CANDIDATE ASSESSMENTS AND LISTING PRIORITY ASSIGNMENT FORM

SCIENTIFIC NAME: Spermophilus tereticaudus chlorus

COMMON NAME: Coachella Valley round-tailed ground squirrel (Palm Springs ground squirrel)

LEAD REGION: Region 1

INFORMATION CURRENT AS OF: February 5, 2003

STATUS/ACTION (Check all that apply):

____ New candidate

_X__ Continuing candidate

_X_ Non-petitioned

___ Petitioned - Date petition received: ___

___ 90-day positive - FR date: ___

___ 12-month warranted but precluded - FR date: ___

___ Is the petition requesting a reclassification of a listed species?

___ Listing priority change

Former LP: ___

New LP: ___

Latest date species first became a Candidate: 9/18/1985

__ Candidate removal: Former LP: ___ (Check only one reason)

__ A - Taxon more abundant or widespread than previously believed or not subject to a degree of threats sufficient to warrant issuance of a proposed listing or continuance of candidate status.

___ F - Range is no longer a U.S. territory.

___ M - Taxon mistakenly included in past notice of review.

___ N - Taxon may not meet the Act=s definition of Aspecies.@

___ X - Taxon believed to be extinct.

ANIMAL/PLANT GROUP AND FAMILY: Mammalia, Family Sciuridae

HISTORICAL STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: California

CURRENT STATES/TERRITORIES/COUNTRIES OF OCCURRENCE: California

LEAD REGION CONTACT (Name, phone number): Diane Elam (CNO) 916-414-6464; Scott McCarthy (RO) 503-231-6131

LEAD FIELD OFFICE CONTACT (Office, name, phone number): Carlsbad Fish and Wildlife Office, Matt McDonald, 760-431-9440

BIOLOGICAL INFORMATION:

The Coachella Valley round-tailed ground squirrel was first named as a full species (i.e. Citellus chlorus) in 1904 by Elliot (Hall 1981). Subsequently, in 1913, Grinnell reduced Citellus chlorus to a subspecies of Citellus tereticaudas (as C. t. chlorus). The genus Citellus has been replaced by Spermophilus.

Round-tailed ground squirrels are relatively small in comparison to other ground squirrels. They have a small rounded head with small ears and large dark eyes (Ernest and Mares 1987). Round-tailed ground squirrels lack stripes and are even in coloration. Color phases include plain drab gray, pinkish cinnamon, or pale cinnamon brown (Ingles 1965; Ernest and Mares 1987). Unlike other ground squirrels, round-tailed ground squirrels have a relatively long tail which is round and not bushy. The Coachella Valley round-tailed ground squirrel is similar in size and coloration to other round-tailed ground squirrels and is the only round-tailed ground squirrel in the Coachella Valley. The antelope ground squirrel (Ammospermophilus leucurus) and the California ground squirrel (Spermophilus beecheyi) are the only other ground squirrels that inhabit the Coachella Valley. The antelope ground-squirrel is smaller than the Coachella Valley round-tailed ground squirrel, is grayish brown, and has one white stripe on each side of its body (Ingles 1965). The California ground squirrel is larger than the Coachella Valley round-tailed ground squirrel, is brownish gray with lighter flecks of gray over its back and sides, and has a gray mantle over its shoulders (Ingles 1965).

Like other ground squirrels, round-tailed ground squirrels are active only during the day. In addition, like other ground squirrels, round-tailed ground squirrels have internal cheek pouches that are used to carry food. Round-tailed ground squirrels are omnivorous. They have been documented to feed on seeds and vegetation as well as insects (Bradley and Deacon 1971 as in Earnest and Mares 1987). The reproduction starts as early as mid-January (Ryan 1968 as in Ernest and Mares 1987). Their litters are born in the spring and range in size from 1 to 12 young (Reynolds and Turkowski 1972 as in Ernest and Mares 1987).

In general, round-tailed ground squirrels typically emerge from their burrows in January and February. Young are typically born in April and May and the juveniles disperse during June and July. Round-tailed ground squirrels become inactive from August through January (Dunford 1975 as in Ernest and Mares 1987). During the inactive period, they typically remain in their burrows.

