

Idaho Pocket Gopher *Thomomys idahoensis*

REGULATORY STATUS

USFWS: No special status
USFS R2: No special status
USFS R4: No special status
Wyoming BLM: Sensitive
State of Wyoming: Nongame Wildlife

CONSERVATION RANKS

USFWS: No special status
WGFD: NSS3 (Bb), Tier II
WYNDD: G4, S1S2
Wyoming Contribution: VERY HIGH
IUCN: Least Concern

STATUS AND RANK COMMENTS

Idaho Pocket Gopher (*Thomomys idahoensis*) is assigned a range of state conservation ranks by the Wyoming Natural Diversity Database (WYNDD) due to uncertainty about the species' abundance, proportion of range occupied, and population trends in Wyoming.

NATURAL HISTORY

Taxonomy:

Although Idaho Pocket Gopher was initially described as a unique species, revisions of the *Thomomys* genus in 1939 classified Idaho Pocket Gopher as a subspecies of Northern Pocket Gopher (*T. talpoides idahoensis*)^{1,2}. In 1972, genetic analyses confirmed that Idaho Pocket Gopher is a unique species. Two subspecies of Idaho Pocket Gopher are recognized, *T. i. idahoensis* and *T. i. pygmaeus*; only *T. i. pygmaeus* is found in Wyoming¹.

Description:

Idaho Pocket Gopher is a small member of the genus *Thomomys* (total length: 167–203 mm; weight: 46–63 g)³. Like other pocket gophers, Idaho Pocket Gopher has a heavily muscled head and shoulders that taper into relatively narrow hips and short legs. The species has fur-lined, external cheek pouches and small ears and eyes. The front feet are large with claw-like nails⁴. Pelage may be variable in color across the species range. Generally, the species has pale yellowish fur that is tipped with dark brown along the back, whitish feet, and dark gray coloring around the nose¹. Tentative field identification can be made from the presence of dark post-auricular patches that do not extend dorsally and lighter-colored hair on the fringe of the pinnae that is the same color as the dorsum⁵. However, the presence of dark post-auricular patches is debated^{1,5}. This species can also be identified by its much smaller size overall when compared to the sympatric Northern Pocket Gopher¹. However, distinguishing between Idaho and Northern Pocket Gopher in the field remains difficult⁵. Figure 5 illustrates the similarities and differences among three *Thomomys* species in Wyoming that might be useful to identification.

Identification from other pocket gophers is possible by using a combination of genetics, pelage characteristics, morphology, and geographic location^{1,5,6}.

Distribution & Range:

Idaho Pocket Gopher is restricted to portions of Wyoming, Idaho, Utah, and Montana. The distribution of the species has two centers of occurrence, one in eastern Idaho and extreme southwestern Montana (*T. i. idahoensis*) and another in southwestern Wyoming and extending slightly into southeastern Idaho and northeastern Utah (*T. i. pygmaeus*)¹. In Wyoming, the species is found in the foothills of the Wyoming Range, Uinta Mountains, and Wind River Mountains in Lincoln, Sublette, and Uinta Counties west of the Green River^{4,5,7}. Confirmed breeding has been documented in 1 of the 28 latitude/longitude degree blocks in Wyoming⁸.

Habitat:

Habitat associations of Idaho Pocket Gopher are poorly understood. The limited research on Idaho Pocket Gopher suggests that it prefers mountain foothills and sagebrush shrublands. The presence of Ponderosa Pine (*Pinus ponderosa*), sagebrush (*Artemisia* spp.), and topographic ruggedness were the best predictors of presence from a relatively limited sample of capture locations of Idaho Pocket Gopher in Wyoming⁷. Additionally, Idaho Pocket Gopher occupies areas with relatively shallow and rocky soils¹. The species may also use shrub-steppe, grassland, subalpine meadow, and open sagebrush habitats⁹.

