

Level 4 Potential Conservation Area (PCA) Report

Name Julesburg

Site Code S.USCOHP2*2439

IDENTIFIERS

Site ID 592 Site Class PCA
 Site Alias Ovid
 Site Alias Sedgwick

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 405725N
 State Colorado Longitude 1021652W

Quad Code Quad Name

40102-H3	Julesburg
40102-H4	Ovid
40102-H5	Sedgwick
40102-H2	Venango NW

County

Sedgwick (CO)

Watershed Code Watershed Name

10190012	Middle South Platte-Sterling
10190016	Lower Lodgepole
10190018	Lower South Platte

SITE DESCRIPTION

Minimum Elevation	3,450.00	Feet	1,052.00	Meters
Maximum Elevation	3,580.00	Feet	1,091.00	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 though 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). 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. The mosaic of cottonwood dominated communities represents a series of successional stages and micro-habitats. The *Populus deltoides* - *Salix amygdaloides* / *Spartina pectinata* 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 it's tributaries (Native Vegetation of Nebraska, J.E. Weaver, 1965). Other woodland types new to Colorado are *Populus deltoides* / *Carex lanuginosa*, 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 amygdaloides* / *Salix exigua* represents the young saplings and seeding stage of these woodland communities. Stands of this type are typically found on

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elevated islands, point bars and overflow channels near the current channel. In addition to the cottonwood woodlands, shrublands such as *Salix exigua* / barren soil occur in large patches on islands and overflow channels. Wetlands dominated by *Phragmites australis*, *Typha latifolia*, and *Scirpus* spp. marshes occur on backwater 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. 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 10/31/1995

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 7,718.33 Acres

3,123.51 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site contains the best examples of native floodplain mosaic on the S. Platte River within the state and likely the best occurrence on the Plains (personal communication with Kansas and Nebraska Heritage Ecologists). The South Platte River is by no means pristine (there are no A-ranked occurrences due to the major hydrological changes in S. Platte flow-regime) and the riparian communities may be a product of altered hydrology, however current growth is reproducing and dominated by native species. The most significant occurrences include a good (B-ranked) example of the globally critically imperiled (G1/S1) *Populus deltoides* - (*Salix nigra*) / *Spartina pectinata* - *Carex* spp. woodland and a good (B-ranked) example of the globally imperiled (G2G3/S2) *Populus deltoides* / *Symphoricarpos occidentalis* woodland.

Other Values Rank No Data

Other Values Comments

Native warm water fish occur in the waters.

LAND MANAGEMENT ISSUES

Land Use Comments

Wildlife for hunting. Not grazed.

Natural Hazard Comments

No Data

Exotics Comments

Some Russian olives and tamarisk occur, but not in abundance. Green ash is present, and is native to Nebraska. Weber describes it as adventive in Colorado, escaping from towns and gardens. Along the S. Platte River, green ash is in its native habitat, and may be considered a natural component of the vegetation.

Offsite

Adjacent sandhills to south contain native sand-sage and other grassland communities.

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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>
24670	<i>Populus deltoides</i> - (<i>Salix amygdaloides</i>) / <i>Salix (exigua, interior)</i> Woodland	Plains Cottonwood Riparian Woodland	G3G4	S3	No
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
24872	<i>Salix exigua</i> / Mesic Graminoids Shrubland	Coyote Willow/Mesic Graminoid	G5	S5	No

REFERENCES

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

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date	10/31/1997
Version Author	Kittel, G.M.

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