

Level 4 Potential Conservation Area (PCA) Report

Name Elsworth Creek

Site Code S.USCOHP*28176

IDENTIFIERS

Site ID 2708 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 395253N
 State Colorado Longitude 1053014W

Quad Code Quad Name

39105-H5	Nederland
39105-G4	Black Hawk
39105-H4	Tungsten
39105-G5	Central City

County

Gilpin (CO)

Watershed Code Watershed Name

10190005	St. Vrain
----------	-----------

SITE DESCRIPTION

Minimum Elevation	8,800.00	Feet	2,682.24	Meters
Maximum Elevation	9,882.00	Feet	3,012.03	Meters

Site Description

This site is located on the east slope of the Front Range in the central part of Gilpin County, Colorado in the montane zone. Topography is characterized by rolling hills with moderate-relief. These northeast/southwest-trending hills encompass several drainages and stream headwaters that are tributaries to South Boulder Creek. Geology is characterized by northeast/southwest trending bands of rock that are classified as Precambrian age metamorphic and igneous rocks. The ridgetop on the west side of the site is metamorphic rock derived principally from volcanic rock and is comprised of felsic and hornblending gneisses that includes metabasalt, metatuff, and interbedded metagraywacke and locally contains interlayered biotite gneiss. Geology in the center of the site, where Lump Gulch is located, is metamorphic rock derived principally from sedimentary rocks and is comprised of biotitic gneiss, schist, and migmatite and locally contains minor hornblende gneiss, calc-silicate rock, quartzite, and marble. Geology on the east side of the site, which Ellsworth Creek runs through, is granitic rock (Tweto 1979). Soils are also distributed as northeast/southwest trending bands of soil. The most common soil in the site is classified as Goosepeak-Catamount families, moist complex, 5 to 40 percent slopes. On the east-facing hillslope on the west side of the site there is a narrow band of soil classified as Leighcan family, 40 to 75 percent slopes with a small area at the toeslope that is Rogert family, 5 to 40 percent slopes. Hillslope soils on the east side of the site are either Legault-Rock outcrop complex, 30 to 80 percent slopes or Bullwark-Catamount families-Rubble land complex, 5 to 40 percent slopes. In valley bottoms along stream courses and in the channel bed soils are classified as Cryaquolls-Gateview complex, 0 to 15 percent slopes and, on one small reach on Ellsworth Creek, Legault very gravelly sandy loam, 15 to 30 percent slopes. Cryaquolls occur on flood plains and the parent material consists of gravelly alluvium and/or gravelly glaciofluvial deposits derived from igneous, metamorphic, and sedimentary rock; the natural drainage class is poorly drained and organic matter content in the surface horizon is about 85%. The Gateview family component occurs on terraces and the parent material also consists of gravelly alluvium and/or gravelly glaciofluvial deposits derived from igneous, metamorphic, and sedimentary rock; the natural drainage class is well drained and organic matter content in the surface horizon is about 2 percent (NRCS 2010). Hydrologic features include streams, wet meadows, marshes and ponds. Site hydrology is characterized and sustained by several water sources and ecological processes including shallow surface and groundwater flow, springs and seeps, out-of-bank streamflows and beaver (*Castor canadensis*) activity. The site encompasses five first-order headwater streams that coalesce to form two second-order streams, Ellsworth Creek and Lump Gulch, which then unite to create one third-order stream, Lump Gulch. Numerous active beaver ponds occur on Lump Gulch which has resulted in channel restoration and modification, increased water storage, out-of-bank flows and late-season streamflows, and enhanced wetland development. There is no recent beaver activity on Ellsworth Creek but evidence of historic activity is

