

Study



Stoecker, Robert E.

Preble's Jumping Mouse Survey

conducted at three sites:

- Site 1. Eggleston Reservoir No. 3 ditch headgate.
- Site 2. Eggleston Reservoir No. 4.
- Site 3. Eggleston reservoir No. 3.

Boulder County, Colorado

prepared for

Glenn Carriere
City of Boulder, Open Space/Real Estate
P.O. Box 791
Boulder, Co. 80306
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August 1997

prepared by

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279 Forest Lane
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STOECKER

INTRODUCTION

This report presents the results of live-trapping studies that were conducted to determine whether the Preble's jumping mouse (*Zapus hudsonius preblei*) is present at three sites on Boulder Open Space. These sites are: (1) **Eggleston Reservoir No. 3 ditch headgate**; (2) **Eggleston Reservoir No 4**; and (3) **Eggleston Reservoir No.3**. The project sites are located near Coal Creek, just east of the junction of highways 93 and 128. The locations are shown on the attached U.S.G.S. topographic map, and each are described in detail on the U. S. Fish and Wildlife Service (USFWS) *Survey Field Data Compilation Form* included at the end of this report. Photographs of the three sites are also provided.

The Preble's jumping mouse is currently classified by the USFWS as "proposed endangered" and is protected under the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 et. seq.). The field studies described herein were performed in accordance with the USFWS *Interim Survey Guidelines for the Preble's Meadow Jumping Mouse*, revised May 27, 1997.

METHODS

As mentioned above, the methods used in this study follow current USFWS guidelines. Additional details regarding schedule and procedures pertinent to this study are as follows:

A 400 trapnight effort was performed at each of the three sites. Site 1 was sampled during the period of August 12 through 16; Site 2 from August 16 through 20; and Site 3 from August 15 through 19. All animals that were captured during the course of these investigations were identified in the field and immediately released. Traps were placed in riparian or wet meadow habitat of varying vegetational composition, but generally in grass-forb and willow shrub communities.

RESULTS AND DISCUSSION

Summary of Trapping Results

No Preble's jumping mice were captured on any of the three sites.

Small mammals that were captured during these investigations are as follows:

	<u>Site 1</u>	<u>Site 2</u>	<u>Site 3</u>
Deer mice, <i>Peromyscus maniculatus</i>	37	25	16
Meadow voles, <i>Microtus pennsylvanicus</i>	4	9	20
Mexican woodrat, <i>Neotoma mexicana</i>	1	0	0

Discussion of Findings

The attached USFWS Survey Field Data Compilation Forms have been completed and should be consulted for a summary of results and detailed site descriptions. Although it is unnecessary to duplicate the information contained on these forms, elaboration of some of the findings are presented below.

Site 1. Eggleston Reservoir No. 3 ditch headgate. The habitat at this location consists primarily of mixed deciduous trees, willow shrub, and grass-forb communities (Figs. 1 and 2). All traps were placed in willow shrub habitat to maximize the possibility of capturing jumping mice. Even though Preble's jumping mice were not captured here, this site would seem to be a likely place for jumping mice to occur. The riparian corridor contains shrubby and otherwise densely vegetated habitat for a considerable distance in either direction along the drainage.

Site 2. Eggleston Reservoir No. 4. Potential Preble's jumping mouse habitat at this site occurs around the perimeter of the reservoir (Fig. 3) as well as below the earthen dam. The best jumping mouse habitats are the dense stands of willow shrub that are bordered by open meadow (Fig. 4). The apparent absence of Preble's jumping mice at this location may be due to its separation from the Coal Creek riparian corridor. The drainage way leading from the reservoir to Coal Creek lacks shrubby vegetation as well as any significant amount of mesic vegetation.

Site 3. Eggleston Reservoir No. 3. This site was considered to be marginal Preble's jumping mouse habitat because of the absence of shrubby vegetation, particularly willow shrub. The site, however, does have a dense and diverse wetland complex below the dam (Fig. 5); also, it is only one mile north of Rock Creek where Preble's jumping mice are known to occur. Besides the absence of willow shrub, an additional factor that reduces the probability of jumping mouse occurrence at this site is the proximity of past gravel mining, with the habitat disturbance located between the reservoir and the riparian vegetation of the Coal Creek corridor.

