

Level 4 Potential Conservation Area (PCA) Report

Name Tamarack

Site Code S.USCOHP1*1904

IDENTIFIERS

Site ID 1600 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 405002N
 State Colorado Longitude 1025114W

Quad Code Quad Name

40102-G6	Tamarack Ranch
40102-G7	Crook
40102-G8	Proctor
40102-H6	Julesburg Reservoir

County

Logan (CO)

Watershed Code Watershed Name

10190012	Middle South Platte-Sterling
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SITE DESCRIPTION

Minimum Elevation	3,650.00	Feet	1,113.00	Meters
Maximum Elevation	3,750.00	Feet	1,143.00	Meters

Site Description

The South Platte River is a major tributary to the Platte River. The headwaters are above Denver, near Fairplay. The floodplain of the lower South Platte River (from Greeley downstream) is broad, and today there exists a continuous canopy of cottonwood riparian woodland to the state line. The best examples of this natural riparian mosaic occur at the Tamarack Ranch State Wildlife Area and from the town of Sedgwick to the Nebraska state line. At the turn of the century, the S. Platte was a wide, sandy river, described as a mile wide and an inch deep, with very few trees or riparian vegetation to report (journals of Fremont, and others). Today the river is still a braided channel, but much of the old river bed has become a forested floodplain. Since the 1920's, stream-flows of the S. Platte have been changed through control of peak run-off and augmentation of late summer flows with water imported from the western slope. Altogether these changes have brought about an environment more favorable to the establishment of cottonwoods. While we know there was little riparian vegetation at the time of the western expansion, that was only one snap-shot in time. Plains riparian ecosystems are very dynamic, and it is not unlikely that the floodplain forests we see today existed in the past (i.e. 200-500 years ago) (Mike Scott, NBS, and Brian Richter, TNC, personal communication). And we know from other river systems (San Pedro, Arikaree, and others) that large scale geomorphic changes (San Pedro River, NM) and dramatic shifts in the amount of riparian vegetation (Arikaree River, CO) occur naturally, and that flooding and drought cycles may be the driving force behind the natural increases and decreases in broad floodplain ecosystems, masking the impacts of human-induced hydrological changes. The current floodplain supports a diverse mixture of riparian woodlands, shrublands, and wetlands. Most of these communities have not been previously described in the literature or CNHP data. The mosaic of cottonwood dominated communities represents a series of successional stages and micro-habitats. The *Populus deltoides* - (*Salix nigra*) / *Spartina pectinata* - *Carex* spp. community is documented for the first time in Colorado. The undergrowth of these medium-aged stands is nearly pure *Spartina pectinata* (prairie slough grass), a native to the floodplains of the Platte and its tributaries (Native Vegetation of Nebraska, J.E. Weaver, 1965). Other woodland types new to Colorado are *Populus deltoides* / *Carex pellita*, where woolly sedge dominates the undergrowth in linear bands along moist swale bottoms, and *Populus deltoides* / *Symphoricarpos occidentalis*, a patch type that appears to be a later seral stage, and generally grows along drier ridges and the outer margins of the floodplain. Here the trees are large and widely spaced, giving the floodplain a savanna-like appearance. *Populus deltoides* - (*Salix nigra*) / *Spartina pectinata* - *Carex* spp. represents the young saplings and seeding stage of these woodland communities. Stands of this type are typically found on elevated islands, point bars and overflow channels near the current channel. In addition to the cottonwood woodlands, shrublands such as *Salix exigua* / barren soil occurs in large patches on islands and overflow channels. Wetlands dominated by *Phragmites australis*, *Typha latifolia*, and *Scirpus* spp. marshes occur on backwater

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sloughs and abandoned channels with standing water (personal observation). Discussions with Kansas and Nebraska State Heritage ecologists indicate that all of these communities likely occur along river floodplains in those states. Detailed inventories of the South and North Platte rivers in Nebraska and other riparian habitats in Kansas have yet to be conducted.

Key Environmental Factors

The S. Platte River is by no means a pristine area (there are no "A" ranked occurrences due to the major hydrological changes in S. Platte flow-regime). The hydrology has been significantly altered since the early 1900's. The floodplain forest present today may very well be a product of this human-induced change in the flow-regime. However, the communities are dominated by native species that are dependent on periodic flooding. Natural processes appear to be in place, and the floodplain exhibits a mosaic of natural successional stages and micro-habitats.

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 02/20/1996

Designer Kittel, G.M.

Boundary Justification

Boundaries that protect the elements from direct impacts such as weed invasions or channel dredging should be used as primary boundaries. Secondary boundaries should include major ecological processes that allow the elements to survive. These may include but are not limited to fire, herbivory, 25-100+ return flow flooding events, and others.

Primary Area 5,894.56 Acres

2,385.45 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site contains the one of the 2 best examples (B-ranked) of the South Platte River Floodplain riparian mosaic, *Populus deltoides* - (*Salix nigra*) / *Spartina pectinata* - *Carex* spp., a globally critically imperiled (G1/S1) community. This plant community is likely to occur in Nebraska, but not in such a large, relatively undisturbed extent (personal communication Nebraska and Kansas Heritage ecologists). It also supports a good (B-ranked) occurrence of the globally imperiled (G2G3/S2) *Populus deltoides* / *Symphoricarpos occidentalis* plains cottonwood riparian woodland, a good (B-ranked) occurrence of the globally imperiled (G2/S1) *Populus deltoides* / *Carex pellita* plains cottonwood riparian woodland and a good (B-ranked) occurrence of the globally secure (G5/S5) *Salix exigua* / barren shrubland community.

Other Values Rank V2 - High values

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

Popular hunting area.

Natural Hazard Comments

No Data

Exotics Comments

No Data

Offsite

No Data

Information Needs

No Data

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ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>			<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
<u>State ID</u>	<u>State Scientific Name</u>	<u>State Common Name</u>			
24671	<i>Populus deltoides</i> / <i>Symphoricarpos occidentalis</i> Woodland	Plains Cottonwood Riparian Woodland	G2G3	S2	Yes
24748	<i>Populus deltoides</i> - (<i>Salix nigra</i>) / <i>Spartina pectinata</i> - <i>Carex</i> spp. Woodland	Plains Cottonwood Riparian Woodland	G1	S1	Yes
24659	<i>Salix exigua</i> / Barren Shrubland	Coyote Willow/Bare Ground	G5	S5	No
24610	<i>Populus deltoides</i> / <i>Carex pellita</i> Woodland	Plains Cottonwood Riparian Woodland	G2	S1	Yes

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
-	No Data

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date	02/20/1996
Version Author	Kittel, G.M.

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