

Level 4 Potential Conservation Area (PCA) Report

Name Booger Red Hill

Site Code S.USCOHP*28271

IDENTIFIERS

Site ID 2761 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 384235N
 State Colorado Longitude 1051529W

Quad Code Quad Name

38105-F3 High Park
 38105-F2 Cripple Creek South

County

Fremont (CO)
 Teller (CO)

Watershed Code Watershed Name

11020002 Upper Arkansas

SITE DESCRIPTION

Minimum Elevation	7,260.00	Feet	2,212.85	Meters
Maximum Elevation	8,295.00	Feet	2,528.32	Meters

Site Description

The 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 two, deep, steep-walled canyons that are drained by Little High Creek in the west canyon and by Four Mile Creek in the east canyon. Riparian habitat varies between the canyons. Riparian habitat along Little High Creek is a narrow and patchy distribution of a deciduous forest with an overstory tree canopy dominated by narrowleaf cottonwood (*Populus angustifolia*) and a shrub layer dominated by bluestem willow (*Salix irrorata*) although several other willow and non-willow riparian shrubs are also present. Four Mile Creek riparian habitat is patchy linear mosaic of coyote willow (*Salix exigua*), and thinlinef alder (*Alnus incana*). Uplands in this topographically complex landscape are characterized by a mosaic of habitats. Hillslopes are a mosaic of grasslands, shrublands, and woodlands. Shrublands include communities of mountain mahogany (*Cercocarpus montanus*) and Gambel oak (*Quercus gambelii*). Forested communities here 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. On canyon rims, where habitat is characterized by opens stands of ponderosa pine, 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, northeast-facing gullies on the canyon wall are dominated by Douglas-fir (*Pseudotsuga menziesii*) forest. Drier canyon walls are characterized by a sparse tree layer with variably dense cover of shrubs and herbs. Tree species include pinon pine, Rocky Mountain juniper and a few Douglas-fir. 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 cloak-fern (*Argyrochosma fendleri*), Eaton's lipfern (*Cheilanthes eatonii*), American rockbrake (*Cryptogramma acrostichoides*) and Front Range alum-root (*Heuchera hallii*). Local hydrology is driven by soil characteristics, precipitation and infiltration. The natural hydrologic regime has been altered by fire suppression induced changes to vegetation and grazing-induced changes to soil and vegetation. 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).

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Key Environmental Factors

Key environmental factors that influence site biota include: physical characteristics, especially topography that is characterized by steep-walled canyons and cliff faces where groundwater discharges through crevices and fractures; and ecological processes, specifically a natural fire regime which is essential to maintaining the forest-grassland mosaic that characterizes these upland hillslopes (Rondeau 2001) and local hydrology which is largely responsive to precipitation infiltration.

Climate Description

Although the site is located in the montane zone the climate is somewhat dry. At this site at an average elevation of 7,700 feet coldest temperatures occurred in January with an average maximum of 40.17°F and a minimum of 11.91 °F. Warmest temperatures occurred in July with an average maximum of 78.75 °F and an average minimum of 49.95 °F. Annual average maximum precipitation was 17.03 inches. July and August were the wettest months of the year with 2.68 and 3.03 inches of precipitation respectively. Driest months are December, January and February with 0.48, 0.43 and 0.43 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 01/06/2011

Designer Malone, D.G.

Boundary Justification

The site boundary was delineated to encompass known occurrences as well as potential extent of the occurrences. Additionally, the boundary includes sufficient habitat for watershed protection to enable ecosystem processes, especially hydrologic processes including groundwater recharge. Only lands with written landowner permission were surveyed.

Primary Area 1,558.56 Acres

630.73 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

The site is drawn for an excellent (A-ranked) occurrence of the globally vulnerable (G3/S3) Fendler cloak-fern (*Argyrochosma fendleri*). Additionally present is an excellent (A-ranked) occurrence of the state imperiled (G5/S1?) birdbill dayflower (*Commelina dianthifolia*) which was previously not documented in Teller County (NatureServe 2010) and a good (B-ranked) occurrence of the state rare (G5?/S1S2) Eaton's lipfern (*Cheilanthes eatonii*).

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

Alien plants in upland habitat include smooth brome (*Bromus inermis*), cheat grass, (*Bromus tectorum*), and bull thistle (*Cirsium vulgare*). Alien plants in riparian habitat include Canada thistle (*Cirsium arvense*), redtop (*Agrostis gigantea*), red clover (*Trifolium repens*), yellow sweetclover (*Melilotus officinalis*), curly dock (*Rumex crispus*), yellow toadflax (*Linaria vulgaris*), and black medic (*Medicago lupulina*).

Offsite

No Data

Information Needs

No Data

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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>
22050	<i>Commelina dianthifolia</i>	birdbill day-flower	G5	S1?	No
24246	<i>Argyrochosma fendleri</i>	Fendler cloak-fern	G3	S3	Yes
21047	<i>Cheilanthes eatonii</i>	Eaton's lip fern	G5?	S1S2	No

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
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.
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 .
198649	Prism Climate Group (Web Page). Accessed 2010. Spatial Climate Analysis. http://www.prism.oregonstate.edu/
190863	Rondeau, R. 2001. Ecological system viability specifications for Southern Rocky Mountain ecoregion. First Edition. Colorado Natural Heritage Program, Colorado State University, Fort Collins, CO. 181 pp.
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

No Data

VERSION

Version Date 01/06/2011
Version Author Malone, D.G.

Disclaimer

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