

Level 4 Potential Conservation Area (PCA) Report

Name Signal Rock Sandhills

Site Code S.USCOHP*7808

IDENTIFIERS

Site ID 1297 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 383149N
State Colorado Longitude 1041800W

<u>Quad Code</u>	<u>Quad Name</u>
38104-E2	Edison School
38104-E3	Hanover SE
38104-F4	Hanover NW
38104-G2	Yoder
38104-G3	Big Springs Ranch
38104-F2	Truckton
38104-D3	North Avondale NE
38104-D2	Highlands Church
38104-C2	Boone Hill
38104-C3	North Avondale
38104-C4	Devine
38104-F3	Hanover NE
38104-G4	Ellicott

County

El Paso (CO)

Pueblo (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
11020008	Horse
11020005	Upper Arkansas-Lake Meredith
11020004	Chico

SITE DESCRIPTION

Minimum Elevation 4,550.00 Feet 1,387.00 Meters
Maximum Elevation 6,100.00 Feet 1,859.00 Meters

Site Description

The site is characterized by slightly rolling sandhills and interdunal swales. The majority of the site is dominated by sandsage prairie with sandsage (*Artemisia filifolia*) the dominant species. On large areas of the site, yucca (*Yucca glauca*) is co-dominant or more dominant than the sandsage. The understory is dominated by blue grama (*Bouteloua gracilis*) and sand dropseed (*Sporobolus cryptandrus*) with scattered patches of sand bluestem (*Andropogon hallii*) and prairie sandreed (*Calamovilfa longifolia*). The northern end of the site is flatter and dominated by blue grama, sand dropseed, and possibly needle-and-thread (*Hesperostipa comata*). At the southern end of the site the sandsage prairie is dominant. Steep bluffs and outcrops east of Black Squirrel Creek (called the Crows Roost) support a community characterized by sparse yucca with little bluestem (*Schizachyrium scoparium*) and sideoats grama (*Bouteloua curtipendula*). This community is classified as the *Schizachyrium scoparium - Bouteloua curtipendula* plant association (Great Plains mixed grass prairies), although sideoats grama is not always conspicuous and sand bluestem and prairie sandreed are commonly interspersed. This may be the result of the small size of the outcrops or bluffs and the sharp environmental gradient to the sandhills prairie. Small stands of coyote willow (*Salix exigua*) are present along Black Squirrel Creek, as are some cottonwoods. A small black-tailed prairie dog (*Cynomys ludovicianus*) town is located near the western ranch entrance on soils probably derived from alluvial sediments (but still with significant sand and small coarse material). Burrowing Owls and swift foxes have been seen using the prairie dog town. A Golden Eagle nest is located on the bluffs east of Black Squirrel Creek.

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Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

The area known as Chico Basin has been used for livestock grazing for more than 100 years. The ranch manager's family has been on the site since 1911. There have been a few more recent activities with mining for road or construction materials. These activities appear stagnant. There are notable constraints on use of the area imposed by the sandy soils.

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 04/16/2003

Designer Doyle, G.A. and S.M. Kettler

Boundary Justification

The boundary encompasses the highest quality sandsage communities in the area. The boundary is drawn to exclude lands more impacted by residential development (to the north-northwest) and agricultural activities (north, east, and west) and encompasses mainly the sandhills in the area. Shortgrass prairie in somewhat natural condition (not converted to cropland) exist in the area and there appears to be sufficient size and distribution of these parcels, and corridors available for viable populations of most plant and animal species. This site is considered large enough to protect intact (or at least allow simulation of) most of the natural ecological processes necessary for survival of the elements including fire, herbivory, and geomorphology (allowing for shifting sand dunes).

Primary Area 133,203.11 Acres

53,905.60 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site contains the best known (A-ranked) occurrence of the globally vulnerable (G3/S2) sandsage prairie (*Artemisia filifolia* - *Andropogon hallii*) in Colorado. The occurrence is very large and portions are in excellent condition. From roadside investigations, the area is adjacent to many other acres of similar habitat that appear to also be in good condition (with a few exceptions). Also within the site is moderate size occurrence of the sandstone / gravel breaks prairie (*Schizachyrium scoparium* - *Bouteloua curtipendula*). Much of the sandhills (especially the Bohart Ranch) have been managed in such a way that the natural communities appear to be in good to excellent condition. The communities within the site exhibit a wide range of natural variability. This site also supports good to fair occurrences of two globally vulnerable (G3) plant species, the sandhill goosefoot (*Chenopodium cycloides*), and plains ambrosia (*Ambrosia linearis*).

