

Level 4 Potential Conservation Area (PCA) Report

Name South Platte River Valley

Site Code S.USCOHP*6037

IDENTIFIERS

Site ID 1672 Site Class PCA
Site Alias Cheesman Reservoir
Site Alias Pine Valley

Network of Conservation Areas (NCA)

<u>NCA Site ID</u>	<u>NCA Site Code</u>	<u>NCA Site Name</u>
1666	S.USCOHP1*1992	South Platte Canyon

County

SITE DESCRIPTION

Site Description

South Platte River Valley covers an extensive area surrounding Cheesman Reservoir and extending north along the South Platte River and North Fork of the South Platte River in Jefferson and Douglas counties, Colorado. The site stretches for approximately 20 miles along the South Platte River and for approximately 15 miles along the North Fork South Platte River. It also includes portions of the Buffalo Creek and Horse Creek drainages. The site boundary originates at the upper edge of the river floodplain, rising up the mountain slopes to approximately 7,800 feet (2,377 meters). The vegetation is dominated by open ponderosa pine (*Pinus ponderosa*) savanna woodland with a sparse cover of blue grama (*Chondrosium gracile*) and other grasses and forbs including prairie gayfeather (*Liatris punctata*). On north-facing slopes there are limited patches of mixed ponderosa pine - Douglas-fir (*Pseudotsuga menziesii*) forest or occasionally just Douglas-fir forest. However, the site purposely avoids areas of thick forest where Douglas-fir occurs. Within these areas of savanna woodland is found the Pawnee montane skipper butterfly (*Hesperia leonardus montana*). On the west end of the site, within the South Fork South Platte River drainage, lies a riparian corridor, where willows (*Salix* spp.) with a lush understory of herbaceous vegetation including common hop (*Humulus lupulus*) dominate. Here, in the riparian corridor, is found a population of the hops azure butterfly (*Celastrina humulus*). There are also high quality plant communities that are found in these wetlands. The bedrock geology consists of Jurassic sedimentary rocks of the Morrison and Wanakah Formations including sandstones, shale, limestone and gypsum. Also present are igneous and metamorphic rocks of the Precambrian Age including gneiss, schist and granite. Soils are mostly derived from Pikes Peak Granite. On mountain side slopes and at mountain summits are found shallow, excessively well drained soils that are stony, gravelly and loamy. At the northeast edge of the site, these mountain side soils are derived from igneous and metamorphic rocks and the resulting soils are moderately deep, well drained and are formed in gravelly to sandy loam material. Along the river corridors are found deep, excessively drained and very gravelly sandy loam soils derived from alluvium of Pikes Peak granite origin.

Key Environmental Factors

Important factors supporting the Pawnee montane skipper at this site include ground fires, which maintain open canopy ponderosa pine savanna and the high erosion rate of exposed granitic soils that create conditions suitable for the butterfly larval host plant (blue grama) and primary adult nectar source (prairie gayfeather). The Pikes Peak granite at the site forms gravelly and loamy soils that support ponderosa pine savanna woodland with a sparse understory of grasses and forbs including blue grama and prairie gayfeather.

Climate Description

Mean annual precipitation at the site is 15-20 inches per year. The mean annual temperature is 41-47 degrees F and annual precipitation averages 16 inches, with 65 percent occurring from April to September. Summer thundershowers are common, and sometimes severe and can occur with little warning. Snow melts rapidly, especially on southern exposures, and rarely lasts more than a day or two on the ground. The frost-free season ranges from 55 to 125 days.

Land Use History

Ranching, mining and open space recreation are the major land uses that have historically occurred on the site. Portions of the site surrounding and including Cheesman Reservoir have been owned and managed by the Denver Water Board since the turn of the century and the reservoir and its waters are managed to supply portions of the Denver metropolitan areas water supply.

Cultural Features

No Data

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Minimum Elevation 6,600.00 Feet 2,012.00 Meters
 Maximum Elevation 7,800.00 Feet 2,377.00 Meters

SITE DESIGN

Site Map Y - Yes Mapped Date 12/14/2011
 Designer Sovell, J.R. and A.E. Lavender

Boundary Justification

The boundary is drawn to include the ponderosa pine savanna woodland below approximately 7,800 feet (2,377 meters) where an understory of blue grama exists. This habitat is suitable for the Pawnee montane skipper butterfly and the boundary is meant to represent the worldwide distribution of the butterfly's habitat. The boundary is based on data collected on the Pawnee montane skipper butterfly in the South Platte River Valley in the 1980s (ERT 1986) and from 2002 to 2010 (Sovell 2011). The west end includes riparian habitat components suitable for the hops azure butterfly, a population of which occurs on this portion of the site.

