

Level 4 Potential Conservation Area (PCA) Report

Name San Luis Lakes

Site Code S.USWRO1*1123

IDENTIFIERS

Site ID 1285 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 374719N
 State Colorado Longitude 1053914W

<u>Quad Code</u>	<u>Quad Name</u>
37105-F6	Medano Ranch
37105-F7	Hooper East
37105-G5	Liberty
37105-G6	Sand Camp
37105-H4	Beck Mountain
37105-H5	Crestone Peak
37105-F5	Zapata Ranch

County

Alamosa (CO)
 Saguache (CO)

<u>Watershed Code</u>	<u>Watershed Name</u>
13010003	San Luis

SITE DESCRIPTION

Minimum Elevation	7,497.00	Feet	2,285.09	Meters
Maximum Elevation	12,042.00	Feet	3,670.40	Meters

Site Description

This large site encompasses nearly 35,000 acres in the southern part of the Closed Basin playa-wetland system and is adjacent to two other significant sites: The Great Sand Dunes and Blanca Wetlands. This site encompasses the San Luis Lakes Basin and Sand Creek, one of its primary water sources. Elevations range from approximately 7,497 feet at the bottom of San Luis Lake to 12,042 feet at the headwaters of Sand Creek. There are two natural lakes at the site which have no outlet in most years. The surrounding upland habitats are saline basins or aeolian sand deposits with a decidedly saline character, supporting greasewood (*Sarcobatus vermiculatus*) and saltgrass (*Distichlis spicata*) vegetation. One of the major sources of water to the lakes is Big Springs Creek, which originates at Indian Springs approximately seven miles northeast of the lakes. The area between Indian Springs and San Luis Lakes supports the highest concentration of freshwater wetlands in the southern Closed Basin. Common wetland species include beaked sedge (*Carex utriculata*), water sedge (*Carex aquatilis*), mare's tail (*Hippuris vulgaris*), and water smartweed (*Polygonum amphibium*). Big Springs Creek receives groundwater from the extensive aquifer under Great Sand Dunes National Monument immediately to the east. Other major habitats of the site include subsaline wetlands in the San Luis Lakes basins, alkali cordgrass (*Spartina gracilis*) meadows around the lake periphery, and rabbitbrush (*Chrysothamnus* spp.) shrubland on stabilized dunes. Freshwater dune ponds occur at the eastern edge of the site and support unique wetlands of American three-square (*Scirpus pungens*) and coyote willow (*Salix exigua*). Sand Creek drains the western slopes of the Sangre de Cristo Mountains. It originates as a steep mountain stream, eventually becoming a braided, sand bottomed stream as it flows out on the San Luis Valley floor and skirts the northern edge of Great Sand Dunes National Monument. In the mountains, Sand Creek is in a wide, yet steep valley floor with no roads or heavily used trails. On the valley floor, the creek and riparian zone exhibit a unique structure produced by active fluvial processes (meandering, braiding) juxtaposed with moving sand dunes. Along its course, Sand Creek supports several globally rare riparian associations. With the exception of San Luis Lakes State Park, which is focused on recreation, and the headwaters of Sand Creek, the majority of this site is used as open range at the present time. The Zapata Ranch maintains large herds of cattle and bison (*Bison bison*), which graze the private ranch lands and leased state lands contained in the site. Grazing intensity appears moderate at this time. Elk (*Cervus elaphus*) are also numerous at the site and browse the wetland habitats extensively. A number of two track roads traverse the site, but are lightly

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used. Although the hydrology is largely natural over most of the site, there are several ditches which spread water on the Zapata Ranch and water levels at San Luis Lakes State Park have been stabilized by water input from the Closed Basin Project.

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 01/25/1998

Designer Sarr, D.A.

Boundary Justification

The San Luis site boundary includes all of the known occurrences and immediate potential habitat that has not been thoroughly inventoried, but is likely to include many of the elements of concern. The adjacent Blanca Wetlands site contains similar habitat and the sites may be regarded as functionally connected. The site boundary was based on initial aerial photo analysis, a field visit by several CNHP scientists, and subsequent validation with satellite imagery.