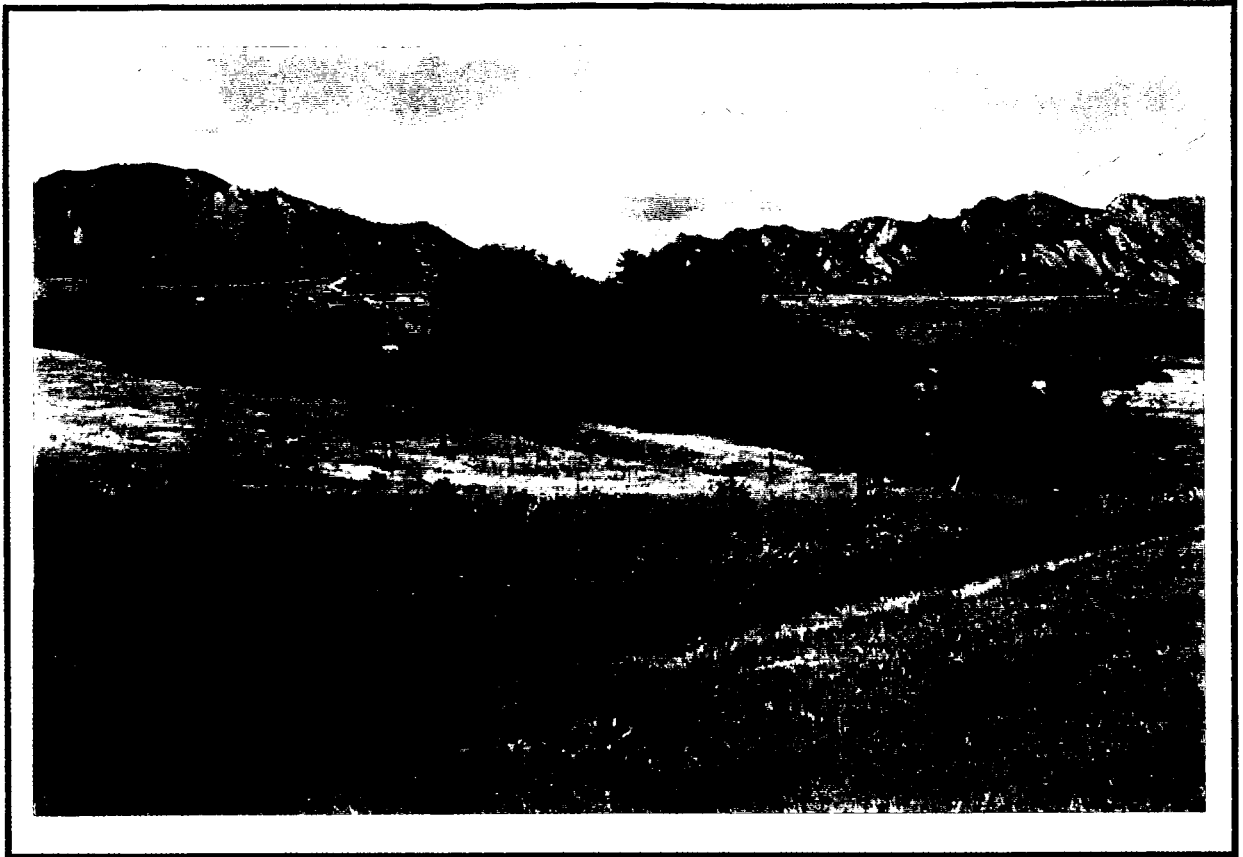


Fig. 1. Site 1. Eggleston Reservoir No. 3 ditch headgate—project location on Coal Creek.



Fig. 2. Site 1. Closeup of riparian vegetation.

