Level 4 Potential Conservation Area (PCA) Report

Name Rio Chama **Site Code** S.USCOHP*25753

IDENTIFIERS

Site ID 2260 **Site Class** PCA

Site Alias None

Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

LOCATORS

Nation United States **Latitude** 370318N

State Colorado **Longitude** 1063253W

Quad Code	Quad Name
37106-A5	Archuleta Creek

County

Archuleta (CO)

Watershed Code	Watershed Name
13020102	Rio Chama

SITE DESCRIPTION

Minimum Elevation	8,800.00	**Feet**	2,682.24	**Meters**
Maximum Elevation	8,920.00	**Feet**	2,718.82	**Meters**

Site Description

The Rio Chama flows south in the extreme southeast corner of Archuleta County, east of the Continental Divide. The stream channel lies within the Rio Grande National Forest, in a broad, U-shaped valley surfaced with alluvium and landslide deposits. The rough land surface in the valley in addition to seasonal flooding marks the area as a very dynamic, active riparian system. The broad floodplain has large amounts of alluvium, abandoned river channels, and downed logs. There are backwater channels and active and inactive beaver ponds supporting emergent vegetation. The dominant plant associations within the valley include narrowleaf cottonwood / thinleaf alder (*Populus angustifolia / Alnus incana*) woodlands and mountain willow (*Salix monticola*) shrublands. The cottonwood / alder plant association occupies the riverbanks and immediate floodplain as well as large areas on the broad alluvial terrace, and displays an open canopy cover of narrowleaf cottonwood. Thinleaf alder dominates an understory of mixed riparian shrubs including mountain willow and Drummond's willow (*Salix drummondiana*). There is some branch dieback on the alder, typical of conditions throughout the county; otherwise the woody vegetation is vigorous and regenerating, with cottonwood and blue spruce (*Picea pungens*) saplings noted. A sparse herbaceous layer exists in the understory with a high percentage of rock, soil, and sand (alluvium). Within the lower half of the site, a large, broad willow carr occurs on the floodplain extending across the valley floor, displaying a dense to open canopy of mountain willow, alder, Drummond's willow and planeleaf willow (*Salix planifolia*). A dense to open canopy cover of mesic native grasses such as bluejoint reedgrass (*Calamagrostis canadensis*), as well as meadow horsetail (*Equisetum pratense*) and introduced pasture grasses makes up the herbaceous understory. The willow canopy is tall; though the lower willow branches reachable by wildlife or domestic grazers are moderately browsed. Shrubs exhibit a high vigor and apparently have been browsed very little in the current year. Wildlife trails and scat are common within the carr. Spruce - fir (*Picea* spp. - *Abies lasiocarpa / Pseudotsuga menziesii*) forests and stands of quaking aspen (*Populus tremuloides*) dominate the surrounding hillsides.

Key Environmental Factors

The geology of the area is mapped as Quaternary Landslide upstream, and Quaternary Alluvium and Mancos Shale (Tweto 1979). The area is not delineated by the local soil survey (USDA 1981). A soil sample within the floodplain displays a surface horizon 6 cm deep comprised of sand with high percent of roots; the next horizon is 10 cm of loamy sand with 25% mottling; and the next horizon is 4 cm of sandy loam with some cobble and tree roots. The last horizon is rocky alluvium. The soil pit and cut streambank indicates an active flooding regime with several depositional layers. Within the willow carr, the soil sample displays a surface horizon of 6 cm of light gray clay with high percentage of roots and 5% black organic pieces; the next horizon is 20 cm of sandy clay, with 10% mottling and few roots. The lowest horizon is 14 cm of silty clay with very few roots.

Climate Description

No Data

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Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes **Mapped Date** 12/28/2005

Designer Freeman, K.M.

Boundary Justification

The boundary is drawn to encompass the element occurrences and the ecological processes necessary for the viability of the element occurrences; specifically the immediate watershed and the groundwater and surface water flows. The boundary also identifies a buffer including trails and grazing allotments where surface runoff may contribute excess nutrients, sediment (Karr and Schlosser 1978), and where impacts may promote weed invasion. It should be noted that not all the hydrologic processes necessary to the element occurrences are contained within the boundary. This boundary indicates the minimum area that should be considered for any conservation management plan.

Primary Area 191.45 **Acres** 77.48 **Hectares**

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

The site contains a good (B-ranked) occurrence of mountain willow (*Salix monticola*) / mesic graminoid montane riparian willow carr, a globally vulnerable community (G3/S3) that covers nearly 65 acres. This community type is often impacted by grazing, but tends to be stable and long-lived (Carsey et al. 2003). The site also encompasses a fair (C-ranked) occurrence of narrowleaf cottonwood / thinleaf alder (*Populus angustifolia / Alnus incana*) montane riparian forest, also a globally vulnerable community (G3/S3). The cottonwood / alder plant association is considered mid-seral and is characterized by a dense overstory of cottonwood with a thick stand of alder occurring along the riverbank.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGMENT ISSUES

Land Use Comments

Current land uses include grazing, hunting, horse use, and hiking. There is a USFS campground downstream, and trails run through the site on both sides of the river. A USFS road (FR 121) parallels the valley bottom for nearly 3 miles before it is closed by a gate, 1.5 miles past the USFS boundary. Vehicle use witnessed in the area near the campground downstream of the site included ORVs, which are allowed on local trails, though no ORV evidence was seen within the site.

Natural Hazard Comments

No Data

Exotics Comments

Along the river, the herbaceous understory is impacted by horse and cattle grazing and displays a high canopy cover of non-native vegetation such as common dandelion (*Taraxacum officinale*), pasture grasses such as Kentucky bluegrass (*Poa pratensis*) and timothy (*Phleum pratense*), and Canada thistle (*Cirsium arvense*). Grazing impacts the meadow surrounding the willow carr in the same manner, though the weed invasion is not as dense within the willow stand itself.

Offsite

Private land (a large ranch) occurs one mile downstream of the site. A landslide apparently occurred 1/2 mile east and upslope of the northern end of the site recently (USDA 2002), destroying part of FR 121 (leading to the road's closure), and contributing large quantities of sediment to the plant communities and tributaries on the east edge of the site.

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

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Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
24585	*Salix monticola* / Mesic Graminoids Shrubland	Montane Riparian Willow Carr	G3	S3	Yes
24541	*Populus angustifolia / Alnus incana* Woodland	Montane Riparian Forest	G3	S3	No

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. Science 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 12/28/2005

Version Author Freeman, K.M.

Disclaimer

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