

Level 4 Potential Conservation Area (PCA) Report

Name Little High Creek at Booger Red Hill

Site Code S.USCOHP*8735

IDENTIFIERS

Site ID 1116 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 384217N
 State Colorado Longitude 1051608W

Quad Code Quad Name
 38105-F3 High Park

County
 Teller (CO)
 Fremont (CO)

Watershed Code Watershed Name
 11020002 Upper Arkansas

SITE DESCRIPTION

Minimum Elevation	7,400.00 Feet	2,255.52 Meters
Maximum Elevation	8,200.00 Feet	2,499.36 Meters

Site Description

The Little High Creek at Booger Red Hill site is located in the lower montane zone foothills on the west slope of the Front Range in the south western region of Teller County. The site encompasses rolling hills cut by a deep, steep-walled, south-trending canyon that is drained by Little High Creek which has its confluence with Four-mile Creek approximately 0.5 km downstream of this site. Stream channel habitat is a relatively steep gradient, boulder-controlled channel characterized as a Rosgen type F1/F2 with a rapids dominated bed morphology and a step-pool structure. Frequent and continual high energy, flood-scour events are evident. Riparian habitat is a narrow and patchy linear mosaic of two community associations. The majority of the gradient occurs in two steep plunge-pool series that keep this reach inaccessible. Narrowleaf cottonwood - bluestem willow (*Populus angustifolia* / *Salix irrorata*) is dominant but several patches of narrowleaf cottonwood - Douglas-fir (*Pseudotsuga menziesii*) are also present. Several other willow and non-willow riparian shrubs are also present including coyote willow (*Salix exigua*), Drummond's willow (*S. drummondiana*), and Rocky Mountain maple (*Acer glabrum*). Uplands are characterized by a mosaic of habitats including grasslands, shrublands, and woodlands. Shrublands include mountain mahogany (*Cercocarpus montanus*) and Gambel oak (*Quercus gambelii*). Forested communities include pinon pine - Rocky Mountain juniper (*Pinus edulis* - *Juniperus scopulorum*) woodlands on east-facing slopes and ponderosa pine (*Pinus ponderosa*) woodlands on west-facing slopes. Rolling hills are cut by deep canyons and on canyon rims birdbill dayflower (*Commelina dianthifolia*) occupies shallow, depressions that have been weathered into the exposed bedrock. Canyon walls are occupied by a variety of communities that vary with aspect and soil moisture. Moist sites are occupied by Douglas-fir forest. Drier canyon walls are characterized by a sparse tree layer with pinon pine (*P. edulis*), Rocky Mountain juniper (*J. scopulorum*) and a few Douglas-fir with variably dense cover of shrubs and herbs. Commonly occurring shrub species on these canyon walls include waxflower (*Jamesia americana*) and ocean spray (*Holodiscus discolor*). Cliff faces are occupied by ferns, forbs and graminoids, wherever groundwater from surrounding uplands seeps into cliff cracks and crevices. On these cliff faces chasmophytes (plants that inhabit rock crevices) thrive and include species such as Fendler's cloak fern (*Argyrochosma fendleri*), Eaton's lipfern (*Cheilanthes eatonii*) and Front Range alum-root (*Heuchera hallii*). Local hydrology is driven by soil characteristics, precipitation and infiltration. Geology is composed of granitic rocks of the 1,400 m.y. age group interspersed with Tertiary age intra-ash-flow quartz latitic lavas (Tweto 1979). Soils are a complex mosaic of classes. Hillslope soils include Corpen-High complex, 5 to 25 percent slopes, Highpark very gravelly sandy loam, 5 to 40 percent slopes, Quander-Bushpark very gravelly loams, 5 to 40 percent slopes, and Bushpark-Seitz association, 15 to 50 percent slopes; canyon and canyon rim soils are Cathedral-Rock outcrop complex, 40 to 60 percent slopes and 35 to 70 percent slopes (USDA NRCS 2008). Riparian habitat provides critical resources for numerous bird species. Birds observed at this riparian canyon site included: Common Nighthawk (*Chordeiles minor*), Northern Flicker (*Colaptes auratus*), Western Wood-Pee-wee (*Contopus sordidulus*), Plumbeous Vireo (*Vireo*

Level 4 Potential Conservation Area (PCA) Report

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Site Code S.USCOHP*8735

plumbeus), Steller's Jay (*Cyanocitta stelleri*), White-breasted Nuthatch (*Sitta carolinensis*), Canyon Wren (*Catherpes mexicanus*), American Dipper (*Cinclus mexicanus*), Townsend's Solitaire (*Myadestes townsendi*), and Wilson's Warbler (*Wilsonia pusilla*).

