

Level 4 Potential Conservation Area (PCA) Report

Name South Fork of the Williams Fork

Site Code S.USCOHP*25973

IDENTIFIERS

Site ID 2321 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 394635N
State Colorado Longitude 1060206W

Quad Code Quad Name

39105-F8 Loveland Pass
39106-G1 Ute Peak
39106-F1 Dillon

County

Grand (CO)

Watershed Code Watershed Name

14010001 Colorado headwaters

SITE DESCRIPTION

Minimum Elevation	8,750.00 Feet	2,667.00 Meters
Maximum Elevation	10,200.00 Feet	3,108.96 Meters

Site Description

Site encompasses approximately 10 miles of the Upper Williams Fork River and its southern fork. The Upper Williams Fork is a glaciated drainage containing variable stream, valley, and wetland types. Lower reaches of the drainage are dominated by tall shrub communities of Geyer's willow (*Salix geyeriana*) and mountain willow (*Salix monticola*) with other shrub species including Drummond's willow (*Salix drummondiana*), greenleaf willow (*Salix lucida* ssp. *caudata*), diamondleaf willow (*Salix planifolia*), and dwarf birch (*Betula nana*) mixing. Middle and upper reaches of the drainage are dominated by short shrub communities of diamondleaf willow, Wolf's willow (*Salix wolfii*), and dwarf birch. The understory is also variable throughout the drainage with more stable areas being dominated by mesic graminoids dispersing along the soil moisture gradient with beaked sedge (*Carex utriculata*) and water sedge (*Carex aquatilis*) along ponds, rivulets, and inundated areas and bluejoint reedgrass (*Calamagrostis canadensis*) along drying edges with moist soils. Some weedy species including *Poa pratensis* and *Bromus inermis* are present along lower reaches of the drainage and may be indicative of past land uses and proximity to the road. Along the upper reaches, two populations of grapefern (*Botrychium* sp.) were documented. Both subpopulations occur in forest openings approximately ten meters above the valley bottom on dry, rocky soils which appear to be disturbed from either sloughing due to slope severity or other natural disturbance. Grapefern species found in the area include reflected moonwort (*Botrychium echo*), western moonwort (*Botrychium hesperium*), common moonwort (*Botrychium lunaria*), and lanceleaf grapefern (*Botrychium lanceolatum*). Associated species include Mt. Albert goldenrod (*Solidago simplex* var. *nana*), Virginia strawberry (*Fragaria virginiana*), alpine false springparsley (*Pseudocymopterus montanus*), Parry's arnica (*Arnica parryi*), autumn dwarf gentian (*Gentianella acuta*), pussytoes (*Antennaria* sp.), cinquefoil (*Potentilla* sp.), bracted lousewort (*Pedicularis bracteosa*), lodgepole pine (*Pinus contorta*), and boletes (*Boletus* sp.). Disturbances along the lower reaches include mine activity just upstream of the occurrence, logging along slopes of basin, beaver activity and a high percentage of beetle-killed lodgepole pine throughout surrounding forests. Upper reaches of the Williams Fork and its South Fork are pristine with little or no disturbances and very few weedy species. Uplands surrounding the drainage are dominated by mixed lodgepole pine, subalpine fir (*Abies lasiocarpa*), and Engelmann spruce (*Picea engelmannii*). Geology consists of unconsolidated surficial deposits and rocks of the Quaternary Age along the drainage and metamorphic rocks of the Precambrian Age along adjacent slopes. Soils vary from rocky and xeric to saturated and seasonally inundated with high organic content.

Key Environmental Factors

Key environmental factors driving the hydrology and biota of the site include perennial surface flows, beaver activity, valley shape and stream type, spring flooding, and winter snowpack.

Level 4 Potential Conservation Area (PCA) Report

Name South Fork of the Williams Fork

Site Code S.USCOHP*25973

Climate Description

Climate likely follows patterns typical of the mountainous areas of Colorado being generally xeric throughout the season with the majority of precipitation falling during the spring season and a late summer "monsoon" season of afternoon showers.

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 12/10/2005

Designer Jones, J.R.

Boundary Justification

Boundaries include approximately 10 miles of the upper reaches of the Williams Fork River and its southern fork. Boundaries are drawn to encompass buffered uplands and those ecological processes important to the maintenance of site hydrology and its constituent biota including seasonal flooding, beaver activity and sediment deposition. However, boundaries do not encompass all ecological processes important to the system and activities within the drainage such as water diversion, logging, improper grazing techniques, trail maintenance, and development may be detrimental to site functionality.

