

Level 4 Potential Conservation Area (PCA) Report

Name Horse Gulch

Site Code S.USCOHP*25954

IDENTIFIERS

Site ID 2315 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>
2468	S.USCOHP*27037	Middle Park

LOCATORS

Nation United States Latitude 400415N
State Colorado Longitude 1062147W

Quad Code Quad Name

40106-A4 Kremmling
40106-A3 Junction Butte

County

Grand (CO)

Watershed Code Watershed Name

14010001 Colorado headwaters

SITE DESCRIPTION

Minimum Elevation	7,550.00 Feet	2,301.24 Meters
Maximum Elevation	7,800.00 Feet	2,377.44 Meters

Site Description

The Horse Gulch site is located in Middle Park, 1 mile north of Kremmling. Middle Park is located within a series of high mountain parks formed by north/south trending faults traveling the length of Colorado (Chronic 1980). The predominant grayish-brown soils (USDA, NRCS 1994) are derived from Cretaceous Niobrara and Pierre shale of the Troublesome Formation (Tweto 1979). The sparsely vegetated slopes are due to the presence of fine textured, clayey soils that contain mineralogic properties that effectively excludes almost all vegetation (Colorado Native Plant Society 1989). Osterhout milkvetch (*Astragalus osterhoutii*) is a Federally Listed Plant, found only in Middle Park on seleniferous soils (Dawson 1999). This unique plant is able to thrive in the seleniferous, clayey soils where few other plants can. Other associated plants, at low (<5%) cover include: Patterson's milkvetch (*Astragalus pattersonii*), shortstem buckwheat (*Eriogonum brevicaulis*), spiny phlox (*Phlox hoodii*), Fendler's bluegrass (*Poa fendleriana*), bluebunch wheatgrass (*Pseudoroegneria spicata*), sulphur-flowered buckwheat (*Eriogonum umbellatum*), mat penstemon (*Penstemon caespitosus*), and Indian ricegrass (*Achnatherum hymenoides*). Upland vegetation, where soils have a lower concentration of minerals, include: yellow rabbitbrush (*Chrysothamnus viscidiflorus*), broom snakeweed (*Gutierrezia sarothrae*), Wyoming big sagebrush (*Artemisia tridentata* ssp. *wyomingensis*), long-leaf phlox (*Phlox longifolia*), spiny phlox (*Phlox hoodii*), lobeleaf groundsel (*Packera multilobata*), needle-and-thread grass (*Hesperostipa comata*), western wheatgrass (*Pascopyrum smithii*), prairie sagewort (*Artemisia frigida*), wooly groundsel (*Packera cana*), prairie Junegrass (*Koeleria macrantha*), and scarlet globemallow (*Sphaeralcea coccinea*).

Key Environmental Factors

Edaphic indicators are clayey, seleniferous soils derived from Niobrara and Pierre shale, soil series Harsha loams (USDA, NRCS 1994).

Climate Description

The climate follows typical weather patterns of high mountain valleys, low precipitation/snowfall (<12-15 inches/year) and late summer "monsoons".

Land Use History

The town of Kremmling operates an active gravel operation.

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes Mapped Date 01/04/2006
Designer Culver, D.R.

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Boundary Justification

The boundaries are drawn, using soil maps (USDA STATSGO 1994), to capture the immediate outcrops of the Troublesome Formation within the Horse Gulch watershed to buffer the known plant occurrence and identified potential habitat .

Primary Area 761.63 Acres 308.22 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

The Horse Gulch site supports a good (B-ranked) occurrence of a globally critically imperiled (G1/S1) plant that is a Federally Listed Endangered species: Osterhout milkvetch (*Astragalus osterhoutii*). Osterhout milkvetch is known only from Middle Park/Grand County within the Troublesome and Muddy Creek drainages. Due to its narrow global distribution, this site is irreplaceable. If destroyed, a significant amount of the occupied habitat for Osterhout milkvetch would be lost.

Other Values Rank V3 - Moderate values

Other Values Comments

Portions of the site are used for gravel extraction and all terrain vehicle use.

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

Clayey soils, once wet, are difficult to drive and walk on.

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global</u>	<u>State</u>	<u>Driving</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Rank</u>	<u>Rank</u>	<u>Site Rank</u>
20454	<i>Astragalus osterhoutii</i>	Kremmling Osterhout milkvetch	G1	S1	Yes

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
158413	Chronic, H. 1980. Roadside geology of Colorado. Mountain Press Publishing Company, Missoula, Montana. 322 pp.
169492	Colorado Native Plant Society. 1989. Rare Plants of Colorado. Published jointly by Rocky Mountain Nature Association and Colorado Native Plant Society, Estes Park, CO.
193632	Culver, D.R. and Jones, J.R. 2006. Final Report: Survey of Critical Biological Resources in Grand County. Colorado Natural Heritage Program, Fort Collins, CO.
193652	Dawson, C.A. 1999. The autecology of <i>Astragalus osterhoutii</i> Jones. Dissertation. University of Denver, Denver, CO.
170993	Hobbs, R. J. and L. F. Huenneke 1992. Disturbance, diversity, and invasion: Implications for conservation. Conservation Biology, Volume 6, No. 3, September 1992. pp 324-337.
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.
193653	U.S. Department of Agriculture, Soil Conservation Service. 1994. State Soil Geographic (STATSGO) database for Colorado. Fort Worth, TX.

ADDITIONAL TOPICS

Additional Topics

No Data

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VERSION

Version Date 01/04/2006

Version Author Culver, D.R.

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