

Level 4 Potential Conservation Area (PCA) Report

Name Rare Plants of the Wasatch

Site Code S.USWRO1*122

IDENTIFIERS

Site ID 827 Site Class PCA

Site Alias Atwell Gulch

Site Alias Corcoran Wash

Site Alias Debeque North

Site Alias Debeque South

Site Alias Jerry Gulch

Site Alias Mount Logan Foothills

Site Alias Pyramid Ridge

Site Alias Pyramid Rock

Site Alias Sulphur Gulch West

Site Alias Roan Creek

Site Alias South Dry Fork

Network of Conservation Areas (NCA)

<u>NCA Site ID</u>	<u>NCA Site Code</u>	<u>NCA Site Name</u>
2470	S.USCOHP*27039	Roan

LOCATORS

Nation United States Latitude 391846N

State Colorado Longitude 1081637W

<u>Quad Code</u>	<u>Quad Name</u>
39108-C3	Wagon Track Ridge
39108-C2	De Beque
39108-C4	Winter Flats
39108-B1	Molina
39108-B3	Cameo
39108-D4	The Saddle
39108-D2	Red Pinnacle
39108-D3	Long Point
39108-D1	Grand Valley
39108-C1	Housetop Mountain
39108-B2	Mesa

County

Mesa (CO)

Garfield (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
14010005	Colorado headwaters-Plateau
14010006	Parachute-Roan

SITE DESCRIPTION

Minimum Elevation	5,000.00	Feet	1,524.00	Meters
Maximum Elevation	5,600.00	Feet	1,707.00	Meters

Site Description

The site consists of rough, rocky hills, composed of the Atwell Gulch and Shire members of the Wasatch Formation and also portions of the Ohio Creek Formation. Eroded purple clay areas on the pinon - juniper covered slopes provide habitat for the annual Debeque phacelia (*Phacelia submutica*), while Debeque milkvetch (*Astragalus debequaeus*) is found in sandy clay soil of the drainage bottoms and on some slopes. The Naturita milkvetch is found scattered on ledges and in crevices of the sandstone rimrock overlooking the Colorado River, while Wetherill milkvetch is found on the sides of dry washes. Uinta Basin hookless cactus is generally found on alluvial terraces above the Colorado River, on steep south-facing clay and rock slopes and knolls, or at the base of the slopes on gravelly soil. Associated species in the area include sagebrush, shadscale, saltbushes, greasewood, snakeweed, spiny horsebrush, Utah juniper, galleta and Indian rice grass. Much of the area is grazed, and exotic species such as cheatgrass, horned buttercup and halogeton have invaded some areas, especially the lower flats. There are several small roads in the area. Many eroded

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gullies dissect the site and carry seasonal flows to the Colorado River. The condition of the site varies from pristine to degraded. There is oil and gas development throughout much of the area. In some areas, such as Corcoran Wash, sagebrush was chained in 1967, and crested wheat planted. Other areas have been burned, and have regrowth of oak and serviceberry. Grazing on some of the private lands has been heavy, and exotic species such as cheatgrass and sweet clover are abundant. In general, the steeper lands appear to be in better condition. The site includes Pyramid Rock which is an isolated peak that has been recognized as a designated Natural Area by the state, and an ACEC (Area of Critical Environmental Concern) by the BLM. The ACEC contains populations of at least three of the rare plant species and a high quality example of the Utah juniper / Salina wild rye plant association.

Key Environmental Factors

Soil structure must remain intact to preserve species of concern. Over time, more by usage than by research, botanists have gradually refined the habitat description of *Phacelia submutica* and *Astragalus debequaeus*, so that it is now generally believed to be more-or-less confined to soils derived from what Donnell (1969) identified as the Atwell Gulch and Shire members of the Wasatch Formation in western Colorado. These are typically described as brown or gray clay or adobe badlands lying immediately above (Shire) or below (Atwell Gulch) the blueish-gray Molina member of the Wasatch Formation. However, because the geologic substrate at known occurrences has not always been field-verified by trained geologists, surveyors should remain open to the possibility that the species can occur on other, similar substrates (Decker et al. 2005).

Climate Description

Semi-arid western Colorado.

Land Use History

Area has traditionally been used lightly for grazing as the arid climate and barren soils provide little valuable forage for livestock.

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 12/08/2005

Designer Lyon, M.J.

Boundary Justification

The boundary includes the known occurrences of *Astragalus debequaeus* and *Phacelia submutica* and intervening potential habitat. Predictive modeling indicates additional potential habitat for these species outside of the site boundary (Decker et al. 2005). Environmental data considered in element distribution modeling for these species include geology, soils, vegetation, elevation, slope, aspect, local relief and a variety of climate variables. Much of the site and surrounding area has not been surveyed for these and the other associated rare plants. A large portion of unsuitable habitat, irrigated agricultural lands along the Colorado River, was excluded; however, smaller portions of unsuitable habitat along the Colorado River and Roan Creek are included.

Primary Area 106,923.91 Acres

43,270.74 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B1: Outstanding Biodiversity Significance

Biodiversity Significance Comments

This site is a botanical hotspot and contains almost the entire known population of the globally imperiled (G2/S2) Debeque milkvetch (*Astragalus debequaeus*) and the globally imperiled (G2/S2) Debeque phacelia (*Phacelia submutica*). The only other known locations for these two species are within the Anvil Points site located about 15 miles to the northeast. There are several excellent (A-ranked) and good (B-ranked) occurrences of *Astragalus debequaeus* and several good (B-ranked) occurrences of *Phacelia submutica*. There are also excellent (A-ranked) and good (B-ranked) occurrences of the globally imperiled (G2/S2) adobe thistle (*Cirsium perplexans*), good (B-ranked) occurrences of the globally imperiled (G2G3/S2S3) Naturita milkvetch (*Astragalus naturitensis*) and several good (B-ranked) occurrences of the globally imperiled (G2G3/S2S3) Colorado hookless cactus (*Sclerocactus glaucus*), a species federally listed as Threatened. Globally vulnerable (G3/S3) plants documented within the site include Wetherill milkvetch (*Astragalus wetherillii*) and long-flower cat's-eye (*Oreocarya longiflora*). This concentration of globally rare plants is exceptional and therefore warrants the B1 rank.

