

Level 4 Potential Conservation Area (PCA) Report

Name Battle Creek

Site Code S.USCOHP*25971

IDENTIFIERS

Site ID 2319 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 395544N
State Colorado Longitude 1061128W

Quad Code Quad Name
39106-H2 Battle Mountain

County
Grand (CO)

Watershed Code Watershed Name
14010001 Colorado headwaters

SITE DESCRIPTION

Minimum Elevation	8,455.00 Feet	2,577.08 Meters
Maximum Elevation	8,645.00 Feet	2,635.00 Meters

Site Description

Battle Creek and South Battle Creek are second order tributaries of the Williams Fork River. General geology consists of sedimentary rocks of the Tertiary Age, specifically sandstones and siltstones of the Troublesome Formation. Uplands immediately adjacent to drainages are dominated by xeric big sagebrush (*Artemisia tridentata*) shrublands. Forested uplands are dominated by lodgepole pine (*Pinus contorta*) forest ecosystems that exhibit extensive losses from current beetle infestation. Both drainages occur on private property which is utilized for grazing livestock. Some disturbances include development, trails from livestock and wildlife, and a few exotic species occurring along edges of the riparian areas. Old beaver dams and ponds are present along South Battle Creek. Element occurrences are sustained by surface flows, seasonal flooding, and groundwater discharge. Riparian areas are saturated to inundated throughout with a layer of hemic soils over mineral soil. Riparian areas are dominated by willow (*Salix* sp.) tall shrub communities. The tall shrub strata along South Battle Creek is dominated by mountain willow (*Salix monticola*) with some Geyer's willow (*Salix geyeriana*) occurring along drying edges with a mixture of thinleaf alder (*Alnus incana*), strapleaf willow (*Salix eriocephala* var. *ligulifolia*), and diamondleaf willow (*Salix planifolia*). The herbaceous strata is dominated by mesic graminoids including beaked sedge (*Carex utriculata*), bluejoint reedgrass (*Calamagrostis canadensis*), and water sedge (*Carex aquatilis*). Mesic forbs and other species present include field horsetail (*Equisetum arvense*), large-leaved avens (*Geum macrophyllum*), northern bedstraw (*Galium septentrionale*), and nettle (*Urtica gracilis*). Battle Creek is similarly stratified with much more sparse tall shrub cover. The small, quaking fen adjacent to Battle Creek is dominated by beaked sedge.

Key Environmental Factors

Key environmental factors driving the hydrology and species composition include beaver activity, groundwater recharge/discharge, surface water flows, and seasonal flooding.

Climate Description

Area tends to follow typical climate patterns of Colorado being generally xeric throughout the year with wetter spring seasons and a late summer "monsoon" season.

Land Use History

Land has been mainly used for grazing in the past along with tree harvest in upper reaches of the drainage.

Cultural Features

Historic Pony Express wagon road crosses the upper end of South Battle Creek Basin, but is no longer heavily used. Pony Express station is still present uphill to the west of South Battle Creek drainage and has been designated as a historic landmark.

SITE DESIGN

Site Map Y - Yes Mapped Date 11/08/2005
Designer Jones, J.R. and D.R. Culver

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Boundary Justification

The boundary includes portions of South Battle Creek and Battle Creek. Boundaries were drawn to include portions of surrounding areas important to the maintenance of site hydrology and buffering uplands. This accounts for natural hydrologic processes important to the maintenance of the elements such as seasonal flooding, groundwater recharge, surface flows, and sediment deposition. The boundary does not include all hydrological processes necessary to the maintenance of site hydrology and upstream activities such as deforestation, improper livestock grazing, development, or water diversion could be detrimental to the site.

Primary Area 343.70 Acres 139.09 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site is drawn for a good (B-ranked) occurrence of the globally vulnerable (G3/S3) wetland community, mountain willow / beaked sedge shrubland (*Salix monticola* / *Carex utriculata*) and a fair (C-ranked) occurrence of the globally common (G5/S4) wetland community, beaked sedge perched wetland (*Carex utriculata*).

