

Level 4 Potential Conservation Area (PCA) Report

Name Shanahan Grassland

Site Code S.USCOHP*1756

IDENTIFIERS

Site ID 710 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 395735N
State Colorado Longitude 1051529W

<u>Quad Code</u>	<u>Quad Name</u>
39105-H3	Eldorado Springs
39105-H2	Louisville

County

Boulder (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
10190005	St. Vrain

SITE DESCRIPTION

Minimum Elevation	5,600.00 Feet	1,707.00 Meters
Maximum Elevation	6,000.00 Feet	1,829.00 Meters

Site Description

This site is at the toeslope of the Flatirons and west and south of Boulder residential neighborhoods. The site contains the small hogbacks (Morrison Formation and Dakota sandstone) just east of the Flatirons (Fountain Formation) and the adjacent terraces, colluvium, and outwash (Rocky Flats, Slocum, and Verdos Alluvium; Quaternary). The outwash skirt off the Flatirons supports ponderosa pine (*Pinus ponderosa*) savanna that transitions to open grassland farther from the immediate slope of the mountain front. The savanna is comprised of dense patches of young ponderosa pine with considerable regeneration forming a tall shrub layer. Short shrubs are sporadic in the understory; skunkbush (*Rhus trilobata*) is most common and mountain mahogany (*Cercocarpus montanus*) and woods rose (*Rosa woodsii*) are also frequent. Graminoids dominate the understory, with needle-and-thread (*Hesperostipa comata*), prairie dropseed (*Sporobolus heterolepis*), big bluestem (*Andropogon gerardii*), little bluestem (*Schizachyrium scoparium*), porcupine grass (*Hesperostipa spartea*), and native bluegrass (*Poa agassizensis*) commonly occurring. Rocky Mountain sedge (*Carex saximontana*) occurs as well. Forb richness is very high in the savanna and includes prairie relict species like birds foot violet (*Viola pedatifida*), dwarf indigo (*Amorpha nana*), hoary frostweed (*Crocyanthemum bicknellii*), and New Jersey tea (*Ceanothus herbaceus*). As the tree canopy dwindles, the grassland becomes dominant and big bluestem (*Andropogon gerardii*), indiagrass (*Sorghastrum nutans*), sideoats grama (*Bouteloua curtipendula*), switchgrass (*Panicum virgatum*), needle-and-thread (*Hesperostipa comata*), and western wheatgrass (*Pascopyrum smithii*) are common and abundant. Drainage gulches contains scrubby vegetation, like skunkbush, hackberry (*Celtis occidentalis*), snowberry (*Symphoricarpos*), cat briar (*Smilax lasioneuron*) with understory forbs such as geranium (*Geranium caespitosum*), wild licorice (*Glycyrrhiza lepidota*), Mexican hat (*Ratibida columnifera*), wavy-leaved thistle (*Cirsium undulatum*), and beebalm (*Monarda fistulosa*). Pockets of wet meadow vegetation occur in the drainages, some of which support northern leopard frog (*Rana pipiens*). Ute's ladies-tresses (*Spiranthes diluvialis*) are also present. This grassland mosaic supports several rare butterflies. Similarly it has a rich ground-nesting bird community including dense populations of Grasshopper Sparrows (*Ammodramus savannarum*), Vesper Sparrows (*Pooecetes gramineus*), Meadowlarks (*Sterna neglecta*), and Ovenbird (*Seiurus aurocapillus*). Although more common elsewhere in the state, this site offers significant edge-of-range habitat that is important for the persistence of the breadth of genetic variability for these species. The site is also utilized by fringed myotis (*Myotis thysanodes*) and there is a portion of a Preble's meadow jumping mouse (*Zapus hudsonius preblei*) occurrence within the boundary.

Key Environmental Factors

No Data

Climate Description

Annual precipitation is 15-20 inches. Mean annual air temperature is 48-52 degrees F., and the frost-free season is about 140-155 days.

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Land Use History

Livestock grazing and fire suppression have been important influences on the composition of these grasslands and encroaching ponderosa pine savanna.

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 10/31/2008

Designer Neid, S.L.

Boundary Justification

Boundaries include all adjacent areas of suitable grassland habitat and drainages. Includes occurrences and a buffer into adjacent grassland and other community types.

