

Level 4 Potential Conservation Area (PCA) Report

Name Vigil and Saint Vrain

Site Code S.USCOHP*7798

IDENTIFIERS

Site ID 1298 Site Class PCA
Site Alias Doyle Arroyo

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 375329N
State Colorado Longitude 1043011W

Quad Code Quad Name

37104-H4	Hog Ranch Canyon
37104-G4	North Rattlesnake Butte
38104-A3	Chicos Well
38104-A4	Doyle Bridge
38104-A5	Goat Butte
37104-H3	Red Top Ranch
37104-H5	Cedarwood
37104-H6	Graneros Flats
37104-G3	Myers Canyon
37104-G5	Capps Springs
37104-G6	Lascar
37104-F5	Cucharas Reservoir

County

Pueblo (CO)
Huerfano (CO)

Watershed Code Watershed Name

11020007	Apishapa
11020006	Huerfano
11020002	Upper Arkansas
11020005	Upper Arkansas-Lake Meredith

SITE DESCRIPTION

Minimum Elevation - Feet - Meters
Maximum Elevation - Feet - Meters

Site Description

The site consists of about 150,000 acres of shortgrass prairie and juniper woodlands dissected by canyons formed by the Huerfano and Cucharas Rivers and other smaller streams. Swales or arroyos start on the more level prairie and eventually cut down to bedrock to form canyons several hundred feet deep. Blue grama (*Bouteloua gracilis*) is the dominant prairie grass species, with galleta grass (*Hilaria jamesii*) also frequently found in abundance. Sand dropseed (*Sporobolus cryptandrus*) and ring muhly (*Muhlenbergia torreyi*) are present in variable quantities. Cholla (*Opuntia imbricata*) and yucca (*Yucca glauca*) generally occur in low to moderate abundance across the grasslands, but are occasionally abundant. Two major limestone ridges occur east of the Huerfano River, and several major sandstone ridges (e.g., The Beardsley and Turkey Ridge) are found within the site. One-seeded juniper (*Juniperus monosperma*) woodlands, occasionally co-dominated by piñon (*Pinus edulis*), are found across many of these ridges, with an understory generally dominated by sideoats grama (*Bouteloua curtipendula*), blue grama, galleta grass, and hairy grama (*Bouteloua hirsuta*). Ponderosa pine (*Pinus ponderosa*) is scattered around the some of the canyons and outcrops at higher elevations. Elevations range from approximately 4800 feet at the north end of the ranch to 5800 feet at the southern end of the ranch. The fauna of the area is typical of the southern shortgrass prairie, but with the addition of some montane elements. Atypically for a system east of the Rocky Mountains, the ranch supports populations of elk, both whitetail and mule deer, pronghorn, swift and red fox, and coyotes. Both mountain lion and bear signs have been seen on the ranch. Only a few small prairie dog towns still exist. Riparian and wetland areas consist of small canyons with intermittent streams, splash pools, some permanent pools

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associated with springs, the Huerfano and Cucharas Rivers which do occasionally cease flowing during dry periods (Rick Tune, personal communication), and ephemeral shallow ponds (playa lakes). The riparian and wetland areas receive heavy cattle use. In the canyons, riparian and wetland vegetation consists of either non-native weeds (e.g., tamarisk (*Tamarix ramosissima*), kochia (*Bassia sieversiana*), and Russian thistle (*Salsola australis*)), non-native grass species (e.g., Kentucky bluegrass (*Poa pratensis*) and redtop (*Agrostis stolonifera*)), or native species strongly resistant to grazing (e.g., alkali muhly (*Muhlenbergia asperifolia*) and threesquare (*Scirpus pungens*)). The portion of the Huerfano River at the north end of the site contains plains cottonwood (*Populus deltoides*) plant communities that probably resemble their native state, however non-native species, especially tamarisk but also Russian olive (*Elaeagnus angustifolia*), are still common to abundant, and the native herbaceous vegetation tends to be composed of increasers (e.g., saltgrass (*Distichlis spicata*)). Cottonwood regeneration is abundant on this part of the river. This region of southeast Colorado has a rich history that extends from inhabitation by indigenous peoples through the earliest settlements of Europeans, to the current ranching culture adjacent a growing urban center, the city of Pueblo. This region of the Great Plains was known to be inhabited by large herds of bison, therefore also the Indian tribes. Trappers, explorers, and settlers mentioned the Huerfano River and its canyon as prominent landmarks and waters. This site includes part of the original Vigil St. Vrain Spanish Land Grant.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

The area southeast of Colorado has a rich history that extends from inhabitation by indigenous peoples through the earliest settlements of Europeans, to the current ranching culture adjacent a growing urban center, the city of Pueblo. This region of the Great Plains was known to be inhabited by large herds of bison, therefore also the Indian tribes. Trappers, explorers, and settlers mentioned the Huerfano River and its canyon as prominent landmarks and waters. However, little is mentioned about the area of the watershed on the current Butler Ranch. However, the ranch is part of the original Vigil St. Vrain Spanish Land Grant.

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 03/24/1997

Designer Kettler, S.M.

