

# Level 4 Potential Conservation Area (PCA) Report

Name Manchester Creek

Site Code S.USCOHP\*28189

## IDENTIFIERS

Site ID 2721 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 390503N  
State Colorado Longitude 1050943W

Quad Code Quad Name  
39105-A2 Signal Butte

County  
Teller (CO)

Watershed Code Watershed Name  
10190002 Upper South Platte

## SITE DESCRIPTION

Minimum Elevation	7,740.00 Feet	2,359.15 Meters
Maximum Elevation	8,725.00 Feet	2,659.38 Meters

### Site Description

This site includes the immediate watersheds of Manchester and West creeks. The creeks have cut a narrow moderate-grade valley through Pikes Peak granite (Tweto 1979). The site is located in the montane zone on the southeastern edge of the Hayman Burn (2002). The dominant riparian plant community is a blue spruce (*Picea pungens*) / river birch (*Betula occidentalis*) woodland, with loamy sand substrate. The dominance of these species can indicate a high groundwater table. The non-burn, surviving upland forest is dominated by Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*). Upland soil is classified as Pendant cobbly loam (USDA NRCS 2008). Starting at the north edge of the site and continuing downstream, the Hayman Burn has destroyed the surrounding forest, creating massive deposition from the erosion of the valley slopes. The resulting gravel deposits have choked the creek, creating islands covered with weeds. Beavers (*Castor canadensis*) have recently recolonized the willow carr in one weedy section of West Creek at the north end of the site.

### Key Environmental Factors

Blue spruce (*Picea pungens*) / river birch (*Betula occidentalis*) riparian woodlands are a stable climax plant community, so the key factor maintaining this plant composition is the absence of major disturbance. Fire or a catastrophic flood would likely result in this plant association being replaced by an early successional community like a quaking aspen (*Populus tremuloides*) / river birch (*Betula occidentalis*) woodland (Carsey et al. 2003). For successful blue spruce regeneration, soils must be moist (Carsey et al. 2003), so sufficient stream flows and periodic flooding are required to maintain the current plant association.

### Climate Description

Teller County is cool and dry considering that Pikes Peak has the topographic relief to cool humid air and initiate precipitation. Average annual precipitation is 10.5-16.2 inches (<http://www.worldclimate.com>), depending upon exact location within the county. Snowfall is greatest in April and May. Monsoon rains peak in July. Spring and summer therefore have the greatest precipitation, and sunny fall weather dries out the landscape. Teller County has the second highest rate of lightning strikes nationwide, an annual average of 5,700 strikes that reach the ground. (Precipitation timing and lightning information was taken from Teller County 2008). Average maximum temperature is lowest, 30 °F (-1.1 °C), in January, and highest, 75.4 °F (24.1 °C), in July. Average minimum temperature is lowest, -2.8 °F (-19.4 °C), in January, and highest, 45.9 °F (7.7 °C) in July (<http://www.worldclimate.com>).

### Land Use History

No Data

### Cultural Features

No Data

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## SITE DESIGN

Site Map Y - Yes Mapped Date 11/30/2010

Designer Shaw, A.E.

### Boundary Justification

The boundary was drawn to encompass the valley's ridgetops (the ridge to the west is unnamed but associated with Signal Butte; the ridge to the east is Rule Ridge) and a short stretch upstream of both of the creeks that converge to form West Creek. These boundaries were selected because the hydrology of the immediate watershed must supply sufficient surface water and annual flooding to sustain a blue spruce (*Picea pungens*) / river birch (*Betula occidentalis*) woodland. Only with written permission were private lands surveyed.

Primary Area 2,790.92 Acres 1,129.45 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

### Biodiversity Significance Comments

This site is drawn for an excellent (A-ranked) occurrence of a globally imperiled (G2/S2) community, blue spruce (*Picea pungens*) / river birch (*Betula occidentalis*) woodlands. All known occurrences are located within Colorado and adjacent areas of New Mexico and Wyoming. This site hosts the only example of this plant association documented in Teller County as of 2010. Upper montane riparian woodlands and forests make up less than 1% of landcover in the Southern Rocky Mountains, so this riparian vegetation structure in general is somewhat rare. The site also contains a large subpopulation of an excellent (A-ranked) occurrence of a globally vulnerable (G3/S3) plant, jeweled blazingstar (*Nuttallia speciosa*). This species' taxonomic status as distinct from other blazingstars (e.g. by Weber & Whitman 2001) has been questioned. If this species is combined with similar species by taxonomists, it may no longer warrant classification as globally vulnerable.

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

Many weeds have invaded the downstream willow carr, including butter-and-eggs (*Linaria vulgaris*), musk thistle (*Carduus nutans*), Canada thistle (*Cirsium arvense*), and common mullein (*Verbascum thapsus*).

### Offsite

No Data

### Information Needs

No Data

## ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
21549	<i>Nuttallia speciosa</i>	jeweled blazingstar	G3	S3	No
24654	<i>Picea pungens</i> / <i>Betula occidentalis</i> Woodland	Montane Riparian Woodland	G2	S2	Yes

## REFERENCES

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## Reference ID

## Full Citation

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.
198642	Teller County (Web Page). Accessed 2010. 2008 Teller County Multi-Hazard Mitigation Plan. <a href="http://www.co.teller.co.us/OEM/tellercopdm_plan.pdf">http://www.co.teller.co.us/OEM/tellercopdm_plan.pdf</a>
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.
198640	USDA Natural Resource Conservation Service. 2008. Soil Survey Geographic (SSURGO) Database for Teller-Park Area, Parts of Teller and Park Counties, Colorado. Fort Worth, TX: United States Department of Agriculture, Natural Resource Conservation Service.
159628	Weber, W. and R. Wittmann. 2001. Colorado Flora: Eastern Slope. Third edition.

## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

**Version Date** 11/30/2010  
**Version Author** Shaw, A.E.

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