

50 CFR Part 17

Endangered and Threatened Wildlife and Plants; Determination of Endangered Status for the Hualapai Vole

AGENCY: Fish and Wildlife Service, Interior.

ACTION: Final rule.

SUMMARY: The Service determines endangered status for the Hualapai vole (*Microtus mexicanus hualpaiensis*), a small mammal found in northwestern Arizona. It is very rare and occupies small patches of suitable habitat that are threatened by livestock grazing, human recreation, and other problems. This rule implements the protection of the Endangered Species Act of 1973, as amended, for the Hualapai vole.

EFFECTIVE DATE: The effective date of this rule is November 2, 1987.

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: Alisa M. Shull, Endangered Species Biologist, U.S. Fish and Wildlife Service, P.O. Box 1306, Albuquerque, New Mexico 87103 (505/766-3972 or FTS 474-3972).

SUPPLEMENTARY INFORMATION:

Background

The Mexican vole (*Microtus mexicanus*) occurs in Mexico and the southwestern United States; there are 12 subspecies (Hall 1981). It is a small, cinnamon-brown, mouse-sized mammal with a short tail and long fur that nearly covers its small, round ears. There are three subspecies in Arizona, including the Hualapai vole (*M. m. hualpaiensis*), which is the subject of this rule. The Hualapai vole is distinguished from *M. m. mogollonensis*, found to the east, by paler color of the dorsum, a shorter body, a shorter and broader skull, and a longer tail and hind foot. It is distinguished from *M. m. navaho*, found

to the northeast, by generally larger size, a longer and broader skull, and a longer tail, body, and hind foot.

Five adult specimens averaged 5.4 inches (137.2 millimeters) in head and body length, and 1.2 inches (30.2 millimeters) in tail length (Hoffmeister 1986).

Goldman (1938) described *M. m. hualpaiensis* on the basis of 4 specimens collected near the summit of Hualapai Peak in northwestern Arizona on October 1, 1923. Including these 4, a total of 15 individuals of the subspecies are now known to have been captured in the Hualapai Mountains. Nine of these are now preserved specimens. The 15 individuals were found in seven isolated localities over 61 years from 1923 through 1984.

Six voles that might possibly represent *M. m. hualpaiensis* have been collected from outside the Hualapai Mountains. Four were collected in 1981 in the Music Mountains, about 50 miles (80 kilometers) north of Hualapai Peak, but have not yet been subjected to taxonomic evaluation (Spicer *et al.* 1985). The population represented is small, and its habitat is isolated, restricted, and subject to the same degradation as habitat in the Hualapai Mountains. Hoffmeister (1986) tentatively (pending a larger sample size) reassigned two specimens collected in Prospect Valley in 1913, and previously classified as *M. m. mogollonensis*, to *M. m. hualpaiensis*. Prospect Valley is almost 90 miles (145 kilometers) northeast of the Hualapais. Reassignment was based on body and skull measurements that are closer to *M. m. hualpaiensis* than to the geographically closer *M. m. navaho*. Hoffmeister did suggest, however, that a larger sample from Prospect Valley might indicate that the two specimens "... are referable to *M. m. navaho* to which on a geographical basis they would seem referable." Due to the taxonomic uncertainty surrounding these two specimens, and their disjunct geographic distribution, their classification as *M. m. hualpaiensis* is tenuous. Even if the specimens are *M. m. hualpaiensis*, over 73 years have passed without additional records from that locality, and any represented population may no longer be extant. The Service will continue to investigate the possibility of additional specimens and localities. If the Music Mountains voles and/or the Prospect Valley voles are determined to be *M. m. hualpaiensis*, they would be covered by this rule determining endangered status for the subspecies.

The lands where *M. m. hualpaiensis* or its sign have been found consist of

both publicly and privately owned areas. The Hualapai Mountains locations include Mohave County Parks lands, Santa Fe Pacific Railroad Company land, and other publicly or privately owned land. Except for the Mohave County Parks land, the sites are managed as part of larger grazing allotments by the Bureau of Land Management (BLM). That agency is giving consideration to the welfare of the vole and is attempting to acquire one of the key sites in the Hualapai Mountains that is now privately owned. The sites in the Music Mountains are already owned and managed by BLM.

