DEPARTMENT OF THE INTERIOR

Fish and Wildlife Service

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Threatened Status for Quercus hinckleyi (Hinckley Oak)

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service has determined that a plant, *Quercus hinckleyi* (Hinckley oak), is a threatened species. Hinckley oak is known from four documented localities in Presidio County of western Texas. The plants are threatened by possible changes in grazing practices, road improvements, wildlife predation, disease, hybridization with other oak species, and taking. The determination of threatened status for *Quercus hinckleyi* implements the full protection provided by the Endangered Species Act of 1973 (Act), as amended.

EFFECTIVE DATE: September 26, 1988.

ADDRESS: The complete file for this rule is available for inspection, by appointment, during normal business hours at the Service's Regional Office of Endangered Species, 500 Gold Avenue SW., Room 4000, Albuquerque, New Mexico.

FOR FURTHER INFORMATION CONTACT: Charles McDonald, Botanist, Endangered Species Office, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766–3972 or FTS 474–3972).

SUPPLEMENTARY INFORMATION:

Background

Quercus hinckleyi (Hinckley oak) was first collected by Dr. L.C. Hinckley in The Solitario, Presidio County, Texas, near Solitario Peak in June 1950. Hinckley and Dr. C.H. Muller collected additional specimens a month later and Muller (1951) subsequently named the species in honor of his colleague.

Hinckley oak is a shrubby evergreen sometimes occurring as single stems but more often growing as clonal groups that form dense thickets. Plants reach a maximum height of 1.2 meters (4 feet). The species can be recognized at a distance by its gray-green leaves that lend a smokey appearance to the compact intricately branched plants. The leaves are only about 15 millimeters (.6 inch) long, glabrous, and have spine-tipped margins. Acorns are produced annually, occur singly or paired on the branches, and mature in the fall.

Hinckley oak is a localized component of the middle elevation Chihuahuan Desert vegetation occurring on dry limestone slopes at about 1370 meters (4,500 feet) in elevation. The surrounding desertscrub community is dominated by *Agave lecheguilla* (lechuguilla), *Acacia constricta* (whitethorn acacia), and *Parthenium incanum* (mariola). The area averages 25 centimeters (10 inches) of rain per year and has a frost-free season of 260 days.

There are presently four documented populations of Hinckley oak. Three of the populations occur within 1.9 kilometers (1.2 miles) of each other in The Solitario, which is a circular laccolith approximately 13 kilometers (8 miles) in diameter in southeastern Presidio and southwestern Brewster Counties, Texas. The Solitario populations, all in Presidio County, include the population at the type locality estimated at 30–40 plants, a population discovered in 1984 by Mr. Jeff Clark, a former graduate student at Sul Ross University estimated at 12–15 plants, and a population discovered in 1988 by U.S. Fish and Wildlife Service and Texas Parks and Wildlife Department botanists estimated at 300–500 plants. The fourth population occurs in the vicinity of Shafter in south-central Presidio County. This population was discovered by Barton H. Warnock in 1963 and is estimated at 30–40 plants. Because of the clonal nature of Hinckley oak, these population estimates are very subjective, and mostly should be used to compare the relative sizes of the four known populations.

Two other Hinckley oak sites in the Shafter area have not been relocated, although the area has been searched by Dr. A.M. Powell of Sul Ross University (Miller and Powell 1982). Searches have been conducted but no populations of Hinckley oak have been found in likely habitat in the Mexican State of Coahuila (Miller 1951). Mr. Mike Fleming, of Big Bend National Park has speculated that Hinckley oak may occur within the Park in the Dead Horse Mountains (pers. comm., 1988). Although no occurrences of Hinckley oak in the Dead Horse Mountains have been documented, Fleming's belief is supported by the presence of suitable habitat and evidence from fossil packrat middens that Hinckley oak was more widely distributed in southwestern Texas prior to the area's desertification about 8,000 years ago (Van Devender et al. 1978). The warming and drying trend probably precipitated the decline of Hinckley oak, and may in part explain the species' present limited distribution.

