

Level 4 Potential Conservation Area (PCA) Report

Name Droney Gulch

Site Code S.USWRO1*684

IDENTIFIERS

Site ID 1763 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 383521N
State Colorado Longitude 1060535W

Quad Code Quad Name
38106-E1 Salida West

County
Chaffee (CO)

Watershed Code Watershed Name
11020001 Arkansas Headwaters

SITE DESCRIPTION

Minimum Elevation	7,620.00 Feet	2,323.00 Meters
Maximum Elevation	8,000.00 Feet	2,438.00 Meters

Site Description

The Droney Gulch site consists of sparsely vegetated light-brown hills of lacustrine alluvium of the Dry Union Formation (Tweto 1979). These Pliocene and Miocene deposits form soils ranging from silt-loams to sands. These stark, barren slopes support one of the best known occurrences of the globally rare Brandegeee wild buckwheat (*Eriogonum brandegeei*). At the base of the slopes there are sparse stands of the pinon pine / mountain mahogany / Indian ricegrass (*Pinus edulis* / *Cercocarpus montanus* / *Oryzopsis hymenoides*) woodland plant association. Associated species are Utah juniper (*Juniperus osteosperma*), James buckwheat (*Eriogonum jamesii*), narrow-leaved yucca (*Yucca angustissima*), gray horsebrush (*Tetradymia canescens*), and rubber rabbitbrush (*Chrysothamnus nauseosus*). Surrounding uplands are dominated by denser stands of pinon pine and Utah juniper. Toe slopes below the site are dominated by bluegrama (*Bouteloua gracilis*), pinon pine, winterfat (*Krascheninnikovia lanata*), and four-wing saltbush (*Atriplex canescens*).

Key Environmental Factors

The Brandegeee wild buckwheat is probably a long-lived perennial with episodic recruitment which is likely related to moisture and temperature. It occurs on steep, eroding slopes with fine-textured soils derived from the Dry Union Formation.

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes Mapped Date 03/30/2009

Designer Culver, D.R.

Boundary Justification

The boundary includes the populations of Brandegeee wild buckwheat (*Eriogonum brandegeei*) and Fendler's townsend daisy (*Townsendia fendleri*) that occur throughout the barren slopes and adjacent pinon pine woodlands, and area for potential expansion of the plants. It also includes a buffer against direct disturbance. However, the natural processes are not completely contained in the boundary, and off-site activities within the larger area have the potential to impact the rare plant populations.

Primary Area 2,264.84 Acres 916.55 Hectares

SITE SIGNIFICANCE

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Biodiversity Significance Rank B1: Outstanding Biodiversity Significance

Biodiversity Significance Comments

One of the most outstanding occurrences (A-ranked) of the globally critically imperiled (G1G2/S1S2) Brandegeee wild buckwheat (*Eriogonum brandegeei*) occurs within this site. It also contains an excellent to good (AB-ranked) occurrence of the globally imperiled (G2/S1) Fendler's townsend-daisy (*Townsendia fendleri*). The Brandegeee wild buckwheat at Droney Gulch represents one of the largest and least disturbed known occurrences in the world of this species (O'Kane 1985). Only a few occurrences have been documented, all of which are in Fremont and Chaffee counties in Colorado and nowhere else in the world. This site and one other with Brandegeee wild buckwheat, the Garden Park Fossil locality in Fremont County, are registered as a State Natural Areas.

Other Values Rank V1 - Outstanding values

Other Values Comments

The landscape of light-brown barren hills overlooking the Arkansas River is highly scenic. Deer trails traverse the site.

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

Leafy spurge (*Euphorbia esula*), Jim Hill mustard (*Sisymbrium altissimum*), Russian thistle (*Salsola iberica*), lambsquarters (*Chenopodium album*), yellow sweetclover (*Melilotus officianale*) and cheatgrass (*Bromus tectorum*) occur but are currently sparse in the area (Anderson et al. 2001). Targeting management efforts to control the spread of these weeds may reduce their threat to the ecological systems.

Offsite

Some recent cattle grazing has occurred west of a cattle guard and the fence, and north of County Road 251. Several trailers and a new house lie along the north side of County Road 251, east of the ACEC boundary, and a new house has been built in the area. The lands surrounding the private tracts are largely owned by BLM or the State of Colorado.

Information Needs

The potential for minerals in the area should be determined. The Arkansas River Canyon separates the Garden Park occurrence from the Chaffee County populations. Research could be conducted to examine the substrate preference of the Brandegeee wild buckwheat and whether there are genetic differences between the two separated populations. Additional information is needed on the biology and the life history of the Brandegeee wild buckwheat to help guide management decisions such as; in which season is precipitation utilized most by Brandegeee wild buckwheat? What are the total annual and seasonal precipitation amounts for this site? With which plants does it compete? Long-term monitoring should be initiated to help us better understand the population biology of this species. For example, research should be conducted to determine the effects of herbivory by cows, sheep, mice and deer. Could below- ground root-grazing be a problem?

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>
21173	<i>Eriogonum brandegeei</i>	Brandegee wild buckwheat	G1G2	S1S2	Yes
17481	<i>Townsendia fendleri</i>	Fendler's townsend-daisy	G2	S2	No

REFERENCES

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Reference ID

Full Citation

160315	Anderson, D., P. Lyon, S. Spackman, J. Handwerk. 2001. Final Report: Weed and Rare Plant Assessments on Selected BLM ACECs. Colorado Natural Heritage Program, Fort Collins, CO.
193619	Anderson, D.G. 2006. Eriogonum brandegeei Rydberg (Brandegee's buckwheat): A Technical Conservation Assessment. [Online]. USDA Forest Service, Rocky Mountain Region. http://www.fs.fed.us/r2/projects/scp/assessments/erionumbrandegeei.pdf
198290	Culver, D.R., D. Malone, S.L. Neid, and J. Handwerk. 2009. Final Report: Survey of Critical Biological Resources in Chaffee County. Colorado Natural Heritage Program, Fort Collins, CO.
194663	Neid, S.L. 2007. Final Report: Rare Plant Survey of Select Bureau of Land Management Lands in the Arkansas River Canyon, Chaffee and Fremont Counties, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
175050	O'Kane, S. 1985. Field Surveys.
173574	O'Kane, S.L. 1988 a. Colorado's rare flora. Great Basin Naturalist 48(4):434-484.
192544	Spackman, S.C. and S. Floyd. 1996. Final Report. Conserving the Globally Imperiled Brandegee Wild Buckwheat, Eriogonum brandegeei Rydb.
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

Original site design by Neely, B.E., K. Gellenbeck and G.M. Kittel in 05-1992.

VERSION

Version Date 03/30/2007

Version Author Neid, S.L.

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