

Level 4 Potential Conservation Area (PCA) Report

Name Rawhide Flats

Site Code S.USCOHP*5963

IDENTIFIERS

Site ID 1199 Site Class PCA
 Site Alias Rawhide Flats Macrosite

Network of Conservation Areas (NCA)

<u>NCA Site ID</u>	<u>NCA Site Code</u>	<u>NCA Site Name</u>
2163	S.USCOHP*25154	Pawnee Grassland

LOCATORS

Nation United States Latitude 405524N
 State Colorado Longitude 1050043W

Quad Code Quad Name

41105-A1	Emkay
41104-A8	Borie
40104-G8	Carr SW
40104-H8	Carr West
40105-H1	Round Butte
40105-G1	Buckeye

County

Watershed Code Watershed Name

10190008	Lone Tree-Owl
10190007	Cache La Poudre

SITE DESCRIPTION

Minimum Elevation	5,500.00	Feet	1,676.40	Meters
Maximum Elevation	6,400.00	Feet	1,950.72	Meters

Site Description

A large expanse of ecologically intact native shortgrass prairie covers much of northeastern Larimer County. The wide flat expanses and low rolling hills are interspersed with numerous swales and small drainages, and occasional bluffs or buttes. Much of the grassland is dominated by blue grama and buffalograss (*Bouteloua gracilis* - *Buchole dactyloides*) with the taller western wheatgrass (*Pascopyrum smithii*) and needle-and-thread (*Hesperostipa comata*) interspersed. The grasslands are more similar to the mixed grass prairie to the north than the shortgrass prairie found to the east on Pawnee National Grassland. Shrubs are generally sparse throughout the site. Low hills within the shortgrass prairie generally include stands of yucca (*Yucca glauca*) and the small bluffs or buttes that rise above the landscape are often covered with mountain mahogany (*Cercocarpus montanus*) shrublands. In the southern half of the site, intermittent drainages, or swales between hills, often support large patches of fourwing saltbush shrublands (*Atriplex canescens* / *Bouteloua gracilis*). This intact grassland supports many declining grassland species including abundant pronghorn and ground-nesting birds such as Lark Bunting and McCown's Longspur. Partners in Flight (2000) recognizes 14 grassland birds as conservation priorities due to declining populations. Eight of the 14 species (Swainson's Hawk, Ferruginous Hawk, Prairie Falcon, Mountain Plover, Burrowing Owl, Lark Bunting, Grasshopper Sparrow, and McCown's Longspur) have been documented within the site (T. VerCauteren 2005). Similarly, The Nature Conservancy's Prairie Wings program has identified the "Unlucky 13" highest priority bird species of the Great Plains, selected according to conservation status and their role as indicators of overall prairie health (TNC 2004). Six of the "Unlucky 13" have been documented within the site (Ferruginous Hawk, Mountain Plover, Burrowing Owl, Lark Bunting, McCown's Longspur, and Chestnut-collared Longspur). Surveyors counted over 75 McCown's Longspurs during 2004; most of these birds were males performing territorial displays. Habitat loss is the greatest threat to grassland bird species as land is converted to cropland or residential development. Swift fox (*Vulpes velox*), another declining shortgrass prairie species, has also been documented along with an imperiled butterfly, the Colorado blue (*Euphilotes rita coloradensis*). Eight Colorado blues were collected over three days of sampling in 2008. Small prairie dog towns are present, several of which support Burrowing Owl populations. The grasslands are used primarily for livestock grazing and have little human habitation. Numerous stock ponds and windmills and an occasional old homestead site can be found on the landscape. Numerous dirt and gravel roads and a railroad exist within the site. Bison currently graze on the Platte River Power Authority property. The Rawhide Flats site represent a rare

Level 4 Potential Conservation Area (PCA) Report

Name Rawhide Flats

Site Code S.USCOHP*5963

opportunity where imperiled species and significant natural communities can be protected in a landscape which still has the capability of having relatively natural, functional ecological processes (e.g. grazing and fire). Numerous threats to the natural heritage resources exist. The most serious threats include habitat fragmentation, physical destruction of habitat, invasion by non-native species, and alteration of natural disturbance regimes.

Key Environmental Factors

The native landscape of the shortgrass prairie was a mosaic ranging from areas of excessive disturbance/grazing to areas barely grazed (Knopf 1996). This natural variability is an environmental factor that the shortgrass prairie birds and the Colorado blue butterfly depend on (Colorado Partners in Flight 2000, Knopf 1996, Natureserve 2008).

Climate Description

The climate is semi-arid with precipitation averaging about 15 inches per year. About half of the yearly precipitation is received during the months of April through August. Winter average minimum temperatures are in the range of 15-20 °F, and summer average maximum temperatures in July and August are in the upper 80 °F range (Western Regional Climate Center 2008).

