

Level 4 Potential Conservation Area (PCA) Report

Name North Saint Vrain

Site Code S.USWRO1*650

IDENTIFIERS

Site ID 101 Site Class PCA
 Site Alias North Sheep Mountain

Network of Conservation Areas (NCA)

<u>NCA Site ID</u>	<u>NCA Site Code</u>	<u>NCA Site Name</u>
2526	S.USCOHP*27434	North Saint Vrain-Hermit Park

LOCATORS

Nation United States Latitude 401247N
 State Colorado Longitude 1052801W

Quad Code Quad Name

40105-B4 Raymond
 40105-B5 Allens Park

County

Watershed Code Watershed Name

10190006 Big Thompson
 10190005 St. Vrain

SITE DESCRIPTION

Minimum Elevation	6,561.68	Feet	2,000.00	Meters
Maximum Elevation	8,858.27	Feet	2,700.00	Meters

Site Description

The North St. Vrain site is in northwestern Boulder County east of Allenspark. The North St. Vrain watershed is one of the few remaining roadless canyons along the Front Range, and likely the only one with a perennial stream the size of the North St. Vrain. Its rugged, granitic hills are carved by North St. Vrain Creek and its tributaries including Rock Creek, Horse Creek, Cabin Creek, and Coulson Gulch. The moderate to high energy streams have formed deep, narrow canyons and starkly contrasting aspects on the hillslopes with an extensive mosaic of conifer forest, shrublands, grassland openings, riparian corridors, and cliffs and rock outcrops. This rough, craggy landscape supports an extensive ponderosa pine (*Pinus ponderosa*) woodland system. Ponderosa pine is primarily dominant throughout on steep, south-, west-, and east-facing slopes as well as on the many rocky tors and ridgelines. Understory shrubs in the ponderosa pine woodland are dominated by bitterbrush (*Purshia tridentata*) with some creeping juniper (*Juniperus communis*), bearberry (*Arctostaphylos uva-ursi*), and Fendler's ceanothus (*Ceanothus fendleri*). Flatter areas with deeper soils have more grassland openings with mountain muhly (*Muhlenbergia montana*) and Parry's oatgrass (*Danthonia parryi*). Douglas-fir (*Pseudotsuga menziesii*) and lodgepole pine (*Pinus contorta*) are co-dominant or dominant on north-facing slopes, which also have denser shrub cover of waxflower (*Jamesia americana*) and Rocky Mountain maple (*Acer glabrum*). In the steepest areas of the south-facing slopes there is little soil development and ponderosa pine are very stunted and sparse; these areas primarily support bitterbrush shrubland habitat. The ridgelines and rocky tors of the North St. Vrain watershed support one of the two highest concentrations of known Larimer aletes (*Aletes humilis*) locations in the world. This species is narrowly endemic to Silver Plume granite in the montane zone of the Colorado Front Range. Larimer aletes thrives in the shallow, gravelly surface soils around rock outcrops. This habitat also supports Rocky Mountain cinquefoil (*Potentilla rupincola*), although only hybrid specimens (*P. rupincola* x *P. effusa*) are known from the area. North St. Vrain Creek and its tributaries support well-developed montane riparian vegetation that is a mosaic of woodlands, shrublands, and wet meadows. The banks of the high energy reaches support dense shrublands dominated by river birch (*Betula occidentalis*). Alder (*Alnus incana*) and hazelnut (*Corylus cornuta*) are common to codominant in places. The riparian tree canopy is sporadic due to the well-developed shrub layer and steep valley slopes. Narrowleaf cottonwood (*Populus angustifolia*) provides moderate, but consistent cover, especially in lower reaches. Engelmann spruce (*Picea engelmannii*) occurs in upper reaches. The presence of *Picea engelmannii* in this reach of the North St. Vrain may be attributed to the steep walls of the North St. Vrain Canyon, which create a cool climate at the canyon floor and may allow for cold-tolerant *Picea engelmannii* to thrive at lower elevations. Tributary drainages support saturated willow carrs in open, but narrow valleys. These communities are dominated by tall willows (2-5 m tall) interspersed with short willows (1-2 m tall), open sedge and grass inclusions, and open water beaver ponds. Scattered throughout this upper

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North St. Vrain drainage are small, isolated glacial pothole ponds. These have no outflow, but are possibly spring-fed in addition to having surface flow inputs. These ponds support pondweeds (*Potamogeton natans*) and water starwort (*Callitriche* spp.), and green algae like chara. The ponds have narrow rings of emergent marsh vegetation including mannagrass (*Glyceria borealis*), beaked sedge (*Carex utriculata*), and spikerushes (*Eleocharis* species). There are old roads and a few isolated cabins within the site.

Key Environmental Factors

Montane elevation zone; Silver Plume granite; moderate to high gradient stream drainages.

Climate Description

No Data

Land Use History

Small portions of the site were former ranches; there is evidence of past human activity, including the remains of old structures, a watering pond for cattle, and old road grades

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 10/31/2008

Designer Neid, S.L.

Boundary Justification

The boundary includes the elements and their adjacent habitats. The entire area includes many of the ecological processes necessary for the site protection.

