

**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 the Fresno Kangaroo Rat**

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

**ACTION:** Final rule.

**SUMMARY:** The Service determines endangered status and critical habitat for the Fresno kangaroo rat. This small, hopping mammal is restricted to the native grasslands of Fresno County in the San Joaquin Valley of California. From 1938 to April 1981, about 90 percent of the approximately 100,000 acres of these grasslands was destroyed by agricultural development. Just in the period of April to November 1981, 34 percent of the remaining habitat was eliminated, and the loss of additional areas appears imminent. Moreover, most of the native grasslands still in existence are being adversely modified through grazing by domestic livestock. Although there are still about 6,417 acres of potentially suitable habitat, a recent survey found only about 857 acres to be actually occupied by the kangaroo rat. This rule implements the protection of the Endangered Species Act of 1973, as amended, for the Fresno kangaroo rat.

**DATES:** The effective date of this rule is March 1, 1985.

**ADDRESSES:** The complete file for this rule is available for inspection during normal business hours, by appointment, at the Service's Regional Office, Lloyd 500 Building, Suite 1692, 500 N.E. Multnomah Street, Portland, Oregon 97232.

**FOR FURTHER INFORMATION CONTACT:** Mr. Sanford R. Wilbur at the above address (503/231-6131 or FTS 429-6131).

**SUPPLEMENTARY INFORMATION:**

**Background**

The Fresno kangaroo rat (*Dipodomys nitratoides exilis*) is a small, hopping mammal found only in the San Joaquin Valley of central California. It was described by Merriam (1894) from specimens collected in 1891 at the town of Fresno in Fresno County. It is the

smallest of the kangaroo rats of California, having a head and body length of 211 to 267 millimeters (8¼ to 10½ inches) and a tail length of 120 to 162 millimeters (4¾ to 6¼ inches). In color, it is dark yellowish buff above and white below (Knapp, 1975). Like most other kangaroo rats, it dwells in burrows and eats seeds, which it carries about in its large cheek pouches. It appears to have been always restricted to the native alkali sink-open grassland plant community of western Fresno County. Its original range is not entirely known, but probably covered an area of about 250,000 acres, extending in the north to the San Joaquin River, in the east to the town of Fresno, in the south to the Kings River, and in the west to the Fresno Slough (Hoffman, 1974).

Shortly after its discovery in 1891, the Fresno kangaroo rat evidently became rare in response to agricultural development in its habitat, and for many years it was thought to be extinct. In 1933, however, it was rediscovered (Culbertson, 1934). A survey in 1938 indicated the presence of about 100,000 acres of native alkali sink vegetation within the original range of the kangaroo rat (Knapp, 1975). Because of the continued growth of agriculture and urbanization, the natural habitat declined to an estimated 15,000 acres by 1975 (Koos, 1979). An aerial survey in April 1981, located about 10,000 acres of apparently suitable habitat. By November 1981, however, much of this land had been converted to agriculture, leaving approximately 6,417 acres of potentially suitable habitat. Field studies in 1981-1982 found only about 857 acres, mostly State-owned, to actually be occupied by the kangaroo rat (Hoffman and Chesemore, 1982). Nearly all of the other remaining potential habitat has deteriorated badly because of heavy grazing by domestic livestock. Some of this habitat will probably be converted to agriculture in the near future, and all of it may be eliminated, unless conservation measures are implemented.

In the Federal Register of December 30, 1982 (47 FR 58454-58460), the Fresno kangaroo rat was included in category 1 of the Service's Review of Vertebrate Wildlife, meaning that there was substantial information on hand to support the biological appropriateness of a listing proposal. In the Federal Register of November 21, 1983 (48 FR 52608-52611), the Service published a proposed rule to determine endangered status and critical habitat for the Fresno kangaroo rat. In the Federal Register of February 9, 1984 (49 FR 4951), the Service issued a notice reopening the

public comment period on the proposal for 30 days.

#### Summary of Comments and Recommendations

In the proposed rule of November 21, 1983, and associated notifications, all interested parties were requested to submit information that might contribute to the development of a final rule. Appropriate State and Federal agencies, county governments, scientific organizations, and other concerned parties were contacted and requested to comment. A newspaper notice, inviting public comment, was published in the *Los Angeles Times* on February 24, 1984.

