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Parks Affected:

Roxborough, Castlewood, Lory, Picnic Rock, Eldorado, Barbour Ponds, Chatfield, Cherry Creek, Barr Lake*, Boyd Lake*, Cheyenne Mountain*, Jackson Lake

*outside of identified preliminary protection areas, but within areas where surveys are required.

Preble's Meadow Jumping Mouse

ISSUE

Preble's meadow jumping mouse (Preble's) was listed by the US Fish and Wildlife Service as a threatened species on May 12, 1998. The mouse is also considered a threatened species by the State of Colorado.

The species has been found at Roxborough, Chatfield, Castlewood, and Lory. The United States Fish and Wildlife Service (the Service) has identified potential habitat for the mouse in or around Picnic Rock, Eldorado, Barbour Ponds, and Cherry Creek.

The mouse's status as a federally threatened species means that actions taken by government agencies such as Colorado State Parks, or private citizens that may adversely affect the mouse or its habitat will be subject to regulation under the Endangered Species Act (ESA). Development that potentially affects the mouse's habitat may need federal approval before proceeding.

Intent

The intent of this management prescription is to provide park managers with sufficient information to

1. **Manage selected park lands to protect, preserve and enhance habitat suitable for Preble's and**
2. **Maintain compliance with current federal regulations associated with Preble's.**



*Preble's meadow jumping mouse
(Zapus hudsonius preblei)*



Description:

The Preble's meadow jumping mouse (*Zapus hudsonius preblei*) is 8 to 9 inches in length, with a long tail accounting for 60 percent of its total length. It has coarse fur with a dark back, paler sides tending toward yellowish brown, and a white belly. Its hind feet are long and adapted for jumping. Preble's is a profound hibernator that sleeps in an underground burrow from September to May. This shy, largely nocturnal mouse lives in moist lowlands with dense vegetation. It has been found in wet meadows but may prefer riparian corridors (both naturally occurring or along irrigation ditches) supporting diverse vegetation that includes shrubs such as willow. A great deal is being learned about the habitat requirements of this species each year. During the 1999 field season, several mice were captured in oak scrub, suggesting that this habitat type may be important to the mouse.

Stewardship:

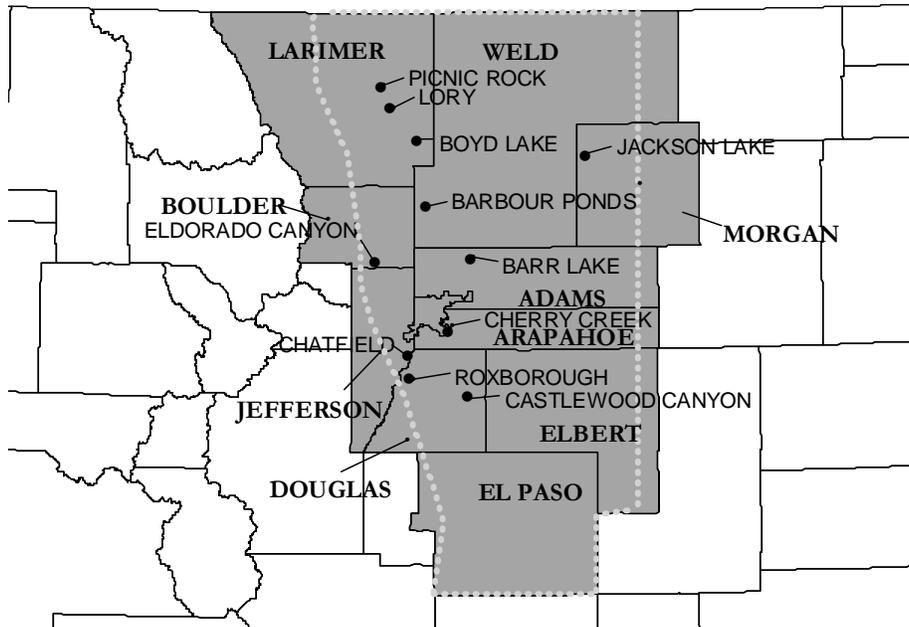
Understanding the Endangered Species Act

Park managers should be aware of the regulatory requirements of the Endangered Species Act. Under the provisions of the act it is illegal to "take" (i.e. harass, harm, pursue, hunt, shoot, kill, wound, trap, capture, or collect, or to attempt to engage in any such conduct) any federally listed species, including Preble's. In the final listing rule, the Service described many types of takings that might be anticipated for the mouse (table 1).

