

Level 4 Potential Conservation Area (PCA) Report

Name Maxwell Creek

Site Code S.USCOHP*27719

IDENTIFIERS

Site ID 2619 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 384709N
State Colorado Longitude 1060824W

<u>Quad Code</u>	<u>Quad Name</u>
38106-G1	Buena Vista East
38106-G2	Buena Vista West

County
Chaffee (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
11020001	Arkansas Headwaters

SITE DESCRIPTION

Minimum Elevation	7,950.00 Feet	2,423.16 Meters
Maximum Elevation	9,900.00 Feet	3,017.52 Meters

Site Description

Maxwell Creek begins on the northeast face of Mt. Princeton and flows intermittently through the upper montane elevation zone above the grassland park. Its flow is pushed up to the surface, likely by underlying bedrock layers, and emerges as a cluster of springs at approximately 8,000-8,500 ft in the middle of Maxwell Park, forming small oases in an otherwise dry grassland. There are several small areas where this hydrology occurs in the valley, but the Maxwell Creek expression is currently one of the largest known concentrations of seeps and springs in the area. The riparian corridor has a mosaic of riparian shrubland and wet meadow vegetation. Along much of the channel the riparian shrublands are dominated by willow (*Salix monticola*, *S. bebbiana*, etc.) and alder (*Alnus incana*) with an understory of wet meadow plant species. However, there is a series of streamside springs that emerge from the hillside north of the channel at approximately 8,000 ft in elevation. In this seepage area, the riparian corridor broadens. It has a greater diversity of shrub species and becomes dominated by river birch (*Betula occidentalis*). The understory here has high species diversity with a mix of graminoids and forbs, many of which are mineral seepage indicators like fowl mannagrass (*Glyceria striata*), speedwell (*Veronica catenata*), and yellow monkeyflower (*Mimulus guttatus*). Below the seepage area, the riparian shrubland reverts to the willow - alder expression that occurs upstream. There is also seepage that emerges from higher on the hillslope on the south side of Maxwell Creek in this vicinity. The slope wet meadow that results is dominated by sedges (*Carex aquatilis*, *C. nebrascensis*, and *C. utriculata*). To the north of Maxwell Creek is another cluster of springs not affiliated with the riparian corridor. These seeps and springs pump significant amounts of groundwater to the surface and have formed a fen (peatland) wetland complex, which is unusual at such a low elevation in this montane valley. There is a sizable quaking sedge mat that hovers over a black sandy clay layer in the soil profile. The bulk of the quaking sedge mat is comprised of water sedge (*Carex aquatilis*) and beaked sedge (*Carex utriculata*). However, in the wettest portions of the fen, where there are surface pools and watercourses, few-flowered spikerush (*Eleocharis quinqueflora*) and analogue sedge (*Carex simulata*) become prominent graminoids. In this wettest area is also a very large population of lesser bladderwort (*Utricularia minor*), a diminutive, carnivorous, aquatic plant that is thought to be an indicator of water quality (Neid 2006). This is one of the largest known occurrences of lesser bladderwort in Colorado.

Key Environmental Factors

No Data

Climate Description

The area averages 300 days of sunshine each year. A typical summer day is sunny, in the high 70's to low 80's and evening temperatures in the high 40's and low 50's. Annual rainfall is 10.15" and annual snowfall is 30.4" with most snow occurring from the end of October through April.

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Land Use History

The primary land use on the site is cattle ranching; ranch roads cross the site to support these uses and access ranch residences.

Cultural Features

The area has very high values for wildlife and open space. The site is very scenic, surrounded in all directions by a rural landscapes set against the backdrop of the Collegiate Peaks. There is abundant local interest in seeing that the ranching values remain in the area. There is also interest in the historical aspects of the site, especially the ranching history as well as Native American and possibly prehistoric human history.

SITE DESIGN

Site Map P - Partial

Mapped Date 03/10/2009

Designer Handwerk, J.E.

Boundary Justification

The boundary was drawn to include the elements and suitable habitat up and downstream of the occurrences. Hydrological processes that originate upstream of this site will need management to assure that the occurrences are protected in the long term.

Primary Area 2,195.09 Acres 888.32 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site supports an excellent to good (AB-ranked) occurrence of a globally vulnerable (G3/S2) montane riparian shrubland (*Betula occidentalis* / mesic graminoids) shrubland. It also supports a good (B-ranked) occurrence of a state imperiled (G4/S3) herbaceous plant community, the analogue sedge (*Carex simulata*), and an excellent (A-ranked) occurrence of the state imperiled (G5/S2) lesser bladderwort (*Utricularia minor*).

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

There is a low abundance of invasive species including Canada thistle (*Cirsium arvense*), Kentucky bluegrass (*Poa pratensis*) and Canada bluegrass (*Poa compressa*).

Offsite

No Data

Information Needs

This site contains a unique wetland complex in the Upper Arkansas Valley. Further investigation of the hydrology, especially groundwater flow data and water chemistry, soil profile, and possible impeding bedrock layers would round out the entirety of the wetland story on the Kelly Ranch. Also, additional field visits to further characterize the extent of the wetland vegetation types will likely prove that they are larger than currently mapped. Faunal surveys of the property may elucidate further wetland resources.

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
16887	<i>Carex simulata</i> Herbaceous Vegetation	Wet Meadow	G4	S3	No
24637	<i>Betula occidentalis</i> / Mesic Graminoids Shrubland	Lower Montane Riparian Shrublands	G3	S2	Yes
18494	<i>Utricularia minor</i>	lesser bladderwort	G5	S2	No

REFERENCES

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Reference ID

Full Citation

198290

Culver, D.R., D. Malone, S.L. Neid, and J. Handwerk. 2009. Final Report: Survey of Critical Biological Resources in Chaffee County. Colorado Natural Heritage Program, Fort Collins, CO.

198291

Neid, S.L. 2006. Utricularia minor L. (lesser bladderwort): a technical conservation assessment. [Online]. USDA Forest Service, Rocky Mountain Region. Available: <<http://www.fs.fed.us/r2/projects/scp/assessments/utriculariaminor.pdf>>.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 03/10/2009

Version Author Handwerk, J.E.

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