Level 4 Potential Conservation Area (PCA) Report

Name Slate River **Site Code** S.USCOHP*23821

IDENTIFIERS

Site ID 457 **Site Class** PCA

Site Alias None

Network of Conservation Areas (NCA)

NCA Site ID	NCA Site Code	NCA Site Name
-		No Data

LOCATORS

Nation United States **Latitude** 385503N

State Colorado **Longitude** 1070130W

Quad Code	Quad Name
38106-G8	Crested Butte
38106-H8	Gothic
38107-G1	Mount Axtell
38107-H1	Oh-be-joyful

County

Gunnison (CO)

Watershed Code	Watershed Name
14020001	East-Taylor

SITE DESCRIPTION

Minimum Elevation	8,850.00	**Feet**	2,697.00	**Meters**
Maximum Elevation	11,000.00	**Feet**	3,353.00	**Meters**

Site Description

This site encompasses almost the entire reach of the Slate River. Except for the uppermost reaches, the entire river valley within this site has been glaciated and forms a beautiful U-shaped valley. The upland slopes are steep with scattered spruce, lodgepole pine (*Pinus contorta*), aspen (*Populus tremuloides*), and exposed cliffs of sedimentary rock. Beaver ponds are prevalent throughout the site. Forest Road 734 parallels the river to the headwaters along with numerous side roads. Numerous mines also exist. However, despite all this activity the hydrology of the site is mostly intact, except in areas downstream of Peanut Lake. Grazing and recreational use occur in some portions of the site. The riparian vegetation is quite diverse given the elevation change, although it mostly consists of various willows and sedges. In places where the valley floor widens, beaver dams are common. A mosaic of willow and sedge communities dominates these areas. Sedge communities are dominated by water sedge (*Carex aquatilis*) and beaked sedge (*Carex utriculata*) while bluejoint reedgrass (*Calamagrostis canadensis*) is often co-dominant. Planeleaf willow (*Salix planifolia*), Wolf willow (*S. wolfii*), or mountain willow (*S. monticola*) dominate willow communities in the upper reach while Geyer's willow (*S. geyeriana*) or Drummond willow (*S. drummondiana*) are more common further downstream. Growing near a few waterfalls along the side tributaries of the Slate River is the rare hanging garden sullivantia *(Sullivantia hapemanii* var. *purpusii*). Downstream of Nicholson Lake is a large, complex of beaver ponds. Despite so much development nearby, this wetland is intact and functioning well. The diversity of wetland types ranges from aquatic communities to sedge meadows, willow carrs, and forested types. Drummond willow and bluejoint reedgrass dominate near the river channel while Wolf willow, planeleaf willow, and Geyer willow are common throughout the floodplain. Sedge meadows are dominant behind and near beaver ponds. This section of the site contains the most intact and highest quality wetlands along the Slate River. Ditching and removal of wetland vegetation for hay production and development have negatively affected the downstream portion of the site by creating unstable streambanks. As a result, the river channel has incised causing the channel to migrate laterally across the floodplain and lower floodplain water tables (Cooper 1993). Thus, wetland acreage has been lost in this portion of the site due to a change in the hydrology and land use. Downstream of Crested Butte, the wetlands are comprised of wet meadows dominated by non-native pasture grasses such as timothy (*Phleum pratense*), Kentucky bluegrass (*Poa pratensis*), meadow foxtail (*Alopecurus pratensis*) and native species such as Baltic rush (*Juncus balticus*), ticklegrass (*Agrostis scabra*), tufted hairgrass (*Deschampsia cespitosa*), marsh marigold (*Caltha leptosepala*), large-leaved avens (*Geum macrophyllum*), and dock (*Rumex triangulivalvis*). Beaked sedge and inflated sedge (*Carex vesicaria*) occupy the wettest areas. Geyer's willow, mountain willow, planeleaf willow, Wolf willow, bog birch (*Betula glandulosa*), and bluejoint reedgrass (*Calamagrostis canadensis*) dominate areas near the river. Streambanks

are failing in this area as they are dominated mostly by timothy and redtop (*Agrostis gigantea*) as opposed to sedges, which provide more stability due to their deep and fibrous root systems.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes **Mapped Date** 12/30/2002

Designer Rocchio, F.J.

