The Chattanooga and Burro Bridge Iron Fens lie in the Mineral Creek floodplain of the San Juan Mountains, 3 miles south of Red Mountain Pass and 6.5 miles northwest of the Town of Silverton. The Burro Bridge iron fen is located at the confluence of Mineral Creek and the Middle Fork of Mineral Creek on the lower east wall of the canyon near the south end of the site. About a mile to the north, the larger Chattanooga iron fen occupies the valley bottom south of the former town site of Chattanooga. Ohio Peak and Anvil Mountain border the iron fen to the east and two unnamed 12,000 plus peaks border to the west. Mineral Creek flows along a fault zone through quaternary glacial deposits at the west edge of the Silverton Caldera. To the north, Mineral Creek follows the trace of the caldera rim faults. The highly altered Henson and Burns Formations make up the valley wall east of the fault zone and lower third of the west valley wall. The upper two-thirds of the west valley wall are the San Juan Formation, derived from ancient volcanoes located northeast of Silverton, and a sequence of rhyolite ash flows, including the Ute, Blue Mesa, and Sapinaro Mesa Tuffs. Mineral Creek at the Burro Bridge iron fen is composed of red rocks and large colluvial boulders in the creek bed. Springs emerge from a truncated alluvial fan emerging from the first drainage south of Browns Gulch on the east side of Mineral Creek canyon. The drainage provides both substrate and iron-rich water that has created limonite ledges. The limonite ledges at Burro Bridge iron fen are the most extensive observed in San Juan County and in Colorado by CNHP. The Chattanooga iron fen is fed by groundwater seeping from eastern valley walls under Highway 550 and overflow by Mineral Creek. Highly acidic groundwater, mineralized springs emerging from the lower west wall of the valley feeds the iron fen. A common feature of iron fens is limonite terraces or iron precipitates that have been deposited onto organic matter in layers. These terraces will perch the water table and form an extensive network of pools and ponds, Chattanooga iron fen is a good example of this process, with 25-30% open water. Both iron fens are dominated by acid-tolerant shrubs with a thick ground cover of a variety of Sphagnum and other mosses. Engelmann spruce (Picea engelmannii) dominates the tree layer. Bog birch (Betula glandulosa) and dwarf blueberry (Vaccinium cespitosum) dominate the shrub layer. Mosses, bluejoint (Calamagrostis canadensis), water sedge (Carex aquatilis), and alpine spicy wintergreen (Gaultheria humifusa) dominate the herbaceous layer. Dr. David Cooper of Colorado State University documented several new bryophyte records for Colorado and the United States in the Chattanooga iron fen. Sphagnum balticum is common in the Chattanooga Iron fen. Until its discovery in Colorado, its known range in North America extended southward to approximately 510 degrees latitude. S. balticum is the primary moss in shallow pools with the sedges Carex aquatilis and Carex utriculata. Additionally, a liverwort, Jungermannia rubra, was documented at the springs and in the water tracks on the exposed limonite. Dr. Cooper also documented fruticosa lichen Cladina rangiferina at Burro Bridge iron fen. This lichen is common on the margins of the fen in the Engelmann spruce forest. The lichen is common in the boreal forest region, however the nearest location to Colorado is in northern Montana.

Key Environmental Factors
No Data

Climate Description
No Data

Land Use History
No Data

Cultural Features
No Data

Minimum Elevation
10,200.00 Feet

3,109.00 Meters
Level 4 Potential Conservation Area (PCA) Report

Name Chattanooga Iron Fen

Maximum Elevation 11,300.00 Feet 3,444.00 Meters

SITE DESIGN

Site Map Y - Yes Mapped Date 12/17/2002

Designer Culver, D.R.

Boundary Justification

The boundary is drawn to include Mineral Creek and Middle Fork of Mineral Creek floodplain and slopes below the steep cliffs, which rise on both sides of the river. The boundaries incorporate an area that will allow natural hydrological processes such as seasonal flooding, sediment deposition, and new channel formation to maintain viable populations of the wetland. It should be noted that the hydrological processes necessary to the riparian elements are not fully contained by the site boundaries. Given that the elements are dependent on natural hydrological processes associated with Mineral Creek and its Middle Fork, any upstream activities such as water diversions, impoundments, and mining development could potentially be detrimental to the wetland. This boundary indicates the minimum area that should be considered for any conservation management plan.

Primary Area 309.42 Acres 125.22 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site supports an excellent (A-ranked) and a good (B-ranked) example of a globally imperiled (G2/S2) plant community and multiple occurrences of disjunct Sphagnum species known to occur in acidic wetlands at more northerly latitudes. Currently there are only 15 iron fens known globally, five of which occur in San Juan County.

Other Values Rank No Data

Other Values Comments No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

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<th>Element</th>
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<td>S2</td>
<td>Y</td>
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LAND MANAGEMENT ISSUES

Land Use Comments No Data

Natural Hazard Comments No Data

Exotics Comments No Data

Offsite No Data

Information Needs No Data

REFERENCES

Reference ID 158301

Full Citation Culver, D.R. and P. Lyon. 2002. Colorado Natural Heritage Program Field Survey to San Juan County.
Level 4 Potential Conservation Area (PCA) Report

Name Chattanooga Iron Fen
Site Code S.USCOHP*23602

ADDITIONAL TOPICS

Additional Topics
No Data

LOCATORS

Nation United States
State Colorado
Latitude 375209N
Longitude 1074326W
Quad Code Quad Name
37107-G6 Silverton
37107-H6 Ironton

Watershed Code Watershed Name
14080104 Animas

VERSION

Version Date 12/17/2002
Version Author Culver, D.R.

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