
DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife
and Plants; Proposed Endangered
Status and Critical Habitat for
"Gardenia Brighamii" Mann (Na'u or
Hawaiian Gardenia)****AGENCY:** Fish and Wildlife Service,
Interior.**ACTION:** Proposed rule.

SUMMARY: The Service proposes to determine *Gardenia brighamii* (na'u or Hawaiian gardenia) to be an endangered species and to designate its critical habitat under the authority contained in the Endangered Species Act of 1973, as amended. This plant is known only from about a dozen specimens located on the islands of Lanai (about 10 plants), Molokai (2 plants), and Oahu (1 plant), State of Hawaii. This species is vulnerable to any substantial habitat alteration and faces the potential threat of grazing and browsing by domestic and feral animals, fire, soil erosion, introduced insect pests, rodent predation, competition from exotic plants, and potential development on and/or near the sites where it occurs. A determination that *Gardenia brighamii* is an endangered species, and designation of its critical habitat, would implement the protection provided by the Endangered Species Act of 1973, as amended. The Service seeks data and comments from the public on this proposal. The Service is requesting further information on the species' status and any economic impacts that would result from designation of critical habitat.

DATES: Comments from all interested parties must be received by December 11, 1984. Public hearing requests must be received by November 26, 1984.

ADDRESS: Comments and materials concerning this proposal should be sent to the Regional Director, U.S. Fish and Wildlife Service, 500 NE Multnomah Street, Portland, Oregon 97232. Comments and material received will be available for public inspection, by appointment, during normal business hours at the above address.

FOR FURTHER INFORMATION CONTACT: Chief, Division of Endangered Species, U.S. Fish and Wildlife Service, 500 NE Multnomah Street, Portland, Oregon 97232 (503/231-6131), or Mr. John Spinks, Chief, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-2771).

SUPPLEMENTARY INFORMATION:

Background

Past collections and field notes on *Gardenia brighamii* indicate that it once grew on the islands of Hawaii and Maui, where none are known to be extant in the wild today. The species was first collected in 1864-65 by Horace Mann and William Brigham, and was formally described by Mann in 1867. It still occurs on Lanai (about 10 plants) and Molokai (2 plants), as well as on Oahu, where a single plant remains in the wild. The current habitat has been severely degraded and altered by grazing and

browsing animals (e.g., domestic cattle and feral goats, respectively). The invasion of exotic plants such as *Lantana camara*, *Leucaena leucocephala*, *Schinus terebinthifolius*, and various grass species crowd out the remaining dry forest and shades out any seedlings that may have survived rat predation on the fruits. The remaining habitats on Lana'i and Moloka'i are found on marginal land used for grazing.

Gardenia brighamii was a distinctive element of the lowland dry forest. It is a tree growing 20 to 30 feet in height, with a smooth trunk six to 12 inches or more in diameter and a spreading canopy of shiny dark-green leaves. The white to cream-colored flowers are one to two inches long, very fragrant, and resemble the Tahitian gardenia (*G. taitensis*) in shape.

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 Director published a notice in the *Federal Register* (40 FR 27823-27924) of his acceptance of this report as a petition within the context of subsection 4(c)(2) of the Act (petition acceptance is now governed by section 4(b)(3) of the Act, as amended), and of his 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 24523-24572) 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. *Gardenia brighamii* 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 17909-17916).

The Endangered Species Act Amendments of 1978 required that all proposals over two years old be withdrawn. A 1-year grace period was given to those proposals already more than 2 years old. Subsequently, on December 10, 1979, the Service published a notice of the withdrawal of the portion of the June 16, 1976, proposal that had not been made final along with other proposals that had expired (44 FR 70796-70797); this notice of withdrawal included *Gardenia brighamii*. The Service now has sufficient information to warrant repropounding *Gardenia*

brighamii as an endangered species. Its critical habitat is being proposed for the first time.