Primary Area 43,625.09 Acres 17,654.52 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B1: Outstanding Biodiversity Significance

Biodiversity Significance Comments

The site supports excellent (A-ranked) and good (B-ranked) occurrences of the federally Threatened and globally critically imperiled (G4T1/S1) Pawnee montane skipper butterfly (*Hesperia leonardus montana*). This subspecies of skipper butterfly is endemic to Colorado, and restricted to the granitic soils of the South Platte Canyon, in an area of about 38 square miles. This site supports almost the entire known distribution of Pawnee montane skipper butterfly, including the three highest quality populations of the butterfly currently documented. The site also includes a good (B-ranked) and extant occurrence of the globally imperiled (G2G3/S2) hops azure butterfly (*Celastrina humulus*). Two plant communities occur in this site and include an excellent (A-ranked) occurrence of the apparently secure (G4/S4) Rocky Mountain willow (*Salix monticola*) / mesic forbs shrubland and a good (B-ranked) occurrence of a state rare (G4?/S3) water birch (*Betula occidentalis*) / starry false lily of the valley (*Maianthemum stellatum*) shrubland. Northern Leopard Frog, Western Bumble Bee and James' Telesonix have also been documented.

Other Values Rank V2 - High values

Other Values Comments

The site includes Cheesman Reservoir, currently used only for fishing. Roads within the property can be utilized by hikers. At this time, it is off-limits to cyclists, although the potential exists. Potential also exists for the use of sail and motor boats, and other types of water recreation, as well as camping within the forest and ORV use within the property. The South Platte Canyon area also has potential for reservoir and dam construction. Building of cabins is a possibility, although the soils are unstable. The steepness of some slopes and the unstable nature of the soil may limit timber cutting.

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
44554	<i>Bombus occidentalis</i>	Western Bumble Bee	G3	S3S4	N
20843	<i>Hesperia leonardus montana</i>	Pawnee Montane Skipper	G4T1	S1	N
20146	<i>Celastrina humulus</i>	Hops Feeding Azure	G2G3	S2	N
24686	<i>Betula occidentalis</i> / <i>Maianthemum stellatum</i> Wet Shrubland	Foothills Riparian Shrubland	G4?	S3	N
24809	<i>Salix monticola</i> / Mesic Forbs Wet Shrubland	Montane Riparian Willow Carr	G4	S4	N
20843	<i>Hesperia leonardus montana</i>	Pawnee Montane Skipper	G4T1	S1	Y
20843	<i>Hesperia leonardus montana</i>	Pawnee Montane Skipper	G4T1	S1	Y
20843	<i>Hesperia leonardus montana</i>	Pawnee Montane Skipper	G4T1	S1	Y
20146	<i>Celastrina humulus</i>	Hops Feeding Azure	G2G3	S2	N
18389	<i>Lithobates pipiens</i>	Northern Leopard Frog	G5	S3	N
19611	<i>Telesonix jamesii</i>	James' Telesonix	G3G4	S3	N

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LAND MANAGEMENT ISSUES

Land Use Comments

The main land uses in the area include recreation, ranching, and mining. Cheesman Reservoir lies within the site at its south end. Some of the USFS forest property contain hiking and mountain biking trails.

Natural Hazard Comments

The site contains rough steep terrain and steep drops requiring caution when hiking.

Exotics Comments

Exotics include Dalmatian toadflax (*Linaria genistifolia* subsp. *dalmatica*), common mullein (*Verbascum thapsus*), Canada thistle (*Breca arvensis*), musk thistle (*Carduus nutans*) and dock (*Rumex* sp.). Also, *Bromopsis inermis* appears somewhat problematic along some waterways, as it appears to be displacing the sedges (*Carex* spp.) growing in some areas.

Offsite

Off-site there are other dams (Antero Reservoir), Forest Service campgrounds and private campgrounds. Some building of new housing is apparent in the area, especially on the northwest end of the site, where exurban development is occurring near Highway 285.

Information Needs

Monitor nearby Buffalo Creek burn area (burned in June 1996) for recovery progress. Monitoring of the old growth ponderosa pine occurrence and butterfly populations in the Hayman Fire of 2002 is needed to understand how the butterfly an forest is recovering. More research and analysis is required to identify what density of tree cover is most suitable for Pawnee montane skipper populations.

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
173549	ERT. 1986. 1986 Pawnee Montane Skipper Field Studies. Prepared for Denver Water Department by ERT, A Resource Engineering Company, Fort Collins, Colorado.
198888	South Platte Enhancement Board. 2001. South Platte Protection Plan. 171pp.
198892	Sovell, J. R. 2011. Pawnee Montane Skipper Post-fire Habitat Assessment Survey - August/September 2010. Colorado Natural Heritage Report.
302503	Sovell, J. and P. Smith. 2022. CNHP Final Report: Jefferson County Biodiversity Assessment 2020-2022. Colorado Natural Heritage Program, Colorado State University, Fort Collins, CO.
198851	Sovell, J., P. Smith, D. Culver, S. Panjabi and J. Stevens. 2012. CNHP Final Report: Survey of Critical Biological Resources in Jefferson County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.

ADDITIONAL TOPICS

Additional Topics

Original site design by Stephens, T. and P. Pineda 1996-11-06.

LOCATORS

Nation	United States	Latitude	391757N
State	Colorado	Longitude	1051214W

<u>Quad Code</u>	<u>Quad Name</u>
39105-B3	Cheesman Lake
39105-B2	Westcreek
39105-D4	Bailey
39105-D3	Pine
39105-D2	Platte Canyon
39105-C2	Deckers
39105-C3	Green Mountain

<u>Watershed Code</u>	<u>Watershed Name</u>
10190002	Upper South Platte

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VERSION

Version Date 12/14/2011

Version Author Sovell, J.R.

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