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# Great Basin Ground Squirrel

## *Spermophilus mollis*

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Mammalia — Rodentia — Sciuridae

### CONSERVATION STATUS / CLASSIFICATION

Rangewide: Secure (G5)  
Statewide: Imperiled (S2)  
ESA: No status  
USFS: Region 1: No status; Region 4: No status  
BLM: Regional/State imperiled (Type 3)  
IDFG: Protected nongame

### BASIS FOR INCLUSION

Declining population trend.

### TAXONOMY

This species was formerly considered to be conspecific with Townsend's ground squirrel. Three subspecies occur in southern Idaho: *S. mollis idahoensis*, *S. mollis mollis*, and *S. mollis artemisiae*.

### DISTRIBUTION AND ABUNDANCE

The Great Basin ground squirrel occurs across southern Idaho at lower elevations. The subspecies *S. mollis idahoensis* is endemic to Idaho, occurring north of the Snake River, south of the Payette River and Boise Mountains, and east of Glenn's Ferry. The subspecies *S. mollis artemisiae* is also endemic to Idaho, occurring north of the Snake River on the plains between Bliss and Dubois. The subspecies *S. mollis mollis* occurs in areas south of the Snake River between Murphy and Pocatello (Yensen and Sherman 2003); outside Idaho this subspecies occurs in parts of Oregon, California, Nevada, and Utah.

Populations are locally abundant where conditions are suitable, occasionally forming continuous colonies across large areas. In many areas, however, populations are small and isolated (Yensen 2000).

### POPULATION TREND

Populations are believed to be declining in the majority of the range in Idaho with the exception of populations of the subspecies *S. mollis idahoensis* (Yensen 2000). However, comprehensive surveys and repeat measures of population size are largely lacking range-wide.

### HABITAT AND ECOLOGY

The Great Basin ground squirrel occurs in shrub-steppe habitat, particularly big sagebrush, shadscale, black greasewood, and winterfat associations (Verts and Carraway 1998). Individuals estivate and hibernate for up to 8 months per year and require sufficient fat reserves to survive that period (Van Horne et al. 1998). The Great

Basin ground squirrel is notably important prey for a variety of bird, mammal, and reptile predators.

## **ISSUES**

Habitat has been altered through livestock grazing, agricultural development, invasive plants, and alteration of the fire regime to more frequent and severe range fires (Pellant 1989, Whisenant 1990, Knick and Rotenberry 1997, Belsky and Gelbard 2000). Habitat degradation and fragmentation are the most serious threats to Great Basin ground squirrel populations (Yensen and Sherman 2003). Livestock grazing affects the abundances of forbs and perennial grasses, which compose the majority of ground squirrel diets. Habitat fragmentation limits gene flow among populations, and genetically isolated populations are prone to extinction (Olson and Van Horne 1998).

Human persecution is also a threat to this species. This species is vulnerable to rodent poisoning in response to crop depredation. Recreational shooting of ground squirrels may be an important source of mortality, particularly in areas where populations are small.

## **RECOMMENDED ACTIONS**

Surveys are needed to determine the current distribution and status of this species. A statewide effort is particularly needed to monitor population trends for native ground squirrels. Habitat protection and restoration efforts may be needed where populations are small or declining. Monitor recreational shooting of ground squirrels within the range of the subspecies *S. mollis artemisiae*. Public education and enforcement of these regulations is needed.