The Coachella Valley round-tailed ground squirrel inhabits typically sandy areas within creosote bush and alkali sink scrub (Ingles 1965) of the Coachella Valley, Riverside County, California. The Coachella Valley round-tailed ground squirrel also inhabits mesquite hummocks (Arthur Davenport, Service, pers. obs., 1996). Records for the subspecies include Cabazon, Whitewater Station, Coachella, Mecca, and Agua Caliente (Hall 1981). The range for the subspecies has been thought to correspond with the valley floor of the Coachella Valley. The valley floor encompasses approximately 130,051 hectares (ha) (321,363 acres (ac)) (Ingrid Eleck, Coachella Valley Multispecies Habitat Conservation Plan, pers. comm., 1998). Within the Coachella Valley, there are approximately 33,575 ha (82,965 ac) of urban development and 20,296 ha (50,152 ac) of agricultural development (Ingrid Eleck, Coachella Valley Multispecies Habitat Conservation Plan, pers. comm., 1998). Therefore, approximately 76,181 ha (188,246 ac) of the animal=s historic range remain. Because the animal occupies a variety of plant communities in the Coachella Valley (e.g., creosote bush scrub and mesquite dunes) where the soils allow the construction of burrows, it is important to note that historic range approximates the extent and

amount of suitable habitat (A. Davenport, pers. comm., 1998).

The historical range of the Coachella Valley round-tailed ground squirrel coincides with the valley floor and extends from the vicinity of Cabazon to the general area surrounding the north end of the Salton Sea (Hall 1981). The habitat has been significantly reduced by agricultural conversion and urbanization. Overall, about 76,181 ha (188,246 ac) (58 percent) of suitable habitat remain.

THREATS:

A. The present or threatened destruction, modification, or curtailment of its habitat or range.

The primary threat to the Coachella Valley round-tailed ground squirrel is destruction of habitat from expanding urbanization. Approximately 42 percent of its historic habitat has been destroyed by urban and industrial development (Service, unpubl. data). Of the suitable habitat remaining, a minimum of 50 percent is at risk due to development currently provided for under Riverside County=s General Plan (Riverside County Planning Department 1985a,1985b), and the general plans of incorporated cities in this area (e.g., Desert Hot Springs, Palm Springs, Rancho Mirage, Palm Desert, Indio, Coachella). Based on information from the State of California Department of Finance, and the Southern California Association of Governments, the population in the Coachella Valley is projected to increase to 456,971 in 2020 (the population was 289,819 in 1997). Many projects are moving forward. For example, 157 ha (390 ac) of Coachella Valley round-tailed ground squirrel habitat is at risk due to the approved Shadowridge Creek Country Club (Riverside County Planning Department 1995). In Palm Springs, 40 ha (100 ac) of habitat is at risk due to the proposed Canyon Park Resort and Spa (Smith, Peroni, and Fox 1994). In Cathedral City, the Desert Star Golf Course destroyed approximately 80 ha (200 ac) of suitable habitat (Terra Nova Planning and Research, Inc. 1998).

Mesquite habitat appears to be the habitat type occupied with the greatest frequency (Service, unpubl. data). Mesquite has declined drastically in the Coachella Valley due to development and potentially a lowering of the water table.

B. Overutilization for commercial, recreational, scientific, or educational purposes.

Not known to be a factor at this time.

C. Disease or predation.

Not known to be a factor at this time.

D. The inadequacy of existing regulatory mechanisms.

No formal protection is currently available to this species in the majority of its range. The California Environmental Quality Act (CEQA) affords some protection to the Coachella Valley round-tailed ground squirrel indirectly by addressing impacts to other protected species, most notably, the federally threatened Coachella Valley fringe-toed lizard (Uma inornata). About 566 ha (1,400 ac) of suitable habitat, in part occupied by the Coachella Valley round-tailed

ground squirrel, are currently protected or are in the process of being protected (Coachella Valley Fringe-toed Lizard Habitat Conservation Plan). However, the vast majority of occupied habitat continues to be threatened (see Factor A) and the species is consequently declining. In 1993, a multispecies plan was proposed in the Coachella Valley to address rare species including the Coachella Valley round-tailed ground squirrel. However, after 6 years of planning and negotiation, the plan has not resulted in any substantive protection of declining species found in the Coachella Valley in general, or for the ground squirrel in particular. Development proposals continue to place the habitat at risk. Additionally, it is uncertain what protection the proposed plan will eventually give the Coachella Valley round-tailed ground squirrel.

E. Other natural or manmade factors affecting its continued existence.

Habitat for the Coachella Valley round-tailed ground squirrel has been severely reduced and fragmented by agricultural and urban development and related activities in the Coachella Valley. Habitat fragmentation results in loss of habitat, reduced habitat patch size, and an increasing distance between patches of habitat. As noted by Andren (1994) in a discussion of highly fragmented landscapes, reduced habitat patch size and isolation will exacerbate the effect of habitat loss on a species' persistence. That is, the loss of species, or decline in population size, will be greater than expected from habitat loss alone. The loss of native vertebrates, including rodents, due to habitat fragmentation is well documented (Soulé et al. 1992; Andren 1994; Bolger et al. 1997).

Isolated populations are subject to extirpation by manmade or natural events, such as floods and drought. Furthermore, small populations may experience a loss of genetic variability and experience inbreeding depression (Lacy 1997). Contributing to the fragmentation of Coachella Valley round-tailed ground squirrel habitat are roads, highways, and flood control channels.

