

# Level 4 Potential Conservation Area (PCA) Report

Name North Fork of Sand Creek

Site Code S.USCOHP\*26695

## IDENTIFIERS

Site ID 2406 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 373220N  
 State Colorado Longitude 1072042W

Quad Code Quad Name  
 37107-E3 Granite Lake

County  
 Hinsdale (CO)

Watershed Code Watershed Name  
 14080102 Piedra  
 14080101 Upper San Juan

## SITE DESCRIPTION

Minimum Elevation	10,600.00 Feet	3,230.88 Meters
Maximum Elevation	12,000.00 Feet	3,657.60 Meters

### Site Description

This site is drawn for a large wetland complex situated along the upper reaches of multiple tributaries of Weminuche Creek and the Los Pinos River. The wetland complex is a mosaic of fens, wet meadows and patches of mesic forest. Bedrock geology consists of metamorphic and igneous rocks of the Precambrian Age, specifically, Eolus Granite (Steven 1974, Tweto 1979). The majority of wetlands are gently to moderately sloped, open-basin peatlands. Peatlands are wetlands characterized by organic soils (histosols) with 40 cm peat accumulation in the upper 80 cm (USDA 2006). In this region, peatlands are fens and dependent on groundwater with minimal secondary inputs from other hydrologic sources. Peat in most surveyed fens in the wetland complex are well-developed throughout and fibric to hemic in decomposition. Many inundated sites exhibit patterning with strings (raised areas) separated by flarks, which are linear pools, small rivulets, and areas of shallow, open water (Chadde et al. 1998). Meadow openings vary from mesic to inundated herbaceous communities as well as tree dominated wetlands. The majority of meadow openings are dominated by a continuous, rhizomatous mat of fewflower spikerush (*Eleocharis quinqueflora*) often forming a near monoculture of low-stature, low species diversity, low cover, inundated peat flats. Water sedge (*Carex aquatilis*) is the next most common species being found at low to moderate cover in all stands. Strings support higher species diversity than flarks including bluejoint (*Calamagrostis canadensis*), tufted hairgrass (*Deschampsia caespitosa*), and splitleaf groundsel (*Packera dimorphophylla*). Patches of mesic forest dot the open wetlands and support a consistent canopy strata dominated by Engelmann spruce with water sedge in the understory. Drier meadow openings and drying edges of inundated areas support much higher species diversity and some of these openings are dominated by sheep sedge (*Carex illota*) herbaceous communities. Other common species in the wetlands include elephanthead lousewort (*Pedicularis groenlandica*), redpod stonecrop (*Rhodiola rhodantha*), silvery sedge (*Carex canescens*), and white marsh marigold (*Caltha leptosepala*). Surrounding uplands are dominated by mesic Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) forests. Understory varies between drier areas of extensive whortleberry (*Vaccinium myrtillus*) cover and patches of mesic forbs along small seeps with dense cover of tall fringed bluebells (*Mertensia ciliata*), starry false lily-of-the-valley (*Maianthemum stellatum*), and arrowleaf ragwort (*Senecio triangularis*). This site contains the headwaters for a conservation population of Colorado River Cutthroat Trout (*Oncorhynchus clarkii pleuriticus*).

### Key Environmental Factors

Key environmental factors influencing species composition of the wetland are gentle to moderate gradient, subalpine elevation, formation of microtopographic rises, and perennial, groundwater-fed hydrology.

### 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

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summer "monsoon" season.

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## 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, or water diversion could be detrimental to the communities.

Primary Area 1,934.13 Acres

782.72 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B4: Moderate Biodiversity Significance

## Biodiversity Significance Comments

This site supports an excellent (A-ranked) occurrence of the globally apparently secure (G4/S3) subalpine fir / Engelmann spruce - water sedge subalpine, riparian wetland forest (*Abies lasiocarpa* - *Picea engelmannii* / *Carex aquatilis* forest) and a good (B-ranked) occurrence of the sheep sedge herbaceous wetland (*Carex illota* herbaceous vegetation) whose global rank is unknown (GUQ/S2). Site also contains an excellent (A-ranked) occurrence of the globally apparently secure (G4/S3S4) fewflower spikerush herbaceous wetland (*Eleocharis quinqueflora* herbaceous vegetation), and an excellent (A-ranked) occurrence of the globally demonstrably secure (G5/S4) water sedge (*Carex aquatilis*) herbaceous vegetation.

Other Values Rank V1 - Outstanding values

## Other Values Comments

The site provides outstanding values in terms of aesthetics, open space, and recreation. It also provides ecological values to the area being a source of extensive game and wildlife habitat, flood storage and aquifer recharge, erosion control along tributaries, as well as significant biodiversity for a predominantly forested system.

## LAND MANAGEMENT ISSUES

## Land Use Comments

Predominant use of the surrounding areas is recreation, including hiking, horseback-riding and hunting. Vehicle use is limited.

## Natural Hazard Comments

No Data

## Exotics Comments

There are few exotics. When present, exotics are concentrated along trails and roads.

## Offsite

No Data

## Information Needs

No Data

## ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
23155	<i>Eleocharis quinqueflora</i> Herbaceous Vegetation	Alpine Wetlands	G4	S3S4	Yes
24988	<i>Abies lasiocarpa</i> - <i>Picea engelmannii</i> / <i>Carex aquatilis</i> Forest	Subalpine Riparian/wetland Forest	G4	S3	Yes
22745	<i>Carex aquatilis</i> Herbaceous Vegetation	Montane Wet Meadows	G5	S4	Yes
21256	<i>Carex illota</i> Herbaceous Vegetation	Alpine Wetlands	GUQ	S2	Yes

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## REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
194562	Chadde, S.W., J.S. Stephen, J.B. Bursick, R.K. Moseley, A.G. Evenden, M. Mantas, F. Rabe, and B. Heidel. 1998. Peatlands on National Forests of the Northern Rocky Mountains: Ecology and Conservation. Gen. Tech. Rep. RMRS-GTR-11. Ogden, UT: U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station.
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.
194564	USDA, Natural Resources Conservation Service. 2006. Keys to Soil Taxonomy, 6th ed. Soil Survey Staff, Soil Conservation Services. Washington, DC. 12 p.

## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

Version Date 10/15/2006

Version Author Jones, J.R.

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