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**DEPARTMENT OF THE INTERIOR**

**Fish and Wildlife Service**

**50 CFR Part 17**

**Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for *Cupressus abramsiana* (Santa Cruz Cypress)**

**AGENCY:** Fish and Wildlife Service, Interior.

**ACTION:** Final rule.

**SUMMARY:** The U.S. Fish and Wildlife Service determines *Cupressus abramsiana* (Santa Cruz cypress) to be an endangered species. Only five small populations of this endemic species exist, occurring on private and county land in the Santa Cruz Mountains of Santa Cruz and San Mateo Counties, California. Residential development, agricultural conversion, logging, genetic introgression, and alteration of the natural frequency of fires threaten or have destroyed portions of each grove. In addition, oil and gas drilling may threaten a portion of the northernmost grove on Butano Ridge. The Bureau of Land Management has leased the Federal subsurface oil and gas rights and has the responsibility to approve any future drilling activities. This final rule implements the protection provided by the Endangered Species Act of 1973, as amended.

**DATES:** The effective date of this rule is February 9, 1987.

**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, Lloyd 500 Building, 500 NE, 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**

*Cupressus abramsiana* (Santa Cruz cypress), first collected by M.E. Jones in 1881, was described by C.B. Wolf in 1948 from specimens collected "east of Bonnie Doon School" atop Ben Lamond Mountain within the Santa Cruz Mountains, Santa Cruz County, California. This erect, densely branched tree, a member of the cypress family (Cupressaceae), attains a height of up to 10 meters (34 feet) and typically develops a compact, symmetrical, pyramidal crown (Wolf 1948, Young 1977). Wolf (1948) considered the Santa Cruz cypress to be intermediate between Gowen (*Cupressus goveniana*) and Sargent cypress (*C. sargentii*). Mature foliage of *Cupressus abramsiana* is scale-like and rich light green, while its bark is gray and fibrous (Wolf 1948). The trees annually produce numerous female cones, 20 to 30 millimeters (0.8 to 1.2 inches) long, near the growing branch tip. These cones, which are firmly attached to the branch, remain closed and retain their seeds until the tree or supporting branch dies, generally as a result of fire (Bartel and Knudsen 1982). These serotinous (late-opening) cones enable cypresses to drop abundant quantities of seed to the ground after a typical fire burns a grove (Bartel and Knudsen 1982).

Habitat for *Cupressus abramsiana* consists of chaparral and closed-cone cypress and pine forest within a mosaic of redwood and mixed evergreen forest (Griffin and Critchfield 1972). The groves grow atop predominantly Eocene or Lower Miocene sandstone or soils derived from Mesozoic granite (Jennings and Burnett 1961), within an area influenced by a Mediterranean-type climate (i.e., with cool, wet winters and hot, dry summers) and with little to no coastal fog (Young 1977). Cypress habitat ranges in elevation from 300 to 750 meters (1020 to 2550 feet). Associated species include *Pinus attenuata*, *Quercus chrysolepis*, *Q. wislizenii* var. *frutescens*, *Haplopappus ericoides* ssp. *blakei*, *Dendromecon rigida*, *Adenostoma fasciculata*, *Ceanothus cuneatus*, and *Arctostaphylos silvicola* (Wolf 1948).

Recurring wildfire periodically burns cypress habitat, a phenomenon that likely shaped all groves of *Cupressus abramsiana*. Because individual trees fail to resprout from their charred trunks after fire, the species depends upon seed stored in their serotinous cones for post-fire regeneration. Fire recurring at too frequent an interval to allow trees to reach seed-bearing age could result in extirpation of a grove. Conversely, the prolonged absence of fire (i.e., 200 years or more) could lead to lowered post-fire reproductive capability with the successional establishment of other competing plants, thus possibly leading to the constriction or extinction of a grove (Bartel and Knudsen 1982).

This species is limited to five small groves in a two county area. The only grove in San Mateo County grows on Butano Ridge. In Santa Cruz County, groves occur near Bonny Doon, Eagle Rock, and Braken Brae Creek, and between Majors and Laguna Creeks. These groves occur predominantly on privately owned lands, although a significant portion of the Butano Ridge stand is within Pescadero Creek County Park. This grove is under the jurisdiction of the San Mateo County Department of Parks and Recreation. Residential development, agricultural conversion, logging, genetic introgression, and alteration of the natural fire frequency singly or in concert with (one or more of the other factors) threaten all five populations. An additional threat to the Butano Ridge grove may arise from oil and gas drilling. All groves also exhibit signs of past disturbance by construction (Bracken Brae and Majors Creek), logging (Butano Ridge and Eagle Rock), vandalism (Bonny Doon), and fire (Boony Doon) (Wolf 1984, Bartel and Knudsen 1982). Protective and cooperative action by Federal, State, and private parties is needed to ensure the species' safety and provide for its recovery.

