

Sierra Club
Center for Biological Diversity

BEFORE THE U.S. SECRETARY OF THE INTERIOR – May 19, 2006

Petition to list Palm Springs pocket mouse (*Perognathus longimembris bangsi* Mearns 1898) as a Federal Endangered Species under the US Endangered Species Act.



**Petition to list Palm Springs pocket mouse as a
Federal Endangered Species under the ESA**

The Sierra Club and the Center for Biological Diversity hereby formally petition the Secretary of Interior (Secretary) to list Palm Springs pocket mouse, *Perognathus longimembris bangsi* (hereafter, Palm Springs Pocket Mouse or “the pocket mouse”), as endangered pursuant to the Endangered Species Act, 16 U.S.C. 1531 et seq. (hereafter “the Act”). This petition is filed under 5 U.S.C. 553 (e) and 50 CFR 424.14 (1990), which grant interested parties the right to petition for issue of a rule from the Secretary of the Interior.

Critical Habitat: Petitioners also note that critical habitat should be designated for the pocket mouse concurrent with final listing, consistent with 50 CFR 424.12, and pursuant to the Administrative Procedures Act (5 U.S.C. 553). We note that species with designated critical habitat are in better recovery status than species without (Rachlinski 1997, http://www.nativeecosystems.org/criticalhabitat/Critical_Habitat_Fact_Sheet_May_2003.pdf, <http://www.biologicaldiversity.org/swcbd/programs/policy/ch/sub1.html>).

Emergency Listing: Because of the extremely limited range of the species and extraordinary imminent threats to its continued existence, we strongly request the Secretary and the U.S. Fish and Wildlife Service (“Service”) to immediately undertake emergency listing of the species. It is likely that the pocket mouse would be lost from a large portion of its already greatly reduced range and be beyond saving by the time an ordinary listing process could be completed. Therefore we are providing the necessary information and justification for an emergency rule listing the species as endangered.

/s/ Joan Taylor

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SUPPORTING MATERIALS FOR THE EMERGENCY LISTING OF PALM SPRINGS POCKET MOUSE AS A FEDERAL ENDANGERED SPECIES

SUMMARY:

Palm Springs Pocket Mouse (*Perognathus longimembris bangsi*) warrants listing as endangered under the Endangered Species Act of 1973, as amended. Because of extraordinary imminent threats (detailed under "Factors Affecting the Species" below) to its continued existence, emergency listing, effective immediately, is required so that the species is not rendered extinct or beyond recovery in the time required for listing to take place. Palm Springs Pocket Mouse is currently restricted to the lower Sonoran desert from the San Geronio Pass area east to the Little San Bernardino Mountains and south along the eastern edge of the Peninsular Range to Borrego Valley and the east side of San Felipe Narrows (Hall 1981). Within its historical range, Palm Springs Pocket Mouse habitat has been greatly reduced by urbanization and agriculture in the Coachella Valley (CVAG 2006). Remaining habitat in the Coachella Valley and environs is about 142,000 acres, most of which is inadequately conserved to ensure long term survival the species, because most extant habitat is currently unprotected, fragmented, and actively declining due to ongoing urban sprawl (CVAG 2006).

The principle threat to the species and the cause of its present reduced state is habitat destruction, degradation, and fragmentation due to urban, agricultural, residential, and recreational development, and ORV use in and around the Coachella Valley. Other threats include ground disturbance or vegetation removal, for example from grading, ripping, or off-road driving; impacts from construction of roads, railroads, airports and other structures; loss of groundwater and/or blow sand necessary for habitat maintenance; invasive species; ORV use; illegal trash dumping; domestic animal predators; road kill; inadequate regulatory mechanisms; and the elevated extinction risks common to greatly reduced populations. In addition to the ongoing threats to its habitat, several development projects are proposed or approved within core habitat areas for Palm Springs Pocket Mouse, including but not limited to Palmwood, the ungraded portion of Highland Falls, College of the Desert campus/residential/commercial project (Desert Hot Springs), Desert Dunes, and Fiesta de Vida (Adams Ranch). We find these threats clearly constitute immediate and significant threats to the Palm Springs Pocket Mouse, warranting immediate Federal protection.