Table 1: Activities likely to result in a taking of Preble's Meadow Jumping Mouse
<ul style="list-style-type: none">• Removing, thinning or altering vegetation;• Implementing livestock grazing management that alters vegetation during warm seasons;• Construction of roads or access along or through riparian areas;• Channelization and other alteration of perennial and intermittent streams and their hydrological regimes for flood control and other water management purposes;• Permanent and temporary damming of streams to create water storage reservoirs or deviate the stream's course;• Human activities in or near Preble's meadow jumping mouse habitats;• Construction of residential, commercial, and industrial developments, including roads, bridges, public utilities and telephone lines, pipelines, and other structures• Bioremediation and hazardous materials management, containment, and cleanup efforts; and• Sand and gravel and other types of mining activities within or upstream of Preble's meadow jumping mouse habitats.

Park managers anticipating impacts of this sort in Preble's habitat will need to consult with the Service to determine if the proposed project would have direct impacts on Preble's or adversely affect its habitat. The Service may decide that the proposed action would not be considered a taking, even if Preble's were known to inhabit the area. In some cases, a project proponent will be advised to conduct a mouse survey so that the Service has more information upon which to base a decision. The Service can also determine that the proposed activity would constitute a taking. A figure has been appended to this prescription giving a generalized schematic of the permitting process.





Map showing area (within dotted line) recommended by the US Fish and Wildlife Service for Preble's meadow jumping mouse surveys

Surveying for Populations of the Mouse

Habitat Identification

According to the Service's interim survey guidelines for Preble's meadow jumping mouse, surveys are recommended in Boulder, Douglas, El Paso, Adams, Arapahoe, Denver, Elbert, Larimer, Morgan, Weld, and Jefferson Counties, from 7600' elevation on the western boundary to a north/south line drawn through Ft. Morgan on the eastern boundary. This area includes 11 existing and one proposed state parks. The map recommended survey area and the approximate locations of the parks within this area.

The mouse is not expected from all sites in the area described above. Although a great deal remains to be learned about the preferences of the mouse, the Service recommends evaluating typical habitat as follows:

- areas in or near stream channels (perennial and intermittent),
- riparian habitats,
- floodplains,
- wetlands including wet meadows (both natural and those created by seeps from man-made structures such as dams, irrigation canals, ditches, etc.) or,
- wet or mesic native hayfields.
- areas within 300 feet of 100-year floodplains associated with rivers and creeks

Some habitat types are so unlikely to support populations of the mouse, that the Service does not typically recommend a survey. Sites, which are typically disqualified as habitat for the Preble's, are:

- Highly disturbed or modified sites such as:
 - landscaped and maintained (mowed) lawns;
 - areas devoid of vegetation because of paving or other construction;





- portions of stream channels diverted underground, armored with concrete, or covered with rip-rap so as to exclude significant vegetation; and
- irrigation ditches with little or no vegetation.
- Sites where wetlands are entirely composed of dense stands of cattails.
- Sites continually occupied by and maintained as cropland (except native hayfields).

Timing of Surveys

If potential habitat exists in a park, especially in a project area, live trap surveys should be completed between June 1 and September 15, and ideally before September 1. Interim survey guidelines are available at www.r6.fws.gov/preble/Preble's1999.htm. An updated list of surveyors with federal permits is available at www.r6.fws.gov/preble/consultants.htm. Many of the individuals listed are available to trap Preble's and prepare a report on a contract basis.

Note: individuals interested in trapping Preble's must also have a valid permit from the Colorado Division of Wildlife.

Reporting and Response

Survey results are submitted to the Service with a description of the proposed action. There are many possible outcomes (summarized in table 2).

- A site may be disqualified as Preble's habitat because of the lack of existing habitat. Since takings of the mouse would not be an issue, no further authorization (for Preble's) would be required by the Service
- A trapping survey that fails to capture a single Preble's may be interpreted by the Service as evidence that no mice are present in the area. Takings would not be an issue in this scenario and no further authorization (for the mouse) would be required by the Service.
- Alternatively the Service may judge a 0-capture trapping effort as insufficient and require another trapping survey.
- Even if trapping is unsuccessful, the Service may issue an opinion that the proposed project would be a *taking*. Such an outcome should be anticipated when the area is good or excellent habitat and there are recent records of captures nearby.
- If a Preble's is captured, the site is clearly habitat and the proposed project will receive close scrutiny for impacts that can be considered a taking.

The Service's Response

If the Service finds that a taking will occur given the proposed activity, the nature of the habitat or the presence of mice, there are several alternative paths to follow. The first is to redesign the proposed activity so that it does not adversely affect the mouse or its habitat. (See table below).

Incidental Take Permits and Project Specific HCP's

If such a revision is impracticable, the second alternative is to apply for an incidental take permit in accordance with section 10 of the Endangered Species Act. Pursuing an incidental take permit is a laborious and time-consuming effort requiring the preparation of a project specific habitat conservation plan (HCP). Details on HCP's can be found in the Services HCP manual (USFWS/NMFS 1996)





Preparing a HCP is beyond the scope of this stewardship prescription. Contact the Stewardship Program Coordinator if you require assistance with incidental take permits or a HCP.

