

Level 4 Potential Conservation Area (PCA) Report

Name Coal Creek Trailhead

Site Code S.USCOHP*25691

IDENTIFIERS

Site ID 2241 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 371858N
 State Colorado Longitude 1065310W

<u>Quad Code</u>	<u>Quad Name</u>
37106-C8	Jackson Mountain
37106-C7	Blackhead Peak

County

Archuleta (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
14080101	Upper San Juan

SITE DESCRIPTION

Minimum Elevation	7,950.00 Feet	2,423.16 Meters
Maximum Elevation	9,400.00 Feet	2,865.12 Meters

Site Description

Coal Creek is a small, moderately steep montane creek located in the northwest corner of Archuleta County, flowing generally northwest from a prominent, unnamed ridge in the South San Juan Wilderness to its confluence with the San Juan River north of Pagosa Springs. The creek flows through the site with low to moderate sinuosity, through a cool, narrow canyon bordered by steep hillsides. The area is owned by the U.S. Forest Service, with patchy private land on three sides of the site, and the South San Juan Wilderness beginning at the east edge of the site at the headwaters of Coal Creek. A dense, tangled cover of thinleaf alder (*Alnus incana*) and Drummond's willow (*Salix drummondiana*) lines the narrow floodplain, with occasional mature narrowleaf cottonwood (*Populus angustifolia*) dotting the community. The creek bed is approximately ten to twelve feet wide and is made up of multiple drop pool-riffle complexes, with overhanging riparian shrubs also including a high percentage of redosier dogwood (*Cornus sericea*) and Rocky Mountain maple (*Acer glabrum*). The understory has mesic graminoids and forbs such as mixed in about equal percentages, with a high percentage of litter and duff covering the ground. Typical herbaceous species include bluejoint grass (*Calamagrostis canadensis*), scouringrush horsetail (*Equisetum hymale* var. *affine*), common cowparsnip (*Heracleum maximum*), and Rocky Mountain hemlock parsley (*Conioselinum scopulorum*). The creek bed shows evidence of flooding with sediment deposition, small woody debris, and drift lines caught in shrub branches and on the banks of the creek. High creek flows appear to undercut the creek banks, but roots of creekside plants maintain the bank integrity. Wilson's Warbler and other songbirds flit through the dense shrub layer along the creek, and small trout fingerlings occur in the creek upstream of the trail crossing. Deer and elk use the area as well. The surrounding forest is mature and comprised of spruce (*Picea* sp.), white fir (*Abies concolor*), and Douglas-fir (*Pseudotsuga menziesii*), with a few quaking aspen (*Populus tremuloides*). The thinleaf alder and Drummond's willow in the riparian zone are dense and vigorous, and show abundant signs of regeneration. However, as is typical throughout Archuleta County in 2005, some alder plants are exhibiting branch dieback or leaf blight. In addition, the surrounding forest has approximately 5% spruce and fir death, documented in the form of dead standing trees. Downed wood and trees also occur all over the hillsides and within the creek corridor. The area is actively grazed, and typical weeds associated with grazing are present, including common plantain (*Plantago major*), common dandelion (*Taraxacum officinale*) and Kentucky bluegrass (*Poa pratensis*). Steep hillsides adjacent to the creek show severe erosion in areas, possibly due to natural soil conditions or aggravated by cattle grazing.

Key Environmental Factors

The thinleaf alder-Drummond's willow community occurs within a cool, narrow canyon with steep, forested hillsides, and a channel with low to moderate sinuosity, all typical conditions for the community (Carsey et al 2003). The geology of the area is mapped as Animas formation in the upper half of the community, and Pictured Cliffs Sandstone and Lewis Shale in the lower half of the community (Tweto 1979). Soils in the local

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area typically are derived from interbedded sandstone and shale and are predominantly sandy loam or silt loams. The upper half-mile of the community occurs on Corta silt loam, a small portion of the middle section occurs on Castelleia loam, and the majority of the community at the lower end is on Pescar sandy loam. Pescar sandy loams in particular typically occur within the floodplains and terraces of drainages (USDA 1981). Soils sampled within the stream channel are alluvium with sandy deposits.

