

# Level 4 Potential Conservation Area (PCA) Report

Name Lone Pine Ponds

Site Code S.USCOHP\*28017

## IDENTIFIERS

Site ID 2684 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 404452N  
State Colorado Longitude 1063419W

| <u>Quad Code</u> | <u>Quad Name</u>   |
|------------------|--------------------|
| 40106-F5         | Pitchpine Mountain |
| 40106-G5         | Boettcher Lake     |

## County

Jackson (CO)

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

## SITE DESCRIPTION

|                   |               |                 |
|-------------------|---------------|-----------------|
| Minimum Elevation | 8,500.00 Feet | 2,590.80 Meters |
| Maximum Elevation | 9,800.00 Feet | 2,987.04 Meters |

## Site Description

The Lone Pine Ponds site is located on the east side of the Park Range in Jackson County. The site is drained by Lone Pine Creek whose headwaters are located at Lake Katherine and Bighorn Lake in the Mount Zirkel Wilderness. The area consists of Pleistocene deposits and glacial drift of the Pinedale and Bull Lake glaciations (Tweto 1979). Throughout the site there are closed depressions, kettle ponds, and sharp lateral and terminal moraines. The depressions and kettle ponds are concentrated on top of the glacial till. Kettle ponds are a remnant of melting glacial ice stagnation and lack an inlet or outlet. The vegetation of the kettle ponds occurs in 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*), pondweed (*Potamogeton epihydrus*), arrowhead (*Sagittaria montevidensis*), bur-reed (*Sparganium angustifolium*), and bladderwort (*Utricularia macrorhiza*). The herbaceous-dominated lake margins that surround the open water are dominated by sedges (*Carex aquatilis*, *C. canescens*, *C. utriculata*), weak mannagrass (*Torreyochloa pauciflora*), spike rush (*Eleocharis palustris*, *E. acicularis*), blue joint reedgrass (*Calamagrostis canadensis*), tufted hairgrass (*Deschampsia cespitosa*) and rushes (*Juncus longistylis*, *J. ensifolius*, *J. drummondii*). Forbs within the lake margin include water hemlock (*Cicuta douglasii*) and arrowleaf ragwort (*Senecio triangularis*). Amphibians that are known to occur in the ponds are the wood frog (*Rana sylvatica*) and the striped chorus frog (*Pseudacris triseriata*). The aquatic and emergent vegetation at the pond margin is essential to the reproducing wood frog population. The slopes and ridges surrounding the kettles consist of sandy loams, characterized by coarse glacial till and cobbles. The upland vegetation consists of lodgepole pine (*Pinus contorta*) forests that have been severely impacted by the mountain pine beetle (*Dendroctonus* spp.).

## Key Environmental Factors

The hydrology of the area is the important feature of the site. The kettle ponds flood annually from snow melt and spring runoff, creating significant breeding habitat for the wood frog.

## Climate Description

The site is located in an intermountain basin that is enclosed on most sides by mountains that create precipitation shadows for air and moisture. Climate records for Walden indicate a mean annual precipitation of 10.53 inches (WRCC 2009). Annual mean for snowfall is 57.1 inches. The lowest average temperature (Jan.) is 3.9 degrees F and the highest average temperature (July) is 78.5 degrees F.

## Land Use History

Prior to 1820, the Ute peoples used North Park to hunt wild game in the summer but moved to lower altitudes in the fall to avoid the severe winters that are common in the mountain park. After 1820, European trappers started to visit the area and miners and prospectors who panned for gold followed them. Since European settlement began in earnest in the late 1880's and 90's ranching, including both hay production and cattle

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grazing, has been the dominant land use at the site.

## Cultural Features

No Data

## SITE DESIGN

Site Map Y - Yes

Mapped Date 11/18/2009

Designer Sovell, J.R.

## Boundary Justification

Boundaries are drawn to capture the immediate watershed that starts below Lake Katherine. The boundaries were developed to allow potential migration routes for the wood frog among the kettle ponds. Only private lands with written permission were surveyed. Field surveys and GIS layers from the Colorado Vegetation Classification Project, and the digital orthophoto quad for Jackson County were used to delineate the boundary.

Primary Area 3,149.36 Acres

1,274.51 Hectares

## SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

## Biodiversity Significance Comments

The site supports an excellent (A-ranked) occurrence of a globally vulnerable (G3/S3) *Alnus incana* / mesic forb riparian shrubland and an extant occurrence of the state rare (G5/S3) wood frog (*Rana sylvatica*). The wood frog is a common northern species whose distribution in Colorado is at its southern extent (Hammerson 1999). The wood frog is listed as a sensitive species by 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

Cattle ranching is the only land use at the site.

### Natural Hazard Comments

No Data

### Exotics Comments

Canada thistle (*Breca arvensis*) was documented on drier soils.

### Offsite

No Data

### 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               |
| 24645           | <i>Alnus incana</i> / Mesic Forbs Shrubland | Thinleaf Alder/Mesic Forb Riparian Shrubland | G3            | S3           | Yes              |

## 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. |
| 159546              | Hammerson, G.A. 1999. Amphibians and Reptiles in Colorado. Second Edition. University Press of Colorado. Niwot, 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.   |
| 198320              | Western Regional Climate Center. 2009. Record Climate Summaries. Accessed in 2009. <a href="http://www.wrcc.dri.edu/">http://www.wrcc.dri.edu/</a>   |

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## ADDITIONAL TOPICS

### Additional Topics

No Data

## VERSION

Version Date 11/18/2009

Version Author Sovell, J.R.

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