

# Preble's Meadow Jumping Mouse



ASSESSING HABITAT QUALITY FOR PRIORITY WILDLIFE SPECIES IN COLORADO WETLANDS



© ROB SCHORR, CNHP

Preble's meadow jumping mouse (*Zapus hudsonius preblei*, Family *Dipodidae*) is a rare small mammal that lives in dense riparian vegetation along the Front Range.

## Species Description

### Identification

Preble's meadow jumping mice grow to approximately nine inches in length, including their five and a half-inch tails. They are mostly nocturnal and hibernate in upland areas for eight months of the year, making them difficult to observe.

### Preferred Habitats

During summer months, the most important wetland types occupied by Preble's meadow jumping mice include riparian areas and adjacent wet meadows. During the summer, they prefer dense shrub, grass and forb ground cover along creeks, rivers, and associated waterbodies. From early fall through the spring, they hibernate underground in burrows that are typically at the base of vegetation and have a northerly aspect.

### Diet

The diet of Preble's meadow jumping mice includes, but is probably not limited to, grass seeds, invertebrates, fungi, and insect larvae.

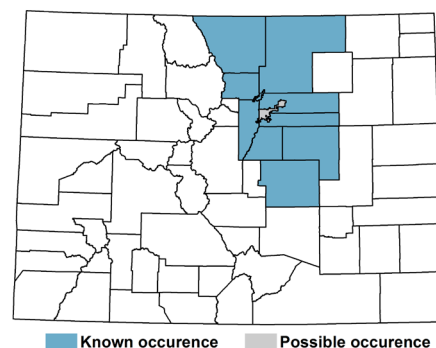
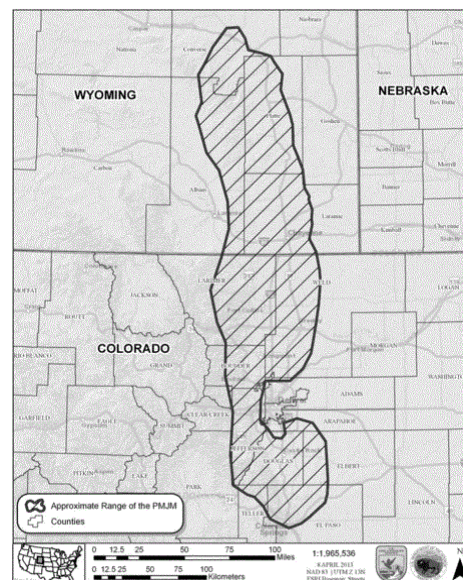
### Conservation Status

The Preble's meadow jumping mouse is listed as threatened by the U.S. Fish and Wildlife Service (USFWS 1998). In Colorado, they are listed as a threatened, Tier 1, Species of Greatest Conservation Need (CPW 2015). The Colorado Natural Heritage Program considers the subspecies to be globally-imperiled (G5 T2) and critically-imperiled with the state (S1).

## Species Distribution

### Range

Preble's meadow jumping mice occur only in Colorado and Wyoming. In Colorado, they are known to occupy the counties along the Front Range from the Wyoming border through El Paso County.



Full species range map from USFWS (2004). Colorado map based on Grunau et al. (1999), and Schorr (2001).

# Preferred Habitat Conditions

Distance from riparian habitat patch to water	<10 yards
Dominant vegetation	a combination of grasses, shrubs, forbs, and trees
Habitat size	>60 acres
Herbaceous vegetation height	>20–40 inches
Landscape context	ungrazed
Percent ground cover	densely vegetated; between grasses, forbs, and shrubs, close to 100%
Species richness	>20 plant species

## Management Recommendations

This fact sheet contains easy-to-use guidelines for understanding habitat needs of Colorado Parks and Wildlife priority wetland-dependent wildlife. A number of practical steps can be taken to improve habitat for Preble's meadow jumping mouse.

### Hydrology

- Maintain or restore natural regime.
- Control erosion within stream corridor.

### Vegetation

- Provide, restore, and enhance riparian vegetation.
- Provide, restore, and enhance upland shrub.
- Provide, restore, and enhance grassland habitat.
- Control noxious weeds, avoiding May through October.
- Consider providing woody debris.

### Conservation

- Use best strategies to minimize disturbance.



© ROBSCHORR, CNHP

### Acknowledgements

Robert Schorr (Colorado Natural Heritage Program) reviewed an earlier version and provided input on preferred habitat conditions.

### Suggested Reading and Citations

CPW (Colorado Parks and Wildlife). 2015. State Wildlife Action Plan: A Strategy for Conserving Wildlife in Colorado. Denver, Colorado.

Grunau, L., R. Schorr, D. Green, B. Rosenlund, C. Pague, and J. Armstrong. 1999. Conservation and management plan for the Preble's meadow jumping mouse on the U. S. Air Force Academy. Colorado Natural Heritage Program unpublished report to the Natural Resources Branch, U.S. Air Force Academy.

