

# Level 4 Potential Conservation Area (PCA) Report

Name Arapaho Lakes

Site Code S.USCOHP\*28074

## IDENTIFIERS

Site ID 2690 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 402526N  
State Colorado Longitude 1062125W

### Quad Code Quad Name

40106-D3 Buffalo Peak  
40106-D4 Spicer Peak

### County

Jackson (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
10180001	North Platte Headwaters

## SITE DESCRIPTION

Minimum Elevation	8,860.00 Feet	2,700.53 Meters
Maximum Elevation	9,900.00 Feet	3,017.52 Meters

### Site Description

The Arapaho Lakes site is located at the northern flank of the Rabbit Ears Range. The area consists of Quaternary alluvium and surficial deposits, Tertiary deposits of sandstone, and Tertiary metamorphic and igneous rock (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. There are over 75 acres of lakes within the site and amphibians that are known to occur in these lakes and also in the wetlands of the site include the boreal toad (*Bufo boreas*), northern leopard frog (*Rana pipiens*), wood frog (*Rana sylvatica*), and the western chorus frog (*Pseudacris triseriata*). There is also a montane riparian willow carr community within the site (*Salix monticola* / mesic graminoids). The upland vegetation varies along an elevation gradient with deciduous aspen (*Populus tremuloides*) forest and subalpine mixed forbs and grassland occurring at the lowest elevations. There are also herbaceous riparian wetlands dominated by sedges at this elevation. At intermediate elevations there are lodgepole pine (*Pinus contorta*) forests and lodgepole / aspen mixed forest that have been severely impacted by the mountain pine beetle (*Dendroctonus* spp.). At higher elevation the forest grades into an Engelmann spruce (*Picea engelmannii*) and white fir (*Abies lasiocarpa*) coniferous forest.

### Key Environmental Factors

The hydrology of the area is the important feature of the site. The riparian areas, wetlands, and depressional lakes of the site flood annually from snow melt and spring runoff, creating significant habitat for 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, 20 miles north 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).

### 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

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## Boundary Justification

The site boundary was drawn to protect the watershed within which the wetlands, riparian zones, and lakes of the site lie. 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 site's lakes and wetlands. Protecting the watershed from erosion and sedimentation is critical to maintaining the hydrologic function upon which the amphibians native to the site are dependent. The site protects a diversity of wetland types that are necessary for successful reproduction of the amphibian species that are present.

Primary Area 2,958.22 Acres 1,197.15 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

## Biodiversity Significance Comments

The site supports a good (B-ranked) occurrence of a globally imperiled (G3/S3) *Salix monticola* / mesic graminoid montane willow carr. In addition, there are several rare amphibians including a poor (D-ranked) occurrence of the globally critically imperiled (G4T1Q/S1) boreal toad (*Bufo boreas*), an extant occurrence of the state rare (G5/S3) northern leopard frog (*Rana pipiens*), and an occurrence of the state rare (G5/S3) wood frog (*Rana sylvatica*).

Other Values Rank No Data

## Other Values Comments

No Data

## LAND MANAGEMENT ISSUES

## Land Use Comments

Grazing by cattle and recreation are the predominant land use at the site.

## Natural Hazard Comments

There are areas within the site that contain rough terrain with steep slopes that should be navigated with caution.

## Exotics Comments

No Data

## Offsite

The main offsite activities include livestock grazing and recreation, uses that are compatible with continued viability of the amphibian species. Any offsite activities such as road construction, trail construction, or timber harvesting that has the potential to increase erosion and sediment loading into the drainages of the site would not benefit the amphibian populations.

## Information Needs

No Data

## 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>
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	No
24585	<i>Salix monticola</i> / Mesic Graminoids Shrubland	Montane Riparian Willow Carr	G3	S3	Yes
18389	<i>Rana pipiens</i>	Northern Leopard Frog	G5	S3	No

## REFERENCES

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## Reference ID

## Full Citation

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. Conservation Biology 12:340-352.
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. <a href="http://www.fws.gov/mountain-prairie/planning/States/Colorado/colorado.htm">http://www.fws.gov/mountain-prairie/planning/States/Colorado/colorado.htm</a>

## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

<b>Version Date</b>	12/10/2009
<b>Version Author</b>	Siemers, J.L.

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