FOR RECYCLED PETITIONS:

a. Is listing still warranted? yes

b. To date, has publication of a proposal to list been precluded by other higher priority listing actions? no

c. Is a proposal to list the species as threatened or endangered in preparation? no

d. If the answer to c. above is no, provide an explanation of why the action is still precluded.

The CFWO recently funded a study to examine the taxonomic validity of the subspecies. The methodology and results of the study have not been published or peer-reviewed yet. Pending additional analysis, this study indicates there are two additional populations of Coachella Valley round-tailed ground squirrel north of the Coachella Valley. Peer-review and evaluation of the study need to take place prior to any proposed listing or removal action. This study was conducted by Mr. Scott Tremor of the San Diego Natural History Museum.

LAND OWNERSHIP: The range of Coachella Valley round-tailed ground squirrel habitat is divided between Federal and private ownership. Approximately 6,224 ha (15,380 ac) is managed by the Bureau of Land Management, approximately 3,326 ha (8,220 ac) Tribal, and approximately 120,501 ha (297,763 ac) is on non-Federal lands.

PRELISTING: Section 7 consultations and HCP=s addressing other species have been

completed at the behest of private land owners, mining interest, and the County of Riverside. These activities have not demonstrably resulted in conservation of the Coachella Valley round-tailed ground squirrel.

Riverside County, the cities of the Coachella Valley, the U.S. Army Corps of Engineers, Bureau of Land Management, and Bureau of Indian Affairs, and the Agua Caliente Indian Reservation are aware of Service concerns regarding the Coachella Valley round-tailed ground squirrel.

REFERENCES:

Andren, Henrik. 1994. Effects of habitat fragmentation on birds and mammals in landscapes with different proportions of suitable habitat: a review. Oikos. 71:355-366.

Bolger, D. T., A. C. Roberts, R. M. Sauvajot, P. Potenza, C. McCalvin, D. Tran, S. Mazzoni, and M. E. Sourle. 1997. Response of rodents to habitat fragmentation in coastal southern California. Ecological Applications. 7(2):552-563.

Ernest, Kristina A. and Michael A. Mares. 1987. Spermophilus tereticaudus. Mammalian Species. No. 274, pp. 1-9. Published by the American Society of Mammalogist.

Hall, E.R. 1981. The mammals of North America, 2nd ed. Volume 1. John Wiley and Sons, New York, New York.

Ingles, L. G. 1965. Mammals of the Pacific States. Stanford University Press, California.

Lacy, R. C. 1997. Importance of genetic variation to the viability of mammalian populations. Journal of Mammalogy. 78(2):320-335.

Riverside County Planning Department. 1995. Shadowridge. Conditions of Approval for Tentative Tract Map No. 27135.

Riverside County Planning Department. 1985a. Riverside County Comprehensive General Plan. Western Coachella Valley Plan (WCVP) Community Policies (As amended through May 1995 by the Riverside County Board of Supervisors).

Riverside County Planning Department. 1985b. Riverside County Comprehensive General Plan. Eastern Coachella Valley Plan (WCVP) Community Policies (As amended through May 1995 by the Riverside County Board of Supervisors).

Smith, Peronii, & Fox. 1994. Environmental Assessment. Amendment to Specific Plan #1, Canyon Park Resort & Spa Specific Plan #1A, Planned Development, District and Development Agreement.

Terra Nova Planning & Research Inc. 1998. Expanded Environmental Assessment for the Desert Star Golf Course.

LISTING PRIORITY (* after number)

THREAT

Magnitude	Immediacy	Taxonomy	Priority
High	Imminent	Monotypic genus	1
		Species	2
		Subspecies/population	3
	Non-imminent	Monotypic genus	4
		Species	5
		Subspecies/population	6*
Moderate to Low	Imminent	Monotypic genus	7
		Species	8
		Subspecies/population	9
	Non-imminent	Monotypic genus	10
		Species	11
		Subspecies/population	12

Rationale for listing priority number:

Magnitude:

Imminence:

APPROVAL/CONCURRENCE: Lead Regions must obtain written concurrence from all other Regions within the range of the species before recommending changes to the candidate list, including listing priority changes; the Regional Director must approve all such recommendations. The Director must concur on all additions of species to the candidate list, removal of candidates, and listing priority changes.

Approve: Steve Thompson March 6, 2003
Acting Regional Director, Fish and Wildlife Service Date

Concur: _____ _____ _____
Director, Fish and Wildlife Service Date

Do not concur:_____ _____
Director, Fish and Wildlife Service Date

Director's Remarks: _____

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Date of annual review: February 2003
Conducted by:_____

Comments: _____

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