

Level 4 Potential Conservation Area (PCA) Report

Name Laramie River Valley Shale Outcrops

Site Code S.USCOHP*25362

IDENTIFIERS

Site ID 2195 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 405601N
State Colorado Longitude 1055801W

<u>Quad Code</u>	<u>Quad Name</u>
40105-H8	Crazy Mountain
40106-H1	Old Roach

County

Larimer (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
10180010	Upper Laramie

SITE DESCRIPTION

Minimum Elevation	7,800.00 Feet	2,377.44 Meters
Maximum Elevation	8,600.00 Feet	2,621.28 Meters

Site Description

Sparsely vegetated shaley outcrops among the rolling hills and ravines of the Laramie River Valley support a variety of rare plant species. The relatively barren outcrops supporting the rare plants are primarily of the calcareous Niobrara Formation. The strongly calcareous clay loam soils, though sparsely vegetated, support a wide range of species including winterfat (*Krascheninnikovia lanata*), snakeweed (*Gutierrezia sarothrae*), horsebrush (*Tetradymia canescens*), and rabbitbrush (*Chrysothamnus viscidiflorus*). Sagebrush shrublands form the matrix community of the valley floor and include short-stature species such as black sagebrush (*Artemisia nova*) and Bigelow sagebrush (*Artemisia bigelovii*) (pers. comm. Roger Rosentreter). Little to no sagebrush occurs where the rare plants are found. North Park phacelia (*Phacelia formosula*) was documented only from the Niobrara outcrops. Ward's goldenweed (*Oenopsis wardii*) was documented from outcrops of Niobrara Shale and Lower Pierre Shale. Dropleaf buckwheat (*Eriogonum exilifolium*) occurs on a wider variety of shaley substrates. The dropleaf buckwheat was abundant on Niobrara outcrops but also occurred on nearby outcrops of Benton Shale, Lower Pierre Shale, and redbeds (pers. comm. Richard Scully). The range of these rare plants is naturally restricted by habitat - they grow specifically on sparsely vegetated outcrops and Ward's goldenweed apparently grows only on seleniferous soils (Fertig 2000). The site also contains an abundance of an endemic plant, larchleaf beardtongue (*Penstemon laricifolius* ssp. *exilifolius*). However, the extent of this plant in the upper Laramie River valley is much more widespread in the valley than just the site, as it occurs on additional geologic formations and to higher altitudes. The Laramie River flows through the site, however, the river and associated riparian zone are not habitat for the rare plants. Similarly, the Holnholz Lakes State Wildlife Area is situated within the site, but the lakes and the associated wetland habitat do not support these rare plants. The Laramie River Valley is botanically interesting and botanically under explored. Further research will likely expand the known range of the three rare plants and likely more discoveries will be made. For example, the matrix sagebrush species of the valley are not well documented.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes Mapped Date 01/28/2005

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Designer Doyle, G.A.

Boundary Justification

The site includes shaley outcrops, primarily of the Niobrara Formation, where the rare plants have been documented. The outcrops occur within a matrix of sagebrush shrublands, which are not habitat for the rare plants. Included within the site are the Holnholz Lakes State Wildlife Area and the Laramie River and floodplain, which are also not habitat for the rare plants. Future surveys will likely extend the site boundary to the south where unsurveyed Niobrara outcrops occur on private lands.

Primary Area 9,651.19 Acres 3,905.71 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B1: Outstanding Biodiversity Significance

Biodiversity Significance Comments

The Laramie River Valley Shale Outcrops site supports excellent (A-ranked) and good (B-ranked) occurrences of a plant currently identified as the globally critically imperiled (G1/S1) North Park phacelia (*Phacelia formosula*). The taxonomy of the Phacelia is under investigation by Duane Atwood, BYU, who indicates that the plant is likely either *Phacelia formosula* or a previously undocumented species (Duane Atwood pers. comm. 2004). Prior to this discovery in 2004 by Richard Scully and Mary Jane Howell of the Colorado Native Plant Society, *Phacelia formosula* was known only from North Park, some twenty miles to the southwest and across the Medicine Bow Mountains, where it grows on a different substrate, the sandy North Park Formation. In addition, the site supports a good (B-ranked) occurrence of the globally imperiled (G2) Ward's goldenweed (*Oenopsis wardii*). Prior to this discovery in 2004, Ward's goldenweed had been documented only in Wyoming. The site also supports excellent and good (A- and B-ranked) occurrences of dropleaf buckwheat (*Eriogonum exilifolium*), a globally vulnerable species (G3). This site includes the largest known occurrence of dropleaf buckwheat.

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

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>			
18321	<i>Phacelia formosula</i>	North Park phacelia	G1	S1	Yes
22225	<i>Eriogonum exilifolium</i>	dropleaf buckwheat	G3	S2	No
22225	<i>Eriogonum exilifolium</i>	dropleaf buckwheat	G3	S2	No
18321	<i>Phacelia formosula</i>	North Park phacelia	G1	S1	Yes
22225	<i>Eriogonum exilifolium</i>	dropleaf buckwheat	G3	S2	No
18321	<i>Phacelia formosula</i>	North Park phacelia	G1	S1	Yes
40518	<i>Oenopsis wardii</i>	Ward's golden-weed	G3	S1	No

REFERENCES

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Reference ID

Full Citation

192822	Atwood, D. 2004. Brigham Young University. Personal communication to the Colorado Natural Heritage Program.
192692	Doyle, G.A., S.L. Neid and R.J. Rondeau. 2005. Final Report: Survey of Critical Biological Resources, Larimer County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
193482	Fertig, W. 2000. Wyoming Diversity Database state species abstract for Oonopsis wardii, Ward's goldenweed, Asteraceae. 3pp. Wyoming Natural Diversity Database, Laramie, WY.
192825	Rosentreter, R. 2004. Bureau of Land Management. Personal communication to the Colorado Natural Heritage Program.
192823	Scully, R. 2004. Colorado Native Plant Society. Personal communication to the Colorado Natural Heritage Program.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 01/28/2005

Version Author Doyle, G.A.

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