

# Level 4 Potential Conservation Area (PCA) Report

Name Rocky Flats

Site Code S.USCOHP2\*2603

## IDENTIFIERS

Site ID 515 Site Class PCA  
Site Alias Rock Creek  
Site Alias Woman Creek

## Network of Conservation Areas (NCA)

<u>NCA Site ID</u>	<u>NCA Site Code</u>	<u>NCA Site Name</u>
2527	S.USCOHP*27435	Rocky Flats Grasslands

## LOCATORS

Nation United States Latitude 395315N  
State Colorado Longitude 1051330W

## Quad Code Quad Name

39105-H2	Louisville
39105-H3	Eldorado Springs
39105-G2	Golden
39105-G3	Ralston Buttes

## County

## Watershed Code Watershed Name

10190003	Middle South Platte-Cherry Creek
10190004	Clear
10190005	St. Vrain

## SITE DESCRIPTION

<b>Minimum Elevation</b>	5,400.00	<b>Feet</b>	1,646.00	<b>Meters</b>
<b>Maximum Elevation</b>	6,120.00	<b>Feet</b>	1,865.00	<b>Meters</b>

## Site Description

The Rocky Flats site occurs on the south and west portions of the Rocky Flats alluvial fan and, to some extent, down into the colluvial valleys that dissect it. Most of the site is located on the Rocky Flats Environmental Technology Site (RFETS), a former nuclear weapons manufacturing facility overseen by the U.S. Department of Energy. RFETS is listed on the National Priorities List under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA). The flora is similar to other alluvial fans in the region, although many of these natural communities are becoming increasingly threatened by urban development. The fauna has been more highly impacted by regional extirpations of some high trophic level mammals, but still retains many common animals and some rarer ones. The site is bounded by Highway 128 on the north, Coal Creek to the west, and the RFETS boundary to the south. The eastern boundary follows a rough line that follows the eastern watershed extent of Rock Creek, curves around to the west of the facility's industrial area, and runs southeast to include the wetland complexes of upper Woman Creek.

## Key Environmental Factors

No Data

## Climate Description

15 inches of precip. ann. Prone to high winds, sometimes reaching 80 MPH.

## Land Use History

General public has been excluded from most of site for the last 20-40 years. Grazing and gravel mining have been ongoing.

## Cultural Features

Some of the site is regulated by EPA and CDPHE under Superfund.

## SITE DESIGN

Site Map P - Partial Mapped Date 12/05/1995  
Designer Essington, K.D.

## Boundary Justification

The boundaries include xeric tallgrass prairie, the Great Plains riparian community in Rock Creek, the Preble's meadow jumping mouse occurrence in Rock Creek and upper Woman Creek, and the invertebrate

# Level 4 Potential Conservation Area (PCA) Report

Name Rocky Flats

Site Code S.USCOHP2\*2603

occurrences. The potential extent of xeric tallgrass prairie is documented by Western Aggregates, Inc. (1995) and, while fragmented by roads and gravel pits, is considered one occurrence by CNHP. It stretches from the northwest corner of the site south through section 16 and west for an uncertain distance across Highway 93. Field surveys and monitoring data indicate that the xeric tallgrass prairie community exists on the mesa tops in the southwest corner (section 15) of the RFETS Buffer Zone. Similar grasslands appear to extend beyond the study area, west of Highway 93, indicating that this community occurrence is part of a larger, even more viable system (Western Aggregates 1994). Therefore, CNHP has included this extension in the boundary. With the use of a Series 30 Lasico planimeter, CNHP has determined that the community is at least 2,500 acres. The boundary is also considered a "buffer area" for the rare invertebrates recorded. It is difficult to monitor the range of these animals but this "buffer area" should sufficiently protect their perceived needs by including adequate habitat size. It should be noted that the Rock Creek and Woman Creek watersheds are joined into one site. This is an atypical boundary determination by CNHP and is due to two factors. First, the xeric tallgrass prairie occurrence, equally covers both watersheds. Second, is the understanding that hydrologic inputs to Woman Creek are probably from shallow groundwater recharge in the pediments of sections 16 and 15, east of the sandstone hogback that runs north-south through the area (U.S. Department of Energy 1992, U.S. Department of Energy 1994d). Although the Woman Creek channel has been historically used for water conveyance to downstream users, and thereby contributing to flow patterns and possibly augmenting Preble's meadow jumping mouse habitat, this practice will not continue due to the construction of the Kinnear Pipeline (Hill pers. comm. 1995). It is critical that, in order to ensure natural surface water flow and continued viability of the Preble's meadow jumping mouse occurrence in Woman Creek, the groundwater recharge area be included.

Primary Area 4,981.82 Acres 2,016.08 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) xeric tallgrass prairie (*Andropogon gerardii* - *Schizachyrium scoparium*) and a fair (C-ranked) occurrence of the globally imperiled (G5T2/S1) and federally Threatened Preble's meadow jumping mouse (*Zapus hudsonius preblei*). Unique invertebrate occurrences include a fair (C-ranked) occurrence of the globally imperiled (G2G3/S2) hops feeding azure (*Celastrina humulus*), a fair (C-ranked) occurrence of the globally vulnerable (G3G4/S2) Ottoo skipper (*Hesperia ottoo*) and a fair (C-ranked) occurrence of the globally vulnerable (G3/S2) Arogos skipper (*Atrytone arogos*).

