

Level 4 Potential Conservation Area (PCA) Report

Name Big Sandy Creek at Calhan

Site Code S.USCOHP*21867

IDENTIFIERS

Site ID 1880 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 390546N
 State Colorado Longitude 1041258W

<u>Quad Code</u>	<u>Quad Name</u>
39104-A2	Ramah South
39104-A3	Calhan
39104-A4	Peyton

County

El Paso (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
11020011	Big Sandy

SITE DESCRIPTION

Minimum Elevation	6,100.00 Feet	1,859.00 Meters
Maximum Elevation	6,600.00 Feet	2,012.00 Meters

Site Description

Big Sandy Creek begins at the eastern edge of the Black Forest in El Paso County and joins the Arkansas River east of Lamar in Prowers County some 150 miles later. This site encompasses the headwaters of the creek and continues downstream to two miles below Ramah Reservoir. This reach of the creek supports Arkansas darter (*Etheostoma cragini*), a small eastern plains fish native to streams in the Arkansas River basin (Nesler et al. 1999; Colorado Division of Wildlife 2001b). These little plains fish are classified as a threatened species in the state of Colorado (Colorado Division of Wildlife 2001c). Arkansas darter are known to inhabit small, shallow, clear streams that are often spring-fed and have sandy substrates, slow current, cooler water, and aquatic vegetation (Nesler et al. 1999). Other small plains fishes that occur in Big Sandy Creek include plains killifish (*Fundulus zebrinus*) and fathead minnow (*Pimephales promelas*) (Colorado Division of Wildlife 2001d). Big Sandy is typical of many plains streams, with high flood peaks of short duration. Late spring and summer thunderstorms produce about 70 percent of the annual precipitation (Labbe et al. 1996). Infiltration of floodwaters into the alluvium recharges the alluvial aquifer that sustains the interrupted spring-run habitats where Arkansas darter are most abundant (Labbe et al. 1996). Plains cottonwood (*Populus deltoides* ssp. *monilifera*) occurs in patches and is most developed along an approximate 1 1/2 mile reach a few miles above Ramah Reservoir. In this reach, the cottonwood grows with peachleaf willow (*Salix amygdaloides*) and has a dense understory of coyote willow (*Salix exigua*) and native sedges, rushes, and grasses. The plains cottonwood / coyote willow plant community (*Populus deltoides* ssp. *monilifera* - (*Salix amygdaloides*) / *Salix exigua*) is rarely encountered in good condition, primarily due to colonization by invasive non-native species (e.g., tamarisk and Russian olive) and elimination of the flooding required for cottonwood regeneration. This reach is significant in that these invasive species were not noted and there is a wide range of native species present in the understory. Bare sandbars, a wide range of age classes of cottonwood (saplings to mature), and vegetative debris suspended 8 feet up in the willows indicate a natural flooding regime. According to the landowner, the channel can be 1/4- to 1/2- mile wide during large floods (G. Fosha, pers. comm.). The active stream channel is narrow (less than 2 feet) and meandering. The floodplain is generally over 100 feet wide and wider where the channel braids. The stream gradient is low and the bottom is sandy. In September, the stream channel was dry in some areas and wet in others with thick stands of softstem bulrush (*Schoenoplectus lacustris*), and cattail (*Typha* sp.) in the wettest areas. Woolly sedge (*Carex lanuginosa*) occurs in small pure stands intermixed with stands of Nebraska sedge (*Carex nebrascensis*), common threesquare (*Scirpus pungens*), common spikerush (*Eleocharis palustris*), and Baltic rush (*Juncus balticus*). Prairie cordgrass (*Spartina pectinata*) and switchgrass (*Panicum virgatum*) also occur as small patches. American licorice (*Glycyrrhiza lepidota*) occurs in patches on higher banks with cottonwood. Songbirds are abundant in the riparian area and bird use is heavy during migration times (G. Fosha, pers. comm.). Dragonflies, damselflies, and waterstriders are abundant and an aquatic turtle was present in a pond.