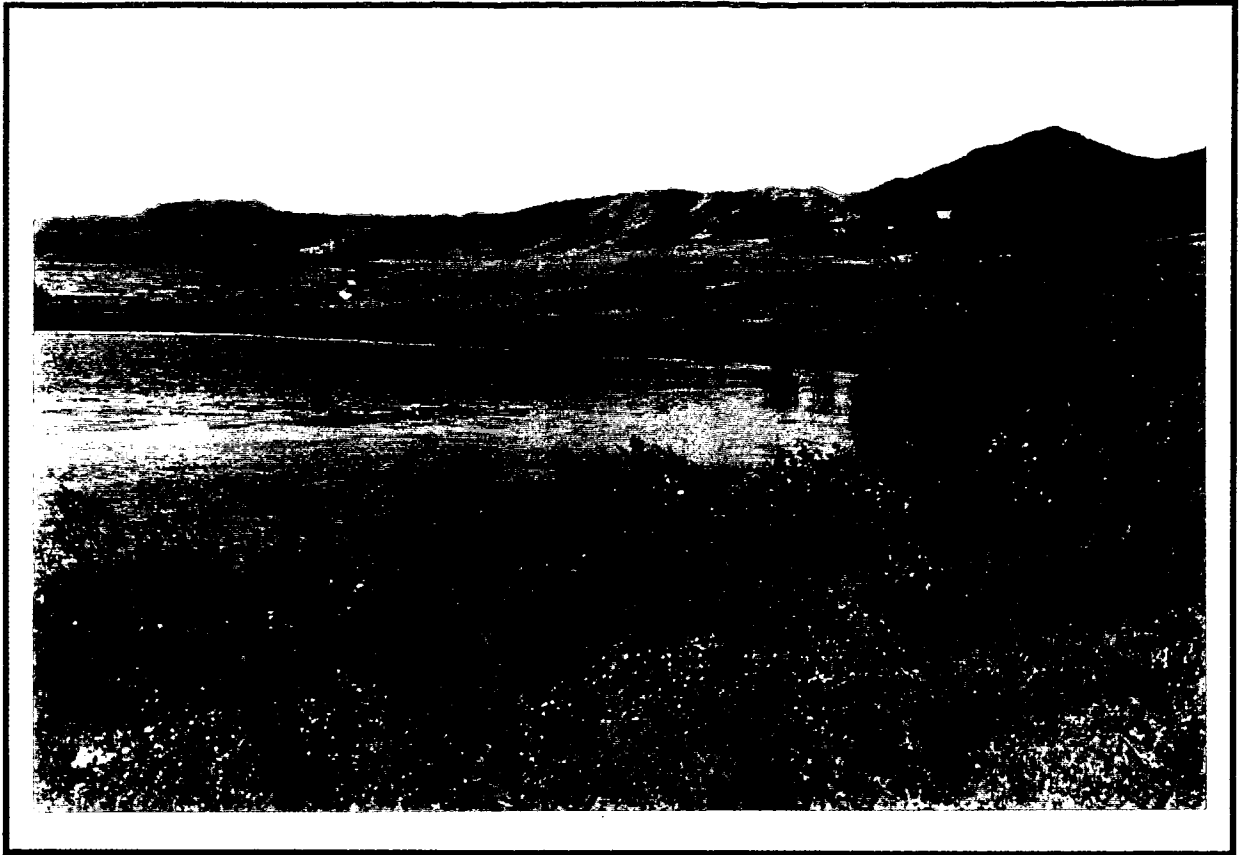


Fig. 3. Site 2. Eggleston Reservoir No. 4.



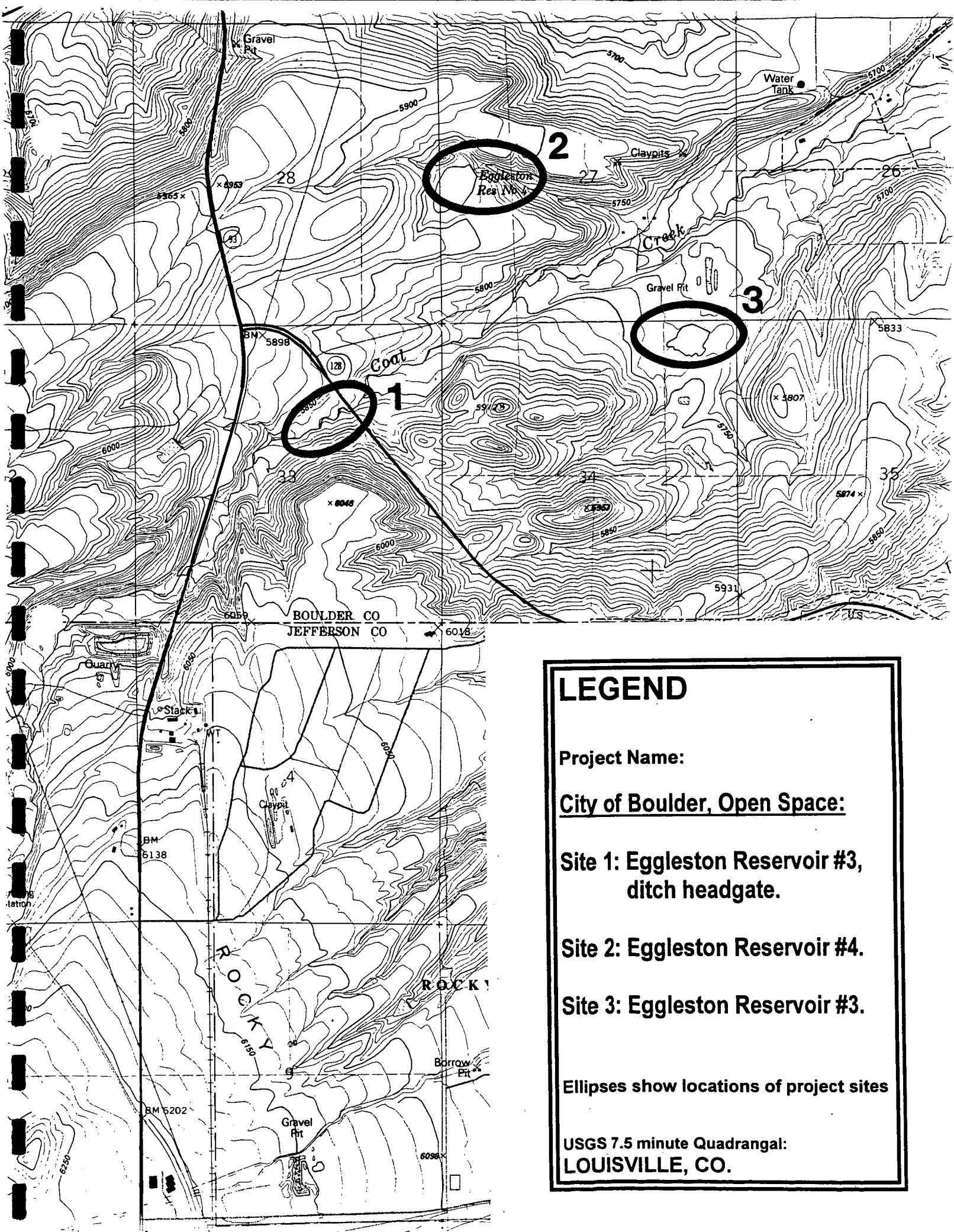
Fig. 4. Site 2. Closeup of riparian vegetation.



