

Level 4 Potential Conservation Area (PCA) Report

Name Chedsey Creek

Site Code S.USCOHP2*2682

IDENTIFIERS

Site ID 1597 Site Class PCA
Site Alias Teal and Tiago Lakes

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 403314N
State Colorado Longitude 1063618W

Quad Code Quad Name

40106-E5	Teal Lake
40106-D5	Rabbit Ears Peak
40106-E6	Buffalo Pass
40106-D6	Mount Werner

County

Jackson (CO)
Routt (CO)

Watershed Code Watershed Name

10180001	North Platte Headwaters
14050001	Upper Yampa

SITE DESCRIPTION

Minimum Elevation	8,260.00	Feet	2,517.65	Meters
Maximum Elevation	10,600.00	Feet	3,230.88	Meters

Site Description

The Chedsey Creek site is located at the eastern flank of the Park Range. The area consists of Pleistocene deposits and glacial drift of the Pinedale and Bull Lake glaciations (Tweto 1979). The dominant features are the wetlands and the permanent and intermittent lakes formed from closed depressions defined by sharp lateral and terminal moraines. The vegetation of the lakes can vary by elevation, but in general there are successional zones from the open water to lake margins. Open water areas are dominated by water lilies (*Nuphar lutea* ssp. *polysepala*), water smartweed, (*Persicaria amphibia*), and pondweed (*Potamogeton* spp.). The herbaceous-dominated lake margins that surround the open water are dominated by graminoids (*Carex aquatilis*, *C. canescens*, *C. utriculata*). Amphibians known to occur in the lakes and wetlands include the boreal toad (*Bufo boreas*), northern leopard frog (*Rana pipiens*), wood frog (*Rana sylvatica*), and the western chorus frog (*Pseudacris triseriata*). The slopes and ridges surrounding the kettles consist of sandy loams, characterized by coarse glacial till and cobbles. The upland vegetation varies along an elevation gradient with hay meadows, perennial and annual grasses, and big sagebrush (*Artemisia tridentata*) occurring at the lowest elevations. At intermediate elevations, lodgepole pine (*Pinus contorta*) forests that have been severely impacted by the mountain pine beetle (*Dendroctonus* spp.), and aspen (*Populus tremuloides*) and lodgepole pine mixed forest are present. At higher elevations, the forest grades into Engelmann spruce (*Picea engelmannii*) and white fir (*Abies lasiocarpa*) while subalpine grassland is present at the highest elevations.

Key Environmental Factors

The hydrology of the area is the important feature of the site. The riparian areas, wetlands, and depressional lakes flood annually from snow melt and spring runoff, creating significant habitat for wetland dependent animal species, most importantly amphibians.

Climate Description

The climate is semiarid and is characterized as having short, cool summers followed by long, cold winters. Mean annual air temperature in Walden, 15 miles northeast of the site, is 36.4 degrees Fahrenheit and temperatures range from minus 39 degrees to 90 degrees Fahrenheit, based on the National Weather Bureau's 30-year average data (USFWS 2004). The annual mean rainfall in Walden is 10.83 inches and seventy percent falls as snow with Walden averaging 53 inches of snow per year (USFWS 2004). The highest average monthly precipitation occurs in March, April, May, and August (Lischka et al. 1983).

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Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map P - Partial

Mapped Date 12/10/2009

Designer Siemers, J.L. and J.R. Sovell

Boundary Justification

The wetlands, riparian areas, permanent and intermittent lakes associated with Chedsey, Doran, Little Grizzly, and Newcomb creeks and their tributaries are included within the boundary. The location of the boundary and the identification of plant communities important to the site were identified using the digital orthophoto quad for Jackson County and GIS layers from the Colorado Vegetation Classification Project. The site protects the drainages and the adjacent uplands of the watershed that supplies the snow melt and spring runoff to the creeks, wetlands, and lakes. Protecting the watershed from erosion and sedimentation is critical to maintaining the hydrologic function upon which the amphibian's depend. The site protects a diversity of wetland types that are necessary for successful reproduction of the amphibian species that are present.

