

Level 4 Potential Conservation Area (PCA) Report

Name Monument Creek

Site Code S.USCOHP5*201

IDENTIFIERS

Site ID 501 Site Class PCA
Site Alias None

Network of Conservation Areas (NCA)

<u>NCA Site ID</u>	<u>NCA Site Code</u>	<u>NCA Site Name</u>
-		No Data

LOCATORS

Nation United States Latitude 390038N
State Colorado Longitude 1044959W

Quad Code Quad Name

39104-A7	Monument
38104-H7	Pikeview
38104-H8	Cascade
39104-A8	Palmer Lake

County

El Paso (CO)

Watershed Code Watershed Name

11020003	Fountain
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SITE DESCRIPTION

Minimum Elevation	6,220.00	Feet	1,895.86	Meters
Maximum Elevation	7,500.00	Feet	2,286.00	Meters

Site Description

Monument Creek flows southward from the Monument Divide through the U.S. Air Force Academy (Academy) and into the city of Colorado Springs. The site begins at the town of Monument and extends to the northern edge of the city of Colorado Springs. It is centered around Monument Creek and includes the tributaries of Beaver Creek, Deadmans Creek, Lehman Run and West Monument Creek to the west and Dirty Woman Creek, Jackson Creek, Smith Creek, Monument Branch, Black Squirrel Creek, and Kettle Creek to the east. The floodplain is composed of gravel and silt and is defined by steep, eroding sandstone cliffs and gentle terraces. Monument Creek meanders broadly through some stretches, particularly the Academy where periodic flooding events have created substantial deposits of silt and debris. The riparian vegetation is dominated by coyote willow (*Salix exigua*), peachleaf willow (*Salix amygdaloides*), and crack willow (*Salix fragilis*) with scattered stands of narrowleaf cottonwood (*Populus angustifolia*). Also found in these mesic habitats are snowberry (*Symphoricarpos occidentalis*), wild plum (*Prunus americana*), and Russian olive (*Elaeagnus angustifolia*). Stream banks retain native graminoid vegetation in the form of sedges (*Carex* spp.) and rushes (*Juncus* spp.). Surrounding uplands are generally midgrass prairie that is composed of smooth brome (*Bromopsis inermis*), cheatgrass (*Bromus tectorum*), big bluestem (*Andropogon gerardii*), needle-and-threadgrass (*Hesperostipa comata*), and little blue stem (*Shizachyrium scoparium*). Ponderosa pine (*Pinus ponderosa*) and Gambel's oak (*Quercus gambelii*) occur in patches on either side of Monument Creek and its tributaries. Prior to the establishment of the U.S. Air Force Academy, the area was used for logging and ranching operations since settlement in the 1860s (Ripley 1994). Within the Academy, logging has not occurred since 1915 and cattle grazing has not occurred since the purchase of the area by the Air Force in 1954 (Ripley 1994). Cattle grazing and smaller ranching operations still exist north of the Academy. South and east of the Academy the system is quickly being encroached by residential and commercial development.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

Prior to the establishment of the Air Force Academy Reservation, the site was used for logging and ranching operations since settlement in the 1860's (Ripley 1994). Logging has not occurred since 1915 (Ripley 1994). Cattle grazing has not occurred since the purchase of the area by the Air Force Academy in the 1950's (Ripley 1994). This has allowed herbaceous and woody riparian vegetation to remain dense. In the absence of

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grazing, the streambed integrity is likely greater than a grazed site would be, as well. In any case, a lack of grazing may be related to the present occurrence of Preble's meadow jumping mice over their historic range (F. Harrington, pers. comm.).

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 06/01/2001

Designer Schorr, R.A.

Boundary Justification

The boundaries are based on the presence of Preble's meadow jumping mice throughout the system. Since 1997, sampling for Preble's meadow jumping mice has occurred within the U.S. Air Force Academy. Outside of the Academy, jumping mice have been documented in Beaver Creek, Kettle Creek, Deadmans Creek, Jackson Creek, Smith Creek and Dirty Woman Creek. The boundary includes 300 meters on either side of the associated creek. This is designed to include the riparian vegetation and associated upland grass communities that have been documented as part of Preble's meadow jumping mouse habitat (Schorr 2001). The distance of 300 meters was intended to be conservative, likely including a greater amount of upland community than most mice will utilize, but sufficient in all circumstances to ensure persistence of jumping mice. A better approximation of this potential conservation area would be the area that includes the 100-year floodplain and an additional 100 meters of adjacent upland habitat. Until these data layers are available for all areas within the conservation area, this conservation boundary should provide the persistence of the subspecies in this area.