Meaney, C. A., A. K. Ruggles, B. C. Lubow, N. W. Clippinger. 2003. Abundance, survival, and hibernation of Preble's meadow jumping mice (*Zapus hudsonius preblei*) in Boulder County, Colorado. *Southwestern Naturalist* 48: 610-623.

Schorr, R. A. 2001. Meadow jumping mice (*Zapus hudsonius preblei*) on the U.S. Air Force Academy, El Paso County, Colorado. Colorado Natural Heritage Program unpublished report to the Natural Resources Branch, U.S. Air Force Academy.

Schorr, R. A. 2003. Meadow jumping mice (*Zapus hudsonius preblei*) on the U.S. Air Force Academy, El Paso County, Colorado: Populations, Movement and Habitat from 2000-2002. Colorado Natural Heritage Program unpublished report to the Natural Resources Branch, U.S. Air Force Academy.

Trainor, A. M., T. M. Shenk, and K. R. Wilson. 2007. Microhabitat characteristics of Preble's meadow jumping mouse high-use areas. *Journal of Wildlife Management* 71: 469-477.

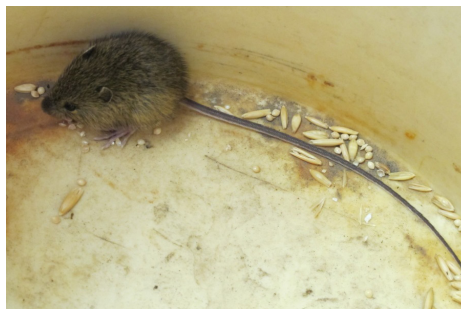
Trainor, A. M., T. M. Shenk, and K. R. Wilson. 2012. Spatial, temporal, and biological factors associated with Preble's meadow jumping mouse (*Zapus hudsonius preblei*) home range. *Journal of Mammalogy* 93: 429-438.

U.S. Fish and Wildlife Service (USFWS). 2013. Endangered and threatened wildlife and plants: 12-month finding on two petitions to delist the Preble's meadow jumping mouse. *Federal Register* 78: 31680-31712.

USFWS. 2015. Draft recovery plan Preble's meadow jumping mouse (*Zapus hudsonius preblei*). U.S. Fish and Wildlife Service, Region 6, Lakewood, Colorado.



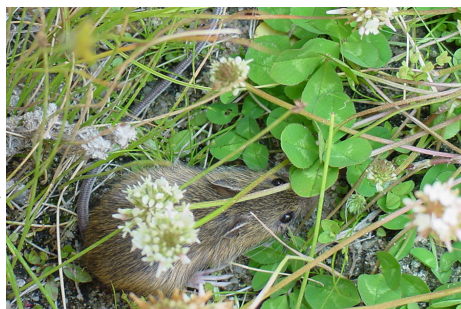
© ROB SCHORR, CNHP



© M. CANESTORP



© U.S. FISH AND WILDLIFE SERVICE



© ROB SCHORR, CNHP

# Habitat Scorecard for Preble's Meadow Jumping Mouse (v. Jan 2016)

*Assessment of habitat before and after restoration or management actions*

Project Name: \_\_\_\_\_ Date(s) of Assessment: \_\_\_\_\_

**Instructions:** Enter one value that best describes early to mid-summer conditions of each habitat variable, using the numbers in the value column. Habitat variables are in shaded boxes; ranges of condition are directly below each variable. If condition is outside range or is not described, enter a zero.

Key habitat variable and conditions	Value	Before	After
<b>Dominant vegetation</b>			
Combination of sedges, grasses, annual and perennial forbs and dense shrubs	13.2		
Combination of sedges, grasses, and dense shrubs	8.8		
Combination of sedges, grasses, and more open shrubs	4.4		
<b>Percent grass cover</b>			
>40%	13.2		
>20 – 40%	8.8		
10 – 20%	4.4		
<b>Percent shrub cover</b>			
>80%	13.2		
>50 – 80%	8.8		
5 – 50%	4.4		
<b>Distance from habitat patch to water</b>			
<10 yards	12.5		
10 – 20 yards	8.4		
>20 – 40 yards	4.2		
<b>Species richness (number of species in vegetation community)</b>			
>20 species	11.9		
10 – 20 species	7.9		
<10 species	4.0		
<b>Habitat size</b>			
>60 acres	10.6		
50 – 60 acres	7.0		
<50 acres	3.5		
<b>Percent forb cover</b>			
>35 – 50%	10.4		
>15 – 35%	6.9		
5 – 15%	3.5		
<b>Height of herbaceous vegetation (grasses and forbs)</b>			
>20 – 40 inches	9.9		
8 – 20 inches	6.6		
<8 inches	3.3		
<b>Land use within 100 yards</b>			
Ungrazed	5.1		
Grazed lightly	3.4		
Grazed moderately	1.7		
<b>Total (of 100 possible): add all numbers in before or after columns</b>			