Primary Area 37,861.92 Acres

15,322.24 Hectares

SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

Biodiversity Significance Comments

This site supports 21 elements of concern: eight plant communities, three plant species, two mammal subspecies, seven birds, and one invertebrate species. Five significant wetland communities are found at this site: Small flowered sedge (*Carex simulata*) wet meadow (G4/S3), Aquatic catabrosa / monkeyflower (*Catabrosa aquatica* / *Mimulus* spp.) spring wetland (GU/S3), spikerush (*Eleocharis palustris*) wetland (G5/S4), mare's tail (*Hippuris vulgaris*) wetland (G5/S4), and aquatic smartweed (*Polygonum amphibium*) wetland (G5/S3). Three riparian communities found at this site are globally rare: white fir - blue spruce - narrowleaf cottonwood / Rocky Mountain maple (*Abies concolor* - *Picea pungens* - *Populus angustifolia* / *Acer glabrum*) montane riparian forest (G2/S2), narrowleaf cottonwood / Drummond's willow - Rocky Mountain maple (*Populus angustifolia* / *Salix drummondiana* - *Acer glabrum*) montane riparian forest (G2/S1), and narrowleaf cottonwood / bare sand (*Populus angustifolia* / sand dune) montane riparian forest (G1/S1). The globally imperiled (G2G3/S2S3) slender spiderflower (*Cleome multicaulis*) and the state rare (G4/S2) Bodin milkvetch (*Astragalus bodinii*) have been recorded at this site recently. During the 1875 Hayden expedition, botanist, T. S. Brandegee collected the only specimen known for the Colorado watercress (*Rorippa coloradensis*) (???1972, pgs 303-305). It is presumed that the specimen came from "Lakes of San Luis valley", meaning the San Luis Lakes region. This plant has not been seen since. Given the imprecise nature of this information, this species occurrence is not listed for this site. Should this species be found here in the future, it would dramatically increase the biodiversity significance of this site. This site supports one of the largest populations known of the globally rare slender spiderflower. The slender spiderflower has a fairly large global range from southern Wyoming to central Mexico. In spite of this large range, populations of this plant have decreased sharply in the last 100 years, particularly in the southwestern states. The plant is also limited to very specific microhabitats, requiring alkaline soils which remain moist throughout the growing season. The slender spiderflower also appears to do well with some form of soil disturbance, which presumably limits plant competition. These discriminating habitat requirements limit the slender spiderflower to the edges of alkaline playa lakes and wetlands. The Closed Basin of Colorado contains the most numerous, largest, and healthiest populations in the world. Imperiled animal species are well represented at the site. Two imperiled mammal subspecies, the Plains pocket mouse (*Perognathus flavescens relictus*) and silky pocket mouse (*Perognathus flavus sanluisi*), have been recorded from the dunes and alkali shrublands on the lower elevations of the site. Two imperiled invertebrate species, the Camel cricket (*Daihinbaenetes giganteus*) and San Luis sandhill skipper (*Polites sabuleti ministigma*), have been recorded from the dune habitats which comprise the eastern edge of the site. State or globally rare bird species which use the site include: Short-eared Owl (*Asio flammeus*), Western Snowy Plover (*Charadrius*

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alexandrinus nivosus), Long-billed Curlew (*Numenius americanus*), Black-crowned Night-heron (*Nycticorax nycticorax*), White-faced ibis (*Plegadis chihi*), and Forster's Tern (*Sterna forsteri*).

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

No Data

Offsite

No Data

Information Needs

No Data

ASSOCIATED ELEMENTS OF BIODIVERSITY

<u>Element</u>	<u>State Scientific Name</u>	<u>State Common Name</u>	<u>Global Rank</u>	<u>State Rank</u>	<u>Driving Site Rank</u>
18783	<i>Eleocharis palustris</i> Herbaceous Vegetation	Emergent Wetland	G5	S4	No
18431	<i>Sterna forsteri</i>	Forster's Tern	G5	S2B,S4N	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
20353	<i>Hippuris vulgaris</i> Herbaceous Vegetation		G5	S4	No
17214	<i>Numenius americanus</i>	Long-billed Curlew	G5	S2B	No
24583	<i>Populus angustifolia</i> Sand Dune Forest		G1	S1	Yes
24810	<i>Abies concolor</i> - <i>Picea pungens</i> - <i>Populus angustifolia</i> / <i>Acer glabrum</i> Forest	Montane Riparian Forests	G2	S2	No
19571	<i>Perognathus flavescens relictus</i>	Plains Pocket Mouse Subsp	G5T2	S2	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
17983	<i>Polygonum amphibium</i> Permanently Flooded Herbaceous Vegetation [Placeholder]	Montane Wet Meadows	G5	S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
20637	<i>Plegadis chihi</i>	White-faced Ibis	G5	S2B	No
21624	<i>Draba smithii</i>	Smith whitlow-grass	G2	S2	Yes
16887	<i>Carex simulata</i> Herbaceous Vegetation	Wet Meadow	G4	S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
22395	<i>Astragalus bodinii</i>	Bodin milkvetch	G4	S2	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
17332	<i>Perognathus flavus sanluisi</i>	Silky Pocket Mouse Subsp	G5T3	S3	No
24499	<i>Populus angustifolia</i> / <i>Salix drummondiana</i> - <i>Acer glabrum</i> Woodland		G2?	S1	No
24862	<i>Catabrosa aquatica</i> - <i>Mimulus</i> ssp. Spring Wetland	Spring Wetland	GU	S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
24619	<i>Populus angustifolia</i> / <i>Rhus trilobata</i> Woodland	Narrowleaf Cottonwood/Skunkbrush	G3	S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
18431	<i>Sterna forsteri</i>	Forster's Tern	G5	S2B,S4N	No
24810	<i>Abies concolor</i> - <i>Picea pungens</i> - <i>Populus angustifolia</i> / <i>Acer glabrum</i> Forest	Montane Riparian Forests	G2	S2	Yes
17170	<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	G4T3	S1B	No

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17170	<i>Charadrius alexandrinus nivosus</i>	Western Snowy Plover	G4T3	S1B	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
21213	<i>Amphispiza belli</i>	Sage Sparrow	G5	S3B	No
17129	<i>Asio flammeus</i>	Short-eared Owl	G5	S2B	No
17214	<i>Numenius americanus</i>	Long-billed Curlew	G5	S2B	No
18080	<i>Cleome multicaulis</i>	slender spiderflower	G2G3	S2S3	No
21624	<i>Draba smithii</i>	Smith whitlow-grass	G2	S2	No
21624	<i>Draba smithii</i>	Smith whitlow-grass	G2	S2	No

REFERENCES

Reference ID	Full Citation
171471	Rondeau, R. J., D. Sarr, M. B. Wunder, P. M. Pineda, and G. M. Kittel. 1998. Final Report: Saguache County, Closed Basin Biological Inventory Volume 1: A Natural Heritage Assessment. Colorado Natural Heritage Program, Fort Collins, CO.

ADDITIONAL TOPICS

Additional Topics

No Data

VERSION

Version Date	01/25/1998
Version Author	Sarr, D.A.

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