

DEPARTMENT OF THE INTERIOR**Fish and Wildlife Service****50 CFR Part 17****Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Tipton Kangaroo Rat**

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines endangered status for the Tipton kangaroo rat, a mammal restricted to south-central California. The historical range of this rodent has been substantially reduced by agricultural development. The subspecies is jeopardized by continuing loss of native habitat from agricultural development and other actions that modify and fragment extant occupied habitats. This rule implements the protection provided by the Endangered Species Act of 1973, as amended, for the Tipton kangaroo rat.

EFFECTIVE DATE: August 8, 1988.

ADDRESSES: The complete file for this final 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, U.S. Fish and Wildlife Service, Lloyd 500 Building, 500 NE. Multnomah Street, Suite 1692, Portland, Oregon 97232, (503/231-6131 or FTS 429-6131).

SUPPLEMENTARY INFORMATION:**Background**

Kangaroo rats (*Dipodomys*) are small mammals that travel rapidly by hopping on their hind legs, and that transport food in their external cheek pouches. They inhabit mainly dry, open country of western North America, where they construct burrows for shelter and often for storage of food. The Tipton kangaroo rat (*Dipodomys nitratooides nitratooides*) was distributed historically in the Tulare Lake Basin of the San Joaquin Valley, encompassing portions of Fresno, Kings, Tulare, and Kern Counties, California (Williams 1985). Merriam (1894) originally described it as a subspecies of the widely-distributed species *Dipodomys merriami*. Grinnell (1920, 1921) later separated it as a subspecies of the "Fresno" kangaroo rat (*D. nitratooides*). Adult weight is 1.2 to 1.3 ounces (35 to 38 grams), combined

head and body length is 3.9 to 4.3 inches (100 to 110 millimeters), and tail length is 4.8 to 5.1 inches (125 to 130 millimeters). Adaptations for bipedal locomotion include elongated hind limbs, a long tail, a short neck, and a large head. Dorsal pelage is a dark, yellowish tan, while ventral coloration is white. A white stripe also extends laterally across each flank and along the sides of the prominently-tufted tail (Williams 1985).

Valley saltbush scrub and valley sink scrub communities provide the habitat for the Tipton kangaroo rat. The characteristic plants in these sparsely-vegetated communities are iodinebush (*Allenrolfea occidentalis*), saltbush (*Atriplex* spp.), Mormon-tea (*Ephedra californica*), red-sage (*Kochia californica*), and sea-blite (*Suaeda* spp.) (Williams 1985, 1986). The Tipton kangaroo rat inhabits the soft, friable soils on the floor of the Tulare Lake Basin that escape seasonal flooding. The subspecies, however, may also occur on surrounding higher sites (Williams 1986). It excavates shallow burrow systems that are often located on slightly-elevated mounds around the base of shrubs where wind-deposited soils have accumulated. This behavior apparently reduces the chances of drowning during seasonal flooding (Williams 1985). The Tipton kangaroo rat feeds primarily on seeds, though it also eats green vegetation and insects (Eisenberg 1963).

The Tipton kangaroo rat plays an integral role in the valley plant communities by distributing seeds and, thus, influencing plant distribution. It also serves as prey for a variety of carnivores, such as the badger (*Taxidea taxus*) and kit fox (*Vulpes macrotis*). Its burrows serve to aerate soils and increase vegetative productivity. Moreover, these burrows are utilized as places of concealment and refuge for a variety of other small wildlife species, including the federally endangered blunt-nosed leopard lizard (*Gambelia silus*).