Primary Area 3,304.95 Acres 1,337.47 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site supports a good (B-ranked) occurrence of a globally imperiled (G2/S2?) *Pinus ponderosa* / *Cercocarpus montanus* / *Andropogon gerardii* foothills ponderosa pine scrub woodland. In addition, there are good (B-ranked) occurrences of rare skippers including the globally vulnerable (G3G4/S2) Ottoe skipper (*Hesperia ottoe*), the globally vulnerable (G3/S2) Arogos skipper (*Atrytone arogos*) and the state rare (G5/S3) cross-line skipper (*Polites origenes*). An extant occurrence of the globally vulnerable (G3/S1) regal fritillary (*Speyeria idalia*) was documented in 1997, but monitoring is needed confirm the presence of a colony. Known plant occurrences include an extant occurrence of the state rare (G5/S2) prairie violet (*Viola pedatifida*), a fair (C-ranked) occurrence of the state rare (G5/S2S3) dwarf wild indigo (*Amorpha nana*), a fair (C-ranked) occurrence of the state rare (G4G5/S2) narrow-leaved milkweed (*Asclepias stenophylla*) and an extant occurrence of the state rare (G5/S2) frostweed (*Crocotanthemum bicknellii*).

Other Values Rank V1 - Outstanding values

Other Values Comments

Open space for hikers, cyclists, horseback riders. Grazing. General wildlife habitat. Homesites. Subdivisions directly adjacent.

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

Exotics include Dalmatian toadflax (*Linaria dalmatica*), myrtle spurge (*Euphorbia myrsinites*), scotch thistle (*Onopordium acanthium*), sulfure cinquefoil (*Potentilla recta*), musk thistle (*Carduus nutans*), bull thistle (*Cirsium vulgare*), chicory (*Cichorium intybus*), bladder senna (*Colettea arborescens*), tall oatgrass (*Arrhenatherum elatius*), St. Johnswort (*Hypericum perforatum*), jointed goatgrass (*Aegilops cylindrica*), Russian olive (*Elaeagnus angustifolia*), Canada thistle (*Cirsium arvensis*), and teasel (*Dipsacus fullonum*).

Offsite

Northeast of the site is the Shanahan subdivision. Power line transects area. Housing exists along Boulder Creek to south. Most of the area to the west is designated open space.

Information Needs

Need further surveys for butterflies (*Hesperia ottoe* and *Atrytone arogos*).

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>
19893	<i>Hesperia ottoe</i>	Ottoe Skipper	G3G4	S2	No
24587	<i>Pinus ponderosa</i> / <i>Cercocarpus montanus</i> / <i>Andropogon gerardii</i> Wooded Herbaceous Vegetation	Foothills Ponderosa Pine Scrub Woodlands	G2	S2?	Yes
16895	<i>Atrytone arogos</i>	Arogos Skipper	G3	S2	No

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21896	<i>Speyeria idalia</i>	Regal Fritillary	G3	S1	No
18073	<i>Viola pedatifida</i>	prairie violet	G5	S2	No
17488	<i>Polites origenes</i>	Cross-line Skipper	G5	S3	No
24022	<i>Asclepias stenophylla</i>	narrow-leaved milkweed	G4G5	S2	No
24022	<i>Asclepias stenophylla</i>	narrow-leaved milkweed	G4G5	S2	No
21235	<i>Crocianthemum bicknellii</i>	frostweed	G5	S2	No
18073	<i>Viola pedatifida</i>	prairie violet	G5	S2	No
20956	<i>Amorpha nana</i>	dwarf wild indigo	G5	S2S3	No

REFERENCES

Reference ID	Full Citation
195190	Neid, S., J. Lemly, K. Decker and D. Culver. 2009. Final Report: Survey of Critical Biological Resources in Boulder County 2007-2008. Colorado Natural Heritage Program, Fort Collins, CO.
164863	Pineda, P. M., A. R. Ellingson, C. A. Pague. 1997. A systematic inventory for rare and imperiled butterflies on the City of Boulder Open Space and Mountain Parks, and recommendations for their management.
161922	Pineda, Phyllis M. 1996. Field Survey (Butterflies) to the City of Boulder Open Space and Mountain Parks, Larimer County and Cheesman Reservoir. Field Season 1996.

ADDITIONAL TOPICS

Additional Topics

Original site design by Pineda, P. 1996-09-01.

VERSION

Version Date	10/31/2008
Version Author	Neid, S.L.

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