Level 4 Potential Conservation Area (PCA) Report

Name Elsworth Creek

Site Code S.USCOHP*28176

abundant. Habitat is a mosaic of upland and riparian forest, shrublands and wetlands. Upland plant communities are characterized by a mosaic of forested communities including lodgepole pine (*Pinus contorta*), ponderosa pine (*Pinus ponderosa*) and Engelmann spruce - subalpine fir (*Picea engelmannii* - *Abies lasiocarpa*) forests and quaking aspen (*Populus tremuloides*) woodlands. Riparian habitat is a mosaic of forested, shrub and herbaceous plant communities that includes quaking aspen / thinleaf alder (*Populus tremuloides* / *Alnus incana*) woodlands interspersed with stands of Colorado blue spruce (*Picea pungens*), Drummond's willow (*Salix drummondiana*) / mesic forbs and mountain willow (*Salix monticola*) / mesic forbs shrublands. Wet meadows are dominated by graminoids especially water sedge (*Carex aquatilis*) and beaked sedge (*Carex utriculata*). In Lump Gulch, soils are peaty, although the peat is not currently deep enough to classify the area as a fen. However, historical anecdotal reports indicate that at the turn of the 20th century peat mining occurred in the area of the Lump Gulch site, indicating that, historically, the area was likely a fen. Beaver have been reintroduced to Lump Gulch. Results include greatly enhanced stream flows, restoration of wetland vegetation and wildlife species including moose (*Alces alces*), chorus frogs (*Pseudacris triseriata*), greenback cutthroat trout (*Oncorhynchus clarkii stomias*) and a good diversity of bird species such as Ring-necked Duck (*Aythya collaris*), Mallard (*Anas platyrhynchos*), Cordilleran Flycatcher (*Empidonax occidentalis*), Warbling Vireo (*Vireo gilvus*), Fox Sparrow (*Passerella iliaca*), Lincoln's Sparrow (*Melospiza lincolnii*), Song Sparrow (*Melospiza melodia*), Broad-tailed Hummingbird (*Selasphorus platycercus*), Black-headed Grosbeak (*Pheucticus melanocephalus*), Cedar Waxwing (*Bombycilla cedrorum*), Great Blue Heron (*Ardea herodias*), Williamson's Sapsucker (*Sphyrapicus thyroideus*), Red-naped Sapsucker (*Sphyrapicus nuchalis*), and Red-winged Blackbird (*Agelaius phoeniceus*).

Key Environmental Factors

Hydrology, including surface and groundwater flow, is the key environmental factor necessary to maintain this ecological system (Rondeau, 2001). Here, ecological systems and their hydrology evolved with and are highly dependent on beaver activity. In those sites where beaver are present native riparian plant communities are thriving. Where beaver were historically present but are now absent natural communities and stream flows are altered. In this system, beaver activity is integral to enhancing out-of-bank flows, recharging groundwater, and raising the water table to enable maintenance of wetland and stream systems.

Climate Description

Temperature and precipitation vary in Gilpin County with elevation, time of year and from the east to the west. In general, lower elevations to the east and south are drier and warmer while higher elevations to the north and west are wetter and colder. Temperature also varies from the east to the west corresponding to changes in elevation. Additionally, precipitation does not fall at the same time during the year everywhere in Gilpin County. Western locations at higher elevations receive the majority of their precipitation during late winter and early spring whereas the Front Range foothills receive the majority of their moisture during spring and early summer but both mountains and foothills also receive precipitation from mid-summer thunderstorms (Siemer 1977). The Elsworth Creek site is located in the lower montane foothills in the central eastern part of Gilpin County at an elevation of approximately 9,000 feet. Here, average annual precipitation from 1971 through 2000 was 22.43 inches with May, June, July and August the wettest months; coldest temperatures occurred in January with an average maximum temperature of 36.27 °F and an average minimum of 16.63 °F; warmest temperatures occurred in July with an average maximum of 77.22 °F and an average minimum of 50.4 °F (Prism 2010).

Land Use History

Mining was common throughout the area including throughout this site. Mining included placer and below ground mineral mining and peat mining. Currently, rural residential development occurs throughout this site.

Cultural Features

Antique mining machinery and equipment is found throughout this site.

SITE DESIGN

Site Map Y - Yes

Mapped Date 11/29/2010

Designer Malone, D.G.

Boundary Justification

The boundary was drawn to encompass the ecological and hydrological processes essential to ecosystem maintenance and sustainability of the element occurrences. Field reconnaissance indicates that stream and wetland hydrology is dependent on shallow surface flow and groundwater discharge. Reintroduction of beaver would benefit the element and promote long-term stream and riparian habitat sustainability.