Key Environmental Factors

Hydrology is the key factor determining biota in this site. The narrowleaf cottonwood-bluestem willow association, which dominates riparian habitat at this site, is considered an early-seral community following the establishment of narrowleaf cottonwood (Carsey et al 2003) which requires flooding and sandy soils for establishment.

Climate Description

Although the site is located in the montane zone the climate is somewhat dry. At this site at an elevation of 7,900 feet coldest temperatures occurred in January with an average maximum of 40.77 °F and a minimum of 11.80 °F. Warmest temperatures occurred in July with an average maximum of 79.63 °F and an average minimum of 50.05 °F. Annual average maximum precipitation was 17.32 inches. July and August were the wettest months of the year with 2.75 and 3.06 inches of precipitation respectively. Driest months are December, January and February with 0.49, 0.44 and 0.50 inches of precipitation respectively. March through June and September through November have intermediate amount of precipitation (Prism 2010).

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 12/09/2010

Designer Malone, D.G.

Boundary Justification

The boundary was drawn along adjacent ridgelines, which includes the watershed boundary to the south and west, for immediate watershed protection and includes a 1km buffer upstream. The boundary includes sufficient habitat to enable hydrologic processes which are related to precipitation infiltration and groundwater recharge. Only sites with written landowner permission were surveyed.

Primary Area 399.22 Acres

161.56 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site encompasses a good (B-ranked) occurrence of a globally imperiled (G2/S2) riparian natural community, narrowleaf cottonwood / bluestem willow (*Populus angustifolia* / *Salix irrorata*) woodland. This plant association has been documented only from the Rio Grande Valley in New Mexico and along the Colorado Front Range. Additionally, there is a good (B-ranked) occurrence of narrowleaf cottonwood - Douglas-fir (*Populus angustifolia* - *Pseudotsuga menziesii*) woodland, a globally vulnerable (G3/S3) riparian natural community. This association is reported in Utah, Nevada, and Colorado. Although it is relatively widespread, occurrences are small and patchy, and it is easily degraded and exists only where accessibility limits anthropogenic alteration (NatureServe 2010).

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

Non-native plants documented within the site include redtop (*Agrostis gigantea*), Canada thistle (*Cirsium arvense*), plumeless thistle (*Carduus acanthoides*), yellow sweetclover (*Melilotus officinalis*), and smooth brome (*Bromus inermis*).

Level 4 Potential Conservation Area (PCA) Report

Name Little High Creek at Booger Red Hill

Site Code S.USCOHP*8735

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
24692	<i>Populus angustifolia</i> - <i>Pseudotsuga menziesii</i> Woodland	Montane Riparian Forest	G3	S2	No
24827	<i>Populus angustifolia</i> / <i>Salix irrorata</i> Woodland	Foothills Riparian Woodland	G2	S2	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.
198660	Culver, D.R., D. Malone, and A. Shaw. 2011. CNHP Final Report: Survey of Critical Biological Resources in Teller County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
159580	Kittel, G., R. Rondeau and A. McMullen. 1996. A classification of the riparian vegetation of the Lower South Platte and parts of the Upper Arkansas River basins, Colorado. Unpublished CNHP Report for CO DNR and US EPA, Region VIII. 243 p.
198314	NatureServe Explorer (Web Page). Accessed 2010. An online encyclopedia of life [web application]. Version 7.1. NatureServe, Arlington, Virginia. http://www.natureserve.org/explorer .
193618	Neid, S.L. 2006. Final Report: Survey of Critical Wetlands and Riparian Areas in Fremont County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
198649	Prism Climate Group (Web Page). Accessed 2010. Spatial Climate Analysis. http://www.prism.oregonstate.edu/
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.

ADDITIONAL TOPICS

Additional Topics

Original site design by Rondeau, R.J. and G.M. Kittel. 1997-05-02. Updated by Neid, S.L. 2006-01-02.

VERSION

Version Date	12/09/2010
Version Author	Malone, D.G.

Disclaimer

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