Fig. 5. Site 3. Diverse vegetation below Eggleston Reservoir No. 3.



Fig. 6. Site 3. Grasses and sedges are dominants immediately below the reservoir.



LEGEND

Project Name:

City of Boulder, Open Space:

Site 1: Eggleston Reservoir #3,
ditch headgate.

Site 2: Eggleston Reservoir #4.

Site 3: Eggleston Reservoir #3.

Ellipses show locations of project sites

USGS 7.5 minute Quadrangal:
LOUISVILLE, CO.

Zapus hudsonius preblei, Preble's Meadow Jumping Mouse

Recommended Survey Field Data Compilation Form

Z. h. preblei found? Yes No

Date of Survey 12-16 Aug 97

Surveyor(s) Bob Stoeker

Full Name(s) Stoeker Ecological Consultants

Survey Section(s) 33 1/4 Section(s) SW 1/4 of NE 1/4 Township(s) T 1 S

Location: Range(s) R 70 W County Boulder Site Name Site 1. Eggleston

USGS 7 1/2 Quad Map Name Louisville, Co. Elevation Reservoir #3 ditch headgate 5810 ft

UTM Coordinates (to the nearest 50 meters) 4, 419, 150 N ~~000~~, 480, 600 E ~~0000~~

Land Ownership City of Boulder

Ecological Condition/Management History grazing

Directions Take Hwy 93 south from Boulder, turn east on 128th and
to Site: go about 1/4 mile to Coal Creek.

Brief Project Description (indicate proposed impact to site) Headgate structure across
Coal Creek

Habitat Type Mixed deciduous trees

Vegetation Structure Within Survey Area:

Total Tree Cover (%) 30

Total Shrub Cover (%) 30

Total Forb Cover (%) 20

Total Rock/Log Cover (%) _____

Total Graminoid Cover (%) 20

Total Bare Ground (%) _____

Total Moss/Lichen Cover (%) _____

Other Types of Cover (%) _____

Additional Associated Plant Species Willow shrub, grass-herb

Aspect (S, NNW, etc.) E % Slope 3 Slope Shape (concave, convex, straight, etc.) Concave

Light Exposure (open, shaded, partial shade, etc.) partial shade

Topographic Position (crest, upslope, midslope, lowerslope, bottom, etc.) bottom

Moisture (dry, moist, saturated, inundated, seasonal seepage, etc.) moist

Hydrology, Geomorphology, and Soils at the Trap Site sandy loam

Site's Climatological/Meteorological Conditions on Day Prior to Survey warm dry

Site's Climatological/Meteorological Conditions on Day of Survey warm dry

Type of Trap Used Sherman Type and Amount of Bait Used Omelene ^{Site 1}
Proximity, Degree, and Type of Human Development/Disturbance in Survey Area No development

