

TEHACHAPI POCKET MOUSE

Perognathus alticola inexpectatus

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Management Status: Federal: USFWS Species of Concern
California: Species of Special Concern (CDFG, 1998)

General Distribution:

The Tehachapi pocket mouse, also called the Tehachapi white-eared pocket mouse, is one of two subspecies of *P. alticola* currently recognized (Hall, 1981; Williams et al, 1993; Best, 1994). The specific epithet *alticolus* was constructed incorrectly by Rhoads (1894), and continues to be used by some authors. The correct Latin form is *alticola*, as used by Osgood (1900) and explained by Williams et al. (1993), and is the form followed herein.

P. a. inexpectatus occupies the Tehachapi Mountains from Tehachapi Pass southwest towards Gorman, as far west as Cuddy Valley near Mount Pinos, and east along the lower slopes of the San Gabriel Mountains to Elizabeth Lake (Williams et al., 1993). The other subspecies, *P. a. alticola*, is known only from outside of the WMPA in the vicinity of Little Bear Valley in the San Bernardino Mountains. It has not been observed for more than fifty years (Williams, 1986).

P. a. inexpectatus and *P. a. alticola* occupy geographically disjunct ranges, and it has been suggested that the two are specifically distinct (Sulentich, 1983). *P. alticola* is related to the Great Basin pocket mouse (*P. parvus*), and the yellow-eared pocket mouse (*P. xanthonotus*) based on similar karyotypes, although relatively great biochemical differences occur between *P. i. inexpectatus* and the other two taxa (Williams et al., 1993). The taxonomic relationships between these species still need to be resolved more clearly.

Distribution in the West Mojave Planning Area:

The range of *P. a. inexpectatus* straddles the western boundary of the WMPA between Tehachapi Pass and Sacatara Creek. Much of the western range of the subspecies is outside of the WMPA. The southeastern portion of the range of *P. a. inexpectatus* straddles the border of the WMPA along the northern slopes of the San Gabriel Mountains as far east as Elizabeth Lake. Within the WMPA, the subspecies has been recorded from Tehachapi Pass, Oak Creek Canyon, Cameron Canyon and Elizabeth Lake. Appropriate habitat still remains in Cameron Canyon, but the subspecies was not found during trapping conducted in 1981 (CNDDDB). Appropriate habitat is present within the WMPA along the southeastern flank of the Tehachapi Mountains both north and south of the known localities, and along the northern slopes of the San Gabriel Mountains between Three Points and Elizabeth Lake.

Natural History:

The Tehachapi pocket mouse is medium-sized for the genus, averaging 149 and 164 mm (5.9 and 6.5 in.) in total length for females and males, respectively (Best, 1994). Males are significantly larger than females for most external and cranial measurements (Best, 1993). Coloration is yellowish-brown heavily overlaid with black dorsally, and whitish ventrally. The ochraceous lateral line and dark facial markings are faint. The inside of the ears are whitish, the

patch at the base of the ear is white, and the ear pinna possesses a lobed antitragus. The tail is bicolored, measures slightly more than the head-body length, and is crested along the distal one-third. *P. a. inexpectatus* differs from *P. a. alticola* in larger size, darker ears and a square- rather than pentagonal-shaped interparietal bone. It is distinguished from the Great Basin pocket mouse (*P. parvus*) by its smaller size, more compressed interparietal bone and smaller baculum. The Tehachapi pocket mouse can be distinguished from the little pocket mouse (*P. longimembris*) and the San Joaquin pocket mouse (*P. inornatus*), with which it may be sympatric, by its larger size, less inflated auditory bullae, and relatively broader interorbital breadth.

Little information is available concerning the ecology of the Tehachapi pocket mouse. Other members of the species group are nocturnal granivores, foraging primarily on seeds of grasses, forbs and annuals, but also on leafy plant material and insects (Verts and Kirkland, 1988). Most other members of the genus exhibit seasonal hibernation (Verts and Kirkland, 1988), and it is expected that *P. a. inexpectatus* does as well. It has been suggested that *P. a. inexpectatus* exists in disjunct, allopatric subpopulations (Sulentich, 1983). Given these factors, the subspecies can be difficult to detect, particularly at certain times of the year.

Habitat Requirements:

The Tehachapi pocket mouse occupies native and non-native grasslands, Joshua tree woodland, pinyon-juniper woodland, yellow pine woodland and oak savannah (Williams et al., 1993). It has been captured in open pine forests at higher elevations (Huey, 1926), and in chaparral and coastal sage communities at lower elevations (Best, 1994). It has also been detected in rangeland and fallow grain fields (Sulentich, 1983). It constructs burrows in loose, sandy soils (Zeiner et al., 1990). Elevations range between 1067 and 1829 meters (3500 and 6000 feet).

Population Status:

Very few localities that support the Tehachapi pocket mouse are known. Several historic Tehachapi pocket mouse localities, including Cameron Canyon, were sampled in the early 1980's without success (CNDDDB). However, much of the range of the subspecies within the WMPA is on private land, and probably has not been sampled extensively. Potential habitat exists along the southeastern slopes of the Tehachapi Mountains, and additional trapping is necessary to determine the current distribution of the Tehachapi pocket mouse. Trapping in suitable habitats along the northern slopes of the San Gabriel Mountains between Three Points and Elizabeth Lake is necessary to determine if the subspecies persists in this portion of its range.

Threats Analysis:

Much of the range of the Tehachapi pocket mouse within the WMPA is in private ownership. Livestock grazing is the predominate land-use throughout much of its range. It is unclear how grazing and its subsequent effects on plant diversity and abundance affect the Tehachapi pocket mouse. Many areas within the range of the Tehachapi pocket mouse are used for wind-generated electricity production or have the potential to support wind farms. Such areas are typically crossed by a network of roads, which could lead to increased erosion in steeper terrain. Mineral extraction is another potential threat to the Tehachapi pocket mouse. In general, surface disturbing activities such as mineral extraction are incompatible with persistence of the native small mammal assemblage. Conversion of native habitats to urban use has occurred in the

Elizabeth Lake area. If the subspecies persists in small, scattered populations, it is highly vulnerable to local extirpation resulting from natural or human-related events.

Biological Standards:

Data concerning current distribution and habitat requirements of the Tehachapi pocket mouse are needed to evaluate the status of the subspecies. Trapping studies should be conducted in suitable habitats in the Tehachapi Mountains including Oak Creek Canyon, Bean Canyon, Tylerhorse Canyon and Cottonwood Creek. Suitable habitats along the northern slope of the San Gabriel Mountains between Three Points and Fairmont Reservoir should be sampled to determine if the subspecies occurs there. The extent of suitable habitat and linkages between subpopulations should be identified. In addition, the taxonomic relationship with *P. xanthonotus* needs to be clarified, and trapping in Lone Tree Canyon and the Middle Knob area might reveal a zone of contact between the taxa. Given the scarcity of known, extant populations, conservation efforts, particularly land acquisition, should focus on known locales. Additional information regarding the effects of wind farming, grazing and ORV use on the subspecies needs to be gathered in order to guide conservation efforts.

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