Summary of Factors Affecting the Species

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 of August 8, 1983, 48 FR 36062-36069) set forth the procedures for adding species to the Federal lists. 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 *Gardenia brighamii* Mann (Hawaiian gardenia or na'u) are as follows:

A. The Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range

This species once grew on five of the Hawaiian islands, where, at least on the island of Molokai, it was a fairly common component of the native dryland forests. Today it still occurs on the islands of Lanai (about 10 plants), Molokai (2 plants), and Oahu (1 plant). It is now believed extinct on Hawaii and Maui. Grazing and browsing by domestic and feral animals and the invasion of exotic shrubs, forbs, and grasses have caused severe degradation of its habitat. Urbanization, pineapple fields (on Lanai and Molokai), sugar cane fields (on Oahu and Maui), and pastures (on Oahu, Maui, and Hawaii) have replaced most of the dryland forests in Hawaii. The Molokai population grows at the edge of an erosion gully; several trees were lost recently when the gully walls collapsed during winter storms. Further grazing and browsing by domestic and feral animals, further invasion and spread of exotic plants, potential urbanization or development, and, as the plants grow in dry parts of the islands, the continual possibility of fires, are all existing threats to the future survival of the species.

B. Overutilization for Commercial, Recreational, Scientific, or Educational Purposes

Not applicable to this species.

C. Disease or Predation

The introduced Black Twig Borer, *Xylosandrus compactus* (Scolytidae), attacks the terminal shoots and has severely affected the one wild tree on Oahu. Rats appear to gnaw the fruit

while it is still on the tree, severely reducing the chances of successful regeneration. The full impact of grazing needs to be determined.

D. The Inadequacy of Existing Regulatory Mechanisms

No regulatory mechanisms exist at the present time. Federal listing would automatically invoke listing under Hawaii State law, which prohibits taking and encourages conservation by State government agencies.

E. Other Natural or Man-Made Factors Affecting Its Continued Existence

The number of plants of this species has been greatly reduced due to factors enumerated above. Further reduction of the breeding population (gene pool) may have adverse effects on the reproductive capacity and survival of this species.

The Service has carefully assessed the best scientific information available concerning the past abundance and subsequent decline of this species, as well as the threats faced by its remnant populations. Based on this evaluation, the preferred course of action is to propose to list *Gardenia brighamii* as endangered and designate the area occupied by the largest remnant population as critical habitat for the species. This choice reflects the strong likelihood that, without the institution of appropriate conservation measures, the species is likely to become extinct throughout its range.

Critical Habitat

Critical habitat, as defined by section 3 of the Act and at 50 CFR Part 424, 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 (a) essential to the conservation of the species and (b) which may require special management considerations or protection, and (ii) specific areas outside the geographical area occupied by the 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 concurrent with the determination that a species is endangered or threatened. Critical habitat is being proposed for *Gardenia brighamii* to include an area of about 685 acres just north of Kanepu'u, ahupua'a of Ka'a, island of Lanai. It contains a remnant native dryland forest and, although influenced by the presence of exotic vegetation and

herbivores, is believed to provide the best remaining site for long-term survival and possible augmentation of *Gardenia brighamii*. The approximately 10 individuals found within the area represent the largest remaining population of this species. While the entire area to be designated as critical habitat does not contain individuals of *Gardenia*, this area nevertheless represents one of the few remnants of the once-widespread Hawaiian dryland forest, and is the only such remnant supporting a potentially viable population of this species. Unless this remnant forest is conserved for future transplantation or reestablishment programs, future survival in the wild of the Hawaiian gardenia is unlikely. Thus, the entire remnant ecosystem is believed to be essential for the conservation of the species.

Section 4(b)(8) requires, for any proposed or final regulation that designates critical habitat, a brief description and evaluation of those activities (public and private) which may adversely modify such habitat or may be affected by such designation. Such activities are identified below for this species. It should be emphasized that critical habitat designation may not affect all of the activities mentioned below, as critical habitat designation only affects Federal agency activities through section 7 of the Act.

Any activity that would significantly disturb the soil, topography or other physical and biological components of the area where *Gardenia brighamii* occurs would adversely modify its critical habitat. Land uses in the immediate locality of the population and in its surroundings would have to be carefully regulated to control such modifications. This might require fencing of populations to exclude or eliminate feral animals from the area. Inasmuch as no Federal activities are anticipated in the area proposed to be designated, it is unlikely that the designation will affect any activities.

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 Service will reevaluate the geographic critical habitat designation prior to publishing any final rule, after considering any public comments received and all relevant economic information that is available.