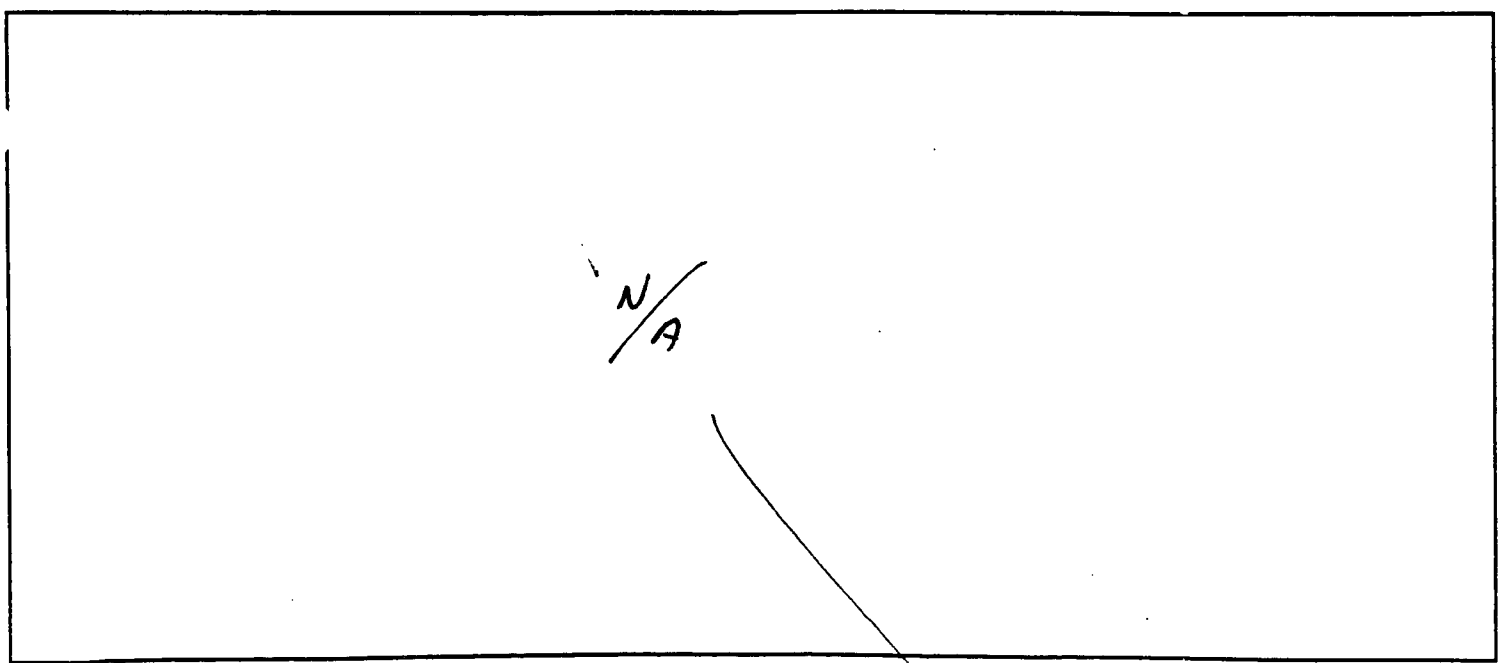
No. of Mice Found and/or Seen _____ Approximate Age or Maturity _____ Weight _____ gms.
Total Length _____ mm. Tail Length _____ mm. Hind Feet Length _____ mm.
Other characteristics (e.g., enlarged mammary glands - lactation, scars, missing limb or toe, etc.) _____

Associated Animal Species _____
Other Relevant Information (evidence of disease, predation, injury, etc.) _____

Type (e.g., fur-dying, toe-clipping, tag, etc.) and Exact Location of Markings _____

Photographs (mouse and its habitats): Photographer _____ Repository _____

Sketch of Surveying Area, Map of Site, etc.



Additional Comments (relevant ecological/ethological info.; if site is disqualified, DETAILED explanation)

(SUBMIT THIS FIELD DATA FORM WITH THE SURVEY REPORT)

Zapus hudsonius preblei, Preble's Meadow Jumping Mouse

Recommended Survey Field Data Compilation Form

Z. h. preblei found? Yes No

Date of Survey 16-20 Aug 97

Surveyor(s) Bob Stoerken

Full Name(s) Stoerken Ecological Consultants

Survey Section(s) 27 1/4 Section(s) sw 1/4 of NW 1/4 Township(s) T1S

Location: Range(s) R70 W County Boulder Site Name Site 2. Eggleston

USGS 7 1/2 Quad Map Name Louisville Co. Elevation Reservoir No. 41
5820 ft

UTM Coordinates (to the nearest 50 meters) 4, 420, 500 N ~~0000~~, 481, 250 E ~~0000~~

Land Ownership City of Boulder

Ecological Condition/Management History grazing

Directions take Highway 93 south from Boulder. turn east on 128th.
to Site: Go about 1/4 mile to a gate on the north, then about 1 mile to

Brief Project Description (indicate proposed impact to site) irrigation maintenance. Reservoir.

