

## Cliff Chipmunk

*Tamias dorsalis*

### **REGULATORY STATUS**

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

### **CONSERVATION RANKS**

USFWS: No special status  
WGFD: NSS3 (Bb), Tier II  
WYNDD: G5, S1  
Wyoming Contribution: LOW  
IUCN: Least Concern

### **STATUS AND RANK COMMENTS**

Cliff Chipmunk (*Tamias dorsalis*) has no additional regulatory status or conservation rank considerations beyond those listed above.

### **NATURAL HISTORY**

#### **Taxonomy:**

There are six recognized subspecies of Cliff Chipmunk, but only *T. d. utahensis* is found in Wyoming<sup>1-5</sup>. Global chipmunk taxonomy remains disputed, with some arguing for three separate genera (i.e., *Neotamias*, *Tamias*, and *Eutamias*)<sup>6-8</sup>, while others support the recognition of a single genus (i.e., *Tamias*)<sup>9</sup>. Cliff Chipmunk was briefly referred to as *N. dorsalis*<sup>10</sup> but has recently been returned to the currently recognized genus *Tamias*, along with all other North American chipmunk species<sup>11</sup>.

#### **Description:**

Cliff Chipmunk is a medium-large chipmunk that can be easily identified in the field by its mostly smoke gray upperparts, indistinct dorsal stripes (with the exception of one dark stripe along the spine), brown facial stripes, long bushy tail, stocky body, short legs, and white underbelly<sup>2-5</sup>. This species exhibits sexual size dimorphism, with females averaging larger than males<sup>2,3</sup>. Adults weigh between 55–90 g with total length ranging from 208–240 mm<sup>4</sup>. Tail, hind foot, and ear length range from 81–110 mm, 30–33 mm, and 17–21 mm, respectively<sup>4</sup>. Within its Wyoming distribution, Cliff Chipmunk is easy to distinguish from Yellow-pine Chipmunk (*T. amoenus*), Least Chipmunk (*T. minimus*), and Uinta Chipmunk (*T. umbrinus*) by its mostly gray dorsal coloring and indistinct dorsal stripes<sup>4</sup>.

#### **Distribution & Range:**

The distribution of Cliff Chipmunk extends from extreme southern Idaho and Wyoming to north central mainland Mexico<sup>2,12</sup>. In Wyoming, Cliff Chipmunk is a peripheral resident and is restricted to rocky habitats along the Flaming Gorge Reservoir in Sweetwater County<sup>4,5,13,14</sup>.

Confirmed breeding has been documented in 2 of 28 latitude/longitude degree blocks in the state<sup>14</sup>.

**Habitat:**

Cliff Chipmunk is typically associated with steep rocky slopes, outcrops, and cliffs in arid woodlands dominated by juniper (*Juniperus* spp.), Piñon Pine (*Pinus edulis*), Ponderosa Pine (*P. ponderosa*), and/or Gamble Oak (*Quercus gambelii*)<sup>2, 4, 13, 15, 16</sup>. In Wyoming, this species is found in rocky slopes and cliff habitats in woodlands dominated by Utah Juniper (*J. osteosperma*), and nests are located deep within cliff crevices<sup>4, 13, 14, 17</sup>.

**Phenology:**

Cliff Chipmunk has a long breeding season compared to other species of chipmunk in the western United States, but adult females typically produce only one litter per year<sup>3, 4</sup>. In Wyoming, Cliff Chipmunk breeds in early March following winter hibernation and produces a litter of 4–6 young after a gestation period of 28–31 days<sup>4</sup>. Young begin to venture from the nest after nursing for about one month<sup>4</sup>.

**Diet:**

Cliff Chipmunk is primarily herbivorous and opportunistically forages on a wide variety of plant blossoms, stems, and seeds<sup>2, 4</sup>. However, this species may also consume insects and insect larvae, frogs, salamanders, snakes, and bird nestlings and eggs<sup>2, 18</sup>.

**CONSERVATION CONCERNS**

**Abundance:**

**Continental:** WIDESPREAD

**Wyoming:** RARE

There are no robust estimates of abundance available for Cliff Chipmunk in Wyoming. Cliff Chipmunk was once locally abundant along the Green River in southwestern Wyoming; however, this species lost historic habitat to flooding when the river was dammed to create Flaming Gorge Reservoir in 1962<sup>4, 5, 13</sup>. Research conducted in 1998 and 1999 recorded 113 individuals across 13 of 14 rocky slope and cliff habitat sites sampled in juniper woodlands east of Flaming Gorge Reservoir<sup>13</sup>. Cliff Chipmunk has a statewide abundance rank of RARE and appears to be rare even within suitable environments in the occupied area<sup>14</sup>.

**Population Trends:**

**Historic:** MODERATE DECLINE

**Recent:** UNKNOWN

In Wyoming, Cliff Chipmunk likely experienced historic moderate population declines due to the aforementioned habitat loss following the creation of Flaming Gorge Reservoir half a century ago. However, recent population trends for this species in Wyoming are unknown.

**Intrinsic Vulnerability:**

**HIGH VULNERABILITY**

Cliff Chipmunk has high intrinsic vulnerability in Wyoming due to low abundance, specific habitat requirements within a very restricted distribution, and limited dispersal ability. This species is likely to be affected by any natural or anthropogenic disturbance to occupied habitat within its already restricted distribution. The environment of Flaming Gorge is unique in Wyoming and supports wildlife species, including Cliff Chipmunk, that are not found anywhere else in the state. Therefore, this species has little to no opportunity for range expansion within the

state and would likely have an increased risk of extirpation should disturbance or loss of existing habitat occur.