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 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 by Federal agencies and taking prohibitions 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. 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 29989; June 29, 1983). Section 7(a)(4) requires Federal agencies to confer informally with the Service on any action that is likely to jeopardize the continued existence of a proposed species, or result in destruction or adverse modification of proposed critical habitat. When a species is subsequently listed, 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 an effect is expected, the Federal agency must enter into consultation with the Service. Currently, no Federal involvement is known to exist with regard to *Gardenia brighamii*.

The only known potential action that may be affected by the listing is the casual use of the Kanepu'u area. Federal listing automatically results in similar listing by the State and, therefore, enforcement of the State's own regulations come into effect. These regulations may limit casual use by prohibiting the taking of the plants. Take, in the State law, is defined as picking or otherwise damaging the plants. Voluntary or mandatory protection of this species and its habitat will require cooperation among the land owners, Castle and Cooke, Inc., the State of Hawaii, the County of Maui, and the U.S. Fish and Wildlife Service.

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 *Gardenia brighamii*, 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, or sell or offer for sale this species in interstate or foreign commerce. Certain exceptions would apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 and 16.63 also provide for the issuance of permits to carry out otherwise prohibited activities involving endangered species under certain circumstances. No trade in this species is known. It is anticipated that few trade permits involving *Gardenia brighamii* would ever be sought or issued since the species is not common in cultivation nor in the wild.

Section 9(a)(2)(B) of the Act, as amended in 1982, states that it is unlawful to remove and reduce to possession endangered plant species from areas under Federal jurisdiction. The new prohibition will not apply to *Gardenia brighamii* since all of the known plants are on private property.

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).

If this species is listed under the Act, the Service will review it to determine whether it should be placed upon the Annex of the Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere, which is implemented through section 8A(e) of the Act, and whether it should be considered for other appropriate international agreements.

Public Comments Solicited

The Service intends that any final rule adopted will be accurate and as effective as possible in the conservation of each endangered or threatened species. Therefore, any comments or suggestions from the public, other concerned governmental agencies, the scientific community, industry, or any other interested party concerning any aspect of these proposed rules are hereby solicited. Comments particularly are sought concerning:

(1) Biological, commercial trade, or other relevant data concerning any threat (or lack thereof) to *Gardenia brighamii*;

(2) The location of any additional populations of *Gardenia brighamii* and the reasons why any habitat of this species should or should not be determined to be critical habitat as provided by section 4 of the Act;

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

(4) Current or planned activities in the subject area and their possible impacts on *Gardenia brighamii*; and

(5) Any foreseeable economic and other impacts resulting from the proposed designation of critical habitat.

Final promulgation of the regulations on *Gardenia brighamii* will take into consideration any comments and additional information received by the Service, and such communications may lead to the adoption of 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 filed within 45 days of the date of the proposal. Such requests should be made in writing and addressed to the Regional Director, Region 1, U.S. Fish and Wildlife Service, 500 NE., Multnomah Street, Portland, OR 97232.

National Environmental Policy Act

In accordance with a recommendation from the Council on Environmental Quality (CEQ), the Service has determined that Environmental Assessments need not be prepared in connection with regulations adopted pursuant to section 4(a) of the Endangered Species Act of 1973, as amended. The recommendation from CEQ was based, in part, upon the decision by the Sixth Circuit Court of Appeals, which held that the preparation of NEPA documentation was not required as a matter of law for listing actions under the Endangered Species Act; *PLF v. Andrus* 657 F. 2d 829 (6th Cir. 1981). A notice outlining the Service's reasons for this determination was published in the *Federal Register* on October 25, 1983 (48 FR 49244).

References

Footo, D.E., E.L. Hill, S. Nakamura, and F. Stephens. 1972. Soil survey of the islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii. U.S. Dept. of Agriculture,

Soil Conservation Service: Washington, D.C. 232 pp., 130 maps.
 Gagne, B.H. 1982. Status report on *Gardenia brighamii*. Research Corporation of the University of Hawaii, under contract 14-16-0001-79096 to the U.S. Fish and Wildlife Service. 42 pp.
 Spence, G., and S.L. Montgomery. 1976. Ecology of the dry land forest at Kanepu'u, island of Lana'i. Newsletter, Haw'n Bot. Soc. 15(4/5): 62-80.

