

Level 4 Potential Conservation Area (PCA) Report

Name Headwaters of Summit Creek

Site Code S.USCOHP*9487

IDENTIFIERS

Site ID 1946 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 372008N
State Colorado Longitude 1064236W

Quad Code Quad Name
37106-C6 Summit Peak

County
Archuleta (CO)

Watershed Code Watershed Name
14080101 Upper San Juan

SITE DESCRIPTION

Minimum Elevation	12,200.00 Feet	3,719.00 Meters
Maximum Elevation	12,240.00 Feet	3,731.00 Meters

Site Description

The Headwaters of Summit Creek site is located in the extreme northeast corner of Archuleta County, high in the San Juan Mountains in the South San Juan Wilderness, in an area surrounded by 13,000 foot peaks. The site lies just to the west of the Continental Divide on the west side of a high mountain pass. The area is breathtaking, and although three trails (the Continental Divide Trail, the Little Blanco Trail, and the Quartz Creek Trail) intersect within the site, the area is pristine with little degradation. The Summit Creek headwaters originate here in a snowmelt basin at elevation 12,200 feet. The area is characterized by very healthy alpine tundra with a shallow and wide rivulet running through it that is the beginning of the Summit Creek drainage. There is a native sedge (*Carex vernacula*) alpine wetland that is extremely rare both in Colorado and North America. Graminoids cover approximately 60% of the alpine wetland and native sedge and tufted hairgrass (*Deschampsia caespitosa*) are dominant with white marsh marigold (*Caltha leptosepala*) covering another 30% of the wetland. Hikers and horse riders use the trails present in the area, but the wetland is mostly undisturbed except for where the Little Blanco Trail passes through it.

Key Environmental Factors

The geology of this ridge at the Continental Divide, running southwest from Montezuma Peak and incorporating the area of the native sedge community, is mapped as Ash-Flow Tuff of Main Volcanic Sequence (Age in San Juan Mountains, 26-30 million years old) (Tweto 1979). Soils in the occurrence are mapped as Hossick gravelly loams, derived from quartz latite, andesite and other volcanic rock (USDA 1981). The native sedge community commonly is found in alpine snowmelt basins with stratified alluvial soil layers over gravel (Carsey et al. 2003). Soil samples taken at the site show the top 1.5 cm is loose with organic matter and some graininess, a 10YR5/3 color. The next 20 cm is a silt loam, quite rooty and moist, and a 10YR4/4 color. Beneath this layer is rock.

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial Mapped Date 06/10/1997
Designer Kettler, S.M.

Boundary Justification

Two primary ecological processes were considered when designing the site boundary: 1) surface water and

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2) ground water. Both are critical to the alpine wetland that this site captures. The native plants rely on a good quality and quantity of surface water. The site boundary captures the snowmelt basin and its drainage that is so important to maintaining the viability of the alpine wetland. The boundary also includes an approximate 1,000 foot buffer that should protect the wetland from direct disturbance, and is thought to protect the avian, macroinvertebrate and periphyton communities and limit impacts from sedimentation (see Noel et al. 1986, Spackman and Hughes 1995, Karr and Schlosser 1978).

Primary Area 29.83 Acres 12.07 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B4: Moderate Biodiversity Significance

Biodiversity Significance Comments

This site supports a good (B-ranked) occurrence of a native sedge (*Carex vernacula*) alpine wetland, a plant community for which the global status has not yet been determined (GU/S1), but is considered critically imperiled in Colorado. As of 2005, this alpine meadow association is known from only four localities in San Juan County and one locality in Archuleta County, Colorado. This wetland occurs along narrow and sinuous stream channels in gently sloping, glaciated, alpine basins. Native sedge dominates the vegetation cover with white marsh marigold (*Caltha leptosepala*) and tufted hairgrass (*Deschampsia caespitosa*) as common subdominants.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

Since the site is on an alpine pass at the Continental Divide, storms and lightening are frequent hazards.

Exotics Comments

The community consists of all native plants, with no weeds or exotic species observed.

Offsite

Hydrological processes originating outside of the planning boundary, including water quality, quantity, timing and flow must be managed to maintain site viability.

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>
19963	<i>Carex vernacula</i> Herbaceous Vegetation	Alpine Wetlands	GU	S1	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.
172808	J. R. Karr and I. J. Schlosser. 1978. Water resources and the land-water interface. Science 201: 229-234.
165959	Noel, D.S., C.W. Martin and C.A. Federer. 1986. Effects of Forest Clearcutting in New England on Stream Macroinvertebrates and Periphyton. Environmental Management 10: 661-670.
170844	Randolph, D., Smith, Kettler, Redders, Roy, and Aitken. 1994. San Juan National Forest Riparian Site Survey.
193472	Sovell, J., P. Lyon, and L. Grunau. 2003. Final Report: Upper San Juan Biological Assessment. Colorado Natural Heritage Program, Fort Collins, CO.
159511	Spackman, S. C. and J. W. Hughes. 1995. Assessment of Minimum Stream Corridor Width for Biological Conservation: Species Richness and Distribution Along Mid-Order Streams in Vermont, USA. Biological Conservation 71:325-332.
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.
193423	USDA, SCS. 1981. Soil Survey of Piedra Area, Colorado; Parts of Archuleta, Hinsdale, La Plata, Mineral, and Rio Grande Counties. In cooperation with the United States Forest Service and the Colorado Agricultural Experiment Station.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 11/30/2005

Version Author Freeman, K.M.

Disclaimer

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