

# Level 4 Potential Conservation Area (PCA) Report

Name Rabbit Mountain

Site Code S.USCOHP\*543

## IDENTIFIERS

Site ID 1899 Site Class PCA  
 Site Alias Rabbit Mountain South  
 Site Alias Little Thompson River at Meadow Hollow

## Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
2528	S.USCOHP*27454	Front Range Foothills-Carter Lake to Boulder

## LOCATORS

Nation United States Latitude 401445N  
 State Colorado Longitude 1051229W

## Quad Code Quad Name

40105-B2	Hygiene
40105-C2	Carter Lake Reservoir
40105-C3	Pinewood Lake
40105-B3	Lyons

## County

## Watershed Code Watershed Name

10190005	St. Vrain
10190006	Big Thompson

## SITE DESCRIPTION

Minimum Elevation	5,150.92 Feet	1,570.00 Meters
Maximum Elevation	6,578.08 Feet	2,005.00 Meters

## Site Description

This site comprises the southern extent of the major series of north-south trending hogbacks that span much of Larimer County to the north. Rabbit Mountain and Indian Mountain to the west are the southern terminus, to the south of which the landscape changes to the broad, flat Denver Basin. Rabbit and Indian Mountains are both remnants of anticlines, broad geologic foldings. The hogbacks are composed of multiple sedimentary bedrock layers; the different bedrock layers exert a strong influence on the vegetation patterns that occur on the site. Bedrock layers from bottom to top include Fountain Formation (conglomerate sandstone), Ingelside, Lyons, Lykins, Sundance-Jelm, Morrison, and Dakota Groups. These are primarily sandstones with intervening layers and inclusions of shales, siltstones, mudstones, and limestones (Braddock et al. 1988). These hogbacks have an extensive mosaic of piedmont grassland, foothill shrubland, and ponderosa pine savanna habitat over hogbacks and cliffs. Ponderosa pine (*Pinus ponderosa*) savanna tends to occur on ridgecrests and west-facing slopes. Mountain mahogany (*Cercocarpus montanus*) shrublands occur on rocky, shallow soils of steeper slopes. Broad, open meadows occupy valleys and toeslopes of the hogbacks in areas of deep soil accumulation. The ponderosa pine savanna is variable in cover and maturity. There are patches of very old, widely-spaced ponderosa pine as well as areas where the mature trees are growing with large cohorts of younger trees. The tree canopy overarches large shrub copses of mountain mahogany and/or skunkbush (*Rhus trilobata*) as dominant species. Shrub diversity is high with several other species scattered throughout. Grassland openings are variable and often comprised by weed establishment, especially cheatgrass (*Bromus tectorum*) and alyssum (*Alyssum minus*) among others. Weeds often obscure native species composition, which is dominated by grasses like needle-and-thread (*Hesperostipa comata*), blue grama (*Bouteloua gracilis*), and western wheatgrass (*Pascopyrum smithii*). Big bluestem (*Andropogon gerardii*) and little bluestem (*Schizachyrium scoparium*) form small patches amidst shrubland areas especially near rock outcrops. Needle-and-thread dominated grasslands are predominant with patches of New Mexico feathergrass (*Hesperostipa neomexicana*), porcupine grass (*Hesperostipa spartea*) and big bluestem (*Andropogon gerardii*) sporadically occurring. Graminoid diversity is high throughout the site. Additional species include sideoats grama (*Bouteloua curtipendula*), purple three awn (*Aristida purpurea*), junegrass (*Koeleria macrantha*), and blue wildrye (*Elymus glaucus*). The grasslands have mixed condition and some areas have been compromised by weeds similar to the ponderosa pine savanna openings. However, there are patches with rich forb diversity. Common species include blanket flower (*Gaillardia aristata*), bigflower cinquefoil (*Drymocallis fissa*), wild onion (*Allium textile*), prickly pear cactus (*Opuntia polyacantha*), blazing star