Primary Area 27,910.15 Acres 11,294.88 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

The site supports several rare amphibians including a fair (C-ranked) occurrence of the globally critically imperiled (G4T1Q/S1) boreal toad (*Bufo boreas*), fair (C-ranked) and historical occurrences of the state rare (G5/S3) wood frog (*Rana sylvatica*), and good (B-ranked) and extant occurrences of the state rare (G5/S3) northern leopard frog (*Rana pipiens*). Additionally, an occurrence of the globally vulnerable (G3/S1) invertebrate, the Rocky Mountain capshell (*Acroloxus coloradensis*), is known from Teal Lake. The boreal toad was once common throughout the mountains of Colorado, but has undergone declines over the last 20 years (Goettl 1997). Reasons for the decline are unknown, but postulated to be due to a chytrid fungus (Cunningham 1998 as cited in Hammerson 1999). In 1993, the boreal toad was listed as state endangered by the Colorado Division of Wildlife. The northern leopard frog was once abundant, but has become scarce in many areas of Colorado (Hammerson 1999). The reasons vary from habitat loss to climate change. In 2009, the Forest Service and DOW documented 128 adults and 11 juveniles in Teal Lake and 34 adults and 17 juveniles in Tiago Lake. The leopard frog is listed as sensitive for the Forest Service, BLM, and the Colorado Division of Wildlife.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

Land uses include cattle grazing and at lower elevation hay production.

Natural Hazard Comments

There are areas at the western edge of the site containing rough terrain with steep slopes that should be navigated with caution.

Exotics Comments

No Data

Offsite

The main offsite activities include livestock grazing and hay production on irrigated pastures and these uses are compatible with continued viability of the amphibian species that populate the site. Any offsite activities such as road construction, trail construction, or timber harvest that has the potential to increase erosion and sediment loading into the drainages of the site would not benefit the amphibian and invertebrate populations.

Information Needs

Further research on the causes of boreal toad declines is critical.

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ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global</u>	<u>State</u>	<u>Driving</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Rank</u>	<u>Rank</u>	<u>Site Rank</u>
17835	<i>Acroloxus coloradensis</i>	Rocky Mountain Capshell	G3	S1	No
17095	<i>Rana sylvatica</i>	Wood Frog	G5	S3	No
20351	<i>Bufo boreas</i> pop. 1	Boreal Toad (Southern Rocky Mountain Population)	G4T1Q	S1	Yes
17095	<i>Rana sylvatica</i>	Wood Frog	G5	S3	No
17095	<i>Rana sylvatica</i>	Wood Frog	G5	S3	No
18389	<i>Rana pipiens</i>	Northern Leopard Frog	G5	S3	No
18389	<i>Rana pipiens</i>	Northern Leopard Frog	G5	S3	No

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
198407	Culver, D.R., K. Decker, J. Parker, J. Bell, J. Sovell, and J. Huggins. 2010. CNHP Final Report: Identification and Assessment of Important Wetlands within the North Platte Watershed, CO. Colorado Natural Heritage Program, Fort Collins, CO.
159008	DeMaynadier, P. G., and M. L. Hunter, Jr. 1998. Effects of silvicultural edges on the distribution and abundance of amphibians in Maine. <i>Conservation Biology</i> 12:340-352.
170599	Goettl, J. P. Jr., and The Boreal Toad Recovery Team. 1997. Boreal Toad (<i>Bufo boreas boreas</i>) (Southern Rocky Mountain Population), Recovery Plan. Colorado Division of Wildlife, Denver.
159546	Hammerson, G.A. 1999. <i>Amphibians and Reptiles in Colorado</i> . Second Edition. University Press of Colorado. Niwot, CO.
198469	Lischka, Joseph J., Mark E. Miller, R. Branson Reynolds, Dennis Dahms, Kathy Joyner Mcguire, and David Mcguire. 1983. An Archaeological inventory in North Park, Jackson County, Colorado, Bureau of Land Management report, Denver Colorado, 359 pp.
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.
198470	USFWS. 2004. Comprehensive conservation plan: Arapaho National Wildlife Refuge. http://www.fws.gov/mountain-prairie/planning/States/Colorado/colorado.htm

ADDITIONAL TOPICS

Additional Topics

Site originally drawn by A. R. Ellingson in 1995.

VERSION

Version Date	12/10/2009
Version Author	Siemers, J.L. and J.R. Sovell

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