### **Extrinsic Stressors:**

#### **MODERATELY STRESSED**

Loss and degradation of existing habitat as well as disturbance, both natural and anthropogenic, could negatively impact Cliff Chipmunk in Wyoming. Rocky habitats in southwestern Wyoming are threatened by potential oil shale and other energy development, as well as exposure to anthropogenic disturbances from recreational activities<sup>17, 19</sup>. Furthermore, juniper woodlands are potentially vulnerable to changes in fire regime; invasive species such as Cheatgrass (*Bromus tectorum*); drought and climate change; habitat fragmentation; and human disturbance, including juniper removal and thinning programs<sup>17</sup>. However, recent expansion of juniper woodlands into shrub-grasslands might provide additional habitat that could offset some of these threats. Cliff Chipmunk may be exposed to some disturbance from recreational activities within its Wyoming distribution, and the species is predicted to face extinction in parts of its Great Basin range due to effects of global warming<sup>20</sup>. Currently, it is not known how these potential extrinsic stressors could be impacting Cliff Chipmunk in Wyoming.

### **KEY ACTIVITIES IN WYOMING**

Cliff Chipmunk is classified as a Species of Greatest Conservation Need by the Wyoming Game and Fish Department (WGFD). In 1998 and 1999, the WGFD funded a University of Wyoming graduate research project that examined habitat use for three rare, small mammal species in southwestern Wyoming, including Cliff Chipmunk<sup>13</sup>. In 2016, the WGFD began a two-year project designed to collect crucial data on the distribution, relative abundance, and habitat use of piñon-juniper obligate species, including Cliff Chipmunk, in the woodlands of southwestern Wyoming.

### **ECOLOGICAL INFORMATION NEEDS**

Cliff Chipmunk is not well studied, and little is known about the status or natural history of this species in Wyoming<sup>4</sup>. This species would benefit from research to determine its detailed distribution and current abundance in the state, especially in potential habitat west of Flaming Gorge Reservoir. Likewise, it would be valuable to quantify adult survival and reproductive success and to examine if and how Cliff Chipmunk is being impacted by anthropogenic disturbance from recreational activities within its already limited Wyoming distribution.

### **MANAGEMENT IN WYOMING**

*This section authored solely by WGFD; Nichole L. Bjornlie.* Little is known about Cliff Chipmunk in Wyoming. Consequently, management priorities for the species in the short-term will focus on addressing these data deficiencies. Of particular importance are data on presence, distribution, population status and trends, and the impact of extrinsic threats. Upcoming projects will address these needs, including evaluating habitat requirements and potential changes in presence and distribution in response to juniper removal and juniper expansion. These results will be used to develop management and conservation recommendations as well as develop monitoring protocols to establish population trends.

### **CONTRIBUTORS**

Kaylan A. Hubbard, WYNDD

Nichole L. Bjornlie, WGFD  
 Ian M. Abernethy, WYNDD

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Figure 1: A Cliff Chipmunk. (Photo courtesy of Robert J. Luce)



Figure 2: North American range of *Tamias dorsalis*. (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: Rocky juniper woodland habitat east of Flaming Gorge Reservoir in Sweetwater County, Wyoming. (Photo courtesy of Kaylan A. Hubbard)

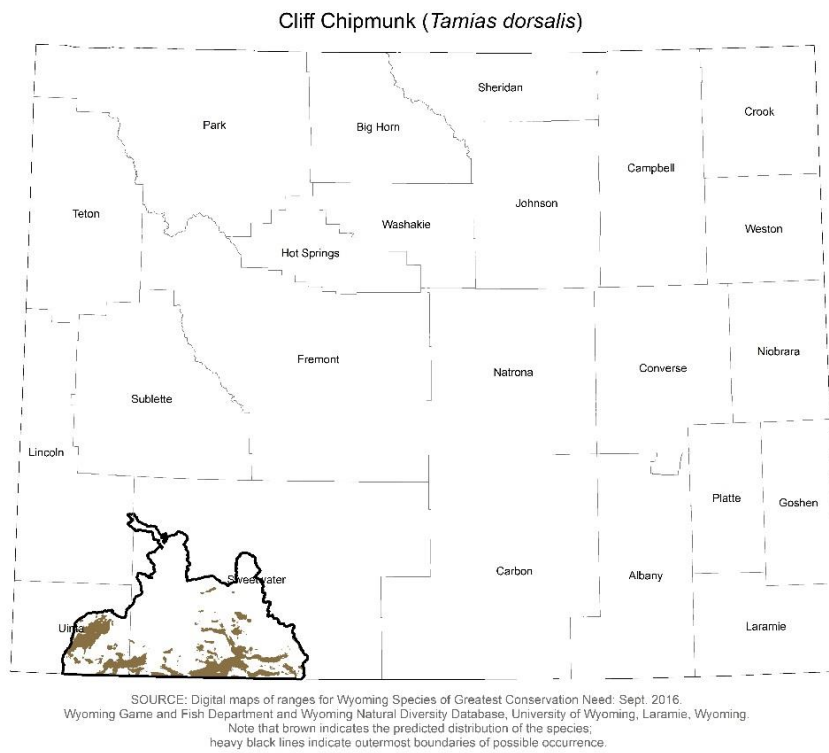


Figure 4: Range and predicted distribution of *Tamias dorsalis* in Wyoming.