Other Values Rank No Data

### Other Values Comments

The Colorado Bird Observatory (CBO), recognizes several high priority species that use the site. These species include Lark Bunting (*Calamospiza melanocorys*), Ferruginous Hawk (*Buteo regalis*), MacGillivray's Warbler (*Opornis tolmiei*), Brewer's Sparrow (*Spizella brewerii*), and several others (U.S. Department of Energy 1995a). Although many observations of these species appear to be casual, it should not be overlooked that the area could provide essential migratory stopover habitat for these and more common species. EG& G estimated breeding population density for Grasshopper Sparrows in the prairie community (as it occurs on RFETS) to be 0.65 birds/hectare, or roughly 120 birds (U.S. Department of Energy 1995c). This species is a further indicator of the special nature not only of the site in general, but the xeric tallgrass prairie in particular. A marginal occurrence (not tracked by CNHP) of a Great Plains riparian community occurs. It is characterized by a diverse mixture of plains cottonwood, peach-leaved willow, and coyote willow (*Populus deltoides* / *Salix amygdaloides* - *Salix exigua*) with an understory of various low shrubs such as leadplant (*Amorpha fruticosa*) and snowberry (*Symphoricarpos occidentalis*). This community is rare and declining in its native conditions throughout the high plains of Colorado, Nebraska, and Kansas. Threats to this community type are primarily water development, use and management. However, exotic species, such as leafy spurge (*Euphorbia esula*) and purple loosestrife (*Lythrum elata*) are increasing problems. Despite the generally xeric nature of the area, several wetlands occur, mostly in the upper Woman Creek drainage, but also on north aspect slopes in Rock Creek. These wetland occurrences are also not among the best examples of common associations in the state due to their relatively restricted size. They don't rank as high priorities for their Natural Heritage values with respect to plant associations. This view is bolstered by recognition that the seep sites in upper Woman Creek may be enhanced by anthropogenic water impoundments (i.e. Rocky Flats Lake) to the west (U.S. Army Corps of Engineers 1994). The wetlands do, however, potentially serve other important functions and values, as do wetlands everywhere. Perhaps most important, we do not yet understand how wetland mosaics present support local populations of Preble's meadow jumping mouse. These wetlands may also retain

# Level 4 Potential Conservation Area (PCA) Report

Name Rocky Flats

Site Code S.USCOHP2\*2603

nutrients, sediment, and metals in the water, provide food chain support both within the basin and downstream, and provide forage, cover, and nesting habitat for wildlife (Mitch and Gosselink 1994). The hillside seeps in Rock Creek support a unique tall shrubland complex (Kettler et al. 1994). Dominated by hawthorn (*Crataegus erythropoda*), chokecherry (*Prunus virginiana*), and some western snowberry (*Symphoricarpos occidentalis*), CNHP has tentatively classified it as *Crataegus erythropoda - Prunus virginiana - Symphoricarpos occidentalis* plant association. An additional unusual shrub community occurs within Rock Creek, and to some extent in Woman Creek. It is dominated by leadplant (*Amorpha fruticosa*). It occurs in floodplains of the stream channels, laterally upgradient from the Great Plains riparian community. Like the Great Plains riparian community, it is believed that this shrubland has been highly impacted by water management and exotic species intrusion, but historical records and trends are lacking.

## LAND MANAGEMENT ISSUES

### Land Use Comments

No Data

### Natural Hazard Comments

No Data

### Exotics Comments

No Data

### Offsite

As part of a larger, landscape-level, open space contingent, it is likely that the site is an important contributor to healthy predator-prey relationships. The size, current isolation, and relatively high quality of the area supports potentially viable population of numerous species that are typical of the natural communities at RFETS. This supports biodiversity at the landscape level by preventing biogeographic (or island) effects prevalent in many natural areas (Macarthur and Wilson 1967). This is likely to be important to some common species, but particularly so for more motile and rare species.

### Information Needs

The undocumented nature of *Carex oreocharis* in Colorado suggests to CNHP that its occurrence in the site should be protected and studied further. A wider search designed to confirm or deny other occurrences throughout its range may be in order. Invertebrate Management Recommendations: Studies have shown that the Colorado Piedmont is one of the country's four most important ecoregions for the conservation of the diversity of butterflies (Opler 1994). Butterflies can be easily monitored and may be good indicators of environmental changes. This is especially true for imperiled species, or those associated with rare habitats. To this end, CNHP encourages the Department of Energy to conduct additional studies of the species identified in this report and for other rare species known from the general area that were not confirmed. These unconfirmed elements include the rare Ottoe skipper, a globally vulnerable species recorded in xeric tallgrass prairie 3 miles southwest of the study area.

## ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>			
19893	<i>Hesperia ottoe</i>	Ottoe Skipper	G3G4	S2	No
20146	<i>Celastrina humulus</i>	Hops Feeding Azure	G2G3	S2	No
23792	<i>Aristida basiramea</i>	forktip three-awn	G5	S1	No
16895	<i>Atrytone arogos</i>	Arogos Skipper	G3	S2	No
21289	<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	G5T2	S1	No
24870	<i>Andropogon gerardii - Schizachyrium scoparium</i> Western Great Plains Herbaceous Vegetation	Xeric Tallgrass Prairie	G2?	S2	Yes
21289	<i>Zapus hudsonius preblei</i>	Meadow Jumping Mouse Subsp	G5T2	S1	No

## REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
-	No Data

## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

Version Date 12/05/1995

Copyright © 2011. Colorado State University. Colorado Natural Heritage Program. All Rights Reserved.

# Level 4 Potential Conservation Area (PCA) Report

Name Rocky Flats

Site Code S.USCOHP2\*2603

Version Author Essington, K.D.

## Disclaimer

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