Other Values Rank No Data

Other Values Comments

There is no natural, permanent surface water on the Bohart Ranch; therefore, there are no fish. Nonetheless, signs of temporary surface water were apparent in two areas, sandy playas and the dry riparian zones along Black Squirrel Creek. Habitat for amphibians is concluded to be rare. Since the creek rarely runs, amphibian communities are not known, and likely to be sparse at best. What amphibians may be on the site would be supported by the playas. Several of the playas we visited were of natural shape and condition, although it appears that livestock tend to concentrate in these areas and have probably altered the plant communities to some extent. These playas should be maintained under any management scenario and considered for restoration. The reptilian community is expected to be entire, based on the observations of the Bohart Ranch manager. Most notably, the box turtle (*Terrapene ornata*) occur in large numbers. This species is expected to be in decline in many areas due to habitat loss and increased mortality on roadways. Snakes were reported to be present but not mentioned as numerous. Rattlesnakes (probably *Crotalus viridis*) were reported as occasional. Information on breeding bird communities exist from Breeding Bird Atlas surveys in the southeastern 1/6 of each topographic quadrangle. Numerous state rare birds are possible or confirmed breeders in the area and we suspect that most of these species exist in sustainable numbers and directly benefit from the ecological integrity of the site. The Division of Wildlife has introduced lesser prairie chickens to the south at the Pueblo Depot. The birds do move out of the area and the area to the north may be good

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habitat for them although they currently are not documented there (personal communication with Dave Lovell - DOW). Interviews with the Bohart Ranch manager reported that swift fox (*Vulpes velox*) were present on the ranch along with a few red fox (*Vulpes vulpes*) and of course coyotes (*Canis latrans*). We observed coyotes, fox, black-tailed prairie dogs, Ord's kangaroo rat, unidentified mice, mule deer, pronghorn, unidentified gophers, black-tailed jackrabbits, and abundant sign of other unidentified small mammals. The ability for grasses to set seed in this habitat probably is important for persistence of the natural small mammal community. We suspect that many of these species occur in viable populations. For example, Dick Tanner estimated that approximately 400 individuals of pronghorn occupy the Bohart Ranch at any given time. Our observations were congruent. The Division of Wildlife has documented a resident pronghorn population (not moving out of the area) in southern El Paso and northern Pueblo counties (personal communication with Dave Lovell - DOW). Invertebrate communities in the sandhills of this part of Colorado are poorly known. However, our assessment is that the area is large enough to support viable populations of most native species. Significant tiger beetles, moths, and butterfly species are likely to be found.

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

The rapid ecological assessment was conducted during the winter when presence or absence of rare or imperiled species was hardly detectable. However, the habitat suggests that the following species potentially could be present and should be targeted for further inventory. *Charadrius montanus* (Mountain Plover): Possible on eastern most sites where the prairie maintains a shortgrass structure. Grasshopper Sparrow: Likely in tall grass prairie. Prairie Falcon: Although there are few places to breed. Since there is no permanent water, there are no fish that are in need of study. *Bufo punctatus* (Red-spotted toad): Possible if there is sufficient water in playas. *Sistrurus catenatus* (Massasauga): This rattlesnake is known to occur less than 10 miles to the east of the ranch. Swift fox (*Vulpes velox*): In need of verification. Estimates of numbers in this habitat would be useful. Hog-nosed skunk (*Conepatus mesoleucus*): Known historically from Colorado Springs. There are several state-imperiled butterflies and moths that are likely to occur in the sand sage habitat. Among the most significant is *Euproseperinus wiesti* (Wiest's sphinx moth). There are several possible state-imperiled tiger beetles, including *Cicindela lepida* and *C. splendida*. The local DOW contact is Tony Gurzick; he has not been contacted to date. A local NRCS staff member should be contacted to get information on the natural communities in the area.

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
17343	<i>Chenopodium cycloides</i>	sandhill goosefoot	G3G4	S1	No
23164	<i>Ambrosia linearis</i>	plains ragweed	G3	S3	No
23164	<i>Ambrosia linearis</i>	plains ragweed	G3	S3	No
23164	<i>Ambrosia linearis</i>	plains ragweed	G3	S3	No
23164	<i>Ambrosia linearis</i>	plains ragweed	G3	S3	No
24668	<i>Artemisia filifolia</i> / <i>Andropogon hallii</i> Shrubland	Northern Sandhill Prairie	G3?	S2	No
24967	<i>Schizachyrium scoparium</i> - <i>Bouteloua curtipendula</i> Western Great Plains Herbaceous Vegetation	Great Plains Mixed Grass Prairies (Sandstone/Gravel Breaks)	G3	S2	No
17343	<i>Chenopodium cycloides</i>	sandhill goosefoot	G3G4	S1	No
24668	<i>Artemisia filifolia</i> / <i>Andropogon hallii</i> Shrubland	Northern Sandhill Prairie	G3?	S2	Yes
23798	<i>Asclepias uncialis</i> ssp. <i>uncialis</i>	dwarf milkweed	G3G4T2T3	S2	No

REFERENCES

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Reference ID

Full Citation

162855

Doyle, G.A., J. Gionfriddo, D. Anderson, and D. Culver. 2000. Final Report: Survey of Critical Wetlands and Riparian Areas in El Paso and Pueblo Counties, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.

167490

Stevens, J.E. 2000. Colorado Natural Heritage Program Field Inventory of El Paso County.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 04/16/2003

Version Author Doyle, G.A. and S.M. Kettler

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