In the Hualapai Mountains, *M. m. hualpaiensis* has been found between about 5,397 and 8,400 feet (1,645 and 2,560 meters) in elevation. *Microtus mexicanus* in the Southwest is primarily associated with dry, grass/forb habitats in ponderosa pine dominated forest. Although the Hualapai vole is now found only in moist, grass/sedge along permanent or semipermanent waters (such as springs and seeps) it may be capable of occupying drier areas when grass/forb habitats are available there. The populations of *Microtus* in the Hualapai Mountains and the Music Mountains are disjunct relicts from Pleistocene times. The Hualapai vole may have become isolated when North American glaciers were retreating and the climate was becoming warmer and drier (Spicer *et al.* 1985).

In its original Review of Vertebrate Wildlife, published in the Federal Register of December 30, 1982 (47 FR 58454-58460), the Service included the Hualapai vole in category 2, meaning that information then available indicated that a proposal to determine endangered or threatened status was possibly appropriate, but was not yet sufficiently substantial to support such a proposal. A subsequent Service-funded status survey (Spicer *et al.* 1985) gathered many new data, and in its revised Vertebrate Review of September 18, 1985 (50 FR 37958-37967), the Service included the Hualapai vole in category 1, meaning that substantial information was on hand to support the biological appropriateness of proposing to list as endangered or threatened. In the Federal Register of January 5, 1987 (52 FR 306-309), the Service published a proposed rule to determine endangered status for the Hualapai vole.

Summary of Comments and Recommendations

In the proposed rule of January 5, 1987 (52 FR 306-309), and associated notifications, all interested parties were requested to submit 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 *Mohave Daily Miner* on January 25, 1987, which invited general public comment.

Three comment letters were received and all supported the proposal; they were from the Bureau of Land Management (BLM), the Arizona Game and Fish Department (AGFD), and the Arizona Chapter of the Wildlife Society. Clarifications of several points were requested and have been incorporated into the final rule. In addition the commenters covered the following:

Comment 1: Several "typographical" errors were noted including an error under factor "A" of the "Summary of Factors Affecting the Species." The proposed rule said that in a Service-funded status survey voles were found in 12 places; this should read "2 places."

Service response: These were printing errors and did not occur in the copy of the proposed rule that was sent to the Federal Register.

Comment 2: Additional potential predators on the vole include the zone-tailed, Cooper's, and Sharp-shinned hawks, and the goshawk.

Service response: These species have been added to the list under factor "C" in the "Summary of Factors Affecting the Species."

Comment 3: Under available conservation measures, it should be mentioned that BLM is pursuing water rights acquisition to benefit public lands resources and uses, including the needs of the vole.

Service response: The final rule has been modified accordingly.

Comment 4: An additional vole site, based on sign only, has been located in the Hualapai Mountains by BLM biologists.

Service response: The Service is aware of this location, and this information has been added to the final rule. However, because of the low numbers and small amount of habitat, this information does not change the status of the Hualapai vole.

Summary of Factors Affecting the Species

After a thorough review and consideration of all available information, the Service has determined that the Hualapai vole (*Microtus mexicanus hualpaiensis*) 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

population and habitat sizes of this vole, its history of rarity and vulnerability, and the multiplicity of problems that confront it. For the seasons given below, critical habitat is not being designated.

Critical Habitat

Section 4(a)(3) of the Act, as amended, requires that to the maximum extent prudent and determinable, critical habitat be designated at the time a species is determined to be endangered or threatened. The Service finds that designation of critical habitat is not prudent for the Hualapai vole at this time. Because of the rarity of the animal, its easily accessible populations, and the developing curiosity regarding it, publication of critical habitat descriptions and maps could be detrimental. No benefit can be identified that would outweigh the threats of vandalism or taking that might result from such publication. BLM is aware of the locations of the vole's populations, has acknowledged the threats to these populations, and already is actively considering them during planning. Should the Service receive additional information that would warrant reconsideration of this decision, critical habitat could be proposed in the future.