Background

Description. There are 11 species of pocket mice in the genus *Perognathus* (Ingles 1965)

Five species are found in California (<http://wfc.ucdavis.edu/www/Faculty/Doug/California%20Mammals.htm>). In 1988, Palm Springs Pocket Mouse was considered to be threatened by habitat destruction and became a State Species of Special Concern.

The Palm Springs pocket mouse is one of seven subspecies of *Perognathus longimembris*, the "silky pocket mice" (CVAG 2006) or "little pocket mice" (California's Wildlife, 1990), occurring in southern California. It is distinguished from other closely related, but distinct, subspecies because they are geographically and morphologically distinct from *Perognathus longimembris bangsi*.

The species is the smallest of the Heteromyidae family that also includes kangaroo rats, kangaroo mice, and spiny pocket mice. The Palm Springs pocket mouse was originally described by Mearns (1898) with the type locality in Palm Springs.

Life Cycle: Pocket mice of the *P. longimembris* group are nocturnal, solitary, and generally exhibit strong intraspecific aggression (Dodd 1996). They spend the day in burrows they construct, which are comprised of a system of tunnels and a plugged entrance. This species generally breeds from January to August, with a peak of activity from March to May (Dodd 1996). Several studies suggest that reproduction in heteromyids may be dependent on availability of annual vegetation. Studies of other subspecies of the little pocket mouse indicate that they hibernate in winter and are active above ground in spring, summer, and fall (Bartholomew and Cade 1957).

Distribution and Habitat: Palm Springs Pocket Mouse occurs in the lower Sonoran life zone from the San Geronio Pass area east to the Little San Bernardino Mountains and south along the eastern edge of the Peninsular Ranges to Borrego Valley and the east side of the San Felipe Narrows (Hall, 1981). The Palm Springs pocket mouse inhabits areas having flat to gently sloping topography, sparse to moderate vegetative cover, and loosely packed or sandy soils, on slopes ranging from 0% to approximately 15% (Dodd 1996). Historically, the pocket mouse occurred throughout the Coachella Valley in Riverside County, California. In fact, the Coachella Valley and the San Geronio Pass area contains the major portion of the species range, including the western, northern, and eastern limits of its range (CVAG, 2006). At present potential viable habitat for Palm Springs Pocket Mouse in the Coachella Valley amounts to roughly 142,000 acres, which is increasingly fragmented, and is decreasing in ecological value due to continuing urban sprawl, off-road vehicles, and weeds.

The Coachella Valley population has had the majority of its habitat south of the Interstate 10 freeway destroyed by active or pending development, as discussed further below. Core populations have been identified in the Coachella Valley, including the Snow Creek/Windy Point area (the area with the highest known population density for the species (Dodd, 1996)), the Whitewater Floodplain Preserve area, Upper Mission Creek/Big Morongo Canyon area, and the Thousand Palms Preserve area.

To ensure the long-term survival and recovery of the Palm Springs pocket mouse requires conservation (including protection and management of habitat) of the species across its entire range and connectivity between habitat areas. This conservation should emphasize protection of lands with an array of habitat variables, including moisture, sand substrates, elevation, and annual vegetation for forage, from the northern, eastern, and western limits

for this subspecies. Protected habitat areas should be large enough to contain self-sustaining populations of pocket mice.

Most important to its current risk of extinction are the direct and indirect effects of urbanization on remaining populations of this pocket mouse. Habitat destruction is discussed in more detail under Factors A and E, below.

The Palm Springs pocket mouse is adapted to feeding on native plants, with seeds from herbaceous plants and grasses providing the primary food source for the species (Dodd 1996). Pocket mice require soils that allow them to construct burrows 2-3 feet deep for escape from the desert heat and predators. These burrows generally include individual chambers that serve as nest cavities and food storage locations. Population densities and even species of its food plants are not known, but common plant associates are creosote bush (*Larrea tridentata*), brittlebush (*Encelia farinosa*), burrobrush (*Ambrosia dumosa*), indigo bush (*Psoralea schottii*), cheesebush (*Hymenoclea salsola*), honey mesquite, and various annual plants such as dune primrose (*Oenothera deltoides*), desert mallow (*Sphaeralcea ambigua*), and dove weed (*Croton californica*).