Primary Area 3,170.44 Acres 1,283.04 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site is drawn for a good (B-ranked) occurrence of the globally vulnerable (G3/S3) plant community, Geyer's willow (*Salix geyeriana*) - mountain willow (*Salix monticola*) / bluejoint reedgrass (*Calamagrostis canadensis*) montane willow carr, excellent (A-ranked) occurrences of the globally vulnerable to globally apparently secure (G3G4/S3) plant community, dwarf birch (*Betula nana*) / mesic forb - mesic graminoid subalpine riparian shrubland, an excellent (A-ranked) occurrence of the globally demonstrably secure (G5/S4) community *Salix planifolia* / *Carex aquatilis* subalpine riparian willow carr, an excellent (A-ranked) occurrence of the globally vulnerable (G3/S3) plant, reflected moonwort (*Botrychium echo*), an excellent (A-ranked) occurrence of the state rare (G4/S1) plant, Mingan's moonwort (*Botrychium minganense*), and a good (B-ranked) occurrence of the state rare (G3G4/S2) plant, western moonwort (*Botrychium hesperium*).

Other Values Rank V2 - High values

Other Values Comments

Other values include recreational and open space for hiking, camping, and wildlife viewing. As well, the area provides an important wildlife refuge/habitat for the area being a large, continuous wetland.

LAND MANAGEMENT ISSUES

Land Use Comments

Surrounding uplands along lower reaches of the area have been heavily altered by logging, mining, and water diversion. Lands are also use for recreational activities including hunting, hiking, OHV use, camping, and fishing. Lands are likely an important natural resource for the county and may be subject to logging and other extraction.

Natural Hazard Comments

Spring flooding may be hazardous along parts of drainage. Moose have been sited in the drainage with young.

Exotics Comments

Kentucky bluegrass (*Poa pratensis*) is common along edges and in some areas of the lower reaches. Smooth brome (*Bromus inermis*), common dandelion (*Taraxacum officinale*), and white clover (*Trifolium repens*) are common along adjacent meadows at lower reaches, but are not abundant within the wetland. Virginia strawberry (*Fragaria virginiana*) was very abundant in some areas and may be acting as an increaser species from past disturbances. Upper reaches above ranch, campsites, and water diversion are pristine with little or no exotic species present.

Offsite

Impacts from surrounding uplands and upstream include mining, water diversion for large aqueduct (Henderson Tunnel), logging, adjacent road, and livestock grazing.

Level 4 Potential Conservation Area (PCA) Report

Name South Fork of the Williams Fork

Site Code S.USCOHP*25973

Information Needs

No Data

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>			
24497	<i>Betula nana</i> / Mesic Forbs - Mesic Graminoids Shrubland	Subalpine Riparian Shrubland	G3G4	S3	Yes
24497	<i>Betula nana</i> / Mesic Forbs - Mesic Graminoids Shrubland	Subalpine Riparian Shrubland	G3G4	S3	Yes
22785	<i>Botrychium hesperium</i>	western moonwort	G4	S2	Yes
24489	<i>Salix geeyeriana</i> - <i>Salix monticola</i> / <i>Calamagrostis canadensis</i> Shrubland	Montane Willow Carrs	G3	S3	Yes
23966	<i>Botrychium minganense</i>	Mingan's moonwort	G4	S2	No
24497	<i>Betula nana</i> / Mesic Forbs - Mesic Graminoids Shrubland	Subalpine Riparian Shrubland	G3G4	S3	Yes
20475	<i>Botrychium echo</i>	reflected moonwort	G3	S3	Yes
24850	<i>Salix planifolia</i> / <i>Carex aquatilis</i> Shrubland	Subalpine Riparian Willow Carr	G5	S4	No

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.
193632	Culver, D.R. and Jones, J.R. 2006. Final Report: Survey of Critical Biological Resources in Grand County. Colorado Natural Heritage Program, Fort Collins, CO.
160140	Dorn, R. D. 1997. Rocky Mountain Region Willow Identification Field Guide. Renewable Resources R2-RR-97-01. Denver, CO: USDA, Forest Service, Rocky Mountain Region. 107p.
167224	Hurd, E.G., N.L. Shaw, J. Mastroguiseppe, L.C. Smithman, and S. Goodrich. 1998. Field Guide to Intermountain Sedges. U.S. Department of Agriculture, Rocky Mountain Research Station, Ogden, UT.
193661	Root, P. 2003. Guide to Colorado Moonworts. Manual used at July 2003 USFS-ARP Moonwort Workshop, 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.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date	12/10/2005
Version Author	Jones, J.R.

Disclaimer

Level 4 Potential Conservation Area (PCA) Report

Name South Fork of the Williams Fork

Site Code S.USCOHP*25973

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