Habitat Type Willow and cottonwood shrub

Vegetation Structure Within Survey Area:

Total Tree Cover (%) 10

Total Shrub Cover (%) 80

Total Forb Cover (%) 5

Total Rock/Log Cover (%) _____

Total Graminoid Cover (%) 5

Total Bare Ground (%) _____

Total Moss/Lichen Cover (%) _____

Other Types of Cover (%) _____

Additional Associated Plant Species grass - forb

Aspect (S, NNW, etc.) — % Slope 0 Slope Shape (concave, convex, straight, etc.) straight

Light Exposure (open, shaded, partial shade, etc.) partial shade

Topographic Position (crest, upslope, midslope, lowerslope, bottom, etc.) bottom

Moisture (dry, moist, saturated, inundated, seasonal seepage, etc.) moist

Hydrology, Geomorphology, and Soils at the Trap Site sandy loam

Site's Climatological/Meteorological Conditions on Day Prior to Survey warm dry, some showers

Site's Climatological/Meteorological Conditions on Day of Survey warm dry, some showers

Type of Trap Used Sherman Type and Amount of Bait Used Site 2
Oneline

Proximity, Degree, and Type of Human Development/Disturbance in Survey Area None

No. of Mice Found and/or Seen _____ Approximate Age or Maturity _____ Weight _____ gms.

Total Length _____ mm. Tail Length _____ mm. Hind Feet Length _____ mm.

Other characteristics (e.g., enlarged mammary glands - lactation, scars, missing limb or toe, etc.) _____

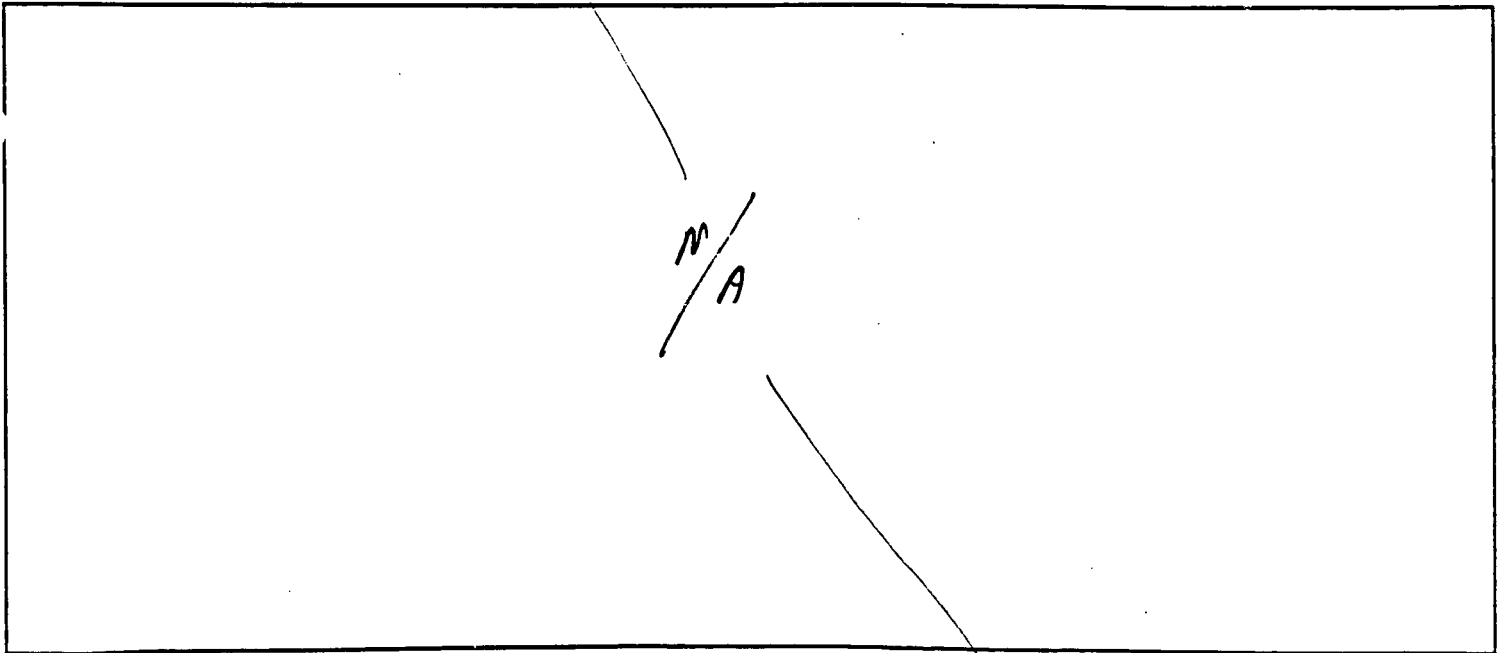
Associated Animal Species _____

Other Relevant Information (evidence of disease, predation, injury, etc.) _____

Type (e.g., fur-dying, toe-clipping, tag, etc.) and Exact Location of Markings _____

Photographs (mouse and its habitats): Photographer _____ Repository _____

Sketch of Surveying Area, Map of Site, etc.