Three comments were received. The California Department of Fish and Game supported the proposal, but recommended that about 4,800 acres of land be added to the designation of critical habitat. This land is not cultivated, has supported the Fresno kangaroo rat in the past, and may still do so. The Service cannot make this additional designation in this final rule. To do so would require a new public comment period on the additional lands and an expanded economic analysis pursuant to section 4(b)(2) of the Act. Those requirements would involve a considerable delay in covering the Fresno kangaroo rat by the Act, and thus might place the survival of the species in greater jeopardy. The Service is thus proceeding at this time with a final rule to determine endangered status for the species and to determine the originally proposed areas as critical habitat, but will also issue a notice opening a new public comment period with respect to California's recommendation. Following this comment period, a final administrative decision will be made on whether to designate these additional lands as critical habitat.

A professional mammalogist suggested that the Service withhold a final rule, because there are questions about the taxonomic validity of the subspecies *Dipodomys nitratooides exilis*, and because the other two recognized subspecies of the species *D. nitratooides* (*D. n. brevinasus* and *D. n. nitratooides*, found to the west and south of *D. n. exilis*) might also warrant addition to the List of Endangered and Threatened Wildlife. The Service realizes that taxonomists often disagree about whether a particular population warrants a subspecific designation, but, in the present case, has chosen to follow the standard mammalogical reference for North America (Hall, 1981) and pertinent recent studies (Hafner, 1976; Hoffman, 1974), which indicate that *D. n. brevinasus*, *D. n. exilis*, and *D. n. nitratooides* are separate subspecies.

The Service will attempt to gather data on *D. n. revinasus* and *D. n. nitratooides*, and, if appropriate, will issue a proposal to add these subspecies to the List of Endangered and Threatened Wildlife.

The Bureau of Reclamation stated that there is presently no conflict between its activities and the determination of critical habitat for the Fresno kangaroo rat. The construction of a canal is being considered near the involved area, but additional contacts with the Bureau indicated that construction has not yet been authorized and that the contemplated route is well to the west of the critical habitat area. The Bureau also suggested that privately owned land be excluded from the critical habitat area, while more State-owned land be added. Land ownership is one of many factors which must be considered when designating an area as critical habitat. Pursuant to section 4(b)(2) of the act, the Service may exclude an area from critical habitat if the benefits of such exclusion outweigh the benefits of inclusion, unless the failure to designate the area will result in extinction of the species. The Bureau did not show that the benefits of excluding the privately owned land outweigh the benefits of its inclusion. The Service did send notice of the proposal to private landowners in the area, but received no response.

#### Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the Fresno kangaroo rat 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, revised at 49 FR 38900, October 1, 1984) were followed. A species may be determined to be endangered or threatened due to one or more of the five factors described in section 4(a)(1). These factors and their application to the Fresno kangaroo rat (*Dipodomys nitratooides exilis*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* The survival of the Fresno kangaroo rat is closely associated with conditions of soil and vegetation. Its requirements in this regard seem even more restrictive than those of most kangaroo rats. It must have a land surface with hummocks as sites for its extensive, but shallow burrow systems, and a substrate of suitable compactness to permit burrow

construction. A relatively dense growth of vegetation is required as cover for escape from predators and as a source of food. Conversion of an area of native vegetation for crop production completely eliminates the use of that area by the Fresno kangaroo rat. This animal, unlike some other rodents, is not known to utilize areas that have been cultivated or irrigated. As indicated in the "Background" above, however, nearly all of the original habitat of the kangaroo rat has been taken over by agriculture, and the process is continuing. Associated urbanization has also reduced the amount of native vegetation.

Of the remaining potential habitat of the kangaroo rat, most is being adversely affected by livestock grazing. Evidence indicates that such grazing has a substantial impact on both the distribution and population density of the kangaroo rat. The largest kangaroo rat populations are associated with the least grazing pressure (Koos, 1977). Mean population densities were found to be about 6.0 individuals per acre in an ungrazed area, but only about 2.5 per acre in a grazed area (Warner, 1976). Grazing may adversely influence kangaroo rat numbers by modifying vegetation structure, reducing escape cover, and decreasing food availability. The livestock may also directly damage the shallow burrows of the kangaroo rat (Koos, 1979).

*B. Overutilization for commercial, recreational, scientific, or educational purposes.* Not known to be a problem.

*C. Disease or predation.* Not known to be a problem at present, but could be potentially disastrous if the habitat of the kangaroo rat becomes excessively restricted.

*D. The inadequacy of existing regulatory mechanisms.* The California State Fish and Game Commission lists the Fresno kangaroo rat as endangered and, therefore, regulations are in effect that prohibit taking. The main problem of the kangaroo rat, however, is not direct taking, but habitat loss to agricultural development and grazing.

*E. Other natural or manmade factors affecting its continued existence.* Hoffman and Chesmore (1982) suggested that the combination of a drought in 1977 and possible competition with the Heermann's kangaroo rat (*Dipodomys heermanni*) may have caused the extirpation of the Fresno kangaroo rat in areas of marginal habitat.