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. Some actions may be initiated prior to listing, circumstances permitting. 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, the responsible Federal agency must enter into formal consultation with the Service.

The Hualapai vole is known to occur primarily on BLM lands. BLM is the surface managing agency and would be subject to section 7 consultation if any of its actions might affect the vole. Such actions include maintenance of existing grazing leases and water rights and developments. BLM would be required to consider protection of the vole's habitat while administering such leases, and to maintain habitat without violating individual water rights that may exist. As noted above under "Critical Habitat," BLM is aware of the situation and is giving consideration to the welfare of the vole. BLM is pursuing water rights acquisition to benefit public lands resources and uses, including the need of the vole. In addition, BLM plans to fence (with Service funding) around an important vole habitat area to exclude cattle grazing. Other measures to protect habitat from grazing and excessive recreational use might also facilitate recovery of the Hualapai vole, as might further investigations of population status and biological needs.

Section 9 of 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 a 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 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 otherwise available.

National Environmental Policy Act

The Fish and Wildlife Service has determined that an Environmental Assessment, as defined by 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

- Arizona Game and Fish Commission. 1982. Threatened native wildlife in Arizona. Arizona Game and Fish Department publication. 12 pp.
- Goldman, E.A. 1934. Three new races of *Microtus mexicanus*. Journal of Mammalogy, 19:493.
- Hall, E.R. 1981. The mammals of North America. John Wiley and Sons, New York. 2 vols.
- Hoffmeister, D.F. 1986. Mammals of Arizona. The University of Arizona Press, Tucson, Arizona.
- Spicer, R.B., R.L. Glinski, and J.C. deVos, Jr. 1985. Status of the Hualapai vole (*Microtus mexicanus hualpaiensis* Goldman). Report to U.S. Fish and Wildlife Service, Office of Endangered Species, Albuquerque, New Mexico. 50 pp.

Author

The primary author of this final rule is Alisa M. Shull, Endangered Species Biologist, U.S. Fish and Wildlife Service, Albuquerque, New Mexico 87103 (505/766-3972 or FTS 474-3972).

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, 37 Stat. 984; 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, 98 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.

(h) * * *

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 Hualapai vole (*Microtus mexicanus hualpaiensis* are as follows) (information taken from Spicer *et al.* 1985, unless otherwise noted):

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

The Hualapai vole is extremely rare and has among the most restricted habitats of any North American mammal. From 1923 to the present, only 15 specimens are known to have been captured in the Hualapai Mountains. These individuals were taken at 7 localities, and sign alone was found at 3 other sites in that area. In addition, as noted above, 2 other specimens were collected in the Prospect Valley in 1913, but continued existence of any represented population is doubtful, and 4 other specimens were taken in the Music Mountains in 1981, but their identity is uncertain. The recent Service-funded status survey investigated 59 potential sites, but found voles in only 2 places and sign alone in 1 other place. These last 3 sites were characterized by isolated grass-forb vegetation in the immediate vicinity of open water or seeps, surrounded by drier, unsuitable habitat. Each site was only 3-5 yards (3-5 meters) across and 80-450 yards (75-400 meters) long. The total size of suitable vole habitat was estimated at about three-quarters of an acre (0.31 hectare), and this habitat was thought capable of supporting a minimum of 44 voles. Since the Service-funded survey, BLM biologists have located an additional site in the Hualapai Mountains. No voles were found there, but sign occurred intermittently in a drainage measuring about 1,968 feet (600 meters) long and 20 feet (6 meters) wide.

Even the few spots from which the Hualapai vole has been recorded are apparently not consistently or currently occupied. Past incompatible land management practices and periods of drought have combined to cause the deterioration of most of the habitat of the vole. The present main threat to the habitat appears to be the elimination of the ground cover of grasses, sedges, rushes, and forbs around open water and seeps, primarily by grazing and heavy recreational use, including camping and off-road vehicle activity.

