

Mud Lake Interpretive Hike Tips

- **General Description of Mud Lake Open Space**
 - Southern Rockies
 - Western Boulder County
 - Montane life zone, 8200-8600'
 - 190 acres
 - Ridge Road parcel 36 acres
 - Climate and weather
 - Opened to public in summer 2006
- **Geology, mining, and cultural history**
 - Geological history & rock types
 - Colorado Mineral Belt
 - Gold, silver, tungsten mining
 - Homesteading in 1870s
- **Wetland Resources/Ecosystems**
 - Mud Lake (Tiger salamanders, crayfish)
 - Sherwood Creek (willow carr, avian habitat)
 - Riparian forest (high plant and animal biodiversity)
- **Wildlife and Wildlife Habitat**
 - Food, water, shelter, space
 - Wildlife closures
 - Avian habitats
 - Mammals: Elk, bear, mountain lion, moose, muskrat
- **Trees and Forest Management**
 - Species: lodgepole pine, ponderosa pine, Douglas fir, limber pine, englemann & blue spruce, subalpine fir, aspen
 - Management: Thinning, restoration, fire mitigation, mistletoe, insects
 - Ecosystems: wetlands (pond and stream riparian), mixed coniferous, ponderosa, lodgepole, and aspen forest

DISCUSSION POINTS FOR MUD LAKE

Introductions:

- Volunteer Naturalists for BCPOS
- Walk then talk, hold questions until stopped so everyone can hear

Why Mud Lake?

- Mud Lake is the perfect learning environment for naturalists of all ages; Mud Lake is a unique wildlife habitat in western Boulder County. Come share the mystery and beauty of this high-altitude reflecting pool.
- At the higher altitudes of 8,000 to 10,000 feet above sea level the montane forests of the Southern Rocky Mountains are found. Characterized by cooler temperatures and more precipitation than at lower elevations, this life zone is dominated by dense conifer forests but also includes meadows, ponds and streams. Due to its altitude, snow can linger into late spring or early summer and many beautiful wildflowers come into bloom later in the year than in the plains and foothills below.
- Background and History:
 - Elevation: 8,250 feet to 8,600 feet
 - Originally called Muskee Lake
 - Homesteaded in early 1870s – tied in with mining around Nederland & Caribou
 - Heavy prospecting 1869+ led to mineral booms
 - Tungsten – early 20th Century/WWI
 - Pasture & grazing
 - Became dumping ground for Nederland and area
 - 1970s hippie influx (old bus remains near parking lot)
 - 1999 property purchased jointly BCPOS + Nederland

Geology:

- Most is 1.7 byo Boulder Creek Granodiorite
- Some 1.8 byo biotite (black mica) gneiss
- Formed when North American continental edge was along the Wyoming, Northern Colorado border, an ocean lay to the south.

- Uplift and erosion exposed the rocks we see today
- Most recent – deposits of surface alluvium, primarily along Sherwood Creek
- Gold, silver, tungsten
- Tungsten mining occurred immediately west of Mud Lake
 - Atomic number of tungsten = 74
 - Symbol **W** (Also known as **wolfram**)
 - Atomic weight = 183.84
 - Remarkable high density 19.3 times that of water, comparable to uranium or gold (only 0.36% lighter than gold!), and much higher than lead (1.7x)
 - From the Swedish *tung sten* translatable to *heavy stone*
 - Hard, rare metal found in nature only as a chemical compound
 - First identified: 1781; First isolated as a metal: 1783
 - Robust – highest melting point of all the elements - 6192°F (3422°C)
 - Common uses: filaments in light bulbs, X-ray tubes (filament & target both), electrodes, superalloys, radiation shielding, penetrating projectiles (military), jewelry
 - Only metal from the third transition series that is known to occur in biomolecules – few species of bacteria and archaea – heaviest element known to be used by any living organism. Somewhat toxic to animal life
 - Has been known to be used as a substitute for gold bars when gold plated – fake gold bars and fake gold jewelry have been used in crimes because by weight they are almost indistinguishable from solid gold without detailed examination and testing
 - During its peak in value during World War I, the Boulder County district produced most of the tungsten ore in the entire world.

The Lake:

- Once thought to be a meteor crater – study in 2001 found was man-made, most likely from early mining operations, exploration
- Spring-fed, intermittent flow
- Ground water primary source of water
- No outlet
- No fish
- Salamanders and crayfish
- True “bulrushes” – in sedge family

Mammals:

- Beaver (Sherwood Creek)
- Muskrat
- Black bears
- Bobcats
- Chickaree (red squirrel)
- Coyote
- Elk
- Least chipmunk
- Little brown bat
- Long-tailed weasel
- Montane vole
- Moose
- Mountain lion
- Mule deer
- Northern pocket gopher
- Snowshoe hare

Birds – Most common:

- Mountain chickadee
- Ruby-crowned kinglet
- Yellow-rumped warbler
- Northern flicker
- American robin
- Steller's jay
- Common raven

Amphibians & Reptiles:

- Striped chorus frog
- Tiger salamander
- Western terrestrial garter snake

Shrubs:

- Common juniper
- Kinnikinnick
- Wild rose
- Willow (Sherwood Creek drainage)

Trees:

- Aspen
- Subalpine fir
- Douglas fir
- Lodgepole pine
- Limber pine
- Ponderosa pine
- Colorado Blue spruce
- Colorado Blue spruce/Engelmann spruce hybrid