Previous Federal Action

The Palm Springs pocket mouse was a Category 2 candidate species for federal listing the federal government eliminated that classification (CVAG, 2004).

Summary of Factors Affecting the Species

Section 4 of the Act and regulations (50 CFR part 424) promulgated to implement the listing provisions of the Act (16 U.S.C. 1531 et seq.) set forth the procedures for adding species to the Federal lists. The Service may determine a species to be endangered or threatened due to one or more of the five factors described in section 4(a)(1) of the Act. These factors (A through E) and their application to Palm Springs Pocket Mouse are as follows:

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

Cumulative habitat loss and degradation of the existing habitat as a result of development, including grading, soil disturbance, and removal of vegetation, are the major threat to the continued existence of Palm Springs pocket mouse. Fragmentation of habitat is also a concern; the remaining habitat patches are now smaller and more isolated from other habitat. For example, before agricultural and urban development there existed intact pocket mouse habitat in the vast majority of the Coachella Valley floor including the alluvial fans south of the Little San Bernardino Mountains (USFWS 1997). The native distribution of the pocket mouse has been greatly reduced because this former habitat area is now mostly developed, and much of the remaining area is highly fragmented (Brylski and Patton 2000).

South of the I-10 freeway the so-called Big Dune area no longer has a viable sand transport/wind corridor, is surrounded by existing development, and is highly fragmented by major roads, and a rapidly increasing invasive weed problem. These fragmented blocks are more susceptible to edge effects, including mortality on roads and predation by feral and loose pets and other animals. Fragmentation can cause isolation of subpopulations and lower effective population size, resulting in increased extirpation risk and possible adverse genetic effects, discussed further under Factor E, below.

The pocket mouse faces continuing loss and fragmentation of its habitat and range. For example, at time of preparation of this petition, several projects, and an unknown number of acres being converted to agriculture, are undergoing grading and construction destroying thousands of acres of the pocket mouse habitat:

Highland Falls, Mission Lakes addition, Terra Lago, plus all projects in sand dune habitat south of Interstate 10

At least 8 projects are formally proposed or approved within pocket mouse habitat in and adjacent to the Coachella Valley. All are likely to be implemented before the Service could prepare and publish an ordinary listing determination regarding the pocket mouse:

Paradise Valley, Palmwood, Desert Dunes, Mission Springs Water District projects, Citrus Ranch, College of the Desert campus/residential/commercial (Desert Hot Springs), Desert Dunes, Fiesta de Vida (Adams Ranch).

These imminent projects would destroy thousands of acres of core habitat for the pocket mouse as well as further fragmenting existing habitat. The Palmwood and the College of the Desert projects, in particular, threaten to destroy core Palm Springs Pocket Mouse habitat and corridor in the Big Morongo Canyon area. The Mission Springs Water District projects threaten to destroy the mesquite fault dune ecosystem.

The above examples are by no means an exhaustive list –“For Sale” and “Will Build to Suit” signs are common in pocket mouse habitat in and around Palm Springs. While the projects listed above are the most immediate threats, numerous other project plans exist for pocket mouse habitat, in various stages of project development.

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

Collecting is unlikely, but possible. This is not a significant problem at this time.

C. Disease or Predation

Palm Springs Pocket Mouse likely is subject to naturally occurring diseases and predation in its native ecosystem. However, with the increasing urbanization of the Coachella Valley it has become subject to increased edge effects, which include predation by both native predators and domestic animals (CVAG 2006).

D. Inadequacy of Existing Regulatory Mechanisms

Nearly half of the estimated acres of Palm Springs Pocket Mouse habitat occur on private lands (CVAG 2006). Currently existing regulatory mechanisms do not fully protect the pocket mouse on these lands, and to date have not successfully prevented the endangerment of the species.