Additional Comments (relevant ecological/ethological info.; if site is disqualified, DETAILED explanation)

(SUBMIT THIS FIELD DATA FORM WITH THE SURVEY REPORT)

Zapus hudsonius preblei, Preble's Meadow Jumping Mouse

Recommended Survey Field Data Compilation Form

Z. h. preblei found? Yes No

Date of Survey 15-19 Aug 97

Surveyor(s) Bob Stoedek

Full Name(s) Stoedek Ecological Consultants

Survey Section(s) 34 1/4 Section(s) NE 1/4 of NE 1/4 Township(s) T15

Location: Range(s) R70W County Boulder Site Name Site 3: Eggleston

USGS 7 1/2 Quad Map Name Louisville, Co Elevation Reservoir No. 3 5730 ft

UTM Coordinates (to the nearest 50 meters) 4, 419, 700 N ~~4800~~, 482, 450 E ~~2200~~

Land Ownership City of Boulder

Ecological Condition/Management History grazing

Directions take Hwy 93 south from Boulder. turn east on 128th.

to Site: Go about 1/4 mile to a gate on the north then about 1 mile to

Brief Project Description (indicate proposed impact to site) irrigation maintenance Reservoir

Habitat Type Grass-Lob

Vegetation Structure Within Survey Area:

Total Tree Cover (%) 0

Total Shrub Cover (%) 0

Total Forb Cover (%) 20

Total Rock/Log Cover (%) 0

Total Graminoid Cover (%) 80

Total Bare Ground (%) 0

Total Moss/Lichen Cover (%) 0

Other Types of Cover (%) _____

Additional Associated Plant Species sedges, rushes

Aspect (S, NNW, etc.) — % Slope 0 Slope Shape (concave, convex, straight, etc.) straight

Light Exposure (open, shaded, partial shade, etc.) partial shade

Topographic Position (crest, upslope, midslope, lowerslope, bottom, etc.) bottom

Moisture (dry, moist, saturated, inundated, seasonal seepage, etc.) moist

Hydrology, Geomorphology, and Soils at the Trap Site sandy loam

Site's Climatological/Meteorological Conditions on Day Prior to Survey warm dry, some showers

Site's Climatological/Meteorological Conditions on Day of Survey warm dry, some showers

Type of Trap Used Sherman Type and Amount of Bait Used Site 3
Onalua

Proximity, Degree, and Type of Human Development/Disturbance in Survey Area NONE

No. of Mice Found and/or Seen _____ Approximate Age or Maturity _____ Weight _____ gms.

Total Length _____ mm. Tail Length _____ mm. Hind Feet Length _____ mm.

Other characteristics (e.g., enlarged mammary glands - lactation, scars, missing limb or toe, etc.) _____