Phenology:

Phenology of the species is unknown but is expected to be similar to the closely related and well-studied Northern Pocket Gopher⁴. Northern Pocket Gopher is fossorial and active year-round, with above-ground movements limited to nighttime or overcast daytime conditions. Breeding occurs from mid-March to mid-June with juveniles dispersing from early June to late July, at which time they begin to develop their own burrow systems². Litter size of Idaho Pocket Gopher is unknown.

Diet:

Diet of Idaho Pocket Gopher is also unknown but is thought to be similar to sympatric *Thomomys* species⁴. Primary dietary components likely include roots, tubers, shoots, and leaves of forbs, grasses, and shrubs. Most food items are likely collected underground, although aboveground food items are also collected and pulled into burrow entrances. Food is likely cached².

CONSERVATION CONCERNS

Abundance:

Continental: REGIONAL ENDEMIC

Wyoming: RARE to UNCOMMON

There are no robust estimates of abundance for Idaho Pocket Gopher in Wyoming. It is not thought to be abundant throughout its range, including Wyoming.

Population Trends:

Historic: UNKNOWN

Recent: UNKNOWN

Historic and recent population trends for Idaho Pocket Gopher in Wyoming are unknown.

Intrinsic Vulnerability:

MODERATE VULNERABILITY

Idaho Pocket Gopher is a regional endemic with a global distribution limited to a very small area of Idaho, Montana, Utah, and Wyoming. Basic biological and ecological aspects of Idaho Pocket Gopher do not appear to present significant intrinsic threats to the species. However, due to poor understanding of this species, this vulnerability rating should be viewed with caution. Basic habitat associations and habitat use are poorly understood. It is thought that the species may be restricted to a small variety of habitats, but these habitats are relatively common throughout the species range in Wyoming. Pocket gophers often exclude other sympatric pocket gopher species from preferred habitat, but it is unknown how much of a threat this presents to Idaho Pocket Gopher. In general, pocket gophers have limited dispersal capability, which may limit the species' ability to colonize new areas and lead to limited gene flow⁹.

Extrinsic Stressors:

SLIGHTLY STRESSED

Extrinsic threats to Idaho Pocket Gopher are largely unknown. The species is likely restricted to dry upland habitats, with relatively shallow and stony soil, which minimizes the risk of control activities that are often implemented to reduce damage to agricultural lands. Development of energy resources and construction of associated infrastructure has the potential to result in the loss, fragmentation, and degradation of Idaho Pocket Gopher habitat; soil compaction from oil and gas exploration and extraction may be particularly detrimental to this fossorial species and may limit its dispersal ability⁹. However, effects of these activities on Idaho Pocket Gopher are unquantified.

KEY ACTIVITIES IN WYOMING

Most work on Idaho Pocket Gopher to-date has occurred in conjunction with efforts directed toward Wyoming Pocket Gopher (*T. clusius*). In 2010, WYNDD and other partners completed field efforts to further improve range estimates, habitat descriptions, and live-trapping methodology for pocket gophers in southwestern Wyoming. However, only 5 Idaho Pocket Gophers were trapped as part of this effort, and small sample sizes limited the ability to develop a predictive distribution model and precluded detailed habitat analyses^{5,7}. Genetic analyses from these captures were completed in 2010, which further elucidated the relatedness among pocket gophers in southwestern Wyoming and confirmed species identification determined in the field¹⁰.

ECOLOGICAL INFORMATION NEEDS

Very little is known about the basic biology of Idaho Pocket Gopher including habitat use, phenology, diet, and dispersal behavior. Distribution, abundance, and population densities and trends are also not well known for this species. Similar to other geographically restricted pocket gophers (i.e., Wyoming Pocket Gopher), potential threats for Idaho Pocket Gopher include soil compaction from energy development; habitat loss and fragmentation; and stochastic weather events, including runoff from melting snow, high groundwater tables, late and early season freezes, and weather-caused limitations on the availability of food and cover; however, an understanding of the impacts from these threats is still needed. Finally, the distribution of Idaho Pocket Gopher is completely overlapped by the distribution of Northern Pocket Gopher, and, where they co-exist, both species show more restricted habitat use than when the other species is

absent¹. Consequently, additional information is needed to determine whether and to what extent this larger species competes with and potentially limits Idaho Pocket Gopher.