Although the Palm Springs pocket mouse is recognized as a Species of Special Concern by the State of California, this status does not confer protection under the California Endangered Species Act. Some consideration of the pocket mouse may be provided under the California Environmental Quality Act (CEQA). CEQA provides for environmental review of some types of projects and requires that a project proponent publicly disclose the potential environmental impacts of proposed projects. Section 15065 of the CEQA Guidelines requires a “finding of significance” if a project has the potential to “reduce the number or restrict the range of a rare or endangered plant or animal”. However, under CEQA, where overriding social and economic considerations can be demonstrated, a project may proceed despite significant adverse impacts to a species. Palm Springs Pocket Mouse has little if any margin to absorb further significant adverse impacts without going extinct. Avoidance and mitigation of impacts under CEQA are largely at the discretion of the acting agency.

Examples of projects in the Coachella Valley that have considered Palm Springs Pocket Mouse under CEQA and still proceeded with impacts are:

Mission Lakes addition, Highland Falls, MSWD Zone 900 Well Project, Terra Lago, Fiesta de Vida (Adams Ranch), plus many other projects within Desert Hot Springs as well as south of Interstate 10.

The Coachella Valley Multiple Species Habitat Conservation Plan (CVMSHCP), a multi-species habitat conservation planning effort (Multiple Species Habitat Conservation Plan/Natural Community Conservation Plan [MSHCP/NCCP]) has been developed, but is not yet approved. MSHCP/NCCPs are plans under federal and state laws that allow simultaneous planning for development and for conservation. They may include species not listed under federal or state law at the time of the plan. The Palm Springs Pocket Mouse would be a covered species under the CVMSHCP. However, at present, the CVMSHCP has not been approved and it is uncertain of implementation at this time (Desert Sun 2006). Without plan approval, there is no chance or assurance that adequate conservation for this species will occur absent emergency listing as an endangered species.

E. Other Natural or Human-Caused Factors

As established above, pocket mouse populations in the majority of the Coachella Valley have been fragmented into small, isolated habitat fragments. This condition will cause the species to slowly decline genetically and numerically due to annual loss of a

substantial portion of the population due to impacts from surrounding developed areas. Such impacts are not preventable. Moreover the loss and fragmentation of habitat compromises the ability of the pocket mouse to disperse and establish new populations or augment declining ones, with little or no chance of migrating to new sites or re-colonizing former sites if local conditions become unfavorable (Noss et al. 2001).

Genetic drift and inbreeding may lead to reductions in the ability of individuals to survive and reproduce (i.e., reductions in fitness) in small populations. In addition, the lower genetic variation present in small populations makes a species less able to persist through future environmental challenges (Noss et al. 2001)

Habitat loss and fragmentation are not the only adverse impacts of development on the pocket mouse. Palm Springs Pocket Mouse inhabits the fault dune ecosystem in the western Coachella Valley. This ecosystem depends on groundwater flowing from the Mission Springs Subbasin located to the north of the San Andreas fault as the fault traverses the Valley. This groundwater is impounded against the impermeable rock of the fault and upwells close to the surface and supports mesquite dune thickets. These thickets, in turn, capture the blowsand and thus create the fault dune ecosystem. However, the aquifer which supports this mesquite hummock ecosystem is in overdraft which is accelerating rapidly (MSWD 2000). Lowering of this aquifer and water table has impacts to habitat because it reduces the survival and regeneration of the mesquite plants which support this sand dune system (Avery 2005). The Mission Springs Water District (MSWD) 900 Zone Well Project alone will increase the drawdown rate at the fault by 43% (MSWD 2004). By MSWD's own admission:

No one reading the EIR, which was circulated for public review and comment, could fail to understand that, absent mitigation, the lowering of the water table as a result of continued pumping water from the Basin by the District, and by the numerous other entities and individuals not under the district's control that have the right to pump water from the Basin, will result in the death of the mesquite hummock community by Year 5 of the life of the 900 Zone Well (MSWD 2006).

Yet, in spite of this, MSWD found that the 900 Zone Project would have no direct effect on any sensitive plant or animal species and that no mitigation was necessary (MSWD 2004).