The decision to determine endangered status for the Fresno kangaroo rat was based on an assessment of the best available scientific and commercial information and of past, present, and

probable future threats to the species. Critical habitat is being determined because it would be prudent to do so and because the areas of habitat utilized by the species are generally well defined. A decision to take no action would exclude the Fresno kangaroo rat from needed protection pursuant to the Endangered Species Act. A decision to determine only threatened status would not adequately express the drastic distributional decline of the species and the continued threats posed to the remaining populations. Therefore, no action or listing as threatened would be contrary to the purposes and policies of the Act and the listing criteria in section 4(a).

#### Critical Habitat

Section 4(a)(3) of the Endangered Species Act, as amended, 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, 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 the species, at the time it is listed in accordance with the provisions of section 4 of the Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographic area occupied by the species at the time it is listed in accordance with the provisions of section 4 of the Act, upon a determination that such areas are essential for the conservation of the species.

The critical habitat of the Fresno kangaroo rat comprises about 857 acres in western Fresno County, California. It is located generally to the south of the San Joaquin River, to the west of the town of Kerman, to the north of the Fresno Slough Bypass, and to the east of the Fresno Slough. Of this land, about 565 acres compose the State of California's Alkali Sink Ecological Reserve or are scheduled for addition to the Reserve, about 20 acres are part of the State-owned Mendota Wildlife Management Area, and the remainder is privately owned.

In considering designation of critical habitat, 50 CFR 424.12(b) requires focus on the biological or physical constituent elements within the defined area that are essential to the conservation of the species involved. With respect to the Fresno kangaroo rat, the area proposed as critical habitat satisfies all known

criteria for the ecological, behavioral, and physiological requirements of the species. This area provides sufficient vegetation cover for escape from predators and to serve as a food source, land surface with hummocks to serve as secure burrowing sites, and substrate of suitable compactness to permit burrow construction. This area may not include the entire habitat of the Fresno kangaroo rat. The kangaroo rat could be discovered on or reintroduced to other areas within the general locality described above. Therefore, modifications to the critical habitat designation may be proposed in the future.

Subsection 4(b)(8) of the Act requires that, to the maximum extent practicable, any determination of critical habitat be accompanied by a brief description and evaluation of those activities which, in the opinion of the Secretary, may adversely modify such habitat if undertaken, or may be affected by such designation. In the case of the Fresno kangaroo rat, as previously indicated, conversion of native vegetation for agricultural use destroys suitable habitat. Moderate to heavy livestock grazing adversely modifies habitat, so that the number of Fresno kangaroo rats that can be supported is severely reduced. Any other activities that disturb the native vegetation and ecosystem would probably also adversely affect the kangaroo rat. Conversely, the same kinds of actions could be affected by the protection of the critical habitat of the kangaroo rat, if they are likely to adversely modify such habitat, and if they are authorized, funded, or carried out by a Federal agency (see "Available Conservation Measures," below).

Section 4(b)(2) of the Act requires the Service to consider economic and other impacts of specifying a particular area as critical habitat. In conjunction with the proposal to determine endangered status and critical habitat for the Fresno kangaroo rat, the Service notified Federal agencies that may have jurisdiction over the involved areas. These agencies and other interested parties were requested to submit information on economic or other impacts of the proposed measure. No such information was received, and no activities involving Federal agencies are presently known that may have an impact on the habitat of the Fresno kangaroo rat or be affected by the critical habitat designation.

#### Available Conservation Measures

Conservation measures provided to species listed as endangered or

threatened pursuant to the 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 Act provides for possible land acquisition and cooperation with States, and requires recovery actions. Such actions are initiated by the Service following listing. The protection required of Federal agencies, and taking and harm 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 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 in **Federal Register** of June 29, 1983, 48 FR 29990). 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 consultation with the Service. No Federal activities are currently known that may affect the Fresno kangaroo rat or its critical habitat.

The Act, and its implementing regulations found at 50 CFR 17.21, sets forth a series of general prohibitions and exceptions that apply to all endangered wildlife. These prohibitions, in part, make it illegal for any person subject to the jurisdiction of the United States to take, import or export, ship in interstate commerce in the course of a commercial activity, or sell or offer for sale any Fresno kangaroo rat in interstate or foreign commerce. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that was illegally taken. Certain exceptions will apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife under certain circumstances. Regulations governing such permits are codified at 50 CFR 17.22. Such permits are available for

scientific purposes or to enhance the propagation or survival of the species.