Outcomes of Preble's meadow jumping mouse surveys and corresponding next steps.

Survey Results	USFWS Takings	Next Step
Habitat Disqualified	No	None, project proceeds
Trapping Survey Conducted	--	--
1. No Preble's Captured	Possibly, Inadequate trapping effort	Repeat trapping survey
2. No Preble's Captured	Yes, habitat ideal, recent nearby records of successful trapping	Project modification or Incidental take permit with HCP or reliance on county-wide HCP
3. No Preble's Captured	No	None, project proceeds
4. Preble's Captured	Yes	Project modification or Incidental take permit with HCP

County-wide HCP's

Five counties are currently considering the preparation of countywide HCP's: Elbert, Douglas, Boulder, El Paso, and Jefferson. The intent of countywide HCP's is to provide certainty for project managers engaged in certain minor activities that could influence Preble's habitat. In Douglas County these minor activities may include: road/trail construction and maintenance, landscaping, erosion control, rodent control, ditch maintenance and operation, herbicide application, mowing tree planting and hazard tree removal. HCP's typically require the use of Best Management Practices to minimize impacts. It is unlikely that any countywide HCP's will be approved before 2002.

Park managers are encouraged to participate in the development of county-wide HCP's to insure that the concerns and needs of the park are included. By having some or all of a park's maintenance and anticipated capital projects addressed in an HCP, project implementation is much less likely to be stalled by permitting requirements from the Service.

Section 7 Consultation

In some cases, a Park Manager may not be responsible for working directly with the Service. When a project involves some other federal agency, it is typically that agency's responsibility to coordinate with the Service. The involvement of another federal agency can involve almost any relationship. Funding, permitting requirements, and land ownership are the most common examples of a "federal nexus". For example, impacts in a riparian area may involve a Clean Water Act permit (404/Wetlands permit) from the Corps of Engineers (the Corps). If the activity were proposed for Preble's habitat, the Corps would be responsible for coordinating with the Service. The time frame and effort involved in obtaining authorization through "Section 7" consultation is typically less than would be required if working directly with the Service to obtain an incidental take permit.





The "4d Rule"

In an attempt to make the listing of Preble's less burdensome on the public, the Service has proposed allowing a number of common activities that would otherwise require an incidental take permit. These exceptions are made through a special administrative provision referred to as a 4d rule. The 4d rule has not been issued, but has been published in draft form and the public comment period has closed. The following activities will be allowed under the 4d rule: rodent control, on-going agricultural practices, maintenance and repair of landscaping, and the operation of existing water development (ditches, reservoirs). The Service may amend the 4d rule to include weed management (pesticide application and mowing), as well as the maintenance of ditches. On-going land management for purposes other than agriculture (such as biodiversity protection or recreation) is not included in the draft 4d rule. The 4d rule is intended as an interim measure, to provide counties, agencies, and private individuals to seek approval of HCP's. The current proposal is that the 4d rule would expire after 3 years.

Best Management Practices for Protection of Preble's Habitat

In addition to regulatory compliance, park managers may be interested in enhancing the existing and potential habitat for Preble's in their park.¹ Although no formal guidance has been prepared by the USFWS, the following general practices are recommended:

- Existing activities in Preble's habitat should be evaluated for impact to the mice. No action is recommended where the impacts are not measurable or appear to minimal.
- Consider changing land uses only when impacts from existing uses are severe or the improvement can be accomplished with no adverse impact to the mouse's habitat.
- Avoid mowing large areas of riparian cover from May through October
- Avoid disturbances to flowing water sources in these areas from May through November
- Control weeds by spot mowing, limited herbicide applications and hand pulling
- Enhance existing and potential habitat with new plantings of grasses, forbs and shrubs to improve conditions
 - Emphasize the planting of riparian areas with shrubs such as coyote willow (*Salix exigua*), western snowberry (*Symphoricarpos occidentalis*), and chokecherry (*Prunus americana*).
 - The following native seed mix is recommended to reclaim the riparian understory and provide maximum habitat value for animal species that uses grassland. This mix can be used in grassland areas adjoining wetlands and riparian zones to enhance the extent of potential Preble's habitat.



Preble's meadow jumping mouse.
Alan Franklin

¹ Preble's Meadow Jumping Mouse Habitat Protection Grants are available for this purpose from the CDOW.





Native mesic grassland seed mix.