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 (House Document No. 94-51) was presented to Congress on January 9, 1975. On July 1, 1975, the Service published a notice of review in the **Federal Register** (40 FR 27823) accepting this report as a petition within the context of former section 4(c)(2) of the Act (petition acceptance is now governed by section 4(d)(3)(A) of the Act). 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 pursuant to Section 4 of the Act. *Cupressus abramsiana* was included in the Smithsonian report, the notice of review of July 1, 1975, and the proposal of June 16, 1976, as *C. goveniana* var. *abramsiana* (C.B. Wolf) Little.

The Endangered Species Act, as amended in 1978, required that all proposals over 2 years old be withdrawn, except that a 1-year grace period was given to proposals already over 2 years old. On December 10, 1979, the Service published a notice of withdrawal of the June 16, 1976, proposal, along with four other proposals that had expired (44 FR 70796), for administrative rather than biological reasons. In the **Federal Register** of December 15, 1980 (45 FR 82480), the Service published a revised notice of review. *Cupressus abramsiana* was included in this notice as a category-1 species, indicating that existing data warranted proposing to list the species as endangered or threatened.

The Endangered Species Act Amendments of 1982 required that all petitions pending as of October 13, 1982, be treated as having been newly submitted on that date. The deadline for making a finding on species covered by such a petition, including *Cupressus abramsiana*, was October 13, 1983. On October 13, 1983, and again on October 12, 1984, the petition finding was made that listing *Cupressus abramsiana* was warranted, but precluded by other pending listing actions, in accordance with Section 4(b)(3)(B)(iii) of the Act. Such a finding requires a recycling of the petition, pursuant to section 4(b)(3)(C)(i) of the Act. The Service proposed *Cupressus abramsiana* as an endangered species on September 12, 1985 (50 FR 37249), constituting a new finding prior to the deadline of October 13, 1985. The Service now determines this plant to be endangered with the publication of this final rule.

**Summary of Comments and Recommendations**

In the September 12, 1985 proposed rule (50 FR 37249) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final decision on the proposal. Because of an unavoidable administrative problem in receiving **Federal Register** issues containing the proposal on October 31, 1985 (50 FR 45443), the Service extended the original comment period to November 12, 1985. Appropriate Federal and State agencies, county governments, biologists, scientific organizations, and other

interested parties were contacted and requested to comment. The Act requires that the proposal be advertised in a newspaper of general circulation in the area in which the species occurs. Through an administrative error, notice of this proposal was originally submitted to a newspaper in the wrong area. Consequently, the Service reopened the comment period in the **Federal Register** on November 26, 1985 (50 FR 48616), and republished notice of the proposal locally. In this notice, the Service solicited comments until January 27, 1986, and public hearing requests until January 10, 1986. Newspaper notices inviting public comment were published in the *Reno Gazette Journal* on November 1, 1985, *San Mateo Times* on December 17, 1985, *Santa Cruz Good Time* on December 19, 1985, *San Francisco Chronicle* on December 23, 1985, and *San Jose Mercury News* on December 27, 1985.

Of the 14 comments received during the regular extended, and reopened comment periods, 11 supported the listing, while three expressed no opinion or indicated listing would not affect the respondents' activities. The Service received a letter from Congressman Leon Panetta strongly supporting the listing of this tree, which grows in the northern portion of his 16th Congressional District. The Service also received comments from the Bureau of Reclamation, two State agencies, three county agencies, two environmental groups (including three letters from various chapters or offices of the California Native Plant Society), and three interested individuals. These comments and the Service response to each are listed below.

