

# Level 4 Potential Conservation Area (PCA) Report

Name Slumgullion Creek

Site Code S.USCOHP\*26715

## IDENTIFIERS

Site ID 2410 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 375910N  
 State Colorado Longitude 1071507W

<u>Quad Code</u>	<u>Quad Name</u>
37107-H2	Slumgullion Pass
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>	11,080.00 Feet	3,377.18 Meters
<b>Maximum Elevation</b>	11,160.00 Feet	3,401.57 Meters

### Site Description

This site is drawn for unique iron fen wetlands that occur in association with the Slumgullion Slide. The wetlands are situated along the upper reaches of Slumgullion Creek and continues down to a large, open, meadow wetland. Slumgullion Creek is a narrow stream channel with multiple seeps and springs adding mineral-rich, acidic water to the system. The lower meadow is a low gradient wetland with multiple old beaver ponds and large open flats. Soils are variable throughout with areas of deep histic epipedons over thick, gleyed clays. Soils are peat accumulating with extensive, iron-rich, mineral deposits throughout peat layers. Mineral-rich hydrology and mineral deposition appear to originate from springs coming in contact with highly fractured geology from the Slumgullion earth flow. General geology of the site and surrounding uplands consists of igneous rocks of the Tertiary Age (Steven 1974, Tweto 1979). Vegetation along Slumgullion Creek and lower meadow changes with geomorphic features, hydrologic variation, soils and mineral deposition. The occurrence of unique fen vegetation adheres to the small, spring-fed drainage along the upper reaches of Slumgullion Creek, opening into disjunct patches in the lower meadow. Iron fen vegetation is present in the drainage due to highly mineralized hydrology. 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, which saturates peat layers and typically forms hardened sheets of oxidized iron (Cooper and Arp 1998). Although no limonite sheets were observed and no areas support extensive peat accumulations, patches of vegetation are diagnostic of iron fen hydrology. Indicators of iron fen hydrology present include Engelmann spruce (*Picea engelmannii*), resin birch (*Betula glandulosa*), sphagnum (*Sphagnum* sp.), and water sedge (*Carex aquatilis*). Bluejoint (*Calamagrostis canadensis*) and diamondleaf willow (*Salix planifolia*) also occur as codominants throughout the upper drainage. Engelmann spruce occurs in patches and along edges of the drainage as a canopy and subcanopy layer. It is absent in the lower, open meadow. Resin birch has variable cover throughout as sporadic patches along the upper drainage and as dense edge cover along the lower meadow. Sphagnum cover also varies with hydrology and is patchy throughout the site. Diamondleaf willow codominates the shrub layer in some areas increasing in cover as surface flows dilute iron-rich water with distance from springs. Water sedge and bluejoint are both common throughout the herbaceous layer. Water sedge and Northwest Territory sedge (*Carex utriculata*) dominate the lower meadow. Adjacent uplands are highly variable throughout ranging from mixed Engelmann spruce, subalpine fir (*Abies lasiocarpa*), and quaking aspen (*Populus tremuloides*) forest to patches of shrubby cinquefoil (*Dasiphora fruticosa*) dominated shrublands, and subalpine meadows. The surrounding area is used for recreation including 4X4 travel, snowmobiling, and hunting. The site was formerly used for horse grazing, but shows very little disturbance at present. Anthropogenic disturbances include an OVH road running adjacent to the drainage and meadow, snowmobile travel across the meadow, and a staging area adjacent to the meadow. Small amounts of grazing were observed in the meadow.

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## Key Environmental Factors

The key environmental factors influencing species composition of the wetland are iron-rich, acidic, perennial hydrology, variable gradients, and soil composition.

## 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 deforestation, improper livestock grazing, development, road maintenance, or water diversion could be detrimental to the site. Boundaries include portions of a nearby highway and an adjacent 4X4 road, which may be impacting site viability. These impacts will likely affect maintenance and planning for the site.

Primary Area

260.93

Acres

105.60

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).

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

Natural hazards include spring flooding and land slides.

## Exotics Comments

Exotics were observed in surrounding uplands and concentrated along old roadways and disturbed areas. Very few exotics were found within the wetland.

## Offsite

Off-site considerations include a 4X4 road and highway use and maintenance.

## Information Needs

No Data

### 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

### REFERENCES

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<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". 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.
194566	Steven, T.A. 1974. Geologic Map of the Durango Quadrangle, Southwestern Colorado. United States Geological Survey, Department of Interior, Reston, VA.
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.

## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

**Version Date** 10/15/2006

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

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