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(*Liatris punctata*), goldenrod (*Solidago simplex*), purple prairie clover (*Dalea purpurea*), Mexican hat (*Ratibida columnifera*), soapweed (*Yucca glauca*), Porter aster (*Aster porteri*), and many others. Shale outcrops are scattered along the east side and tend to have sparse herbaceous vegetation. Mountain mahogany tends to occur on the shale barrens with Indian ricegrass (*Achnatherum hymenoides*), New Mexico feathergrass, and many cushion plants. These outcrops support several rare plant species including Bell's twinpod (*Physaria bellii*) and wavy-leaf stickleaf (*Nuttallia sinuata*). Ephemeral drainages along the slopes are unique and tend to have diverse shrublands with American plum (*Prunus americana*), chokecherry (*Prunus virginiana*), serviceberry (*Amelanchier utahensis*), and skunkbush. Rabbit Mountain has an east-facing cliff with nesting raptors. On the west-facing slope of Rabbit Mountain, there are small springs and seepage areas that also support netleaf hackberry (*Celtis laevigata*), which is uncommon on the Front Range. Bottomlands support cottonwoods (*Populus deltoides*, *P. angustifolia*), coyote willow (*Salix exigua*), and patches of cattails (*Typha* sp.). Embedded within the grasslands are extensive prairie dog (*Cynomys ludovicianus*) towns.

## Key Environmental Factors

Lower montane-foothills elevation zone; sandstone and shale bedrock layers

## Climate Description

No Data

## Land Use History

No Data

## Cultural Features

Archeological findings have been discovered in this area; humans have used this area for at least 5,000 years

### SITE DESIGN

Site Map P - Partial

Mapped Date 10/16/2008

Designer Neid, S.L.

## Boundary Justification

The site encompasses a broad landscape area with an extensive mosaic of piedmont grassland, foothill shrubland, and ponderosa pine savanna habitat over hogbacks and cliffs. The boundary includes the hogbacks of Indian Mountain and Rabbit Mountain in Boulder County, drawn to include habitat dominated by native species. Fringes along Dowe Flats and Table Top Mountain were included to encompass current extent of prairie dogs on the landscape.

Primary Area 7,805.51 Acres

3,158.79 Hectares

### SITE SIGNIFICANCE

Biodiversity Significance Rank B1: Outstanding Biodiversity Significance

## Biodiversity Significance Comments

This site merits an outstanding biodiversity significance rank due to its concentration of globally rare communities and plants in excellent and good condition. Significant plant communities include two excellent to good (AB-ranked) occurrences of a globally imperiled (G1G2/S1S2) *Hesperostipa comata* Great Plains mixed grass prairie, an excellent (A-ranked) and a good to fair (BC-ranked) occurrence of the globally imperiled (G2/S2) *Pinus ponderosa* / *Cercocarpus montanus* / *Andropogon gerardii* foothills ponderosa pine scrub woodland, a good (B-ranked) occurrence of a globally imperiled (G2G3/S2S3) *Cercocarpus montanus* - *Rhus trilobata* / *Andropogon gerardii* shrubland, an excellent to good (AB-ranked) occurrence of the globally imperiled (G2G3/S2S3) *Cercocarpus montanus* / *Hesperostipa neomexicana* foothills shrubland, a fair (C-ranked) occurrence of the globally imperiled (G2G3/S2S3) hackberry community, *Celtis laevigata* var. *reticulata* / *Pseudoroegneria spicata*, a fair (C-ranked) occurrence of the globally imperiled (G2/S2) *Cercocarpus montanus* / *Hesperostipa comata* mixed foothills shrubland and excellent (A-ranked) and good (B-ranked) occurrences of the globally vulnerable (G3/S3) *Hesperostipa neomexicana* Great Plains mixed grass prairie. Rare plants include excellent (A-ranked) and fair (C-ranked) occurrences of the globally imperiled (G2G3/S2S3) Bell's twinpod (*Physaria bellii*), a good (B-ranked) occurrence of the globally vulnerable (G3/S3) wavy-leaf stickleaf (*Nuttallia sinuata*) and an extant occurrence of the state imperiled (G5/S1) forktip three-awn (*Aristida basiramea*). Black-tailed prairie dogs (*Cynomys ludovicianus*), a state rare (G4/S3) mammal, are scattered throughout.

Other Values Rank No Data

## Other Values Comments

No Data

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## LAND MANAGEMENT ISSUES

### Land Use Comments

The site contains a large open space parcel that has recreation trails. Some of the open space has no public access and about half is closed seasonally for natural resource protection. A portion of the site is slated for 35-acre lot development.