Boundary Justification

The boundaries for this site were generated from maps and aerial photos from the Pueblo and Huerfano county soils surveys. The boundary includes 80,000 acres that were field surveyed and an additional 100,000 acres that are similar habitat. Lands to the south and north of the sites boundaries show evidence of alteration for agricultural purposes. The eastern boundary is a natural break in the dissected nature of the landscape (assumed to be somewhat of a barrier for the elk). The western boundary generally follows the Huerfano River but the ecological boundaries may still extend to the west.

Primary Area 209,435.66 Acres

84,755.94 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site contains a good (B-ranked) occurrence of a plant community which is vulnerable on a global scale (G3G4), three good (B-ranked) communities vulnerable (S3) in Colorado, one good (B-ranked) occurrence of Elton's lip fern (*Cheilanthes eatonii*) that is imperiled (S2) in Colorado, one extant Swift Fox (*Vulpes velox*) globally vulnerable, and one fair occurrence of Simius roadside skipper (*Amblyscirtes simius*) that is vulnerable in Colorado (S3).

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

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Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

Further Inquiry: How closely does the current flow regime in the Huerfano River approximate the historic flow regime? Monitor tamarisk and Russian olive. What is the success rate of the tamarisk seedlings? Is the total cover of tamarisk increasing? Are the numbers of Russian olive trees increasing? Potential habitat exists for six globally imperiled and five state rare plant species: *Oxybaphus rotundifolius* (G1G2/S1S2) has been documented between Pueblo and Canon City on the Smoky Hill Member of Niobrara Shale and on Fort Hayes Limestone at the junction of this formation with the Niobrara Formation. Fort Hayes and Greenhorn limestones are the limestones found at the site (pers. comm. Rich Rhoades 1996) and appear to be broken in larger fragments than the shales and limestones that support typical *O. rotundifolius* occurrences to the northwest. Overall, the potential of locating *O. rotundifolius* on the site is low to moderate. *Nuttallia chrysantha* (G1G2/S1S2) is known from Niobrara shale and Bentonite clay outcrops in the Arkansas Valley between Canon City and Pueblo. *N. chrysantha* has not been documented in Pueblo County, and the site is about 50 miles from the closest known occurrence. During our survey we covered approximately 40% of the potential habitat for this species. Given the persistent quality of the stems and fruit of *N. chrysantha*, it is likely that we would have seen this species if it was present. However, the potential of finding this species during future surveys should not be ruled out. The potential of locating *N. chrysantha* on the site is low to moderate. *Oonopsis puebloensis* (G1G2/S1S2) is known from exposures of Niobrara shale between Canon City and Pueblo. This is a newly described species (Greg Brown, in press) so wide ranging inventories have not been conducted nor have specific habitat requirements been determined. The closest occurrence of this species to the site is about 25 miles. Overall, the potential of locating *O. puebloensis* is low to moderate, although it is likely that future inventories in southeastern Colorado will locate additional occurrences. *Bolophyta tetraeneuris* (G3/S3) is known from limestone and shale outcrops of the Niobrara and Dry Union formations. It is the most common of the globally rare species that we believe have potential for occurring on the site. The site is about 25 miles from the closest known occurrence of this species. Overall, the potential of locating *B. tetraeneuris* is moderate. *Asclepias uncialis* (G1G2/S1S2) has been found historically in a wide variety of habitats in short grass prairie systems. The closest occurrence of this species to the site is about 10 miles away. It is highly likely that this species exists at the site. *Frasera coloradensis* (G3/S3) has been documented in areas closely associated with greenhorn limestone, Graneros shale, and Dakota sandstone in similar ecological settings to the site. This species is known from a global range of about 25 miles x 75 miles in an area about 50 miles from the site. Overall, the potential for locating *F. coloradensis* is low to moderate. *Notholaena standleyi*, *Cheilanthes wootonii*, *Pellaea atropurpurea*, *Pellaea wrightiana*, and *Asplenium platyneuron* are state rare fern species that could occur on the sandstone outcrops of the area. Extensive inventory of the animals is warranted. The butterflies of the area are poorly known. Also we need more information about the fish community of the Huerfano River.

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>
24511	<i>Bouteloua gracilis</i> - <i>Pleuraphis jamesii</i> Herbaceous Vegetation	Shortgrass Prairie	G2G4	S3	Yes
21047	<i>Cheilanthes eatonii</i>	Eaton's lip fern	G5?	S1S2	No
24715	<i>Juniperus monosperma</i> / <i>Bouteloua curtipendula</i> Woodland	Foothills Pinyon-Juniper Woodlands	G5	S3S4	No
24940	<i>Juniperus monosperma</i> / <i>Bouteloua gracilis</i> Woodland	Foothills Pinyon-Juniper Woodlands	G5	S3S4	No
24604	<i>Opuntia imbricata</i> Shrubland	Shortgrass Prairie	GNA	S3	No
17735	<i>Amblyscirtes simius</i>	Simius Roadside Skipper	G4	S3	No
21012	<i>Vulpes velox</i>	Swift Fox	G3	S3	No
20191	<i>Aspidoscelis neotesselata</i>	Triploid Colorado Checkered Whiptail	G2G3	S2	No

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REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
-	No Data

ADDITIONAL TOPICS

Additional Topics
No Data

VERSION

Version Date	09/16/2003
Version Author	Spackman, S.C.

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