Land Use History

The area has been inhabited by people for as long as 13,000 years. The area was occupied in the Clovis and Folsom periods and a Folsom site, the Folsom period Lindenmeier Archeological Site, occurs within the Soapstone Prairie Natural Area just outside the boundary. Apparently many native tribes lived in or visited the area. By the mid-1800s immigrants brought ranching to the area, which is still the predominant land use.

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 01/26/2005

Designer Doyle, G.A.

Boundary Justification

The site is intended to protect the grassland habitats necessary for the survival of the Mountain Plover and Colorado blue. It is also thought to protect viable populations of the numerous state rare birds and swift fox. This boundary includes a variety of habitats; bluffs for raptors, hill tops for larkspurs, mesic swales for savanna and grasshoppers sparrows, fence lines for Loggerhead Shrikes, windmills and trees around old home sites and bluffs for the Ferruginous Hawk, and open prairie for the Mountain Plovers. The boundary includes large intact shortgrass prairie parcels owned and managed as units as well as adjacent subdivided (35-acre) parcels. The protected shortgrass prairie represents habitat for the imperiled Colorado blue butterfly. The long-term persistence of *E. rita coloradensis* populations will be favored by the protection of an area larger than that which is occupied by the occurrence in any one year. Habitat heterogeneity may be related to long-term persistence in butterflies, a habitat component that is enhanced by a large protected area. Within this site, numerous hills and drainages support a mosaic of habitat patches which have potential for *E. rita coloradensis* occupancy. The northern boundary extends into Wyoming where the intact shortgrass prairie ecosystem continues beyond the boundary. Interstate 25 forms the eastern edge of the site as the highway likely forms a barrier for some of the species of interest (especially pronghorn). Buckeye Road forms the southern boundary as lands south of Buckeye Road are more often cultivated, subdivided, or generally altered from their native condition. The boundary to the west includes unsurveyed private lands within the Rawhide Flats area that likely support the species of interest. These lands have been divided into 35-acre parcels but are generally undeveloped. Some cultivated lands are excluded on the edges, but some cultivated lands where they are surrounded by intact prairie are included. Roadside surveys by Rocky Mountain Bird Observatory indicate the birds occur south of the boundary, however, the habitat there is fragmented with housing and tilled agricultural development. The boundary will also permit ecological processes to occur, on a scale that has biological significance.

Primary Area 52,635.99 Acres

21,301.11 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

The biodiversity significance rank is based on a good (B-ranked) occurrence of the globally imperiled (G3G4T2T3/S2) Colorado blue butterfly (*Euphilotes rita coloradensis*). There are also multiple fair (C-ranked) or extant occurrences of the globally imperiled (G2/S2) Mountain Plover (*Charadrius montanus*)

Level 4 Potential Conservation Area (PCA) Report

Name Rawhide Flats

Site Code S.USCOHP*5963

and an extant occurrence of the globally vulnerable (G3/S3) swift fox (*Vulpes velox*). Other declining shortgrass prairie species include McCown's Longspur, Chestnut-collared Longspur, Ferruginous Hawk, and black-tailed prairie dog. This site, and its surroundings, encompass large tracts of relatively natural prairie. Although this habitat is not uncommon regionally, a large percentage in Larimer County has been destroyed by urban development or heavily altered by agricultural conversion. This site would protect not only several species imperiled at a global or state level, but would also protect many common species and a valuable part of Larimer County's natural heritage.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

Ranching is the current use of the land and cattle grazing currently occurs within the site. Recreation by the general public is proposed for the Soapstone Prairie Natural Area and recreational plans are in development.

Natural Hazard Comments

No Data

Exotics Comments

Dalmation toadflax (*Linaria dalmatica*) has been documented and development of a management plan for this and other invasive weeds is needed, particularly within the City of Fort Collins properties.

Offsite

No Data

Information Needs

Additional information on the size of the Colorado blue populations would assist with managing the population. The City of Fort Collins Utilities owns the Meadow Springs Ranch primarily for land disposal of biosolids. Long-term monitoring of plant species and percent cover within the shortgrass prairie is recommended to document the long-term effects of biosolids application on the native plant species. The shortgrass prairie evolved with low nitrogen availability; increased soil nitrogen may create conditions favorable for a shift in native species and increase in non-natives.