Three of the known Hinckley oak populations occur on private land and one population occurs on State of Texas land administered by the Texas General Land Office. Formerly, all the populations were thought to be on private land, but a survey by U.S. Fish and Wildlife Service and Texas Parks and Wildlife botanists in the spring of 1988, determined that the type locality in The Solitario has been mapped incorrectly. The correct locality, about 300 meters (330 yards) south of the old one, is within a state-owned section of land leased to the surrounding private ranch for grazing. The State land is not fenced.

Federal action involving this species began with section 12 of the Endangered Species Act of 1973, which 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), now section 4(b)(3)(A), of the Act and of its intention thereby to review the status of those plants. On June 16, 1976, the Service published a proposed rule in the Federal Register (41 FR 24523) to determine approximately 1,700 vascular plant species to be endangered species pursuant to section 4 of the Act. This list of 1,700 plant species was assembled on the basis of comments and data received by the Smithsonian Institution and the Service in response to House Document 94–51 and the July 1, 1975, Federal Register publication. *Quercus hinckleyi* was included in the July 1, 1975, notice and the June 16, 1976, proposal. General comments received in relation to the 1976 proposal were summarized in the April 26, 1978, Federal Register (43 FR 17909).

The Endangered Species Act Amendments of 1978 required that all proposals over 2 years old be withhdrawn. A one-year grace period was given to proposals already over 2 years old. In the December 10, 1979, Federal Register (44 FR 70796), the Service published a notice of withdrawal of the June 16, 1976, proposal, along with 4 other proposals that had expired.

On December 15, 1980 (45 FR 82480), and September 27, 1985 (50 FR 39526), the Service published updated notices reviewing the native plants being considered for classification as threatened or endnagered. *Quercus hinckleyi* was included in these notices as a category 1 species. Category 1

comprises taxa for which the Service has sufficient biological information to support proposing them as endangered or threatened.

Section 4(b)(3)(B) of the Endangered Species Act, as amended in 1982, requires the Secretary to make findings on pending petitions within one year of their receipt. Section 2(b)(1) of the Act's Amendments of 1982 further requires that all petitions pending on October 12, 1982, be treated as having been newly submitted on that date. Because the 1980 notice of review was accepted as a petition, all of the taxa contained in the notice, including *Quercus hinckleyi*, were treated as being newly petitioned on October 12, 1982. On October 13, 1983, and on or about that date every year thereafter through 1986, the Service made one-year findings that the petition to list *Quercus hinckleyi* was warranted but precluded by other listing actions of higher priority. Biological data, supplied by Miller and Powell (1982), fully support a listing of *Quercus hinckleyi* as threatened. The September 16, 1987, proposal (52 FR 34966) to list *Quercus hinckleyi* is threatened was based primarily on Miller and Powell's biological data and constituted the final finding requirement of Section 4(b)(3)(B) of the Act for the petition on this species.

Summary of Comments and Recommendations

In the September 16, 1987, proposed rule 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 Alpine Avalanche on October 8, 1987.

Three comments were received. Comments by the two botanists who represent the Texas Parks and Wildlife Department on the U.S. Fish and Wildlife Service's Texas Plant Recovery Team, supported the listing but indicated their feeling that Hinckley oak should be listed as endangered rather than threatened. They questioned the Service's assertion in the proposal that Hinckley oak has good recovery potential mentioning such problems as the need for a better understanding of the species' habitat preferences, potential problems with hybridization and genetic contamination in any projects dealing with re-introduction or population augmentation, and the difficulty of maintaining recovery cooperation and coordination with agencies and individuals over time. *Response:* The Service agrees these problems may make recovery difficult, but feels the problems can all be overcome. In addition, none of the Hinckley oak populations appear to be in immediate danger of destruction and this is the principal reason for listing the species as threatened rather than endangered. If declines in the species occur after listing, then Hinckley oak will be reclassified as endangered.