Other Values Rank No Data

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Other Values Comments

Very large and pristine area with few human impacts and interesting geological features.

LAND MANAGEMENT ISSUES

Land Use Comments

Area used for grazing and oil and gas extraction. Potential for oil shale development that would likely severely threaten site, and its associated communities and plants of concern. Recreational use occurs in area but not at all heavy within site.

Natural Hazard Comments

Very steep slopes are potentially hazardous for people climbing them.

Exotics Comments

No Data

Offsite

No Data

Information Needs

The fact that *Phacelia submutica* is an annual plant that does not necessarily appear every year makes it difficult to confirm presence or absence in a single observation. A survey in an unfavorable year or at the incorrect time of year can not rule out the possibility that *Phacelia submutica* is actually present at the site in the seed bank. Many occurrences of *Naturita* milkvetch and long-flower cat's-eye are historical; current surveys are needed.

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>
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3	No
18131	<i>Pleuraphis jamesii</i> Herbaceous Vegetation	Western Slope Grasslands	G2G4	S1	No
24362	<i>Oreocarya longiflora</i>	long-flower cat's-eye	G3	S3	No
22584	<i>Astragalus wetherillii</i>	Wetherill's milkvetch	G3	S3	No
40542	<i>Juniperus osteosperma</i> / <i>Leymus salinus</i> spp. <i>salinus</i> Wooded Herbaceous Vegetation	Mesic Western Slope Pinyon-Juniper Woodlands	G3	S3	No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	Yes
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2	No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2	No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	Yes
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	Yes
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3	Yes
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3	No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	Yes
22584	<i>Astragalus wetherillii</i>	Wetherill's milkvetch	G3	S3	No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	No
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16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3	No
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17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2	No
24362	<i>Oreocarya longiflora</i>	long-flower cat's-eye	G3	S3	No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	Yes
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3	Yes
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2	No

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17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2 No
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19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 Yes
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2 No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
22584	<i>Astragalus wetherillii</i>	Wetherill's milkvetch	G3	S3 No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2 Yes
21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3 No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3 No
22079	<i>Cirsium perplexans</i>	adobe thistle	G2G3	S2S3 Yes
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2 Yes
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 Yes
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
22584	<i>Astragalus wetherillii</i>	Wetherill's milkvetch	G3	S3 No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
24362	<i>Oreocarya longiflora</i>	long-flower cat's-eye	G3	S3 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
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19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
24553	<i>Juniperus osteosperma / Forsellesia meionandra</i> Woodland	Utah Juniper/Utah Greasebush	GU	SU No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 Yes
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24553	<i>Juniperus osteosperma / Forsellesia meionandra</i> Woodland	Utah Juniper/Utah Greasebush	GU	SU No
22079	<i>Cirsium perplexans</i>	adobe thistle	G2G3	S2S3 Yes
24553	<i>Juniperus osteosperma / Forsellesia meionandra</i> Woodland	Utah Juniper/Utah Greasebush	GU	SU No
21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3 Yes
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
16984	<i>Sclerocactus glaucus</i>	Colorado hookless cactus	G2G3	S2S3 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
22079	<i>Cirsium perplexans</i>	adobe thistle	G2G3	S2S3 No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2 No
24830	<i>Pinus edulis - Juniperus spp. / Cercocarpus</i> <i>montanus</i> Woodland	Mesic Western Slope Pinyon-Juniper Woodlands	G5	S4 No

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21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3	Yes
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21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3	No
21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3	Yes
21647	<i>Astragalus naturitensis</i>	Naturita milkvetch	G2G3	S2S3	Yes
22878	<i>Thelypodopsis juniperorum</i>	juniper tumble mustard	G2	S2	No
19098	<i>Phacelia submutica</i>	DeBeque phacelia	G2	S2	No
22079	<i>Cirsium perplexans</i>	adobe thistle	G2G3	S2S3	Yes
22079	<i>Cirsium perplexans</i>	adobe thistle	G2G3	S2S3	No
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17463	<i>Astragalus debequaeus</i>	DeBeque milkvetch	G2	S2	No
22079	<i>Cirsium perplexans</i>	adobe thistle	G2G3	S2S3	No

REFERENCES

Reference ID	Full Citation
193560	Decker, K., A. Lavender, J. Handwerk and D.G. Anderson. 2005. Final Report: Modeling the Potential Distribution of <i>Phacelia scopulina</i> var. <i>submutica</i> (Debeque phacelia) and <i>Astragalus debequaeus</i> (Debeque milkvetch) in Western Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
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193588	USDI Bureau of Land Management. 1992. ACEC Activity Plan and Environmental Assessment. Badger Wash ACEC, Pyramid Rock ACEC and Rough Canyon ACEC.
193571	USDI Bureau of Land Management. 1999. Glenwood Springs Resource Area. Oil and Gas Leasing and Development, Final Supplemental Environmental Impact Statement.
193586	USDI Bureau of Land Management. 2001. 6840 - Special Status Species Management.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 12/08/2005

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Version Author Lyon, M.J.

Disclaimer

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