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The cattle grazing regime in the occurrence for at least the past 50 years has been to winter the cattle in the riparian area and rest the riparian area during the growing season (G. Fosha, pers. comm). The owner is considering extending this management regime downstream of the occurrence. The adjacent uplands are rolling hills of shortgrass prairie with patches of tallgrass prairie. Within the watershed, some of the uplands are dryland hayed and have been seeded with alfalfa (*Medicago sativa*) and smooth brome (*Bromus inermis*), both non-native species. Other areas support primarily native grasses including blue grama, little bluestem, and in isolated patches, prairie sandreed (*Calamovilfa longifolia*) and big bluestem (*Andropogon gerardii*). Big Sandy has a long history of human use. The creek was used by Plains Indians as a travel route from the plains to the Springs at Manitou and Ute Pass (Whittemore 1967). The earliest ranch on the Big Sandy near Calhan was established in 1863 (Whittemore 1967) and Big Sandy Creek at Calhan was a stagecoach stop by 1876 (Scott 1999). Ramah Reservoir is owned and managed by Colorado Division of Wildlife as Ramah State Wildlife Area. Downstream from this site there are two documented occurrences of plains cottonwood with switchgrass (*Populus deltoides* / *Panicum virgatum*), a globally imperiled riparian community. These occurrences are in Elbert and Cheyenne counties. Maintaining the natural hydrologic processes in the headwaters of Big Sandy Creek may help maintain these downstream occurrences. However, Ramah Reservoir potentially alters the downstream flooding regime enough to make the upstream hydrology irrelevant to the downstream occurrences.

Key Environmental Factors

No Data

Climate Description

No Data

Land Use History

No Data

Cultural Features

No Data

SITE DESIGN

Site Map Y - Yes

Mapped Date 06/15/2001

Designer Doyle, G.A.

Boundary Justification

The boundary encompasses the creek upstream and downstream from Ramah Reservoir which is considered occupied Arkansas darter habitat by the Colorado Division of Wildlife (Colorado Division of Wildlife 2001b). The boundary also encompasses the riparian community and its floodplain located upstream from Ramah Reservoir and a portion of the upstream watershed to account for continued surface flow and periodic flooding. These processes are necessary for the viability of the occurrence and maintenance of ecological functions. The boundary could be expanded to include a greater proportion of the upstream watershed to ensure maintenance of the ecological and hydrological processes.

Primary Area 4,342.04 Acres

1,757.17 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B3: High Biodiversity Significance

Biodiversity Significance Comments

This site contains a good (B-ranked) occurrence of a globally vulnerable (G3G4/S2) fish, the Arkansas darter (*Etheostoma cragini*). The site also contains a good (B-ranked) example of a globally vulnerable (G3G4/S3) plains cottonwood riparian woodland, plains cottonwood with peachleaf willow and coyote willow (*Populus deltoides* ssp. *monilifera* - (*Salix amygdaloides*) / *Salix exigua*). Good examples of this plant community are rarely encountered.

Other Values Rank No Data

Other Values Comments

No Data

LAND MANAGEMENT ISSUES

Land Use Comments

No Data

Natural Hazard Comments

No Data

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Exotics Comments

No Data

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>
20664	<i>Etheostoma cragini</i>	Arkansas Darter	G3G4	S2	Yes
24670	<i>Populus deltoides</i> - (<i>Salix amygdaloides</i>) / <i>Salix</i> (<i>exigua, interior</i>) Woodland	Plains Cottonwood Riparian Woodland	G3G4	S3	Yes

REFERENCES

<u>Reference ID</u>	<u>Full Citation</u>
164285	Nesler, T., C. Bennett, J. Melby, G. Dowler, and M. Jones. 1999. Inventory and Status of Arkansas River Native Fishes in Colorado. Colorado Division of Wildlife, Colorado Springs, Colorado.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date 06/15/2001
Version Author Doyle, G.A.

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