Boundary Justification

The boundary includes a portion of the Slate River and the surrounding watershed. The boundary represents a preliminary estimate of the area needed to maintain local hydrological conditions and incorporate an area that will allow natural hydrological processes such as seasonal flooding, sediment deposition, and new channel formation to maintain viable populations of the elements. The boundaries also provide a small buffer from nearby agriculture fields, roads, and houses where surface runoff may contribute excess nutrients, sediment, and herbicides/pesticides. The site contains areas where old oxbows, sloughs, and ponds could provide a source of recruitment for native wetland and riparian plant species and provide fish habitat. However, it should be noted that the hydrological processes necessary to the riparian area are not fully contained by the site boundaries. Any upstream activities along Slate River and its tributaries such as water diversions, impoundments, improper livestock grazing, and development could potentially be detrimental to the hydrology of the riparian area. This boundary indicates the minimum area that should be considered for any conservation management plan.

Primary Area 8,911.59 **Acres** 3,606.41 **Hectares**

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site supports an excellent (A-ranked) example of the globally vulnerable (G3/S3) Drummond willow / bluejoint reedgrass (*Salix drummondiana / Calamagrostis canadensis*) shrubland. This association has a wide distribution, although few undisturbed stands have been documented. In Colorado, less than ten stands have been documented, but at least an additional ten to twenty stands are expected to occur. This association may have been reduced from its historic abundance by heavy livestock grazing at the turn of the century. Remaining stands are threatened by continued improper livestock grazing, altered stream flows, and heavy recreational use. An excellent (A-ranked) example of the globally vulnerable (G3/S3) Geyer willow / water sedge (*Salix geyeriana / Carex aquatilis*) shrubland is also found at this site. This association forms a tall-willow shrubland with smaller shrubs often occurring under the canopy. The canopy is nearly closed and a thick carpet of mesic grasses and forbs blanket the undergrowth. The ground surface is often hummocky with willows establishing on the raised mounds and grasses dominating in the swales. This association is reported from several western states, but few pristine stands occur, and it is threatened by improper livestock grazing. This association is relatively uncommon in Colorado. Few stands are in pristine condition. It may be less common than it was historically due to heavy grazing at the turn of the century. Today it continues to be threatened by improper livestock grazing, stream flow alterations and heavy recreational use. The site also supports a good (B-ranked) example of the globally vulnerable (G3/S3) Rocky mountain willow / mesic forb (*Salix monticola* / mesic forb) shrubland. This association is only known from Colorado, where over thirty stands have been documented. Many stands of this association may represent grazing induced shifts from other *Salix monticola* dominated plant associations. Stands with a complete native herbaceous understory intact are threatened by improper livestock grazing, inappropriate stream flow alterations, and heavy recreational use. The globally vulnerable (G3T3/S3) hanging garden sullivantia (*Sullivantia hapemanii* var. *purpusii)* grows on moist cliffs near waterfalls (hanging gardens). The species is endemic to Colorado, in Garfield, Gunnison, Montrose, Pitkin, and Rio Blanco counties, where there are 45 documented occurrences and approximately 40,000 individuals (NatureServe 2000).

Other Values Rank No Data

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Other Values Comments

No Data

LAND MANAGMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

Element State ID	State Scientific Name	State Common Name	Global Rank	State Rank	Driving Site Rank
22214	*Sullivantia hapemanii* var. *purpusii*	Hanging Garden sullivantia	G3T3	S3	No
18795	*Carex utriculata* Herbaceous Vegetation	Beaked Sedge Montane Wet Meadows	G5	S4	No
24809	*Salix monticola* / Mesic Forbs Shrubland	Montane Riparian Willow Carr	G4	S3	Yes
24473	*Salix drummondiana / Calamagrostis canadensis* Shrubland	Lower Montane Willow Carrs	G3	S3	Yes
22745	*Carex aquatilis* Herbaceous Vegetation	Montane Wet Meadows	G5	S4	No
24658	*Salix geyeriana / Carex aquatilis* Shrubland	Montane Willow Carr	G3	S3	Yes

REFERENCES

Reference ID	Full Citation
161298	Cooper, David J. 1993. Wetlands of the Crested Butte Region: Mapping, Functional Evaluation, Hydrologic Regime. David Cooper, Ph.D. Ecologist, Boulder, CO.
173839	Rocchio J., G Doyle, and R. Rondeau. 2003. Final Report: Survey of Critical Wetlands and Riparian Areas in Gunnison County, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
173182	Rocchio, J. 2002. Colorado Natural Heritage Program Field Survey of Critical Wetlands in Gunnison County.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 12/30/2002

Version Author Rocchio, F.J.

Disclaimer

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