

# Level 4 Potential Conservation Area (PCA) Report

Name Devil Creek State Wildlife Area

Site Code S.USCOHP\*25692

## IDENTIFIERS

Site ID 2242 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 371331N  
 State Colorado Longitude 1071616W

Quad Code Quad Name  
 37107-B3 Chimney Rock

County  
 Archuleta (CO)

Watershed Code Watershed Name  
 14080102 Piedra

## SITE DESCRIPTION

<b>Minimum Elevation</b>	6,700.00	<b>Feet</b>	2,042.16	<b>Meters</b>
<b>Maximum Elevation</b>	7,200.00	<b>Feet</b>	2,194.56	<b>Meters</b>

### Site Description

In the west-central portion of Archuleta County, north of Capote Lake and Highway 160 and between Haystack Mountain and Devil Mountain, Devil Creek flows westward through the Devil Creek State Wildlife Area. A snowmelt and spring-fed second-order stream in a lower montane, moderately broad river valley bottom, Devil Creek is a tributary to the Piedra River four miles downstream of the site. Along Devil Creek near the site, Haystack Mountain (7,900') rises sharply to the southeast and Devil Mountain (9,900') rises more gradually four and a half miles to the north. A broad riparian zone occurs along Devil Creek, occupying the terraces and benches. Dominated by an open-to-dense canopy of multi-aged narrowleaf cottonwood (*Populus angustifolia*), the riparian area has a diverse and sometimes dense understory of riparian shrubs dominated by silver buffaloberry (*Shepherdia argentea*) and river hawthorn (*Crataegus rivularis*); other riparian shrubs can reach a high density depending upon water availability. Ponderosa pine (*Pinus ponderosa*) occurs sporadically within the riparian zone and on the upper terraces but never dominates the riparian area. One stand of non-native Russian olive (*Elaeagnus angustifolia*) was noted along Devil Creek. In the herbaceous layer, native species are mixed with non-natives including thistles (*Cirsium* sp.), smooth brome (*Bromus inermis*) and other hay grasses. Cheatgrass (*Bromus tectorum*) and jointed goatgrass (*Aegilops cylindricum*) have invaded hay meadows in the lower portion of the site adjacent to the riparian zone. Within the floodplain, backwater channels and sloughs are common and support a mix of more mesic and hydrophytic species, though none are considered dominant. The upstream reaches of Devil Creek exhibit fewer weeds and a higher density of native species, and the downstream reaches are more impacted, but not severely. On the terraces above the immediate floodplain there are large, downed cottonwoods as well as standing snags, enhancing the wildlife habitat. Adjacent upland forests are dominated by ponderosa pine and Gambel oak (*Quercus gambelii*). Deer, elk and turkey are common in the area, especially in the fall and winter, and many songbirds forage, roost, and possibly nest in the shrub understory and cottonwood canopy during warmer months. Peregrine Falcon from a nearby aerie may forage along Devil Creek within the site (CDNR 2005). The fishery is rated poor for rainbow and native trout according to the Colorado Division of Wildlife (CDNR 2005), since creek flows disappear in dry years, and because downstream culverts at the highway may limit fish migration. Power or utility lines cross through the site, and a limited-use two-track road parallels the creek on a high terrace north of the creek.

### Key Environmental Factors

The geology along this reach of Devil Creek is mapped as MesaVerde Group, comprised of sandstone and shale. Adjacent hillsides to the north are mapped as Mancos Shale, and to the south as Pictured Cliffs sandstone and Lewis shale (Tweto 1979). Soils immediately along Devil Creek are mapped as Pescar sandy loam from mixed parentage, with Nunn loam (derived from sandstone and shale) on the terraces north of the creek. Surrounding upland hillsides are dominated by Carracas loam (also derived from sandstone and shale), with sandstone outcrops (USDA 1981). Natural fluvial processes appear to be intact within the creek, with

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signs of channel migration, deposition of large woody debris in the channel, cobble point bars and sediment deposition on the first floodplain, and drift lines caught in the understory and shrub layers. Natural levels of bank erosion are noted, such as cut banks on creek bends and deposition of gravel and cobble point bars. Sandbar willow (*Salix exigua*) and other species stabilize the banks in many areas, but naturally erosive soils contribute to the sediment load. Flood attenuation capability for this site is moderate due to its many old channels and immediate access to a large floodplain.

## Climate Description

No Data

## Land Use History

No Data

## Cultural Features

No Data

## SITE DESIGN

Site Map Y - Yes

Mapped Date 12/05/2005

Designer Freeman, K.M.

## Boundary Justification

The boundary encompasses the element occurrences and the immediate watershed to buffer hydrologic processes necessary to the viability of the elements. Natural fluvial disturbances such as seasonal flooding and sediment deposition are important to the maintenance of a dynamic, multi-aged cottonwood riparian system (TNC 1996; Hansen et al. 1995) and will help maintain viable populations of the elements along Devil Creek (Sanderson and Kettler 1996). Upstream hydrologic modifications such as water diversions, stock ponds or other impoundments, and improper livestock grazing in riparian areas may be detrimental to the hydrology of the riparian area. In addition, a 1,000 foot buffer from the riparian zone includes nearby trails, roads, and parking areas where surface runoff may contribute excess nutrients, sediment and weed invasion. It should be noted that all the hydrologic processes necessary to the elements are not fully contained by the site boundaries, and the boundary indicates the minimum area that should be considered for any conservation management plan.