The geographic range of the Tipton kangaroo rat historically encompassed about 1,716,480 acres (695,174 hectares) within the San Joaquin Valley, extending from Lemoore and Hanford (Kings County) in the north; southeast along State Route 99 from Tipton to Pixley (Tulare County), Delano, Bakersfield, and Arvin (Kern County); westward to the southern, eastern, and northern shores of the former Buena Vista Lake (Kern County); and then northward through the Antelope Plain along a line marked by Buttonwillow, Lost Hills (Kern County), Kettleman City (Kings County), and Westhaven (Fresno

County). As of July 1985, only 63,367 acres (25,665 hectares), encompassing 3.7 percent of its historical range, were still occupied (Williams 1985). Approximately 6,434 acres (2,606 hectares) of this remaining habitat are administered by local, State, and Federal governments. These public lands contain low to moderate density populations of Tipton kangaroo rats, which are relatively secure from habitat loss (Williams 1985). The principal factor resulting in this reduction in habitat has been conversion of native wildlands for agricultural production.

The Tipton kangaroo rat was included in the Service's Review of Vertebrate Wildlife in the Federal Register of September 18, 1985 (50 FR 37958), as a category 2 candidate species. This categorization meant that available information indicated that a proposal for listing as endangered or threatened was possibly appropriate, but that conclusive data on biological vulnerability and threat were not available to support a proposed rule. Completion of a subsequent status report for this rodent (Williams 1985) provided additional information on which to base a proposed rule. The Tipton kangaroo rat was proposed as an endangered species on July 10, 1987 (52 FR 26040-26043).

Summary of Comments and Recommendations

In the July 10, 1987, proposed rule (52 FR 26040-26043) and associated notifications, all interested parties were requested to submit factual reports or information that might contribute to the development of a final rule. A notice reopening and extending the comment period to November 8, 1987, was published on September 9, 1987 (52 FR 33979). Appropriate State and Federal agencies, county governments, scientific organizations, biologists, and other interested parties were contacted and requested to comment. Newspaper notices inviting public comment were inadvertently not published in time for the first comment period. Therefore, the public comment period was reopened. A notice reopening the public comment period was published in the Turlock Journal (September 11, 1987), Daily Midway Driller (September 11, 1987), Los Angeles Times (September 11, 1987), Fresno Bee (September 11, 1987), Bakersfield Californian (September 11, 1987) and Hanford Sentinel (September 11, 1987).

During both comment periods a total of ten written comments were received. Comments were submitted by two Federal agencies, two State agencies, one conservation organization, and five individuals. Six responses supported

listing, one response opposed listing, and three responses expressed no opinion regarding listing. Both responding Federal agencies, the U.S. Bureau of Land Management and U.S. Bureau of Reclamation, stated that Federal endangered status for this rodent would not affect agency activities or plans. Both responding State agencies, the California Department of Fish and Game and California Energy Commission, supported the proposed ruling to list the Tipton kangaroo rat as endangered.

Three of the remaining six comments received were from biologists familiar with this species and strongly supported the listing. A single conservation group also supported listing. None of the respondents, however, provided additional information regarding current status or threats.

A pest control company stated that its rodent control operations had not been undertaken within Tipton kangaroo rat habitat. No information relating to activities of other pest control firms within this area was provided, nor were specific comments regarding Federal listing.

A private individual opposed to the proposed listing questioned whether listing of species, such as "rats" was in the best interest of the public. No additional information regarding the status of the Tipton kangaroo rat was provided by this commentator.

Summary of Factors Affecting the Species

After a thorough review and consideration of all information available, the Service has determined that the Tipton kangaroo rat should be classified as an endangered species. Procedures found at section 4 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 the Tipton kangaroo rat (*Dipodomys nitratoides nitratoides*) are as follows:

A. *The present or threatened destruction, modification, or curtailment of its habitat or range.* In a recent status survey, Dr. Daniel F. Williams (1985) of California State University, Stanislaus, concluded that habitat loss associated with agricultural development has been the principal factor contributing to the decline of the Tipton kangaroo rat. He attributed other habitat losses to construction of roads, canals, railroads,

and structures. The known historical range of this rodent, that encompassed approximately 1,716,480 acres (695,174 hectares), has been reduced to about 3.7 percent, or roughly 63,367 acres (25,665 hectares). Approximately 6,434 acres (2,606 hectares) of the remaining range harbors relatively secure populations. This area includes federally-administered lands at Pixley National Wildlife Refuge, State of California lands at the Allensworth Ecological Preserve, and privately-owned and managed lands administered by The Nature Conservancy at the Paine Wildflower Preserve. Private individuals or corporations own the remaining habitats. Although these habitats generally appear to be unstable for farming because of seasonal inundation and high soil alkalinity, land conversion of kangaroo rat habitat continues to occur.

