

Level 4 Potential Conservation Area (PCA) Report

Name Sanford Hills

Site Code S.USCOHP*28114

IDENTIFIERS

Site ID 2692 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 374640N
State Colorado Longitude 1040408W

Quad Code Quad Name

37103-G8	Timpas SW
37103-F8	Bloom
37104-F1	Delhi
37104-G1	Snowden Lake
37104-G2	Sanford Hills

County

Otero (CO)
Las Animas (CO)
Pueblo (CO)

Watershed Code Watershed Name

11020005	Upper Arkansas-Lake Meredith
11020007	Apishapa

SITE DESCRIPTION

Minimum Elevation	4,690.00	Feet	1,429.51	Meters
Maximum Elevation	5,400.00	Feet	1,645.92	Meters

Site Description

The Sanford Hills are comprised of juniper breaks (limestone and shale barrens, hills, and mesas) surrounded by shortgrass prairie. The tops and slopes of the breaks are dominated by oneseed juniper (*Juniperus monosperma*), Bigelow's sage (*Artemisia bigelovii*), and New Mexico feathergrass (*Hesperostipa neomexicana*). *Juniperus monosperma* / *Artemisia bigelovii* plant communities are generally on flat surfaces at the tops of the breaks, while *Juniperus monosperma* / *Hesperostipa neomexicana* communities can be on either the flats or the slopes. These areas also support cushion plant communities, and are particularly important for rare plant species. The adjacent grassland is a large, lightly-fragmented shortgrass prairie dominated by blue grama (*Bouteloua gracilis*) and galleta grass (*Hilaria jamesii*). Other common plant species include: *Oreocarya thyrsoiflora*, *Echinocereus reichenbachii*, *Eremogone hookeri*, *Eriogonum lachnogynum*, *Melampodium leucanthum*, *Virgulus fendleri*, and *Yucca glauca*. The shale and limestone hills are full of fossilized seabeds, concretions, geodes, and cones making this an interesting geologic area in addition to the important botanical area. The shale barrens or breaks are important rare plant habitat in addition to providing refuge for cattle during winter storms. The bird community is different on the breaks as well because of the woody structure of the trees and shrubs, which are absent in the grasslands. The highly erodible hills effect the soil qualities of the nearby grasslands and several rare plants do exceptionally well on the toe slopes and associated grasslands, especially Rocky Mountain bladder pod (*Lesquerella calcicola*), Arkansas evening primrose (*Oenothera harringtonii*), and dwarf milkweed (*Asclepias uncialis* ssp. *uncialis*). Soils are shallow well-drained clays derived from shale. Platy shale flakes often lie on the surface. Several drainages in the site are infested with tamarisk, yet they support important examples of native vegetation as well.

Key Environmental Factors

Geology, soil depth, drought, grazing, fires, and slope play a critical role in determining the vegetation species composition. Fires kill junipers yet much of the area has relatively low biomass thus preventing large scale fires. Old-growth junipers and pinons are common throughout, denoting that fires are infrequent. Adequate soil depth coupled with low intensity grazing favors New Mexico feathergrass while high intensity grazing favors blue grama. Slopes are generally less vegetated than the mesa tops or the outwash.

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Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes Mapped Date 01/22/2010

Designer Panjabi, S.S. and R.J. Rondeau

Boundary Justification

The boundary is drawn to include the known occurrence, additional potential habitat, and the local mosaic of plant communities. The boundary was digitized while referencing a one meter digital color orthophoto quad, a 1:100,000 digital quad, and a GIS model developed by CNHP that shows the probability of the presence of shale barren plants.

Primary Area 53,538.72 Acres 21,666.44 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site supports an excellent (A-ranked) occurrence of the globally vulnerable (G3/S3) Rocky Mountain bladderpod (*Lesquerella calcicola*), a good (B-ranked) occurrence of the globally vulnerable (G3/S2) *Juniperus monosperma* / *Artemisia bigelovii* woodland community, a good (B-ranked) occurrence of the globally vulnerable (G3/S3) plains escarpment prairie (*Artemisia bigelovii* / *Achnatherum hymenoides*), a good (B-ranked) occurrence of a globally secure (G5/S4) *Eleocharis palustris* emergent wetland, and a fair (C-ranked) occurrence of a globally imperiled plant subspecies (G3G4T2T3/S2), dwarf milkweed (*Asclepias uncialis* ssp. *uncialis*).

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

The area is primarily used for cattle grazing. The escarpments in the area have wind energy potential and several wind monitoring towers were observed in 2009, however no wind development projects existed in 2009.

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>	<u>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>
24800		<i>Artemisia bigelovii</i> / <i>Achnatherum hymenoides</i> Shrubland	Plains Escarpment Prairies (Limestone Breaks)	G3	S3	Yes
44166		<i>Juniperus monosperma</i> / <i>Artemisia bigelovii</i> Woodland	Juniper / Sagebrush Woodland	G3?	S2	Yes
23798		<i>Asclepias uncialis</i> ssp. <i>uncialis</i>	dwarf milkweed	G3G4T2T3	S2	No
21031		<i>Lesquerella calcicola</i>	Rocky Mountain bladderpod	G3	S3	Yes
18783		<i>Eleocharis palustris</i> Herbaceous Vegetation	Emergent Wetland	G5	S4	No

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REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
198519	Rondeau, R.J., J.R. Sovell, J.E. Stevens, D. Clark and L. Grunau. 2010. Final Report: Southeast Colorado Survey of Critical Biological Resources 2009. Addendum to the 2007 Survey. Colorado Natural Heritage Program, Fort Collins, CO.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date	01/22/2010
Version Author	Panjabi, S.S. and R.J. Rondeau

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