Most of the comments focused on the numerous threats facing the Santa Cruz cypress. For example, many letters noted the proposed vineyard that threatens the Bonny Doon grove. Others described the felling of the largest tree of the species by vandals. A few respondents, including the California Department of Fish and Game (CDFG), noted that *Cupressus abramsiana* is listed as endangered by the CDFG, contrary to a statement in the proposed rule. Nevertheless, Santa Cruz County and Congressman Panetta said State and local laws and ordinances do not adequately protect the species. CDFG, which supported the rule, agreed with the Service that it would not be prudent to define critical habitat at this time. One individual noted that genetic introgression from exotic cypresses (e.g., *Cupressus macrocarpa*, *C. glabra*) also may threaten the plant. The Service agrees with these comments and has

incorporated these points into this rule. One respondent claimed he knew of no biological or commercial threats facing *Cupressus abramsiana* and that the species now receives outstanding protection. Information presented to the Service and summarized in this rule, however, demonstrates the lack of effective protection for this species. The same respondent stated that portions of the Eagle Rock grove below the California Department of Forestry fire lookout and a few trees from the Boony Doon grove around the fire station grow on State-owned land. However, the former occur on leased land while the latter site is owned by a local volunteer fire department.

Several respondents detailed aspects of the species' ecology not described in the proposed rule (e.g., the species does not completely depend upon fire for seedling establishment). One individual claimed that four additional populations exist beyond the five discussed in the proposed rule. However, one of the four additional populations was found to be a solitary Mexican cypress (*Cupressus lusitanica*), and another population was determined to be a southern extension of the Bonny Doon grove. Although the other two populations identified by this individual may harbor *Cupressus abramsiana*, identification is uncertain at this time due to the age of the cypress growing at these sites. These trees appear to be planted or seeded, growing within atypical plant communities and atop non-sandstone substrates immediately adjacent to the edge of a paved road. Nevertheless, even if these populations are identified as *C. abramsiana*, the endangered classification for this species would still be appropriate.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Cupressus abramsiana* 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 (50 CFR Part 424) promulgated to implement the listing provisions of the Act 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 *Cupressus abramsiana* C.B. Wolf (Santa Cruz cypress) are as follows:

#### A. The present or threatened destruction, modification, or curtailment of its habitat or range

The Santa Cruz cypress now occurs in a very limited range comprising five small groves in the Santa Cruz Mountains of California. All the groves are threatened by one or more of the following factors: Residential development, agricultural conversion, logging, genetic introgression, and alteration of the natural fire frequency. About one-third of the Bracken Brae grove was destroyed in 1975 by a residential development (Libby 1979). Two further phases of this project threaten the remainder of the grove. The largest grove, at Bonny Doon, is threatened by a proposed vineyard. Over one-half of the cypress habitat at Bonny Doon could be lost as a result of this development. The Majors Creek and Eagle Rock groves are threatened by logging or residential development. Logging and potential oil and gas drilling threaten portions of the Butano Ridge grove. Introduced, exotic cypresses, such as Monterey (*Cupressus macrocarpa*) and Arizona smooth cypress (*C. glabra*) cultivated in tree farms and yards on Ben Lomond Mountain, could hybridize with the native stands of *Cupressus abramsiana*, thus threatening the genetic integrity of the species.

#### B. Overutilization for commercial, recreational, scientific, or educational purposes

Not applicable.

#### C. Disease or predation

Although *Cupressus abramsiana* is "quite susceptible" to cypress canker (*Corneum cardinale*) (Wagener 1948), the significance of this disease to native stands of Santa Cruz cypress is unknown at this time.

#### D. The inadequacy of existing regulatory mechanisms

Although CDFG has listed the Santa Cruz cypress as endangered, State law does not adequately protect this species and its habitat. After a landowner has been notified by CDFG that a State-listed plant grows on his or her property, State law requires the landowner to notify the agency "at least 10 days in advance of changing the land use to allow salvage of such plant." Although State law also can provide funding for such measures as research and land acquisition, provisions of the Endangered Species Act would offer needed additional protection for this species and its habitat.

*E. Other natural or manmade factors affecting its continued existence*

As discussed earlier, all groves of *Cupressus abramsiana* have been or are subject to periodic wildfire. Encroaching human inhabitation and utilization likely have altered the natural intervals between fires in the habitat of the Santa Cruz cypress. Fires at too short an interval could lead to the extirpation of a given grove. Conversely, the absence of fire for too long a period may result in successional establishment of competing vegetation, lower grove vitality, and reduced post-fire seedling establishment, increasing the change of constriction or extinction of the affected grove. The natural fire frequency is estimated at between 50 and 100 years, within a minimum of 20 years between fires to avoid extinction (Keeley 1981, summarized in Bartel and Knudsen 1982). Other botanists have estimated that a fire frequency of 35 to 40 years will restore grove vitality (Vogl *et al.* 1977, summarized in Davilla 1980).

