

# Level 4 Potential Conservation Area (PCA) Report

Name Wager Gulch

Site Code S.USCOHP\*26719

## IDENTIFIERS

Site ID 2414 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 375246N  
State Colorado Longitude 1072205W

| <u>Quad Code</u> | <u>Quad Name</u>   |
|------------------|--------------------|
| 37107-G3         | Finger Mesa        |
| 37107-H3         | Lake San Cristobal |

## County

Hinsdale (CO)

| <u>Watershed Code</u> | <u>Watershed Name</u> |
|-----------------------|-----------------------|
| 14020002              | Upper Gunnison        |

## SITE DESCRIPTION

|                          |           |             |          |               |
|--------------------------|-----------|-------------|----------|---------------|
| <b>Minimum Elevation</b> | 10,920.00 | <b>Feet</b> | 3,328.42 | <b>Meters</b> |
| <b>Maximum Elevation</b> | 11,360.00 | <b>Feet</b> | 3,462.53 | <b>Meters</b> |

## Site Description

This site is drawn for a unique iron fen wetland occurring along subalpine reaches of Wager Gulch, a wide, glaciated tributary of the Lake Fork of the Gunnison River. Hydrology sustaining the wetlands appears to originate from the northeastern base of Bent Peak between the main fork and West Fork of Wager Gulch. Groundwater along the eastern reaches of the site is perennial, iron-rich, and acidic, maintaining a unique assemblage of vascular and non-vascular plants and has created an extensive sheet of limonite (hydrated iron-oxides). Iron fens in the southern Rocky Mountains are characterized by iron-rich, acidic hydrology, limonite deposits, and a unique assemblage of acid tolerant bryophytes and vascular plants. Groundwater feeding these wetlands filters through mineral-rich fractured rocks, saturating peat layers to form hardened sheets of oxidized iron (Cooper and Arp 1998). The vegetation structure and dynamics of the wetland are highly variable throughout the site. Variability in structure includes inundated areas of little vegetation and limonite sheets, deep water to shallow pools, shrub thickets, herbaceous vegetation, and tree dominated areas. Diagnostic species of the iron fen type include resin birch (*Betula glandulosa*), water birch (*Carex aquatilis*), sphagnum (*Sphagnum* sp.), and Engelmann spruce. Extensive limonite sheets have formed below the main spring and support little vascular vegetation with large patches of liverworts. Resin birch occurs in consistent cover throughout the site in dense thickets and dispersed patches. Sphagnum occurs as hummocks and dense carpets throughout the fen. Engelmann spruce is consistent along edges and microtopographic rises. Low species diversity is consistent with the type due to conductivity and pH of hydrology. Western seeps lack mineral rich water, supporting more common wetland vegetation. This area forms an open-basin, sloped shrubland with a matrix of dense diamondleaf willow interspersed with small patches of sedge dominated herbaceous communities. Northwest Territory sedge (*Carex utriculata*) tends to dominate inundated to saturated areas and is consistent throughout the stand forming dense herbaceous patches between and amongst shrub strata. Other graminoid species common in the wetland include water sedge and bluejoint which tends to dominate small rises and mesic areas. Forbs are consistent throughout and become a dominant herbaceous layer along lower reaches of the site, where the slope is more pronounced and soils are well-drained. The shrub layer is broken along an old road grade, but the area is revegetating with dense shrub and herbaceous vegetation. Surrounding wetlands and uplands are variable. Shrublands are dominated by diamondleaf willow (*Salix planifolia*) and Wolf's willow (*Salix wolfii*). Forested areas consist of Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) with understories of bluejoint (*Calamagrostis canadensis*) and blueberry (*Vaccinium*) species. Openings in forested areas are dominated by xeric Thurber's fescue (*Festuca thurberi*) meadows. The site contains an iron fen which is a wetland unique to this area, whose occurrences are concentrated along the mineral belt of the Colorado Rockies. The site spans both sides of 4X4 road and extends along multiple contours, emptying into Wager Gulch and its west fork. It occurs along a popular access to the Continental Divide and Carson Mine which is used extensively by recreational OHV users. An old road crosses the wetlands above the main spring. It has

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been closed for restoration and is revegetating, but may still impact hydrology. Weeds occur along the road, but were not observed within the fen.

