

# Level 4 Potential Conservation Area (PCA) Report

Name Porphyry Creek

Site Code S.USCOHP\*23817

## IDENTIFIERS

Site ID 1398 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 382852N  
State Colorado Longitude 1062244W

<u>Quad Code</u>	<u>Quad Name</u>
38106-D3	Pahlone Peak
38106-D4	Sargents

### County

Gunnison (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
14020003	Tomichi

## SITE DESCRIPTION

<b>Minimum Elevation</b>	8,800.00 Feet	2,682.00 Meters
<b>Maximum Elevation</b>	10,400.00 Feet	3,170.00 Meters

### Site Description

Porphyry Creek flows through a secluded canyon just north of Sargents. The creek is a narrow, continually dropping creek with many active beaver ponds and dams. The stream is straight to gently meandering. Streambanks are a jumble of dead branches, logs, rocks, with a thin layer of soil. There are no trails in the area but faint remnants of an old road traverse up the canyon for a short distance. There appears to be grazing near the mouth of the creek but not in the upper canyon. No evidence of logging was observed. Upland vegetation alternates between sagebrush and conifer forest, composed primarily of lodgepole pine (*Pinus contorta*), limber pine (*Pinus flexilis*), and scattered Engelmann spruce (*Picea engelmannii*) and ponderosa pine (*Pinus ponderosa*). Large scree slopes intersect the upland vegetation at regular intervals. Beaver ponds are dominant toward the lower end of the creek, and are composed of species such as mountain willow (*Salix monticola*), Geyer's willow (*S. geyeriana*), and bluejoint reedgrass (*Calamagrostis canadensis*). Further upstream, the site changes to a dense alder (*Alnus incana* ssp. *tenuifolia*) stand alongside the creek, with a dense, diverse mix of mesic forbs including cow parsnip (*Heracleum sphondylium montanum*), geranium (*Geranium richardsonii*), bluebells (*Mertensia ciliata*), bedstraw (*Galium trifidum*), large-leaved avens (*Geum macrophyllum*), arrowleaf groundsel (*Senecio triangularis*), meadowrue (*Thalictrum fendleri*), monkshood (*Aconitum columbianum*) and graminoids such as bluejoint reedgrass, slimstem reedgrass (*Calamagrostis stricta*), beaked sedge (*Carex utriculata*), fowl mannagrass (*Glyceria striata*), wood reed (*Cinna latifolia*), and tufted hairgrass (*Deschampsia cespitosa*). Elk and deer seem to browse the area heavily causing some streambanks to be unstable from their activity. Vegetation volume and structural diversity are high. Many alders are dying back and may be the result of sediment accretion, which may be "suffocating" alder roots or diverting water flow from the shrubs.

### Key Environmental Factors

No Data

### Climate Description

No Data

### Land Use History

No Data

### Cultural Features

No Data

## SITE DESIGN

Site Map Y - Yes Mapped Date 12/30/2002  
Designer Rocchio, F.J.

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## Boundary Justification

The boundaries incorporate an area that will allow natural hydrological processes such as seasonal flooding, sediment deposition, and new channel formation to maintain viable populations of the elements along Porphyry Creek. It should be noted that the hydrological processes necessary to the elements are not fully contained by the site boundaries. Given that the elements are dependent on natural hydrological processes associated with Porphyry Creek and its tributaries upstream activities such as water diversions, impoundments, improper livestock grazing, and development are detrimental to the hydrology of the riparian area. This boundary indicates the minimum area that should be considered for any conservation management plan.

Primary Area 1,303.70 Acres 527.59 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

## Biodiversity Significance Comments

This site supports an excellent (A-ranked) example of the globally vulnerable (G3G4Q/S3) thinleaf alder/mesic forb (*Alnus incana* ssp. *tenuifolia*/Mesic forb) riparian shrubland. This plant association was once common and widespread, but is now declining. It is rarely found in good condition without non-native species in the undergrowth. Because this community can change significantly with improper grazing, this plant association may not be recognized as the same type across state lines, and thus the taxonomy is in question (a Q in the rank). There are over 30 documented occurrences of this plant association in Colorado. However, none are very large and only one or two are in pristine condition. All stands are highly threatened by improper livestock grazing, stream flow alterations, road and railroad improvements and maintenance and heavy recreational use. This plant association is characterized by stands of medium-tall, deciduous shrubs and thick herbaceous undergrowth of forbs and wetland-indicator grasses. Undisturbed stands have abundant forbs and native grasses. Stands disturbed by season-long livestock grazing have reduced forb cover and an increase in non-native grasses including Kentucky bluegrass (*Poa pratensis*) and redtop (*Agrostis stolonifera*).

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

## 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>
24645	<i>Alnus incana</i> / Mesic Forbs Shrubland	Thinleaf Alder/Mesic Forb Riparian Shrubland	G3	S3	Yes

## REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
173839	Rocchio J., G Doyle, and R. Rondeau. 2003. Final Report: Survey of Critical Wetlands and Riparian Areas in Gunnison County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
173182	Rocchio, J. 2002. Colorado Natural Heritage Program Field Survey of Critical Wetlands in Gunnison County.

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## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

Version Date 12/30/2002

Version Author Rocchio, F.J.

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