Climate Description

No Data

Land Use History

Review of a recent aerial photo indicates logging may have occurred in the past, upslope of the north banks of Coal Creek and within the site (USDA 2002).

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 12/02/2005

Designer Freeman, K.M.

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 riparian shrubland and forest along Coal Creek. It should be noted that the hydrological processes necessary to the riparian communities are not fully contained by the site boundaries. Given that the riparian communities are dependent on natural hydrological processes associated with Coal Creek and its tributaries, upstream activities such as logging, residential or other development, water diversions or impoundments, and improper livestock grazing are detrimental to the hydrology of the riparian area. The boundary also identifies a buffer around existing trails, trailheads and forest service roads where surface runoff may contribute nutrients and sediment, and where impacts may promote weed invasion. Lastly, the boundary includes an approximate 1,000 foot buffer to control sedimentation, protect the aquatic and plant communities from direct disturbance such as trampling (Karr and Schlosser 1978), and to allow additional native riparian plants to become established over time. This boundary indicates the minimum area that should be considered for any conservation management plan.

Primary Area 558.44 Acres

225.99 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site supports a good (B-ranked) occurrence of the globally vulnerable (G3/S3) thinleaf alder - Drummond's willow (*Alnus incana* - *Salix drummondiana*) montane riparian shrubland plant association. This plant community is an early- to mid-seral association that is typically confined to the immediate edges of steep, shady streams. Both species produce profuse amounts of seed, and readily colonize areas of bare sediment deposition including areas that have been recently scoured by floodwaters or seasonal runoff. Their inherent flexibility as seedlings allows them to persist through flood events. Drummond's willow may capitalize on the ability of thinleaf alder to fix atmospheric nitrogen and become more populous over time (Carsey et al. 2003).

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

Current land uses include cattle grazing, horse riding/packing, hunting, hiking, and wildlife habitat. Residential development is occurring downstream of the site.

Natural Hazard Comments

No Data

Exotics Comments

Upslope of the riparian zone near the Forest Service road (FR 666) and trailhead, there is a high percentage of pasture species such as smooth brome (*Bromus inermis*), Kentucky bluegrass, Timothy (*Phleum pratense*), and common dandelion. These continue down the slope, along the pack trail, which eventually crosses the

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creek, and then parallels the creek for the length of the site, creating a vector for weed distribution. A site survey in 1995 documented many exotic weed species along FR 666 and in adjacent areas, though it did not specify which species were present.

Offsite

The west end of the site, though contained on USFS land, abuts two private parcels, both of which show residential development (USDA 2002). The east end of the site abuts the South San Juan Wilderness boundary. Old mining prospects are indicated on USGS 7.5 minute quadrangle maps occurring immediately south of the boundary, and large areas of private property downstream of the site are subject to residential development as Pagosa Springs and Archuleta County populations grow.

Information Needs

Some species within the riparian zone and on the adjacent upland slopes seem to be experiencing some type of disease possibly resulting in death, including spruce, Douglas-fir, currants (*Ribes* spp.), alder, and aspen. These plants show leaf wilt, leaf discoloration or "burns", and dead branches, and a notable percentage of the tree species are entirely dead, though still standing. Research could address why aspen, narrowleaf cottonwood, spruce, Douglas-fir, thinleaf alder, currants, and other forest species in the site are suffering from leaf wilt, branch dieback, or entire plant death.

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
24743	<i>Alnus incana</i> - <i>Salix drummondiana</i> Shrubland	Montane Riparian Shrubland	G3	S3	Yes

REFERENCES

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.
193633	Freeman, K.M., March, M.A. and D.R. Culver. 2006. Final Report: Survey of Critical Wetlands and Riparian Areas in Archuleta County. Colorado Natural Heritage Program, Fort Collins, CO.
172808	J. R. Karr and I. J. Schlosser. 1978. Water resources and the land-water interface. <i>Science</i> 201: 229-234.
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.
193554	USDA, NRCS. 2002. Orthophoto Mosaic for Archuleta County, CO. USDA-NRCS, National Cartography and Geospatial Center, Geospatial Data Branch, Fort Worth, TX.
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	12/02/2005
Version Author	Freeman, K.M.

Disclaimer

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