Williams (1985) observed instances where remaining habitats were being converted to agricultural production. He also estimated rates of conversion of remaining habitats by comparing extant unmodified habitats within the Tulare Lake Basin. Approximately 110,031 acres (44,562 hectares) out of the total 2,556,288 acres (1,035,296 hectares) on the floor of the Tulare Lake Basin was undeveloped by late 1983; a subsequent comparison in June 1985 showed that 75,430 acres (30,549 hectares) remained undeveloped. The construction of evaporation ponds for diversion of salt-laden waters from adjacent cultivated fields also threatens extant habitat (Williams 1985). Remaining habitat typically consists of small, highly fragmented parcels on private land, where long-term protection is not assured.

Constituent Tipton kangaroo rat populations are small in size, typically surrounded by agriculturally-developed lands, and highly vulnerable to extirpation from single catastrophic events such as flooding, disease, predation, or excessive application of rodenticides.

B. Overutilization for commercial, recreational, scientific, or educational purposes. Not applicable.

C. Disease or predation. Neither disease nor predation is known to result in significant population declines.

D. The inadequacy of existing regulatory mechanisms. Existing State and Federal regulations do not afford the Tipton kangaroo rat adequate protection. Agencies involved with permitting or funding agricultural development, that continues to reduce the animal's remaining habitat and increase the potential for the extirpation of increasingly isolated populations, are

not presently required to confer with agencies knowledgeable about the distribution of this rodent. State and Federal governments also do not presently require implementation and protective measures for the species and its habitat during application of pesticides.

E. Other natural and manmade factors affecting its continued existence. Many of the remaining "pockets" of habitat for this rodent are adjacent to or surrounded by agriculturally-developed land. The small size and highly isolated nature of these remaining pockets could result in their eventual extirpation because of inbreeding or stochastic events. Assuming a population density of about six kangaroo rats per acre, an equal sex ratio, and a population where all individuals contribute to breeding, Williams (1985) estimated that the minimum contiguous block necessary to sustain a viable population on a long-term basis may be between 823 and 2,806 acres (333 to 1,136 hectares). Because the average size of extant contiguous habitat is less than half this size, many remaining tracts are likely too small to ensure the perpetuation of their constituent Tipton kangaroo rat populations. In addition to inbreeding, application of pesticides also may kill Tipton kangaroo rats in areas where control of "target" species, such as the California ground squirrel (*Spermophilus beecheyi*), is required. Williams (1985) provided specific recommendations for control of "pest" species while reducing the potential for inadvertent mortality of non-target species as the Tipton kangaroo rat.

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 the Tipton kangaroo rat as endangered. Threatened status would not adequately reflect the drastic decline and continued losses associated with conversion of remaining valley floor habitats. Critical habitat is not being designated for this species at this time for 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 any habitat of a species that is considered to be critical habitat at the time the species is determined to be endangered or threatened. The Service finds that designation of critical habitat for the Tipton kangaroo rat is not prudent at this time. As discussed under factors, "A" and "E" in the "Summary of

Factors Affecting the Species," the Tipton kangaroo rat is jeopardized by taking, the prevention of which is difficult to enforce. Publication of precise critical habitat descriptions and maps could make this species even more vulnerable, and increase enforcement problems. Such published descriptions and maps are not necessary to protect the habitat of the Tipton kangaroo rat, as that will be addressed through the recovery process and section 7 consultation (see following section).