Primary Area 13,142.47 Acres

5,318.59 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

The Monument Creek site supports an excellent (A-ranked) occurrence of the globally and state imperiled (G5T2/S2) Preble's meadow jumping mouse (*Zapus hudsonius preblei*), a species designated as sensitive (Forest Service), as federally threatened (US Endangered Species Act), and as a species of special concern (State of Colorado). This occurrence is one of the most outstanding occurrences rangewide.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

We have established a primary site boundary for this occurrence using a 100m buffer. However, we do not know the precise role of the buffer nor the size and type of buffer that is sufficient to protect the site. Further information is needed on hydrologic processes in the Monument Creek drainage and on the effects of various kinds of adjacent land uses on populations of jumping mice, in order to be able to provide an adequate buffer for the site. The role of beavers in maintaining and buffering the system, and their status on the site, needs to be determined. Evidence in other western riparian stream systems suggest that beavers played a major role in the evolution of riparian natural communities and stream hydrology (Knight 1994). One of the most important questions that we must begin to answer is the process(es) responsible for the large year-to-year fluctuations in captures of this species, a pattern observed not only by us, but also by others (B. Wunder, pers. comm.) The USAFA offers a unique opportunity for the long term population studies of the species which are necessary for understanding ecological trends (Pimm 1991). We do not know where the single jumping mouse captured

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below Reservoir No. 2 came from or whether a larger population occurs near the point of capture in areas other than those surveyed thus far. Because this portion of the site is of limited quality as far as we now know, no management steps are warranted at this time. The most prudent action would be a more complete trapping survey of the area to determine the true conservation significance. The riparian habitats around Reservoir No. 2 should be examined as well as natural or man-made (from golf course runoff, for example) seeps in the area of the capture to attempt to identify a source population. We repeat that, given our existing state of knowledge, the single capture of a jumping mouse at the site is atypical.

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global</u>	<u>State</u>	<u>Driving</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Rank</u>	<u>Rank</u>	<u>Site Rank</u>
24976	<i>Alnus incana</i> / Mesic Graminoids Shrubland	Montane Riparian Shrubland	G3	S3	No
24976	<i>Alnus incana</i> / Mesic Graminoids Shrubland	Montane Riparian Shrubland	G3	S3	No
19320	<i>Symphoricarpos occidentalis</i> Shrubland	Snowberry Shrubland	G4G5	S3	No
19320	<i>Symphoricarpos occidentalis</i> Shrubland	Snowberry Shrubland	G4G5	S3	No
21289	<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	G5T2	S1	No
23381	<i>Woodsia neomexicana</i>	New Mexico cliff fern	G4?	S2	No
24872	<i>Salix exigua</i> / Mesic Graminoids Shrubland	Coyote Willow/Mesic Graminoid	G5	S5	No
21289	<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	G5T2	S1	Yes
24773	<i>Alnus incana</i> / <i>Cornus sericea</i> Shrubland	Thinleaf Alder-Red-osier Dogwood Riparian Shrubland	G3G4	S3	No
22568	<i>Potentilla ambigua</i>	southern Rocky Mountain cinquefoil	G3	S1S2	No
24872	<i>Salix exigua</i> / Mesic Graminoids Shrubland	Coyote Willow/Mesic Graminoid	G5	S5	No
24872	<i>Salix exigua</i> / Mesic Graminoids Shrubland	Coyote Willow/Mesic Graminoid	G5	S5	No
24872	<i>Salix exigua</i> / Mesic Graminoids Shrubland	Coyote Willow/Mesic Graminoid	G5	S5	No
24738	<i>Populus angustifolia</i> / <i>Salix exigua</i> Woodland	Narrowleaf Cottonwood Riparian Forests	G4	S4	No
23381	<i>Woodsia neomexicana</i>	New Mexico cliff fern	G4?	S2	No
20146	<i>Celastrina humulus</i>	Hops Feeding Azure	G2G3	S2	No

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
161701	Compton, Stephen A. and Roy D. Hugie. 1993. Status Report on <i>Zapus hudsonius preblei</i> , a Candidate Endangered Subspecies. Prepared by Pioneer Environmental consulting Services, Inc. under contract to the U.S. Fish and Wildlife Service.
166286	Ripley, J. Douglas. 1994. Vegetation of the U.S. Air Force Academy and the Adjacent Regions of the Pike National Forest, El Paso County, Colorado.
160660	Ryon, T. 1995. Evaluation of historical capture sites of the Preble's meadow jumping mouse in Colorado. M.S. Thesis. University of Colorado. 39 pages + figures.
194495	Schorr, R. 2001. Field Survey for Preble's meadow jumping mouse at the U.S. Air Force Academy.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date	06/01/2001
Version Author	Schorr, R.A.

Disclaimer

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