The Service will now review the Fresno kangaroo rat to determine whether it should be considered for placement upon the Annex of the Convention on Nature Protection in the Western Hemisphere, and whether it should be considered for other appropriate international agreements.

**National Environmental Policy Act**

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

**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 rule 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 Fresno kangaroo rat. The critical habitat is located on State and private lands in western Fresno County, California. There is no known involvement of Federal funds or permits for the State and 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 Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240.

**References**

Culbertson, A.E. 1934. Rediscovery of *Dipodomys nitratoides exilis*. J. Mamm. 15:161-162.  
 Hafner, M.S. 1976. Density, distribution, and taxonomic status of *Dipodomys nitratoides nitratoides* Merriam, 1894 (Rodentia—Heteromyidae). Tech. Rept. to California Dept. Fish and Game, 15 pp.

Hall, E.R. 1981. The Mammals of North America. John Wiley and Sons, New York, 2 vols.  
 Hoffinan, M.W., and D.L. Chesemore. 1982. Distribution and status of the Fresno kangaroo rat. *Dipodomys nitratoides exilis*. California Dept. Fish and Game, Nongame Wildl. Investig. Final Rept., Project E-W-5, Job IV-4.1 (draft).  
 Hoffman, W.M. 1974. The Fresno kangaroo rat study, 1974. California Dept. Fish and Game, Special Wildl. Investig. Final Rept., Project W-54-R, Job II-5.4.  
 Knapp, D.K. 1975. The Fresno kangaroo rat study, 1975. California Dept. Fish and Game, Nongame Wildl. Investig. Final Rept., Project W-54-R-7, Job I-1.8.  
 Koos, K.A. 1977. The Fresno kangaroo rat study, 1977. California Dept. Fish and Game, Nongame Wildl. Investig. Final Rept., Project E-1-1, Job IV-1.1.  
 Koos, K.A. 1979. The Fresno kangaroo rat study, 1978. California Dept. Fish and Game, Nongame Wildl. Investig. Final Rept., Project E-W-2, Job IV-2.0.  
 Merriam, C.H. 1894. Preliminary descriptions of eleven new kangaroo rats of the genera *Dipodomys* and *Perodipus*. Proc. Biol. Soc. Washington 7:1-64.  
 Warner, D.R. 1976. The effects of grazing on *Dipodomys nitratoides exilis* in an alkali sink community. M.S. thesis, California State University, Fresno.

**Author**

The primary author of this rule is Ronald M. Nowak, Office of Endangered Species, U.S. Fish and Wildlife Service, Washington, D.C. 20240 (703/235-1975 or FTS 235-1975).

**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:

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. Section 17.11(h) is amended by adding the following, in alphabetical order, to the List of Endangered and Threatened Wildlife under "MAMMALS:"

**§ 17.11 Endangered and threatened wildlife.**  
 \* \* \* \* \*  
 (h) \* \* \*

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
Rat, Fresno kangaroo	<i>Dipodomys Nitratoides exilis</i>	U.S.A. (CA)	Entire	E	169	17.95(a)	NA

3. Section 17.95(a), "Mammals," is amended by adding the critical habitat of the Fresno kangaroo rat after that of the Florida manatee as follows:

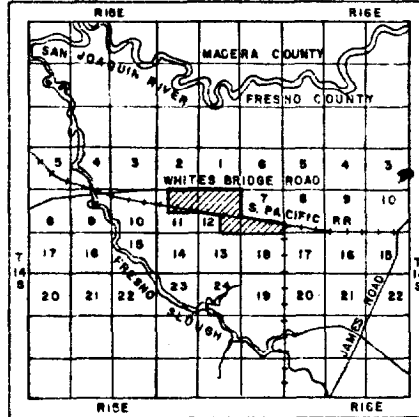
§ 17.95 Critical habitat—fish and wildlife.

(a) \* \* \*

Fresno kangaroo rat (*Dipodomys nitratoides exilis*)

California. An area of land, water, and airspace in Fresno County, with the following components (Mt. Diablo Base Meridian): T 14 SR 15 E, E½ NW¼ and NE¼ Sec. 11, that part of W½ Sec. 12 north of the Southern Pacific Railroad, E½ Sec. 12; T14S R16E, that part of Sec. 7 south of the Southern Pacific Railroad.

Within this area, the major constituent elements that are known to require special management considerations or protection are the hummocks and substrate that provide sites for burrow construction, and the natural alkali sink-open grassland vegetation that provides food and escape cover.



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Dated: January 2, 1985.

**J. Craig Potter,**  
Acting Assistant Secretary for Fish and Wildlife and Parks.

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