

Level 4 Potential Conservation Area (PCA) Report

Name North Fork

Site Code S.USCOHP*10511

IDENTIFIERS

Site ID 1057 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 385047N
 State Colorado Longitude 1073853W

Quad Code Quad Name

38107-G7	Lazear
38107-G6	Hotchkiss
38107-G5	Paonia
38107-H5	Bowie
38107-H4	Somerset

County

Delta (CO)
 Gunnison (CO)

Watershed Code Watershed Name

14020002	Upper Gunnison
14020004	North Fork Gunnison
14020005	Lower Gunnison

SITE DESCRIPTION

Minimum Elevation	5,100.00	Feet	1,554.00	Meters
Maximum Elevation	6,000.00	Feet	1,829.00	Meters

Site Description

The North Fork of the Gunnison River is a major landscape feature of Delta County. Formed by the confluence of Muddy and Anthracite creeks near Paonia, the stream flows southwesterly for thirty miles. At Hotchkiss, the North Fork drains 940 square miles (U.S. Army Corps 1980). The floodplain of the North Fork contains many examples of the globally imperiled riparian forests of cottonwoods with skunkbush or coyote willow understory. However, under natural circumstances, this community would be much more abundant and in better condition than it is. Along much of the river, rather than occupying a broad floodplain, cottonwoods are confined to a narrow band under fifty feet wide. There are occasional larger groves, which often have more exotic than native vegetation in the understory. The native community is dependent on periodic flooding for regeneration. Sites where this association occurs vary from point bars and other depositional features (early seral stands) to alluvial terraces (mature stands) that may be many meters away from the main channel, and several meters above the high water mark. Since mature cottonwoods are able to tap deeper water tables than seedlings, mature stands are often reproducing only by suckering, and their long term survival is questionable. Seedlings tend to be numerous along the shoreline, but often do not survive to maturity. The condition of the riparian vegetation is highly variable, with many areas invaded by tamarisk, Russian olive, Siberian elm, Russian knapweed, and other non-native plants. At the upper end of the site near Paonia, the cottonwoods are primarily the narrowleaf species, while at the lower end, near Hotchkiss, Fremont cottonwood is more common. The hybrid of the two species, *Populus x acuminata*, is found throughout the site. Box elder and hawthorns are occasional. Typical native species in the understory are coyote willow, skunkbush, wild licorice, horsetails, and wheatgrasses. Occasionally, in mesic mature stands there is a thick vegetation layer including silver buffaloberry, wild rose, poison ivy, and western white clematis. Native species that occur in saturated wetlands along the North Fork include cattails, giant reed, softstem and three-square bulrushes, spike rush, beaked sedge, horsetails and baltic rush. Gravel bars often have Canadian horseweed and woolly mullein, in addition to coyote willow and cottonwood seedlings. Common weedy species in wet areas are tamarisk, Russian olive, Siberian elm, red top, rabbitfoot grass, Kentucky bluegrass, reed canary grass, and sweet clover. In dry areas, common weeds are cheatgrass, orchard grass, smooth brome, alfalfa, Canada thistle, and Russian thistle. Uplands which have not been irrigated are mostly shrub-grasslands, usually dominated by big sagebrush, rabbitbrush, and four-wing saltbush with galleta, sand dropseed or western