Primary Area 496.26 Acres

200.83 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

## Biodiversity Significance Comments

The site supports good (B-ranked) occurrences of two riparian forest communities, the globally imperiled (G2/S2) narrowleaf cottonwood / river hawthorn (*Populus angustifolia* / *Crataegus rivularis*) riparian forest and the globally vulnerable (G3/S3) narrowleaf cottonwood / strapleaf willow - silver buffaloberry (*Populus angustifolia* / *Salix ligulifolia* - *Shepherdia argentea*) riparian forest. The narrowleaf cottonwood / river hawthorn community typically occurs on higher ground within the floodplain, as well as near secondary backchannels. River hawthorn generally grows within the drier parts of a floodplain, and can be an indicator that the water table is dropping or that the area is no longer seasonally flooded (Carsey et al. 2003). As of 2005, this is the only documented occurrence of narrowleaf cottonwood/river hawthorn in Archuleta County. The narrowleaf cottonwood / strapleaf willow-silver buffaloberry community is extremely limited in western Colorado but is found in several locations in the county, and typically is located on the first terrace above the floodplain, usually with impacts from long-term cattle grazing.

Other Values Rank No Data

## Other Values Comments

No Data

## LAND MANAGEMENT ISSUES

## Land Use Comments

Steep topography to the south and southeast generally limits recreational use, but horses and foot travel are common on trails within the site, and both OHV and horse use are common on Forest Service lands on Devil Mountain to the north. The Division of Wildlife maintains irrigated hay meadows at the lower end of the site as food plots for wintering animals (CDNR 2005). A locked gate at the State Wildlife parking area controls access to a dirt road which parallels the creek on the north side of the creek, typically some distance from the riparian zone. This road may access a private cabin upstream, but its actual destination is unknown.

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## Natural Hazard Comments

No Data

## Exotics Comments

Weeds may be a growing problem in the future with continued hunting access and horse use, as evidenced by a few nodding plumeless thistle (*Carduus nutans* ssp. *macrolepis*) and significant cheatgrass (*Bromus tectorum*) invading a smooth brome (*Bromus inermis*) hay meadow adjacent to the creek.

## Offsite

As the creek leaves the boundaries of the State Wildlife Area at the west end of the site, its gradient increases and the valley narrows to a canyon for about a mile before the creek travels through culverts under the highway and the landscape opens out and flattens again. These culverts possibly prevent or at least limit fish passage upstream. A residence occurs at the junction of Highway 160 and FR 627. The resident there mentioned there may be a private cabin upstream of the site, but its location and relevance to the element occurrences are unknown.

## Information Needs

No Data

### 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>
24496	<i>Populus angustifolia</i> / <i>Salix ligulifolia</i> - <i>Shepherdia argentea</i> Woodland	Narrowleaf Cottonwood Riparian Forests	G3	S3	No
24727	<i>Populus angustifolia</i> / <i>Crataegus rivularis</i> Woodland	Narrowleaf Cottonwood Riparian Forests	G2?	S2	Yes

### REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
160903	Carsey, K., D. Cooper, K. Decker, D. Culver, and G. Kittel. 2003. Statewide wetlands classification and characterization: Wetland plant associations of Colorado. Prepared for Colorado Department of Natural Resources, Denver, CO by Colorado Natural Heritage Program, Fort Collins, CO.
193574	Colorado Department of Natural Resources, Division of Wildlife. 2005. State Wildlife Areas. Denver, CO. <a href="http://www.wildlife.state.co.us/swa/">http://www.wildlife.state.co.us/swa/</a> . Accessed December 5, 2005.
193633	Freeman, K.M., March, M.A. and D.R. Culver. 2006. Final Report: Survey of Critical Wetlands and Riparian Areas in Archuleta County. Colorado Natural Heritage Program, Fort Collins, CO.
191166	Hansen, P. L., R. D. Pfister, K. Boggs, B. J. Cook, J. Joy, and D. K. Hinkley. 1995. Classification and management of Montana's riparian and wetland sites. Montana Forest and Conservation Experiment Station, School of Forestry, University of Montana, Miscellaneous Publication No. 54. 646 pp. + posters.
158563	Sanderson, J. and S. Kettler. 1996. A preliminary wetland vegetation classification for a portion of Colorado's West Slope. Unpublished final report submitted to the Colorado Department of Natural Resources and the U.S. Environmental Protection Agency. Colorado Natural Heritage Program, Fort Collins.
171753	The Nature Conservancy of Colorado. 1996. Yampa River Site Conservation Plan. The Nature Conservancy, Boulder, CO.
192747	Tweto, O. 1979. Geologic Map of Colorado, 1:500,000. United States Geological Survey, Department of Interior, and Geologic Survey of Colorado, Denver, CO.
193423	USDA, SCS. 1981. Soil Survey of Piedra Area, Colorado; Parts of Archuleta, Hinsdale, La Plata, Mineral, and Rio Grande Counties. In cooperation with the United States Forest Service and the Colorado Agricultural Experiment Station.

### ADDITIONAL TOPICS

## Additional Topics

No Data

### VERSION

<b>Version Date</b>	12/05/2005
<b>Version Author</b>	Freeman, K.M.

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