MANAGEMENT IN WYOMING

This section authored solely by WGFD; Nichole L. Bjornlie. Very little is known about Idaho Pocket Gopher in general, and detailed information on distribution, abundance, density, and population trends are not available for Wyoming. Consequently, priorities for the species include conducting systematic surveys throughout its predicted range and incorporating habitat assessments with survey efforts to better understand what influences presence and distribution. Because of the presumed low density and limited distribution of Idaho Pocket Gopher on the landscape, acquiring these data will likely require targeted survey efforts. The most pressing management needs for Idaho Pocket Gopher in the short-term are an understanding of the current population status and impacts of potential limiting factors, particularly threats resulting from energy development. Long-term priorities will focus on increasing the understanding of basic biology for the species, all of which will ultimately be used to develop management and conservation recommendations.

CONTRIBUTORS

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SPECIES PHOTOGRAPH

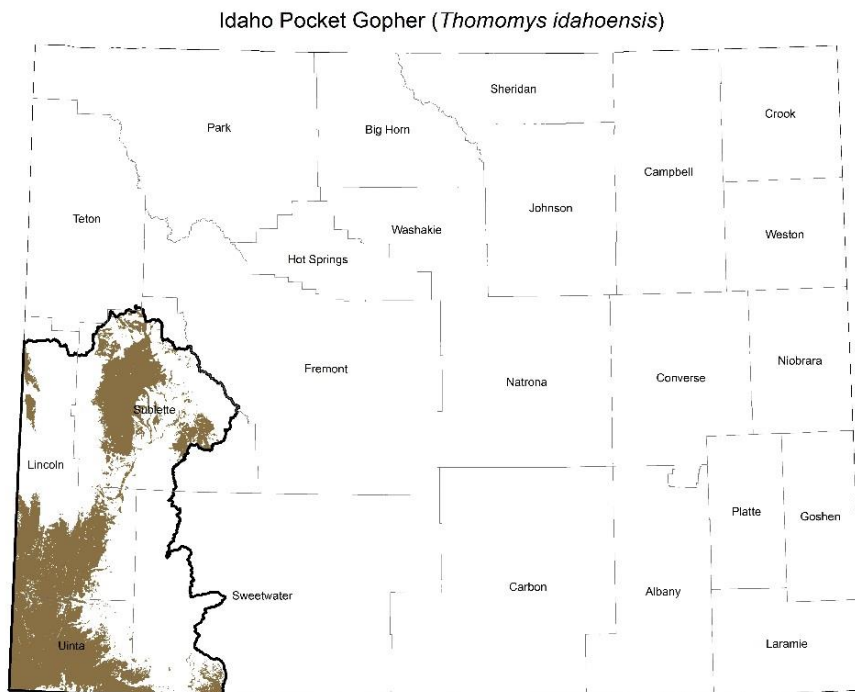
Figure 1: Photo not available.



Figure 2: North American range of *Thomomys idahoensis*. (Map from: Patterson, B. D., et al. (2007) Digital Distribution Maps of the Mammals of the Western Hemisphere, version 3.0, NatureServe, Arlington, Virginia.)



Figure 3: Idaho Pocket Gopher habitat in southwest Wyoming. (Photo courtesy of Hayden-Wing Associates, LLC)



SOURCE: Digital maps of ranges for Wyoming Species of Greatest Conservation Need: Sept. 2016. Wyoming Game and Fish Department and Wyoming Natural Diversity Database, University of Wyoming, Laramie, Wyoming. Note that brown indicates the predicted distribution of the species; heavy black lines indicate outermost boundaries of possible occurrence.

Figure 4: Range and predicted distribution of *Thomomys idahoensis* in Wyoming.



Figure 5: Species comparison between pocket gopher species. From left to right: *Thomomys talpoides* (Northern Pocket Gopher), *T. clusius* (Wyoming Pocket Gopher) and *T. idahoensis* (Idaho Pocket Gopher). (Photo courtesy of WYNDD, specimens courtesy of New Mexico State University)