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element			Global	State	Driving
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Rank</u>	<u>Rank</u>	<u>Site Rank</u>
21730	<i>Calcarius ornatus</i>	Chestnut-collared Longspur	G5	S1B	No
21012	<i>Vulpes velox</i>	Swift Fox	G3	S3	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
17796	<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	G4	S3	No
21730	<i>Calcarius ornatus</i>	Chestnut-collared Longspur	G5	S1B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18609	<i>Charadrius montanus</i>	Mountain Plover	G2	S2B	No
18461	<i>Calcarius mccownii</i>	McCown's Longspur	G4	S2B	No
17796	<i>Cynomys ludovicianus</i>	Black-tailed Prairie Dog	G4	S3	No
19973	<i>Buteo regalis</i>	Ferruginous Hawk	G4	S3B,S4N	No
18074	<i>Euphilotes rita coloradensis</i>	Colorado Blue	G3G4T2T3	S2	Yes

REFERENCES

Level 4 Potential Conservation Area (PCA) Report

Name Rawhide Flats

Site Code S.USCOHP*5963

Reference ID

Full Citation

192827	Colorado Department of Natural Resources. 1998. Planning trails with wildlife in mind. Colorado Department of Natural Resources, Trails Program. Denver, CO.
192744	Colorado Partners in Flight. 2000. Land Bird Conservation Plan. http://www.blm.gov/wildlife/plan/pl-co-10.pdf .
192603	Craig, G. R. 1998. Recommended buffer zones and seasonal restrictions for Colorado raptors. Unpublished report by the Colorado Division of Wildlife. Updated October 20, 1998.
192692	Doyle, G.A., S.L. Neid and R.J. Rondeau. 2005. Final Report: Survey of Critical Biological Resources, Larimer County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
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.
159942	Knopf, F. L. 1996. Prairie legacies - birds. Pages 135-148 in Prairie Conservation: preserving North America's most endangered ecosystem (F.B. Samsom and F.L. Knopf, eds.). Island Press, Covelo, California.
166571	Miller, S.G., R.L. Knight, and C.K. Miller. 1998. Influence of recreational trails on breeding bird communities. Ecological Applications 8:162-169.
195203	Sovell, J.R. 2008. Final Report: Survey of Soapstone Prairie Natural Area for Rare Butterfly and Fish Species 2007. Colorado Natural Heritage Program, Fort Collins, CO.
192743	Trails and Wildlife Taskforce. 1998. Planning trails with wildlife in mind. Unpublished report by Colorado State Parks and Hellmund Associates.
192861	VerCauteren, T. 2005. Rocky Mountain Bird Observatory. Personal communication to the Colorado Natural Heritage Program, Fort Collins, CO.
195034	WRCC. 2008. Western Regional Climate Center. Division of Atmospheric Sciences, Desert Research Institute. Reno, Nevada. < http://www.wrcc.dri.edu >.

ADDITIONAL TOPICS

Additional Topics

Original site design by Kettler, S.M. 1996-10-28.

VERSION

Version Date 07/10/2008

Version Author Sovell, J.R.

Disclaimer

Level 4 Potential Conservation Area (PCA) Report

Name Rawhide Flats

Site Code S.USCOHP*5963

These data are a product and property of Colorado State University, Colorado Natural Heritage Program (CNHP). These data are strictly "on loan" and should be considered "works in progress". Data maintained in the Colorado Natural Heritage Program database are an integral part of ongoing research at CSU and reflect the observations of many scientists, institutions and our current state of knowledge. These data are acquired from various sources, with varying levels of accuracy, and are continually being updated and revised. Many areas have never been surveyed and the absence of data in any particular geographic area does not necessarily mean that species or ecological communities of concern are not present. These data should not be regarded as a substitute for on-site surveys required for environmental assessments. Absence of evidence is NOT evidence of absence. Absence of any data does not mean that other resources of special concern do not occur, but rather CNHP files do not currently contain information to document this presence. CNHP is not responsible for whether other, non-CNHP data providers have secured landowner permission for data collected.

These data are provided for non-commercial purposes only. Under no circumstances are data to be distributed in any fashion to outside parties. To ensure accurate application of data, tabular and narrative components must be evaluated in conjunction with spatial components. Failure to do so constitutes a misuse of the data. The Colorado Natural Heritage Program shall have no liability or responsibility to the data users, or any other person or entity with respect to liability, loss, or damage caused or alleged to be caused directly or indirectly by the data, including but not limited to any interruption of service, loss of business, anticipatory profits or indirect, special, or consequential damages resulting from the use of operation of the data. Data users hereby agree to hold CNHP, Colorado State University, and the State of Colorado harmless from any claim, demand, cause of action, loss, damage or expense from or related to data users use of or reliance on the data, regardless of the cause or nature thereof, and even in the event that such cause is attributable to the negligence or misconduct of CNHP.

These data are provided on an as-is basis, as-available basis without warranties of any kind, expressed or implied, INCLUDING (BUT NOT LIMITED TO) WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, AND NON-INFRINGEMENT. Although CNHP maintains high standards of data quality control, CNHP, Colorado State University, and the State of Colorado further expressly disclaim any warranty that the data are error-free or current as of the date supplied