or if any of the land it is now found on should pass into Federal jurisdiction. Permits for exception to this prohibition are available under regulations to be codified at 50 CFR 17.62 (50 FR 39681, September 30, 1985). As all known plants occur on private lands, it is anticipated that no collecting permits will be requested for *Santalum freycinetianum* var. *lanaiense*. 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 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).

Literature Cited

- Carr, G.D. 1981. Status report on *Santalum freycinetianum* var. *lanaiense*. Research Corporation of the University of Hawaii, under contract 14-16-001-79096 to the U.S. Fish and Wildlife Service. 29 pp.
- Spence, G.E., and S. Montgomery, 1976. Ecology of the dryland forest at Kanepu'u, Island of Lana'i. *Hawaii Botanical Society Newsletter* 15:62-80.

Author

The primary author of this final rule is Dr. Derral Herbst, U.S. Fish and Wildlife Service, P.O. Box 50167, Honolulu, Hawaii 96850 (808/546-7530 or FTS 546-7530).

List of Subjects in 50 CFR Part 17

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

Regulation 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:

1. The authority citation for Part 17 continues to read 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.*).

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Santalaceae, to the List of Endangered and Threatened Plants:

§ 17.12 Endangered and threatened plants.

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(h) * * *

Species		Historic range	Status	When listed	Critical habitat	Special rules
Scientific name	Common name					
Santalaceae—Sandahwood family:						
<i>Santalum freycinetianum</i> var. <i>lanaiense</i> .	Lanai sandahwood or 'iliihi	U.S.A. (HI)	E	215	NA	NA

Dated: January 9, 1986.

P. Daniel Smith,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 86-1474 Filed 1-23-86; 8:45 am]

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