Other Values Rank V3 - Moderate values

Other Values Comments

Other values include aesthetics, protected open space, wildlife habitat, and general wetland values including high dynamic surface water storage, removal of nutrients, toxicants, and sediments from the system, and overall functional integrity.

LAND MANAGEMENT ISSUES

Land Use Comments

Historically, the land was part of the Pony Express route and restored buildings from this era are still standing on the property although the old road sees vehicular use. Currently, the land is predominantly used for cattle production. There has been very little development on the property. An old homestead has been restored along Battle Creek. Due to beetle infestation, land owner has removed many dead and diseased trees from the property.

Natural Hazard Comments

Soils are very soft in fen area and property owner has had multiple animals caught in the peat.

Exotics Comments

Non-native species include Kentucky bluegrass (*Poa pratensis*), pennycress (*Thlaspi arvense*), dock (*Rumex* sp.), common dandelion (*Taraxacum officinale*), and increasers such as Virginia strawberry (*Fragaria virginiana*). These species are found along edges of wetlands and disturbed areas. They do not currently have major impacts on species composition and do not dominate in any broad areas. If disturbances along drainage areas are increased or not managed, non-native encroachment could become a problem.

Offsite

Site is surrounded by and included in a very large, singly owned tract of land on which usage is similar throughout. There is a possibility of logging of *Pinus contorta* forests in upper reaches of the watershed. Further down, the watershed is dammed to create the South Fork of the Williams Fork Reservoir. Removal of dead and diseased trees on property may impact the site by adding sediment to the system and adding to the dispersal of non-native species.

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
18795	<i>Carex utriculata</i> Herbaceous Vegetation	Beaked Sedge Montane Wet Meadows	G5	S4	No
24882	<i>Salix monticola</i> / <i>Carex utriculata</i> Shrubland	Montane Riparian Willow Carr	G3	S3	Yes

REFERENCES

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Reference ID

Full Citation

160903	Carsey, K., D. Cooper, K. Decker, D. Culver, and G. Kittel. 2003. Statewide wetlands classification and characterization: Wetland plant associations of Colorado. Prepared for Colorado Department of Natural Resources, Denver, CO by Colorado Natural Heritage Program, Fort Collins, CO.
193632	Culver, D.R. and Jones, J.R. 2006. Final Report: Survey of Critical Biological Resources in Grand County. Colorado Natural Heritage Program, Fort Collins, CO.
160140	Dorn, R. D. 1997. Rocky Mountain Region Willow Identification Field Guide. Renewable Resources R2-RR-97-01. Denver, CO: USDA, Forest Service, Rocky Mountain Region. 107p.
167224	Hurd, E.G., N.L. Shaw, J. Mastroguiseppe, L.C. Smithman, and S. Goodrich. 1998. Field Guide to Intermountain Sedges. U.S. Department of Agriculture, Rocky Mountain Research Station, Ogden, UT.
193654	Miniat, Mike. 2005. Personal communication to Jennifer Jones of the Colorado Natural Heritage Program.
192747	Tweto, O. 1979. Geologic Map of Colorado, 1:500,000. United States Geological Survey, Department of Interior, and Geologic Survey of Colorado, Denver, CO.
193553	USDA, NRCS. 2005. The PLANTS Database, Version 3.5 (http://plants.usda.gov). Data compiled from various sources by Mark W. Skinner. National Plant Data Center < http://npdc.usda.gov/ >, Baton Rouge, LA 70874-4490 USA. Accessed 2005.
172684	Weber, W.A. and R.C. Wittmann. 2001. Colorado Flora: Western Slope, Third Edition. University Press of Colorado, Niwot, CO.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 11/08/2005

Version Author Jones, J.R. and D.R. Culver

Disclaimer

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