The recovery team members had several other comments. *Comment:* The benefit of collecting acorns for population establishment projects should be weighed against possible damage from the loss of potential recruits to the population. *Response:* If acorns are collected for propagation or population establishment, care will be taken to collect only a small fraction of any year's seed crop. *Comment:* Past and present population counts should be taken lightly because of the highly subjective nature of counting plants that grow in clonal groups. *Response:* The reference to population counts as evidence for a decline in one of the populations has been deleted from the final rule. Also, a statement has been included warning that the population counts included in the rule are highly subjective estimates. *Comment:* The type locality population may be suffering from disease or insect predation. *Response:* The information has been included in the "Summary of Factors" section of this final rule. *Comment:* Information concerning the discovery of the population near Shafter is incorrect. *Response:* The final rule has been corrected. *Comment:* More effort should be expended searching for Hinckley oak within the range represented by late Pleistocene fossil evidence. *Response:* Additional searches for undiscovered populations will be part of the recovery program for this species.

The other comment letter was received from a professional botanist with many years experience studying the botany of the Texas Trans-Pecos region. The botanist neither supported nor opposed the listing, but made several corrections to the collecting history of the species and provided other additional information. *Response:* The corrections and appropriate additional information have been included in the final rule.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that *Quercus hinckleyi* should be classified as a threatened 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 *Quercus hinckleyi* Muller (Hinckley oak) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* In 1986, Texas highway 67 was expanded and the road is now close to the Hinckley oak population near Shafter (Poole, Texas Natural Heritage Program Biologist, pers. comm., 1986). Further expansion or a realignment of the highway may eliminate all or part of the population.

Any change in grazing practices is a potential threat to the three populations in The Solitario. The land presently is used for cattle grazing and at current stocking levels it is unlikely the plants will be damaged. However, nothing prevents the landowner from increasing cattle numbers or introducing other domestic livestock, such as goats, that could easily reach and browse Hinckley oaks. Development of this area as an exotic game ranch is another possible grazing change and some species of exotic game could severely damage Hinckley oak. Exotic game ranching has become a profitable alternative to raising cattle or sheep in other parts of Texas, and west Texas ranchers are also considering this potential income source.

B. *Overutilization for commercial, recreational, scientific, or educational purposes.* The attractive Hinckley oak has potential as a cultivar. Propagation research was conducted several years ago (B.J. Simpson, Texas A&M Research and Extension Center, Dallas, Texas, pers. comm., 1987), but the work was discontinued when the seedlings being grown were determined to be hybrids. Although plants are grown easily from acorns, some people wanting plants to sell or to continue propagation research may want to take whole plants. Only one population is easily accessible and this population likely would receive the most collecting pressure. This population is already small and any loss of plants would be detrimental. There have been several reported instances of acorns being illegally taken from this population, but the actual impact of acorn collecting is unknown.

C. *Disease or predation.* Native deer, small mammals, and birds all eat the

acorns of Hinckley oak. In a desert environment where food sources are often scarce, most of the annual acorn crop likely is consumed by predators. The potential value of predators as agents of seed dispersal has not been assessed. As mentioned in Factor A, the introduction of non-native animal predators remains a potential threat. There is evidence of disease or insect predation at the type locality population. The leaf epidermis of green leaves disintegrates and webs are found on the leaves and branches. The frequency and severity of this infestation is unknown.

D. *The inadequacy of existing regulatory mechanisms.* Hinckley oak is not currently protected by Federal or State law.

E. *Other natural or manmade factors affecting its continued existence.* Genetic swamping of small Hinckley oak populations is possible whenever Hinckley oaks grow near more abundant oak species with which they can hybridize. Simpson (pers. comm., 1987) reports that *Quercus pungens* var. *vaseyana* (Vasey oak) is a contaminating pollinator that regularly causes hybrid seed production at one Hinckley oak population.

