Preble’s Meadow Jumping Mouse

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).

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.

Species Distribution

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.

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

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

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.

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

Suggested Reading and Citations


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.

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