Authors

The primary authors of this proposed rule are Dr. Derral Herbst, U.S. Fish and Wildlife Service, P.O. Box 50167, Honolulu, Hawaii 96850 (808/546-7530) and Betsy Harrison Gagne, B.P. Bishop Museum, P.O. Box 19000-A, Honolulu, Hawaii 96819 (808/847-3511). The manuscript was edited by John L. Paradiso of the Service's Washington Office.

List of Subjects in 50 CFR Part 17

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

Proposed Regulations 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 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.*).

2. It is proposed to amend § 17.12(h) by adding the following in alphabetical order under the family Rubiaceae 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					
Rubiaceae-Coffee family:						
<i>Gardenia brighamii</i>	Na'u (Hawaiian gardenia).....	U.S.A. (HI).....	E		17.96(a)	NA

3. It is further proposed to amend § 17.96(a) by adding critical habitat of *Gardenia brighamii* as follows: [The position of this and any following critical habitat entries under § 17.96(a) will be determined at the time of publication of a final rule.]

§ 17.96 Critical habitat-plants.

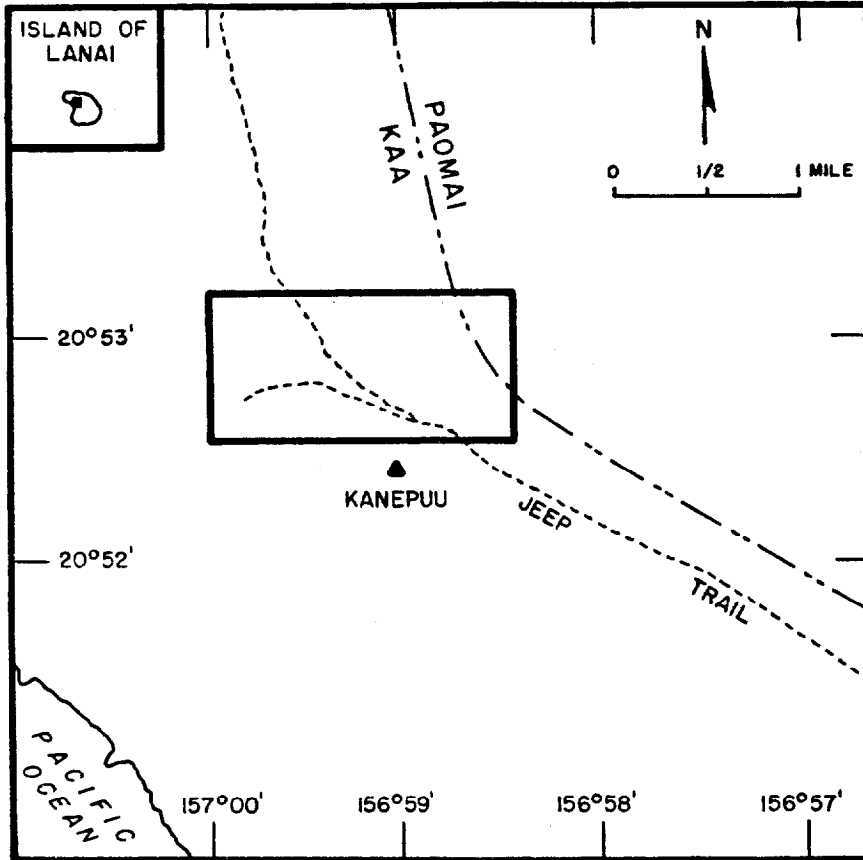
(a) * * * * *
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 Family RUBIACEAE:
Gardenia brighamii (Na'u, Hawaiian gardenia)

Hawaii, Maui County, island of Lanai, ahupua'a of Ka'a, a rectangle just north of Kanepu'u comprising about 685 acres and enclosed by the following coordinates:

20°52'35" N latitude by 157°00'00" W longitude
 20°53'10" N latitude by 157°00'00" W longitude

20°53'10" N latitude by 156°58'28" W longitude
 20°52'35" N latitude by 156°58'28" W longitude

Known constituent elements include very dry, well-drained lateritic soils of high acidity and low fertility.



Dated: August 30, 1984.

J. Craig Potter,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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