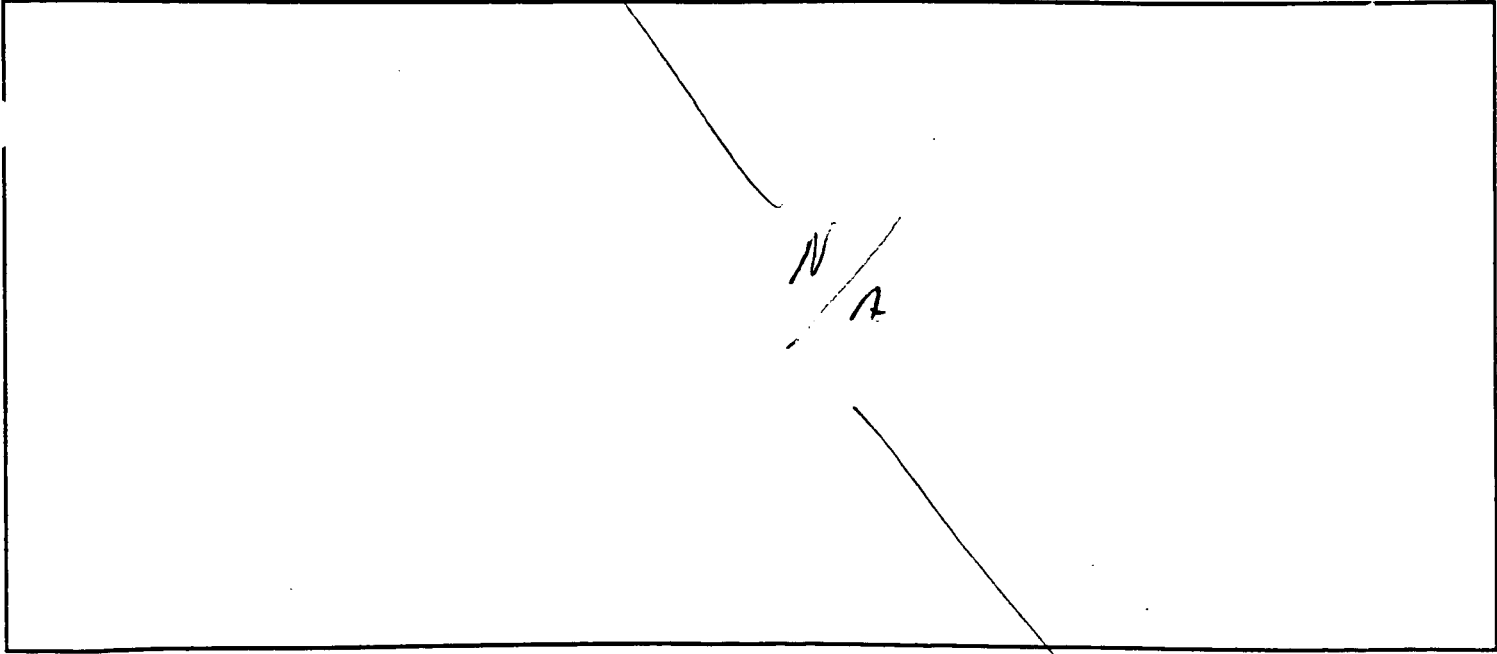
Associated Animal Species _____

Other Relevant Information (evidence of disease, predation, injury, etc.) _____

Type (e.g., fur-dying, toe-clipping, tag, etc.) and Exact Location of Markings _____

Photographs (mouse and its habitats): Photographer _____ Repository _____

Sketch of Surveying Area, Map of Site, etc.



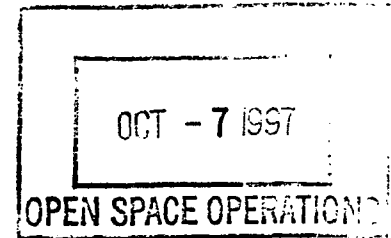
Additional Comments (relevant ecological/ethological info.; if site is disqualified, DETAILED explanation)



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
Colorado Field Office
P.O. Box 25486
Denver Federal Center
Denver, Colorado 80225-0207



OCT 02 1997

ES/CO: T&E/PMJM/Survey
Mail Stop 65412

Robert E. Stoecker
Stoecker Ecological Consultants, Inc.
279 Forest Lane
Boulder, Colorado 80302

Dear Mr. Stoecker:

Based on the authority conferred to the U.S. Fish and Wildlife Service (Service) by the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et seq.*), the Service reviewed the Preble's meadow jumping mouse, *Zapus hudsonius preblei*, (Preble's) survey report dated August 1997 regarding three sites, **Eggleston Reservoir No.3 ditch headgate, Eggleston Reservoir No. 4, and Eggleston Reservoir No. 3** in Boulder County, Colorado (Sections 27, 33, and 34, Township 1 South, Range 70 West). The project, as proposed, may disturb wetlands and other riparian habitats.

Given your compliance with the Preble's survey guidelines, the Service finds the report acceptable and agrees that a significant population of Preble's is not likely to be present within the subject area at this time. While no Preble's were captured at the "ditch headgate" site, the report identifies this site as "a likely place for jumping mice to occur." Further, Preble's has been historically present on Coal Creek and was captured this year on a small tributary of Coal Creek just west of Highway 93 (about 1 mile southwest of the project site).

Absence of Preble's in some recent surveys of apparently acceptable habitat on Coal Creek point out our incomplete understanding of Preble's and the factors affecting its presence. We are aware that the City of Boulder has plans to improve habitat on Boulder Open Space along Coal Creek (through fencing of cattle or other means). We strongly encourage that any projects in this area minimize impacts to potential Preble's habitat both to benefit Preble's that may be currently using the area and to retain the potential for recovery of a Preble's population along Coal Creek.

If the Service can be of further assistance, please contact Peter Plage of my staff at (303) 275-2370.

Sincerely,

A handwritten signature in cursive script, appearing to read "LeRoy W. Carlson".

LeRoy W. Carlson
Colorado Field Supervisor

cc: U.S. Army COE, Littleton, CO
City of Boulder, CO (G. Carriere)
Reading file
Project file
Plage

Reference: Peter/PMJM/1997.83