### Natural Hazard Comments

No Data

### Exotics Comments

Some areas are degraded with patches of Russian thistle (*Salsola australis*), spotted knapweed (*Acosta maculosa*), Dalmation toadflax (*Linaria dalmatica*), musk thistle (*Carduus nutans*), Russian olive (*Elaeagnus angustifolia*), toadflax (*Linaria dalmatica*), apple (*Malus pumila*), and mullein (*Verbascum thapsus*).

### Offsite

Much of the surrounding area is heavily grazed by cattle. The Little Thompson River, a gaging station, and a few scattered houses with horse pastures lie north of the site. Several quarries are in close proximity to this site.

### Information Needs

Long-term monitoring of Bell's twinpod would inform the population biology of this species at the site. There is an old specimen record from 1948 of narrow-leaved milkweed (*Asclepias stenophylla*), a state rare plant. Additional field efforts could locate this species.

## 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>
40633	<i>Cercocarpus montanus</i> - <i>Rhus trilobata</i> / <i>Andropogon gerardii</i> Shrubland	Mountain Mahogany - Skunkbush / Big Bluestem Shrubland	G2G3	S2S3	Yes
24587	<i>Pinus ponderosa</i> / <i>Cercocarpus montanus</i> / <i>Andropogon gerardii</i> Wooded Herbaceous Vegetation	Foothills Ponderosa Pine Scrub Woodlands	G2	S2?	Yes
24703	<i>Hesperostipa comata</i> Colorado Front Range Herbaceous Vegetation	Great Plains Mixed Grass Prairie	G1G2	S1S2	Yes
23937	<i>Physaria bellii</i>	Bell's twinpod	G2G3	S2S3	Yes
17413	<i>Celtis laevigata</i> var. <i>reticulata</i> / <i>Pseudoroegneria</i> <i>spicata</i> Woodland	Hackberry	G2G3	S1S2	No
21778	<i>Nuttallia sinuata</i>	wavy-leaf stickleaf	G3	S3	No
23792	<i>Aristida basiramea</i>	forktip three-awn	G5	S1	No
17796	<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	G4	S3	No
24703	<i>Hesperostipa comata</i> Colorado Front Range Herbaceous Vegetation	Great Plains Mixed Grass Prairie	G1G2	S1S2	Yes
17796	<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	G4	S3	No
23937	<i>Physaria bellii</i>	Bell's twinpod	G2G3	S2S3	No
24587	<i>Pinus ponderosa</i> / <i>Cercocarpus montanus</i> / <i>Andropogon gerardii</i> Wooded Herbaceous Vegetation	Foothills Ponderosa Pine Scrub Woodlands	G2	S2?	No
24531	<i>Cercocarpus montanus</i> / <i>Hesperostipa comata</i> Shrubland	Mixed Foothill Shrublands	G2	S2	No
40630	<i>Cercocarpus montanus</i> / <i>Hesperostipa</i> <i>neomexicana</i> Shrubland	Foothills Shrubland	G2G3	S2S3	Yes
22673	<i>Hesperostipa neomexicana</i> Herbaceous Vegetation	Great Plains Mixed Grass Prairie	G3	S3	No
22673	<i>Hesperostipa neomexicana</i> Herbaceous Vegetation	Great Plains Mixed Grass Prairie	G3	S3	No

## REFERENCES

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## Full Citation

192815	Braddock, William A., Prinya Nutalaya, and Roger B. Colton. 1988. Geologic Map of the Carter Lake Reservoir Quadrangle, Boulder and Larimer Counties, Colorado.
166568	Kettler, S., J. Sanderson, S. Spackman, K. Fayette, C. Pague, D. Clark, and A. Hicks. 1996. Final Report: Significant plant, animal, and wetland resources of Larimer County and their conservation. Colorado Natural Heritage Program, Fort Collins, CO.
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.

## ADDITIONAL TOPICS

### Additional Topics

Original site design by Pague, C.A. 1994-09-12. Little Thompson River at Meadow Hollow Area: original site design by Fayette, K.K. 1996-10-17 and updated by Doyle, G.A. 2005-02-08.

## VERSION

**Version Date** 10/16/2008

**Version Author** Neid, S.L.

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