Level 4 Potential Conservation Area (PCA) Report

Name Cripple Creek **Site Code** S.USCOHP*27987

IDENTIFIERS

Site ID 2674 **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** 384112N

State Colorado **Longitude** 1051240W

Quad Code	Quad Name
38105-F2	Cripple Creek South

County

Teller (CO)

Watershed Code	Watershed Name
11020002	Upper Arkansas

SITE DESCRIPTION

Minimum Elevation	6,820.00	**Feet**	2,078.74	**Meters**
Maximum Elevation	9,635.00	**Feet**	2,936.75	**Meters**

Site Description

The Cripple Creek site is located in southern portion of the county along the popular Shelf Road (County Road 88). Riparian vegetation is highly variable in the upstream half of the site. The downstream half of the riparian zone is dominated by narrowleaf cottonwood (*Populus angustifolia*) / coyote willow (*Salix exigua*) woodland. The cottonwoods saplings exhibit over 50% mortality. The Cresson Gold Mine and Valley Leach Facility are located several miles upstream in Victor. Another AngloGold facility operates on the site's southern boundary. The floodplain and riparian area consists of mix of sand and gravel, with grazing impacts wherever the floodplain is wide enough to support cattle. Cripple Creek flows southward at a 9% gradient within a relatively sinuous channel that is uncharacteristically narrow for this plant association. However, the natural topography and Shelf Road limit the creek's ability for lateral movement. The adjacent toeslope has a strip of Gambel oak (*Quercus gambelii*), with pinon pine (*Pinus edulis*) / Rocky Mountain juniper (*Juniperus scopulorum*) woodland upslope. There are also areas of ponderosa pine (*Pinus ponderosa*) / mountain mahogany (*Cercocarpus montanus*) woodland. The canyon walls are primarily Pikes Peak granite. There are small areas of intra-ash-flow quartz latitic lavas, breccias, tuffs, and/or conglomerates, and pre-ash-flow andesitic lavas at the eastern edge of the site (Tweto 1979). Soils in the northeastern third of the site consist of moderately deep Guffey very gravelly sandy loam. Shallow Tolex very gravelly sandy loam dominates the rest of the site (USDA NRCS 2008).

Key Environmental Factors

Degener beardtongue (*Penstemon degeneri*) occurs in montane grasslands and pinon pine (*Pinus edulis*) / Rocky Mountain juniper (*Juniperus scopulorum*) woodlands. It grows in rocky soils over igneous bedrock near canyon rims or in cracks of rock slabs (Peterson and Harmon 1981). Front Range alumroot (*Heuchera hallii*) occurs in rock crevices of montane cliffs and rocky slopes (Harrington 1964). Narrowleaf cottonwood (*Populus angustifolia*) / coyote willow (*Salix exigua*) woodland is an early successional plant association that depends on periodic flooding to maintain the population of coyote willow (*Salix exigua*). If flooding decreases in frequency, thinleaf alder (*Alnus incana*) or red-osier dogwood (*Cornus sericea*) are likely to replace coyote willow (*Salix exigua*) as the dominant shrub (Carsey et al. 2003).

Climate Description

Teller County is cool and dry although 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

Gold mining began City of Cripple Creek in 1891. The Roosevelt and Carlton Tunnel aqueducts that cross the site were built in 1907 and 1941, respectively, to drain water from mines into Cripple Creek to facilitate access to ore deep below the water table. The Cripple Creek and Victor Gold Mining Company currently mines using a heap-leach process at the Cresson Project, located between the Cities of Cripple Creek and Victor (Cripple Creek and Victor Gold Mining CO website accessed 2010).

Cultural Features

Abandoned mine shafts are scattered throughout the upstream half of the site.

SITE DESIGN

Site Map P - Partial **Mapped Date** 12/17/2010

Designer Shaw, A.E.

Boundary Justification

The boundary is drawn to include known occurrences of the three elements of biodiversity interest, additional potential habitat, and the local mosaic of plant communities. The boundary was digitized while referencing a one meter digital color orthophoto quad and a 1:100,000 digital quad. Private lands were only visited with written permission from landowners.

Primary Area 2,533.99 **Acres** 1,025.47 **Hectares**

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site supports an excellent (A-ranked) occurrence of the globally imperiled (G2/S2) plant, Degener beardtongue (*Penstemon degeneri*), a species endemic to south-central Colorado (Spackman et al. 1997). However, none of the three subpopulations at this site could be relocated during a 2010 survey for this species. Thus, the site is down-ranked from B2 to B3. If further field surveys locate the rare plant, the biodiversity rank will be elevated. There is also a fair (C-ranked) occurrence of an apparently globally secure (G4/S4) plant association, narrowleaf cottonwood (*Populus angustifolia*) / coyote willow (*Salix exigua*) woodland.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

There is a risk of falling into abandoned mine shafts. The active gold mining operation could pose risk of exposure to toxic chemicals in the creek.

Exotics Comments

Tamarisk (*Tamarix ramosissima*) is represented by a single shrub. Sweetclover (*Melilotus officinalis*), Canada thistle (*Cirsium arvense*), Dalmatian toadflax (*Linaria dalmatica*), quackgrass (*Elymus repens*), and Russian thistle (*Salsola australis*) are abundant.

Offsite

No Data

Information Needs

Further field surveys are needed to locate the rare Degener beardtongue (*Penstemon degeneri*).

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
21773	*Penstemon degeneri*	Degener beardtongue	G2	S2	Yes
24738	*Populus angustifolia / Salix exigua* Woodland	Narrowleaf Cottonwood Riparian Forests	G4	S4	No

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REFERENCES

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.
170189	Harrington, H. D. 1964. Manual of the plants of Colorado. Sage Books, Swallow Press, Chicago. Second Edition. 666 pp.
163245	Peterson, J.S. and W. Harmon. 1981 g. Status report on Penstemon degeneri. Unpublished report prepared for the Colorado Natural Areas Program, Denver, CO.
162471	Spackman, S., B. Jennings, J. Coles, C. Dawson, M. Minton, A. Kratz, and C. Spurrier. 1997. Colorado rare plant field guide. Prepared for Bureau of Land Management, U.S. Forest Service and U.S. Fish and Wildlife Service by Colorado Natural Heritage Program.
198642	Teller County (Web Page). Accessed 2010. 2008 Teller County Multi-Hazard Mitigation Plan. http://www.co.teller.co.us/OEM/tellercopdm_plan.pdf
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.

ADDITIONAL TOPICS

Additional Topics

Original site design by Panjabi, S.S. 2009-10-30.

VERSION

Version Date 12/17/2010

Version Author Shaw, A.E.

Disclaimer

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