Primary Area 13,117.93 Acres

5,308.66 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site includes excellent (A-ranked) occurrences of Larimer aletes (*Aletes humilis*), a globally rare (G2G3/S2S3) plant species, a good (B-ranked) occurrence of wavy-leaf stickleaf (*Nuttallia sinuata*), a globally vulnerable (G3/S3) plant, and a good to fair (BC-ranked) occurrence of the globally imperiled (G2/S2) Rocky Mountain cinquefoil (*Potentilla rupicola*). In addition, there is an excellent (A-ranked) occurrence of globally imperiled (G2/S2) bitterbrush / mountain muhly (*Purshia tridentata* / *Muhlenbergia montana*) shrubland, an excellent (A-ranked) occurrence of a globally vulnerable (G3/S3) Parry's oatgrass (*Danthonia parryi*) meadow, an excellent (A-ranked) occurrence of a globally vulnerable (G3/S2) *Betula occidentalis* / mesic graminoid riparian shrubland, an excellent (A-ranked) occurrence of a globally vulnerable (G3/S3) *Populus angustifolia* / *Betula occidentalis* riparian forest, a good (B-ranked) occurrence of a globally vulnerable (G3/S3) thinleaf alder (*Alnus incana*) - mixed willow (*Salix (monticola, lucida, ligulifolia)*) shrubland and a good (B-ranked) occurrence of globally rare (G3/S3) montane riparian willow carr (*Salix monticola* / mesic graminoids). There are also several elements significant to Colorado. These include excellent (A-ranked) and good (B-ranked) occurrences of the state rare (G3G5/S3) ponderosa pine / bitterbrush (*Pinus ponderosa* / *Purshia tridentata*) woodland, two excellent (A-ranked) occurrences of the state imperiled (G5/S1) floating pondweed (*Potamogeton natans*) marsh, a good (B-ranked) occurrence of a state vulnerable (G5/S3) *Salix geyeriana* / *Calamagrostis canadensis* montane riparian willow carr and a historical occurrence of the state imperiled (G5/S1) lake chub (*Couesius plumbeus*).

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

No Data

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Offsite

No Data

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>
17408	<i>Aletes humilis</i>	Larimer aletes	G2G3	S2S3	Yes
24728	<i>Purshia tridentata</i> / <i>Muhlenbergia montana</i> Shrubland	Mixed Foothill Shrublands	G2	S2	Yes
19228	<i>Danthonia parryi</i> Herbaceous Vegetation	Montane Grasslands	G3	S3	No
24756	<i>Pinus ponderosa</i> / <i>Leucopoa kingii</i> Woodland	Foothills Ponderosa Pine Savannas	G3	S3	No
24669	<i>Pinus ponderosa</i> / <i>Purshia tridentata</i> Woodland	Foothills Ponderosa Pine Scrub Woodlands	G3G5	S3?	No
17408	<i>Aletes humilis</i>	Larimer aletes	G2G3	S2S3	Yes
24884	<i>Populus angustifolia</i> / <i>Betula occidentalis</i> Woodland	Montane Riparian Forest	G3	S3	No
24669	<i>Pinus ponderosa</i> / <i>Purshia tridentata</i> Woodland	Foothills Ponderosa Pine Scrub Woodlands	G3G5	S3?	No
24637	<i>Betula occidentalis</i> / Mesic Graminoids Shrubland	Lower Montane Riparian Shrublands	G3	S2	No
24912	<i>Alnus incana</i> - <i>Salix</i> (<i>monticola</i> , <i>lucida</i> , <i>ligulifolia</i>) Shrubland	Thinleaf Alder-Mixed Willow Species	G3	S3	No
24500	<i>Salix geyeriana</i> / <i>Calamagrostis canadensis</i> Shrubland	Montane Riparian Willow Carr	G5	S3	No
24585	<i>Salix monticola</i> / Mesic Graminoids Shrubland	Montane Riparian Willow Carr	G3	S3	No
19228	<i>Danthonia parryi</i> Herbaceous Vegetation	Montane Grasslands	G3	S3	No
19580	<i>Potentilla rupincola</i>	Rocky Mountain cinquefoil	G2	S2	No
21778	<i>Nuttallia sinuata</i>	wavy-leaf stickleaf	G3	S3	No
24119	<i>Couesius plumbeus</i>	Lake Chub	G5	S1	No
40635	<i>Potamogeton natans</i> Herbaceous Vegetation	Montane Floating/Submergent Wetland	G5?	S1	No
40635	<i>Potamogeton natans</i> Herbaceous Vegetation	Montane Floating/Submergent Wetland	G5?	S1	No

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
195190	Neid, S., J. Lemly, K. Decker and D. Culver. 2009. Final Report: Survey of Critical Biological Resources in Boulder County 2007-2008. Colorado Natural Heritage Program, Fort Collins, CO.

ADDITIONAL TOPICS

Additional Topics
Original site design by Pague, C.A. 1994-09-12.

VERSION

Version Date 10/31/2008
Version Author Neid, S.L.

Disclaimer

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