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 final rule. Based on this evaluation, the preferred action is to list *Quercus hinckleyi* as threatened. This action seems appropriate because although this species has a small population size and limited distribution, none of the populations are in imminent danger of destruction. However, *Quercus hinckleyi* is not currently protected by law and if protective measures are not taken, the species could become endangered in the foreseeable future. The reasons for not designating critical habitat 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 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," *Quercus hinckleyi* is threatened by taking, an activity difficult to control and not regulated by the Endangered Species Act with respect to plants, except for a prohibition against 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 and increase enforcement problems. All involved parties and landowers have been notified of the location of *Quercus hinckleyi* and the importance of protecting its habitat. Protection of this species' habitat will be addressed through the recovery process and through section 7 of the Act.

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 at the earliest opportunity. Actions that may benefit Hinckley oak include fencing and continued propagation studies for possible introduction of plants back into native habitat. 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 being designated. Regulations implementing this interagency cooperation provision of the Act are codified at 50 CFR Part 402. 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 usual result of a section 7 consultation, if jeopardy is found, is modification and not cancellation of a proposed action. The only possible Federal activity involving *Quercus hinckleyi* is Federal Highway Administration funding of any maintenance or widening activities for Texas highway 67.

The Act and its implementing regulations found at 50 CFR 17.71 set forth a series of general trade prohibitions and exceptions that apply to all threatened plants. All trade prohibitions of section 9(a)(2) of the Act, implemented by 50 CFR 17.71, apply. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to import or export any threatened plant, transport it in interstate or foreign commerce in the course of a commercial activity, sell or offer it for sale in interstate or foreign commerce, or remove it from areas under Federal jurisdiction and reduce it to possession. Seeds from cultivated specimens of threatened plant species are exempt from these prohibitions provided that a statement of "cultivated origin" appears on their containers. Certain exceptions can apply to agents of the Service and State conservation agencies. The Act and 50 CFR 17.72 also provide for the issuance of permits to carry out otherwise prohibited activities involving threatened species under certain circumstances. With respect to *Quercus hinckleyi*, it is anticipated that few trade permits would ever be sought or issued because although Hinckley oak is presently cultivated to a limited extent, it is not common in cultivation or in the wild. Requests for copies of the regulations on plants and inquiries regarding them may be addressed to the Permit Branch, Office of Management Authority, U.S. Fish and Wildlife Service, Washington, DC 20240 (703/343-4955).

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

Miller, D.J., and A.M. Powell. 1982. Status report on *Quercus hinckleyi*. U.S. Fish and Wildlife Service, Endangered Species Office, Albuquerque, NM. 6 pp.

Muller, C.H. 1951. The oaks of Texas. Contributions from the Texas Research Foundation 1:40-41.

Van Devender, T.R., C.E. Freeman, and R.D. Worthington. 1978. Full-glacial and recent vegetation of Livingston Hills, Presido County, Texas. Southwestern Naturalist 23:289-302.

Author

The primary author of this final rule is Charles McDonald, Endangered Species Office, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766–3972 or FTS 474–3972). Status information was provided by Dennis J. Miller, Chihuahuan Desert Research Institute, Alpine, Texas, and A. Michael Powell, Sul Ross University, Alpine, Texas.

List of Subjects in 50 CFR Part 17

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

Regulation Promulgation

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

PART 17—[AMENDED]

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.*); Pub. L. 99–625, 100 Stat. 3500 (1986), unless otherwise noted.

2. Amend § 17.12(h) by adding the following, in alphabetical order under the family Fagaceae, 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					
*	*	*	*	*	*	
Fagaceae—Oak family:						
Quercus hinckleyi	Hinckley oak	U.S.A. (TX)	T	318	NA	NA
*	*	*	*	*	*	

Dated: August 11, 1988.

Susan Recce,

Assistant Secretary for Fish and Wildlife and Parks.

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