## Key Environmental Factors

Key environmental factors influencing wetlands and species composition include subalpine elevation, perennial groundwater and iron-rich springs, gentle to moderate slopes, and peat accumulating soils.

## Climate Description

Climate and weather tend to follow typical patterns of the San Juan Mountains of Colorado being generally xeric throughout the year with warm spring weather causing snowmelt flooding, wet summers, and a late summer "monsoon" season.

## Land Use History

No Data

## Cultural Features

No Data

## SITE DESIGN

Site Map Y - Yes

Mapped Date 10/15/2006

Designer Jones, J.R.

## Boundary Justification

Boundaries include 1,000 ft of uplands to buffer from impacts to site condition (Keate 2004). This buffer accounts for natural ecological processes important for the maintenance of wetland elements such as seasonal flooding, groundwater recharge, surface flows, and sediment deposition. However, the boundary does not include all ecological processes necessary to the maintenance of the site and upstream activities such as mining, deforestation, improper livestock grazing or recreational use, development, or water diversion could be detrimental to the site. An intersecting road, which may have divided the site into its current two sections, is included. This disturbance, as well as past mining in the drainage and recreational use of the area, is very important to the health and viability of the site and may need to be addressed to protect the elements.

Primary Area 137.47 Acres

55.63 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

## Biodiversity Significance Comments

This site is drawn for an excellent (A-ranked) occurrence of the globally imperiled (G2/S2) iron fen wetland community, (*Picea engelmannii* / *Betula glandulosa* / *Carex aquatilis* - *Sphagnum angustifolium* woodland) and an excellent (A-ranked) occurrence of the diamondleaf willow / Northwest Territory sedge wetland (*Salix planifolia* / *Carex utriculata* shrubland) whose global rank is unknown (GNR/S2).

Other Values Rank V1 - Outstanding values

## Other Values Comments

This site provides outstanding ecological values to the area in terms of aesthetic quality and unique species composition and hydrology. It also provides game and wildlife habitat and aquifer recharge.

## LAND MANAGEMENT ISSUES

### Land Use Comments

Predominant land use is recreation.

### Natural Hazard Comments

No Data

### Exotics Comments

No Data

### Offsite

Off-site land uses that may affect the site include mining at Carson Mine along upstream reaches and recreational uses along an adjacent road.

### Information Needs

No Data

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## ASSOCIATED ELEMENTS OF BIODIVERSITY

| <u>Element</u>  |   |                                   | <u>Global Rank</u> | <u>State Rank</u> | <u>Driving Site Rank</u> |
|-----------------|---|-----------------------------------|--------------------|-------------------|--------------------------|
| <u>State ID</u> | <u>State Scientific Name</u>  | <u>State Common Name</u>          |                    |                   |                          |
| 24847           | ( <i>Picea engelmannii</i> ) / <i>Betula nana</i> / <i>Carex aquatilis</i> - <i>Sphagnum angustifolium</i> Woodland | Iron Fen                          | G2                 | S2                | Yes                      |
| 24576           | <i>Salix planifolia</i> / <i>Carex utriculata</i> Shrubland   | Diamondleaf Willow / Beaked Sedge | GNR                | S2                | No                       |

## REFERENCES

| <u>Reference ID</u> | <u>Full Citation</u>  |
|---------------------|---|
| 194563              | Cooper, D.J. and C. D. Arp. 1998. "Colorado's Iron Fens: Geochemistry, Flora, and Vegetation".<br>Unpublished Report submitted to the Colorado Natural Areas Program.       |
| 192813              | Keate, Nancy S. 2004. Bibliography of Impacts to Wetlands II - Draft - revised - Jan 2004. Utah Wetland Outreach, Wildlife Resources, Utah Department of Natural Resources. |
| 194565              | Neid, S.L. and J.R. Jones. 2008. Final Report: Survey of Critical Wetlands and Riparian Areas in Hinsdale County. Colorado Natural Heritage Program, Fort Collins, CO.      |

## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

**Version Date** 10/15/2006

**Version Author** Jones, J.R.

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