Primary Area 1,489.07 Acres

602.61 Hectares

Level 4 Potential Conservation Area (PCA) Report

Name Elsworth Creek

Site Code S.USCOHP*28176

SITE SIGNIFICANCE

Biodiversity Significance Rank B4: Moderate Biodiversity Significance

Biodiversity Significance Comments

The site is drawn for a fair (C-ranked) occurrence of the globally vulnerable (G3/S3) plant community, quaking aspen / thinleaf alder (*Populus tremuloides* / *Alnus incana*). This site also harbors fair (C-ranked) occurrences of the globally apparently secure (G4/S3) montane willow (*Salix monticola*) / mesic forbs shrubland and the state rare (G5/S2) plant, broad-leaved twayblade (*Listera convallarioides*).

Other Values Rank No Data

Other Values Comments

This site is especially important wildlife habitat given the developed condition of surrounding habitat and its lower elevation location. Additionally the location of this site provides an important connection to upper elevation summer breeding habitat. Some landowners in the Lump Gulch area are very conservation-minded and have put their property into a conservation easement for the benefit of wildlife.

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

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>
24809	<i>Salix monticola</i> / Mesic Forbs Shrubland	Montane Riparian Willow Carr	G4	S3	No
24911	<i>Populus tremuloides</i> / <i>Alnus incana</i> Forest	Montane Riparian Forests	G3	S3	Yes
17861	<i>Listera convallarioides</i>	broad-leaved twayblade	G5	S2	No

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
198649	Prism Climate Group (Web Page). Accessed 2010. Spatial Climate Analysis. http://www.prism.oregonstate.edu/
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.
198318	Siemer, E. 1977. Colorado Climate. Colorado Experiment Station, Colorado State University.
198683	Stevens, J. E., D.R. Culver and D.G. Malone. 2011. CNHP Final Report: Survey of Critical Biological Resources in Gilpin County, Colorado. Colorado Natural Heritage Program, Fort Collins, 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.
198651	U.S. Department of Agriculture (Web Page). Accessed 2010. Natural Resource Conservation Service, Soil Data Mart. http://soils.usda.gov/survey/

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 11/29/2010
Version Author Malone, D.G.

Copyright © 2011. Colorado State University. Colorado Natural Heritage Program. All Rights Reserved.

Level 4 Potential Conservation Area (PCA) Report

Name Elsworth Creek

Site Code S.USCOHP*28176

Disclaimer

These data are a product and property of Colorado State University, Colorado Natural Heritage Program (CNHP). These data are strictly "on loan" and should be considered "works in progress". Data maintained in the Colorado Natural Heritage Program database are an integral part of ongoing research at CSU and reflect the observations of many scientists, institutions and our current state of knowledge. These data are acquired from various sources, with varying levels of accuracy, and are continually being updated and revised. Many areas have never been surveyed and the absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. These data should not be regarded as a substitute for on-site surveys required for environmental assessments. Absence of evidence is NOT evidence of absence. Absence of any data does not mean that other resources of special concern do not occur, but rather CNHP files do not currently contain information to document this presence. CNHP is not responsible for whether other, non-CNHP data providers have secured landowner permission for data collected.

These data are provided for non-commercial purposes only. Under no circumstances are data to be distributed in any fashion to outside parties. To ensure accurate application of data, tabular and narrative components must be evaluated in conjunction with spatial components. Failure to do so constitutes a misuse of the data. The Colorado Natural Heritage Program shall have no liability or responsibility to the data users, or any other person or entity with respect to liability, loss, or damage caused or alleged to be caused directly or indirectly by the data, including but not limited to any interruption of service, loss of business, anticipatory profits or indirect, special, or consequential damages resulting from the use of operation of the data. Data users hereby agree to hold CNHP, Colorado State University, and the State of Colorado harmless from any claim, demand, cause of action, loss, damage or expense from or related to data users use of or reliance on the data, regardless of the cause or nature thereof, and even in the event that such cause is attributable to the negligence or misconduct of CNHP.

These data are provided on an as-is basis, as-available basis without warranties of any kind, expressed or implied, INCLUDING (BUT NOT LIMITED TO) WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. Although CNHP maintains high standards of data quality control, CNHP, Colorado State University, and the State of Colorado further expressly disclaim any warranty that the data are error-free or current as of the date supplied