Available Conservation Measures

Conservation measures provided to species listed as endangered or threatened under the Endangered Species Act include recognition, recovery actions, requirements for Federal protection, and prohibitions against certain practices. Recognition through listing encourages and results in conservation actions by Federal, State, and private agencies, groups, and individuals. The Endangered Species Act provides for possible land acquisition and cooperation with the States and requires that recovery actions be carried out for all listed species. Such actions are initiated by the Service following listing. The protection required of Federal agencies and the prohibitions against taking and harm 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.

Several Federal actions that may affect the Tipton kangaroo rat are issuance of leases for agricultural purposes on U.S. Bureau of Land Management holdings, development of evaporation ponds for salt-laden agricultural run-off by the U.S. Soil Conservation Service and U.S. Bureau of Reclamation, issuance of permits for development of oil and natural gas reserves by the Environmental Protection Agency, and water-development projects for increasing

agricultural conversion of remaining pockets of wildland habitats by the Bureau of Reclamation. Actions that may affect the Tipton kangaroo rat in these areas may also affect the federally-listed endangered San Joaquin kit fox (*Vulpes macrotis mutica*) and blunt-nosed leopard lizard, which are already protected under the provisions of the Act. No major conflicts are known or expected at this time. The involved Federal agencies already are consulting with the Service, and any additional impacts because of this listing are expected to be minimal.

The Act and implementing regulations found at 50 CFR 17.21 set 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 commercial activity, or sell or offer for sale in interstate or foreign commerce any listed species. It also is illegal to possess, sell, deliver, carry, transport, or ship any such wildlife that has been taken illegally. Certain exceptions apply to agents of the Service and State conservation agencies.

Permits may be issued to carry out otherwise prohibited activities involving endangered wildlife species under certain circumstances. Regulations governing permits are codified at 50 CFR 17.22 and 17.23. Such permits are available for scientific purposes, to enhance the propagation or survival of the species, and/or for incidental take in connection with otherwise lawful

activities. In some instances, permits may be issued during a specified period of time to relieve undue economic hardship that would be suffered if such relief were not available.

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

Eisenberg, J.F. 1963. The behavior of heteromyid rodents. Univ. California Publ. Zool. 69:1-100.
 Grinnell, J. 1920. A new kangaroo rat from the San Joaquin Valley, California. J. Mamm. 1:78-179.
 Grinnell, J. 1921. Revised list of the species in the genus *Dipodomys*. J. Mamm. 2:94-97.
 Merriam, C.H. 1894. Preliminary description of eleven new kangaroo rats in the genera *Dipodomys* and *Perodipus*. Proc. Biol. Soc. Washington 9:109-116.
 Williams, D.F. 1985. A review of the population status of the Tipton kangaroo rat, *Dipodomys nitratooides nitratooides*. Final report prepared for the U.S. Fish and Wildlife Service, Sacramento Endangered Species Office.
 Williams, D.F. 1986. Mammalian species of special concern in California. Report prepared for the California Dept. of Fish and Game, Nongame Wildlife Investigation. Report No. 86-1.

Author

The primary author of this final rule is Mr. Ted Rado, U.S. Fish and Wildlife Service, Sacramento Endangered Species Office, 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

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 § 17.11(h) by adding the following, in alphabetical order under MAMMALS, to the List of Endangered and Threatened Wildlife:

§ 17.11 Endangered and threatened wildlife.

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Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS:							
Rat, Tipton, kangaroo.....	<i>Dipodomys nitratooides nitratooides</i> .	U.S.A. (CA).....	Entire.....	E	312	NA	NA

Dated: June 27, 1988.

Susan Recce,

Acting Assistant Secretary for Fish and Wildlife and Parks.

[FR Doc. 88-15389 Filed 7-7-88; 8:45 am]

BILLING CODE 4310-55-M