

Level 4 Potential Conservation Area (PCA) Report

Name La Plata Gulch

Site Code S.USCOHP*27834

IDENTIFIERS

Site ID 2643 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 390159N
State Colorado Longitude 1062935W

<u>Quad Code</u>	<u>Quad Name</u>
39106-A5	Independence Pass
39106-A4	Mount Elbert

County

Chaffee (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
11020001	Arkansas Headwaters

SITE DESCRIPTION

Minimum Elevation	10,800.00	Feet	3,291.84	Meters
Maximum Elevation	12,800.00	Feet	3,901.44	Meters

Site Description

The site is located in a high elevation, glacially sculpted, north-south trending valley on the east side of the Continental Divide in the Sawatch Mountain Range. The stream that drains La Plata Gulch has its confluence with Lake Fork Creek approximately 7.5 miles west of the town of Twin Lakes. Glacially carved peaks, arêtes and cirques surround La Plata Gulch to the west, south and east. La Plata Peak, at 14,361 ft, is to the east, Sayre's Peak, at 13,738 ft, is to the south and the peaks and high ridges that form the western wall of the valley reach elevations up to 13,430 ft. Geology of the surrounding slopes on the east side of the gulch, up to approximately 12,000 ft, is Laramide intrusive rock, age 40-72 M.Y., with intermediate felsic composition; above 12,000 ft rocks are Precambrian granites of the 1,700 M.Y. age group; at the southern end of the valley upland slopes are metamorphic rocks, age 1,700 to 1,800 M.Y., of biotitic gneiss, schist, and migmatite; west slopes of the gulch, up to approximately 12,400 ft, are Laramide intrusive rocks, age 40-72 M.Y., with intermediate felsic composition; above 12,000 ft rocks are Oligocene pre-ash-flow andesitic lavas, breccias, tuffs, and conglomerates, age 30-35 M.Y.. Geology in the valley bottom is Pleistocene age glacial drift from the Pinedale and Bull Lake glaciations (Tweto 1979). Soils in the valley bottom have been wet long enough and with enough reliability to build up substantial amounts of organic matter, and develop deep accumulations of peat. Soils are typically hummocky and moist to saturated on terraces, toeslopes and in the valley bottom. Snowmelt from the surrounding ridges sends copious amounts of shallow groundwater and surface flow into the basin below. Snowmelt coalesces into dozens of stream accumulates in the numerous depressions left by the glacier creating lakes and tarns, eventually moving into the valley below and into the stream that drains the Gulch. Valley toeslopes are saturated and support lush plant communities. Early in the upper part of the Gulch the stream becomes a second order stream and is a typical Rosgen type "C" stream (Rosgen 1996) with a moderate gradient and sinuosity. Overbanking flows are common and, in combination with shallow overland surface and groundwater flow from snowmelt, maintain an expansive willow carr-wet meadow mosaic. Habitat in the valley bottom and up onto the toeslopes is characterized by an expansive, dense patchwork of low-growing willows interspersed with open, herbaceous wet meadows. Wolf willow (*Salix wolfii*) is the dominant willow and forms a mosaic with stands of planeleaf willow (*Salix planifolia*). Herbaceous cover is a dense, lush patchy mosaic of forbs and graminoids responding to varying soil moisture conditions. Although large, homogenous stands of sedges (*Carex* spp.) are encountered throughout the site total overall forb cover is greater than graminoid cover although no one forb species is dominant. Patches of the marsh marigold (*Caltha leptosepala*) herbaceous vegetation association occur under the shrub canopy and in canopy openings where they interfinger with graminoid patches. Adjacent to the stream, patches of the brook saxifrage (*Saxifraga odontoloma*) herbaceous vegetation association is common. Typical forbs in include marsh marigold, alpine lousewort (*Pedicularis sudetica*), star gentian (*Swertia perennis*), king's crown (*Rhodiola integrifolia*), brook saxifrage, Parry's primrose (*Primula parryi*), triangular leaf senecio (*Senecio triangularis*), Gray's angelica (*Angelica grayi*) and heartleaf bittercress (*Cardamine cordifolia*). Common

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graminoids include Rocky Mountain sedge (*Carex scopulorum*), water sedge (*Carex aquatilis*), different-nerve sedge (*Carex heteroneura*) and tufted hairgrass (*Deschampsia caespitosa*). Steep upland slopes in the lower alpine are a mosaic of spruce - fir (*Picea engelmannii* - *Abies lasiocarpa*) forest, shrublands, herbaceous meadows, boulder fields and avalanche chutes where a dense cover of willow thrives. Higher up in the alpine, wide scree and talus slopes are interspersed with stands of Krummholz, and then, higher up into the alpine, the habitat transitions again into an open landscape dominated by fellfields, rock glaciers, and alpine turf meadows.

Key Environmental Factors

Hydrology, especially abundant shallow surface and groundwater flow, and soil, particularly deep accumulations of peat (Carsey et al. 2003), are key driving factor that exert a major influence on biota at the site.

Climate Description

Climate records for Independence Pass, which is approximately 7.5 miles to the northwest and on the west side of the Continental Divide, indicate a mean annual precipitation of 29.82 inches; the wettest months are January and March with a mean precipitation of 3.51 inches and 3.97 inches per month respectively; the driest months are June and September with a mean precipitation of 1.11 inches and 1.70 inches per month respectively; the warmest month is July with a mean temperature of 51.9 deg F and the coldest month January at 12.7 deg F. Average annual snowfall is 335.9 inches with January and March having the greatest monthly snowfall with a mean of 50.1 inches and 58.8 inches respectively (Western Regional Climate Center 2009).

Land Use History

Hardrock mining was prolific throughout the area.

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 04/17/2009

Designer Malone, D.G.

Boundary Justification

The boundary includes the element occurrence as well as the immediate watershed to enable essential ecological and hydrological processes. Hydrology, and specifically shallow surface and groundwater flow, is the key environmental factor essential to maintaining the wolf willow / mesic forbs plant association (Rondeau 2001) and to the development of peaty soils with which wolf willow is associated (Carsey et al. 2003). In this landscape snowmelt from surrounding peaks and ridges is the hydrologic driver.

Primary Area 2,037.93 Acres 824.72 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

The site supports an excellent (A-ranked) occurrence of a globally vulnerable (G3/S3) Wolf's willow (*Salix wolfii*) / mesic forbs subalpine riparian willow carr.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

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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>
24572	<i>Salix wolfii</i> / Mesic Forbs Shrubland	Subalpine Riparian Willow Carr	G3	S3	Yes

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
159854	Carsey, K., G. Kittel, K. Decker, D. Cooper, and D. Culver. 2003. Field guide to the wetland and riparian plant associations of Colorado. Prepared for the Colorado Department of Natural Resources, Denver, CO by the Colorado Natural Heritage Program, Fort Collins, CO.
198290	Culver, D.R., D. Malone, S.L. Neid, and J. Handwerk. 2009. Final Report: Survey of Critical Biological Resources in Chaffee County. Colorado Natural Heritage Program, Fort Collins, CO.
190863	Rondeau, R. 2001. Ecological system viability specifications for Southern Rocky Mountain ecoregion. First Edition. Colorado Natural Heritage Program, Colorado State University, Fort Collins, CO. 181 pp.
191383	Rosgen, D. 1996. Applied river morphology. Wildland Hydrology, Pagosa Springs, CO.
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.
198320	Western Regional Climate Center. 2009. Record Climate Summaries. Accessed in 2009. http://www.wrcc.dri.edu/

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 04/17/2009
Version Author Malone, D.G.

Disclaimer

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