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wheatgrass. Lower lying, seasonally wet areas often have greasewood and saltgrass. There is a great diversity of forbs, many of which are non-native species. In addition to the plant community, we found occurrences of two state rare amphibians and a state rare plant. The Great Basin spadefoot, a new record for Delta County, was found in natural wetlands with willows, about two miles upstream from Hotchkiss. The species appeared to be abundant here. The northern leopard frogs were found close by, in a man-made wetland with cattails and pasture grasses, supplied by irrigation water. Arizona centaury was documented for the first time in Colorado, growing in wetlands with spike rush and sedges, in two locations near Hotchkiss. The physical characteristics of the North Fork were studied in 1997, commissioned by the North Fork River Improvement Association (NFRIA), a group of local landowners, water users and concerned citizens. The study was prompted by the recognition that the river has been degraded by extensive streambank erosion (Crane 1997). Results of this degradation noted in the study include: reduced riparian and wetland ecosystem function, loss of wildlife habitat, property loss, destruction of the fisheries, relocation of existing irrigation diversions, bridge scour, reduction of bedload transport, decreased late season flows, increase in flood damage, and reduced water quality. The study recounted historical changes in the river since white settlement (Crane 1997). Many different types of disturbance resulting from development in the valley have led to the existing condition of the North Fork. Efforts to control flooding and bank erosion, removal of riparian vegetation, irrigation diversions, gravel mining, upstream dams, cultivation and grazing have all contributed to channelization and entrenchment of the river, decrease of sinuosity, high width/depth ratio, and inability to carry its bedload. The challenge now is to meet current needs and future demands for traditional uses while restoring the health of the river and the entire ecosystem (Crane 1997). Some excellent recommendations for flood management and floodplain restoration are included in the morphological report. These include removing existing levees and dikes farther away from the active channel, and increasing wetland and riparian forest habitat within the widened floodplain. Further development on the floodplains of the river and its tributaries, and in wetlands should be discouraged. Crane concludes: "the way to reduce flooding in one area is to promote flooding in others...store floods on their floodplains". By encouraging flooding in some areas, the natural ecosystem processes necessary to maintain the cottonwood-willow community can be restored, while other areas are protected from flooding. In addition to the NFRIA, other local groups have taken an interest in restoration of specific sites on the North Fork. This is an encouraging development. It is important that the morphological and hydrological characteristics of each site be taken into account so that restoration efforts will be lasting. The 1997 study will be extremely valuable for evaluating the potential for restoration. Revegetation of the floodplain can be accomplished using native plant species mentioned above. Existing cottonwood and willow communities should be preserved and enhanced, while non-native species can gradually be eliminated. This will be a long-term commitment, but the motivation exists in Delta County for beginning restoration now.

Key Environmental Factors

No Data

Climate Description

Arid semi-desert.

Land Use History

According to an early settler, Esra Wade, in 1882 most of the valley near Paonia was covered with cottonwood, skunkbush, willow, and buffaloberry. He wrote that the river -was very crooked, which lessened its fall, therefore did not cut its banks, but spread over a large portion of the valley during high water time, and deposited sand and rich soil from the high country, making the valley soil, in places, very rich. Later on the ranchers began cutting these curves in the river and then the trouble began...

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 12/01/1997

Designer Lyon, M.J.

Boundary Justification

The boundary was drawn to approximately the one hundred year floodplain, and the extent of the potential riparian vegetation. In some areas the natural floodplain has been altered by roads and railroads which act as dikes, and the boundary has been drawn reflecting the present flooding limits. Although the site was delineated for the river and floodplain only, the importance of the entire watershed to the health of the river should be considered.

Primary Area

3,849.43 Acres

1,557.82 Hectares

SITE SIGNIFICANCE

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Biodiversity Significance Rank B4: Moderate Biodiversity Significance

Biodiversity Significance Comments

The site contains a poor (D-ranked) occurrence of a globally imperiled (G2/S2) plant community, Fremont's cottonwood riparian forest (*Populus deltoides* ssp. *wislizeni* / *Rhus trilobata*) and good (B-ranked) occurrences of a state rare plant, Arizona centaury (*Centaureum arizonicum*), and amphibian, Great Basin spadefoot (*Spea intermontana*).

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

Non-natives include tamarisk, Russian olive, Siberian elm, Russian knapweed, red top, rabbitfoot grass, Kentucky bluegrass, reed canary grass, sweet clover, cheatgrass, orchard grass, smooth brome, alfalfa, Canada thistle, and Russian thistle.

Offsite

No Data

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>
21598	<i>Spea intermontana</i>	Great Basin Spadefoot	G5	S3	No
24619	<i>Populus angustifolia</i> / <i>Rhus trilobata</i> Woodland	Narrowleaf Cottonwood/Skunkbrush	G3	S3	No
22740	<i>Centaureum arizonicum</i>	Arizona centaury	G5?	S1	No
24600	<i>Populus deltoides</i> ssp. <i>wislizeni</i> / <i>Rhus trilobata</i> Woodland	Fremont's Cottonwood Riparian Forests	G3	S3	Yes
21598	<i>Spea intermontana</i>	Great Basin Spadefoot	G5	S3	No
22740	<i>Centaureum arizonicum</i>	Arizona centaury	G5?	S1	Yes

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
198137	Crane, Jeffory P. 1997. Preliminary Assessment of the Morphological Characteristics of the North Fork of the Gunnison River. Prepared for: North Fork River Improvement Association, Hotchkiss, CO 81419.
178765	Lyon, P. and E. Williams. 1997. Final Report: Natural Heritage Biological Survey of Delta County. Colorado Natural Heritage Program, Fort Collins, CO.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 12/01/1997

Version Author Lyon, M.J.

Disclaimer

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