

Level 4 Potential Conservation Area (PCA) Report

Name Todd Gulch Fen

Site Code S.USCOHP1*2736

IDENTIFIERS

Site ID 455 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 400303N
State Colorado Longitude 1052732W

Quad Code Quad Name

40105-A4 Gold Hill

County

Boulder (CO)

Watershed Code Watershed Name

10190005 St. Vrain

SITE DESCRIPTION

Minimum Elevation	8,520.00 Feet	2,596.90 Meters
Maximum Elevation	8,600.00 Feet	2,621.28 Meters

Site Description

Todd Gulch Fen is a quaking, floating mat fen located within a small valley surrounded by dry slopes in the montane zone of Boulder County. The site is groundwater-fed from seeps and springs and there is no inlet. At the southeast end, the wetland drains into Todd Gulch, a short, intermittently flowing tributary to Fourmile Creek. The fen is dominated by the lesser panicled sedge (*Carex diandra*), a coarse sedge species with short rhizomes found in floating mat fens throughout the northern hemisphere. The *Carex diandra* community is located within wet areas of the fen on thick, fibrous organic soil, but gives way to a woollyfruit sedge (*Carex lasiocarpa*) community in the very center of the fen. Species occurring with *Carex diandra* include beaked sedge (*Carex utriculata*), silvery sedge (*Carex canescens*), and small bur-reed (*Sparganium minimum*). The surface of the fen is very uneven, with raised hummocks formed by clumps of sedge culms interspersed with small open pools containing *Sparganium minimum*. Many areas are carpeted by fen mosses, including *Drepanocladus aduncus*, *Bryum pseudotriquetrum*, *Aulacomium palustre*, and *Climacium dendroides*. Upstream from the fen are several depressions that perhaps once supported the same rare plants and communities. Presently, they are drying ponds that are dominated by leafy spurge (*Tithymalus esula*) and Canada thistle (*Breca arvensis*). The center of these ponds do support beaked sedge and tufted hairgrass (*Deschampsia cespitosa*), but northwest-facing slopes are dominated by dense Douglas-fir (*Pseudotsuga menziesii*) and ponderosa pine (*Pinus ponderosa*). Exposed southeast-facing slopes are open and rocky with low-cover ponderosa pine and dry-site shrubs.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

The site is all U.S. Forest land. Though the matrix of the surrounding landscape is largely managed for natural vegetation, there are numerous roads that crisscross the slopes, running up drainages, on ridges, and between drainages. This causes a certain amount of fragmentation, introduces weed populations, and leads to sediment erosion. There is also a long history of mining in the area which may have affected groundwater hydrology.

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes Mapped Date 10/23/2008
Designer Culver, D.R. and J.M. Lemly

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Boundary Justification

The boundary is drawn to encompass this fen and its immediate watershed to protect hydrologic processes and the wetland elements and provide a buffer against direct disturbance. These natural processes are not completely contained within the boundary, and offsite activities within the watershed have the potential to impact the elements of biodiversity present in the area.

Primary Area 148.23 Acres 59.99 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B4: Moderate Biodiversity Significance

Biodiversity Significance Comments

The site supports excellent (A-ranked) occurrences of a state rare (G5/S1) plant, lesser paniced sedge (*Carex diandra*), and the state rare (G5/S1) slender sedge (*Carex lasiocarpa*). There are also excellent (A-ranked) occurrences of the state rare (G4?/S1) *Carex lasiocarpa* montane wetland community and the *Carex diandra* quaking fen, which is currently unranked (GNR/SU). As a whole, this wetland was one of the best observed in 2007 and 2008. It is unusual to find a floating mat fen of this kind in the montane zone of the Front Range. Only one other similar fen has been found in Boulder County, but the area occupied by floating mat in that site is much smaller. Fens are far more frequent at higher elevations, where there is considerably more groundwater influx from snowmelt. In addition, both *Carex diandra* and *Carex lasiocarpa* are known to occur in only a handful of sites across the state. Though these species are far more common at northern latitudes, they appear to reach their southern extent in Colorado. Todd Gulch Fen is an important site for regional biodiversity.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

Exotics Comments

Leafy spurge (*Euphorbia [Tithymalus] esula*) and Canada thistle (*Cirsium arvensis*) are present upstream of Todd Gulch Fen along the Switzerland Trail access road.

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
21581	<i>Carex diandra</i>	lesser paniced sedge	G5	S1	Yes
17597	<i>Carex diandra</i> Wet Meadow Herbaceous Vegetation	Quaking Fen	GNR	SU	No
21816	<i>Carex lasiocarpa</i> Herbaceous Vegetation	Montane Wetland	G4?	S1	Yes
23259	<i>Carex lasiocarpa</i>	slender sedge	G5	S1	Yes

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
195190	Neid, S., J. Lemly, K. Decker and D. Culver. 2009. Final Report: Survey of Critical Biological Resources in Boulder County 2007-2008. Colorado Natural Heritage Program, Fort Collins, CO.
194326	Theobald, D.M., N. Peterson, and G. Wilcox. 2005. Colorado Ownership, Management, and Protection v4 database. Natural Resource Ecology Lab, Colorado State University, Fort Collins, CO. 30 June 2005. www.nrel.colostate.edu/projects/comap

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ADDITIONAL TOPICS

Additional Topics

Original site design by Burt, J. 1995-04-05.

VERSION

Version Date 10/23/2008

Version Author Culver, D.R. and J.M. Lemly

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