<u>Species</u>	<u>Common Name</u>	<u>Variety</u>	<u>Lbs/Ac</u> <u>Pure Live Seed</u>
<i>Andropogon gerardii</i>	Big bluestem	Kaw/Pawnee	1.2
<i>Bouteloua curtipendula</i>	Sideoats grama	El Reno/Vaughn	1.0
<i>Oryzopsis hymenoides</i>	Indian ricegrass	Nezpar/Paloma	0.6
<i>Panicum virgatum</i>	Switchgrass	Blackwell/Nebraska	3.0
<i>Schizachyrium scoparium</i>	Little bluestem	Cimarron/Pastura	1.0
<i>Sorghastrum nutans</i>	Indiangrass	Cheyenne/Nebraska	1.0
Total			7.2





CONTACTS

United States Fish and Wildlife Service (The Service)

Information about threatened and endangered species issues, the 4d rule and habitat conservation plans.

State Office	303-275-2370	Main number
Peter Plage	303-275-2309	Individual project review, Section 7 consultation
Kathleen Linder	303-275-2377	4d rule, Incidental Take Permits and HCP's and local HCP contacts

Colorado Department of Natural Resources

Coordination of Statewide Conservation Programming for Preble's Executive Director's Office 303-866-3311

Preble's Meadow Jumping Mouse Collaborative Planning Project web page
www.elbert.state.co.us/species/mouse/index.asp

Colorado Division of Wildlife (CDOW)

Funding, project consultation, expert advice

Gary Skiba is the funding coordinator for the *Preble's meadow jumping mouse habitat protection funding program*.

303-291-7466

gary.skiba@state.co.us

For general information about Preble's and review of projects that may affect the mouse, you may contact your local District Wildlife Manager. DWM can be contacted through the regional service centers

Colorado Springs	719-227-5200
Denver	303-291-7227
Ft. Collins	970-472-4300

Tanya Shenk is a field biologist with the CDOW and has done a great deal of trapping for the mouse, especially in Larimer County.

970-484-2836

tana.shenk@state.co.us

The Nature Conservancy

Technical information about conservation of Preble's may be available from The Nature Conservancy or the Science Team

Chris Pague is the Preble's Science Team Leader

303 444-2985 ext. 1005

cpague@tnc.org





SELECTED REFERENCES

Pague, C.1998. Selected bibliography for *Zapus hudsonius preblei* (Preble's meadow jumping mouse). Version: 23. The Nature Conservancy. Boulder, Colorado. 80302.
www.elbert.state.co.us/species/mouse/Bibliography/bibliography.htm

State of Colorado. 2000. Colorado Division of Wildlife. Preble's meadow jumping mouse habitat protection grants. www.dnr.state.co.us/wildlife/T&E/PMAApp.htm

State of Colorado. 2000. Preble's meadow jumping mouse collaborative planning project web page. www.elbert.state.co.us/species/mouse/index.asp

United States Fish and Wildlife Service. The Service's (Region 6) web page for Preble's: www.r6.fws.gov/preble/index.htm





APPLICABLE REGULATIONS AND POLICIES

- **Federal**

- ◆ Endangered Species Act of 1973, (16 U.S.C. §§ 1531-1544). Preble's is listed as a threatened species.
- ◆ Endangered and Threatened Wildlife and Plants; Final Rule to List the Preble's Meadow Jumping Mouse as a Threatened Species [50 CFR Part 17 (11)(h)]
- ◆ Endangered and Threatened Wildlife and Plants; Proposed Special Regulations for the Preble's Meadow Jumping Mouse www.r6.fws.gov/preble/4dsummary.htm
- ◆ 1999 Survey Guidelines for Preble's Meadow Jumping Mouse www.r6.fws.gov/preble/Preble's1999.htm
- ◆ Preble's Meadow Jumping Mouse Biologue. www.r6.fws.gov/preble/preble1.htm
- ◆ The Service issues permits allowing individuals to (live) trap Preble's for study.
- ◆ US Fish and Wildlife Service & the National Marine Fishery Service (USFWS/NMFS) 1996. Habitat Conservation Plan and Incidental Take Permit Processing Handbook. Washington, DC. Available at endangered.fws.gov/hcp/hcpbook.htm

- **State**

- ◆ Species Conservation Trust Fund
On May 27, 1998, the Colorado Legislature created the Species Conservation Trust Fund. In its legislative declaration, the legislature recognized "...the importance of conserving native species that have been listed as threatened or endangered under state or federal law, or are candidate species or are likely to become candidate species as determined by the United States Fish and Wildlife Service." In May of 1999, the legislature allocated \$250,000 from the Trust Fund specifically to conserve habitat for Preble's.
- ◆ The Colorado Division of Wildlife (CDOW)
CDOW is responsible for the management of all animals within the state. Preble's is classified as a threatened species by the state of Colorado. The CDOW also requires (state issued) permits for the capture of Preble's.