In addition to the MSWD project, individual projects on and near the fault, such as the Desert Dunes development will not only destroy fault dune habitat, but also threaten to cause a direct drawdown in the immediate area of the fault dunes. Therefore, the pocket mouse habitat area impacted by such a project would be much larger than the project's surface footprint.

Unless the CVMSHCP is fully funded, implemented, and monitored, much of the remaining intact pocket mouse habitat in the Coachella Valley will be lost to

development impacts, fragmentation, direct and indirect habitat degradation and loss of biological connectivity between known populations.

Reasons for Emergency Determination

The immediate threats to the Coachella Valley (including Shaver's Valley) population of the pocket mouse and the sand and water sources for its habitat from imminent development projects in and adjacent to Desert Hot Springs and elsewhere in the Coachella Valley, as detailed above, constitute an emergency posing significant risk of extinction of the species. Therefore, pursuant to section 4(b)(7) of the Act and 50 CFR 424.20, the Secretary is empowered to list Palm Springs Pocket Mouse on an emergency basis without delay; we urge that action. Without emergency listing, Palm Springs Pocket Mouse may be expected to be rendered extinct or placed beyond reasonable feasibility of recovery in less than the time required for normal rule-making procedures.

The emergency listing must be immediately effective to clearly indicate that agencies and property owners must not destroy pocket mouse populations and the sand and water sources upon which habitat for the species relies which otherwise would not be prohibited before a listing took effect. Pocket mouse populations can be decimated or destroyed merely by heavy ground disturbance (deep grading or disking) or paving as well as other direct and indirect effects of development.

Critical Habitat Designation

While collecting may not pose a threat to the Palm Springs Pocket Mouse, critical habitat designation is still prudent and beneficial for the species, since:

remaining localities of the pocket mouse are a matter of public record;

special notice and consideration (such as is provided by critical habitat designation) is needed for suitable habitat that is unoccupied—or used by the pocket mouse at such low densities that it may be interpreted as unused—where the habitat is important for recovery, perhaps including reintroduction of the pocket mouse.

CONCLUSION:

We have carefully assessed the best scientific and commercial information available regarding the past, present, and future threats faced by the species, and have determined that Palm Springs Pocket Mouse is imminently in danger of extinction in the vast majority of the western extent of its range. We are concerned about Palm Springs Pocket Mouse because of the greatly reduced number and isolated distribution of populations, significant existing decrease in its habitable range in and around the Coachella Valley, California, continuing rapid development, especially projects proposed or approved in its core habitat, and further habitat loss and habitat fragmentation, and threats to the sand and water sources for its remaining intact habitat.

This species is threatened by the following factors: habitat destruction, degradation, and fragmentation due to urban, residential, and recreational development; invasive species; ground disturbance or vegetation removal, for example from grading, ripping, or off-road driving; loss of sand source for habitat, loss of groundwater for habitat, predation from domestic pets, channelization of streams, collecting, road kill, inadequate regulatory mechanisms, and the elevated extinction risks common to greatly reduced populations. These factors could severely impact Palm Springs Pocket Mouse by killing individuals, reducing or degrading available habitat, reducing and further fragmenting already small populations, and degrading or eliminating extant habitat because of loss of sand or water source which are essential to its viability.

Because of its limited range and population this species is also vulnerable to chance demographic, genetic, and environmental events. The combination of isolated populations, small range, and little remaining habitat within the range makes the species highly susceptible to extinction due to urban development and random events such as fire, drought, disease, or other occurrences (Shaffer 1981, 1987; Meffe and Carroll 1994, Primack 1998). Palm Springs Pocket Mouse meets the Act's definition of endangered and warrants protection under the Act. Threatened status would not accurately reflect the diminished status and the threats to this species; the species warrants listing as endangered.

Petitioners may supplement this petition later if needed. We welcome any opportunity to discuss this pressing issue with FWS and find solutions. Please call or email if you have any questions, or if FWS may think additional info is needed.

Due to the emergency nature of this petition, we request a written response and plan of action from FWS by June 2, 2006. Thank you.

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