Except for the Mohave County Parks land, the sites where the vole sign has been found are managed as part of

larger grazing allotments by BLM. Although the Hualapai Mountain Park is not actually part of a BLM grazing allotment, it is adjacent to grazing allotments and is unfenced along part of this boundary. Therefore, cattle from the adjacent lands do heavily graze in the park. Creekbed habitats with their succulent green vegetation are more attractive to livestock than are the drier areas surrounding them. Livestock concentrates in these moist areas, greatly reducing, if not eliminating, ground cover by both grazing and trampling. In addition to causing the loss of food and cover, the reduction of green vegetation could have a negative effect on reproductive potential of the Hualapai vole by reducing breeding stimuli.

Human recreational users are also attracted to spring areas. Due to an increased demand for outdoor recreation, additional areas of the Hualapai Mountain Park will likely be opened up for public use. The Mohave County Parks Department is also exploring the possibility of developing a three-acre lake within historic vole habitat.

In addition, the soil on the slopes of the Hualapai Mountains is mostly shallow and subject to erosion. Locally, the erosional tendencies are exacerbated by many years of heavy land use (historic road construction, heavy long-term livestock overuse, and localized, concentrated recreation) that have contributed to reduced ground cover and concentration of runoff. Water development that pipes all available water to a downstream trough may also lead to the elimination of ground cover in stream bottoms.

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

The Hualapai vole is neither sought for economic or sporting purposes nor persecuted as a pest or collected as a pet. However, because of the low number of animals, the easily accessible population areas, and the developing curiosity regarding the Hualapai vole, vandalism and taking could pose a threat. In addition, it is possible that an intensive snap trapping effort could eliminate a particular population.

C. Disease or Predation

Nothing is known about disease or predation in Hualapai vole populations. However, species of *Microtus* are usually a fundamental part of the base of the food pyramid, and many potential predators occur in the Hualapais. These predators include the coyote, gray fox, ringtail, raccoon, bobcat, striped skunk,

hog-nosed skunk, red-tailed hawk, zone-tailed hawk, Cooper's hawk, sharp-shinned hawk, goshawk, great horned owl, screech owl, spotted owl, gopher snake, Arizona black rattlesnake, black-tailed rattlesnake, striped whipsnake, and Sonoran Mountain kingsnake. In addition, predation by domestic cats could be a potential threat in the northeastern part of Hualapai Mountain Park, where a residential area is expanding in and adjacent to potential vole habitat.

D. The Inadequacy of Existing Regulatory Mechanisms

The Hualapai vole is included in Group 2 of "Threatened Native Wildlife in Arizona." Group 2 contains species or subspecies whose continued presence in Arizona is in jeopardy because of substantial population decline (Arizona Game and Fish Commission 1982). However, this listing carries no enforcement authority and provides no protection for habitat. There are no statutes specifically authorizing State conservation of threatened or endangered species, but the State can control scientific and educational collecting, and can buy and manage land.

E. Other Natural or Manmade Factors Affecting its Continued Existence

The areas of habitat supporting the Hualapai vole are relatively small and isolated. This mammal is thus fragmented into tiny populations that are subject to inbreeding and reduced genetic viability. The populations may therefore be particularly vulnerable to artificial or natural disturbances in their habitat.

Drought is an additional threat to the Hualapai vole's habitat. The impacts of drought can include reduced water flow from springs and seeps, reduced new vegetative growth, and decreased ground cover, all of which can cause increased exposure of the soil and erosion. While drought is a natural phenomenon, the effects of drought are intensified by human-caused habitat degradation.

The Service has carefully assessed the best available scientific information regarding the past, present, and probable future threats to the species in determining to make this rule final. Based on this evaluation, the preferred action is to list the Hualapai vole as endangered. A decision to take no action would exclude the Hualapai vole from protection provided by the Endangered Species Act. A decision to propose only threatened status would not adequately reflect the very small

Species		Historic range	Vertebrate population where endangered or threatened	Status	When listed	Critical habitat	Special rules
Common name	Scientific name						
MAMMALS							
Vole, hispid	<i>Microtus mexicanus hispidensis</i>	U.S.A. (AZ)	Entire	E	292	NA	NA

Dated: September 22, 1987.

Susan Recca,

Acting Assistant Secretary for Fish and Wildlife and Parks.

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