

# Level 4 Potential Conservation Area (PCA) Report

Name Elk Lakes Fen

Site Code S.USCOHP\*26694

## IDENTIFIERS

Site ID 2405 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 373612N  
 State Colorado Longitude 1072212W

Quad Code Quad Name  
 37107-E3 Granite Lake

County  
 Hinsdale (CO)

Watershed Code Watershed Name  
 14080101 Upper San Juan

## SITE DESCRIPTION

<b>Minimum Elevation</b>	11,250.00	<b>Feet</b>	3,429.00	<b>Meters</b>
<b>Maximum Elevation</b>	11,440.00	<b>Feet</b>	3,486.91	<b>Meters</b>

### Site Description

This site is drawn for a wetland complex that occurs as an open-basin, lake-fill peatland surrounded by subalpine forest. Peatlands are peat accumulating wetlands characterized by organic soils (histosols) with 40 cm peat accumulations in the upper 80 cm (USDA 2006). In this region, fens are dependent on groundwater, with minimal secondary inputs from other hydrologic sources (Cooper and Arp 1998). At this fen morphologic features include flat to sloping peat soils, patterning, a small deep water lake, shallow pools, and floating mat. The wetland is inundated throughout, with many areas of shallow, standing water. The small lake along the lower reaches supports a large area of floating mat grading up to anchored peat mat. The floating mat forms as peat accumulation expand out over open water, weaving a quaking peat layer. Communities on floating mat are considered stable due to the ability to fluctuate with water levels (Chadde et al. 1998). Hydrology appears to originate from northern and western slopes above the site; water flows through these upper, sloping areas in small rivulets to the lower lake. Soils are fibric to hemic in decomposition. Bedrock geology consists of metamorphic and igneous rocks of the Precambrian Age, specifically Eolus Granite (Steven 1974, Tweto 1979). Fens are common throughout the surrounding area; they create a mosaic with forested uplands and high quality wildlife habitat. Evidence of wildlife use includes scat, tracks, and a small wallow. The surrounding uplands consist of Engelmann spruce (*Picea engelmannii*) and subalpine fir (*Abies lasiocarpa*) dominated forests with whortleberry (*Vaccinium myrtillus*) as a common understory layer. Site encompasses three distinct plant associations along flat to moderately sloping peat soils. Mud sedge (*Carex limosa*) herbaceous vegetation occurs as a fringe community within the larger fen complex. Mud sedge dominated vegetation is concentrated along lower reaches as a floating mat community around a small, deep-water lake. Floating peat at this site is characterized by hummocked areas of dense vegetation interspersed with areas of open peat and shallow water. The eastern side of the lake supports a broader band of this type possibly due to prevailing winds and wave action. Codominant species include fewflower spikerush (*Eleocharis quinqueflora*), water sedge (*Carex aquatilis*), and to a lesser extent Northwest Territory sedge (*Carex utriculata*). Boreal bog sedge (*Carex magellanica*), which is structurally similar to the diagnostic species, mud sedge, is also found at the site. Deadfall from surrounding uplands creates linear microhabitats within fen. Perched slightly above this community on both sides of the lake and extending north and south is a consistent fewflower spikerush dominated herbaceous community occurring along inundated terraces and slopes. Other common species include water sedge and elephanthead lousewort (*Pedicularis groenlandica*), with bluejoint (*Calamagrostis canadensis*) and tufted hairgrass (*Deschampsia caespitosa*) occurring along hummocked areas. A small area of diamondleaf willow (*Salix planifolia*) dominated fen present at the upper reaches of the site. Predominant land use in the area is for recreation including hiking, hunting, and horseback riding. Vehicular use is restricted.

### Key Environmental Factors

Key environmental factors influencing species composition of the wetland are low gradient and general

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geomorphologic features, subalpine elevation, groundwater discharge, and prevailing winds.

## 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 activities in surrounding uplands such as deforestation, improper livestock grazing or recreational use, development, or water diversion could be detrimental to the site.

Primary Area 106.76 Acres

43.20 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/S1S2) mud sedge herbaceous vegetation wetland community (*Carex limosa* herbaceous vegetation).

Other Values Rank V2 - High values

## Other Values Comments

Site provides an aesthetic value and acts as a source of system biodiversity in the area. It also provides high quality wildlife habitat, a source for aquifer recharge and discharge, and flood storage.

### LAND MANAGEMENT ISSUES

## Land Use Comments

Predominant land use is recreation, including hiking, camping, hunting, and horseback riding.

## Natural Hazard Comments

No Data

## Exotics Comments

No Data

## Offsite

No Data

## Information Needs

No Data

### ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global</u>	<u>State</u>	<u>Driving</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Rank</u>	<u>Rank</u>	<u>Site Rank</u>
24366	<i>Carex limosa</i> Herbaceous Vegetation	Montane Wetland	G2	S1S2	Yes

### REFERENCES

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## Reference ID

## Full Citation

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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