The largest tree in the Bonny Doon population was recently cut down. Similar threats are faced by the remaining cypress trees.

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 *Cupressus abramsiana* as endangered. Endangered status, rather than threatened, appears most appropriate because only five small populations of this species remain, and these face current or potential threats from residential development, agricultural conversion, logging, genetic introgression, and disruption of the natural frequency of fires. The Santa Cruz cypress is in danger of extinction throughout its range and it may soon disappear unless appropriate actions are undertaken. Critical habitat is not being designated for the species at this time for the reasons 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 critical habitat at the time a 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 E in the "Summary of Factors Affecting the Species," *Cupressus abramsiana* has been subject to acts of vandalism. Publication of critical habitat

descriptions in the Federal Register would expose the species and its habitat to a greater number of people, thus potentially increasing the risk of further incidents of vandalism. Therefore, it would not be prudent to designate critical habitat for *Cupressus abramsiana* 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 collecting are discussed, in part, below.

Section 7(a) of the Act, as amended, requires Federal agencies to evaluate their actions with respect to any species that is proposed or listed as endangered or threatened and with respect to its critical habitat if any is being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402 (see revised regulations at 51 Federal Register 19926; June 3, 1986). 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. The only known Federal action that could possibly affect the Santa Cruz cypress involves oil and gas drilling on Butano Ridge. The approval of such oil and gas development plans is the responsibility of the Bureau of Land Management. If the Santa Cruz cypress is likely to be affected by drilling activities, final approval of the drilling would require consultation with the Service pursuant to section 7 of the Act.

The Act and its implementing regulations found at 50 CFR 17.61 and 17.62 set forth a series of general prohibitions and exceptions that apply to all endangered plants. 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 any endangered plant, transport in interstate or foreign commerce in the course of a commercial activity, sell or offer for sale in interstate or foreign commerce, or remove it from areas under Federal jurisdiction and reduce it to possession. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.62 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 to occur and it is anticipated that few trade permits involving the species will ever be requested. Requests for copies of the regulations of plants and inquiries regarding them may be addressed to the Federal Wildlife Permit Office, U.S. Fish and Wildlife Service, Washington, DC 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).

**References Cited**

- Bartel, J.A., and M.D. Knudsen. 1982. Status review of the Santa Cruz cypress. U.S. Fish and Wildlife Service, Sacramento, California. 7 pp.
- Davilla, B. 1980. A biotic assessment of the Bonny Doon Ranch. Unpublished report from Biosystems Analysis, Inc. 53 pp.
- Griffin, J.R., and W.B. Critchfield. 1972. The distribution of forest trees in California. USDA Forest Service Research Paper PSW-82.
- Jennings, C.W., and J.L. Burnett. 1961. San Francisco sheet, geologic map of California. California Division of Mines.
- Libby, J. 1979. *Cupressus abramsiana* goes to court. *Fremontia* 7(3):15.
- Wagner, W.E. 1948. The New World cypresses. II. Diseases of cypresses. *Aliso* 1:253-321.
- Wolf, C.B. 1948. The New World cypresses. I. Taxonomic and distributional studies of the New World cypresses. *Aliso* 1:1-250.
- Young, P.G. 1977. Rare plant status report, *Cupressus abramsiana* C.B. Wolf. California Native Plant Society. 2 pp.

**Author**

The primary author of this final rule is Jim A. Bartel, Sacramento Endangered Species Office, U.S. Fish and Wildlife Service, 2800 Cottage Way, Room E-1823, Sacramento, California 95825 (916/978-4866 or FTS 460-4866).

**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. 96-150, 93 Stat. 1225; Pub. L. 97-304, 96 Stat. 1411 (16 U.S.C. 1531 *et seq.*).

2. Amend § 17.12 by adding the following, in alphabetical order under Cupressaceae, 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					
Cupressaceae—Cypress family:						
<i>Cupressus abramsiana</i>	Santa Cruz Cypress	U.S.A. (CA)	E	251	NA	NA

Dated: November 28, 1986.

**P. Daniel Smith,**

*Acting Assistant Secretary for Fish and Wildlife and Parks.*

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