

# Level 4 Potential Conservation Area (PCA) Report

Name San Miguel Basin

Site Code S.USCOHP\*25531

## IDENTIFIERS

Site ID 2228 Site Class PCA  
 Site Alias Beaver Mesa  
 Site Alias Dry Creek Basin  
 Site Alias Miramonte Reservoir

## 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 380518N  
 State Colorado Longitude 1083759W

## Quad Code Quad Name

38108-A3	Oak Hill
38108-A4	Barkelew Draw
37108-H4	North Mountain
37108-H3	Lone Cone
38108-A5	Basin
38108-B6	Naturita NW
38108-A1	Placerville
38108-A2	Gurley Canyon
37108-H2	Beaver Park
37108-H5	McKenna Peak
38108-B7	Bull Canyon
38108-A6	Gypsum Gap
38108-A7	Hamm Canyon

## County

San Miguel (CO)

Montrose (CO)

## Watershed Code Watershed Name

14030003	San Miguel
14030002	Upper Dolores

## SITE DESCRIPTION

<b>Minimum Elevation</b>	7,720.00	<b>Feet</b>	2,353.06	<b>Meters</b>
<b>Maximum Elevation</b>	8,080.00	<b>Feet</b>	2,462.78	<b>Meters</b>

## Site Description

"The San Miguel Basin population is located in Montrose and San Miguel Counties in Colorado. There are 6 GUSG subpopulations within the San Miguel Basin. The subpopulation areas are at Dry Creek Basin, Hamilton Mesa, Miramonte Reservoir, Gurley Reservoir, Beaver Mesa, and Iron Springs. Dry Creek Basin is 10 miles south of Naturita, Hamilton Mesa and Miramonte Reservoir are located about 11 miles southwest of Norwood, Gurley Reservoir is about 9 miles south of Norwood, Beaver Mesa is about 6 miles west of Placerville, and Iron Springs is about 4 miles north of Placerville. Some of these 6 areas are used year-round by GUSG, and others are used especially in particular seasons. Recent radiotelemetry studies (Apa 2004, J. Stiver, University of Nebraska, personal communication) have suggested that GUSG in the San Miguel Basin move widely and between subpopulations. The terrain at Dry Creek Basin is bowl-shaped and elevation varies from 6,300 - 7,100 feet. The area occupied by GUSG is approximately 61,300 acres. Sagebrush habitat in the Dry Creek Basin area is patchy in distribution. Understory is either lacking in grass and forb diversity (i.e. <3 species/acre), or nonexistent. The central part of Dry Creek Basin contains highly alkaline soils and the region is dominated primarily by desert shrubs such as shadscale, greasewood, and low sage. The surrounding uplands are managed by the BLM and contain extensive, and generally contiguous, stands of Wyoming big sagebrush (A. Winward and S. Monsen, personal communication). Where irrigation is possible, private lands in the southeast portion of Dry Creek Basin are cultivated. Sagebrush habitat on private land has often been heavily thinned, or removed entirely. A nearby disjunct area also used seasonally by this population is

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Hamilton Mesa, where elevation ranges from 8,500 to 8,900 feet. Occupied habitat at Hamilton Mesa covers about 4,100 acres. GUSG are known to use this habitat during the summer, but it is not yet known whether it is used in other seasons. The terrain at Miramonte Reservoir is flat, with elevation varying only from 7,800 - 8,000 feet. Occupied sage-grouse habitat is approximately 11,600 acres. Sagebrush stands at Miramonte Reservoir are generally contiguous with a mixed grass (>3 species/acre) and forb (>2 species/acre) understory. Low and black sagebrush are common with some mountain big sagebrush in drainages. The Gurley Reservoir area is flat, with elevations ranging from 8,000 - 8,300 feet. Occupied GUSG habitat is about 6,900 acres. Sagebrush habitat in the Gurley Reservoir area is heavily fragmented and the understory is a mixed grass (>3 species/acre) and forb community (> 2 species/acre). Attempts to farm in Goshorn Flats in the early part of the 20th century led to the removal of much of the sagebrush. Ultimately, many of these attempts failed and agricultural activities now are restricted primarily to the seasonal irrigation of pasture. Sagebrush has re-established in most of these pastures, but grazing pressure and competition from introduced grass species have kept the overall sagebrush composition low. Elevation at Iron Springs and Beaver Mesa ranges from 8,200 - 9,000 feet. Occupied habitat is approximately 5,700 acres at Iron Springs and 8,800 acres at Beaver Mesa. Sagebrush stands in Iron Springs and Beaver Mesa are contiguous and there is a mixed grass understory with species diversity > 3 species/acre. The Beaver Mesa area has numerous scattered patches of oakbrush not found in Iron Springs" (GSGRSC 2005). The site is situated within the Paradox Formation in the Four Corners (the common corner of UT, CO, NM, AZ) area. A large sea embayment separated from the remaining sea covered this area in the Pennsylvanian age and upon evaporation of this sea, its salts became concentrated in domes overlain with sedimentary rock creating the formation. Once these sedimentary rocks were breached by erosion the domes comprised of soluble salt and gypsum were washed away and the flanking structures collapsed leaving broad valleys at Paradox, Gypsum, and Dry Creek. The resulting soils are alkaline and the dominant vegetative community throughout the site is big sagebrush *Artimisia tridentata tridentata*. The soil components within the site include Skien (borollic lithic calciorthis, loamy, mixed), Palma (ustollic hoplargids, coarse loamy, mixed, mesic), and Mikim (ustic torriothents, fine-loamy, mixed (calcareous), mesic). Plants commonly associated with these soils include *Oryzopsis hymenoides*, *Agropyron smithii*, *Bouteloua eriopoda*, *B. curtipendula*, *B. gracilis*, *Stipa comata*, *Hilaria jamesii*, *Sitanion hystrix*, *Artemisia tridentata tridentata*, *A. t. wyomingensis*, and other perennial grasses, forbs, and shrubs. Sage Sparrows are also supported by this site.

## Key Environmental Factors

No Data

## Climate Description

No Data

## Land Use History

Prior to establishment of the Dry Creek State Wildlife Area (SWA) the entire site was grazed ranchland. The SWA is maintained as a grouse preserve without grazing and because of the inhospitable nature of the landscape and climate the SWA sees little public activity.

## Cultural Features

No Data

### SITE DESIGN

Site Map Y - Yes

Mapped Date 05/01/2006

Designer Gaughan, C.R.

## Boundary Justification

The site boundary was provided by CDOW (NDIS overall range) drawn to encompass the entire nesting area, including known leks, of the Gunnison Sage Grouse and surrounding habitat containing potential or known roost and nesting locations (CDOW 2005).

Primary Area 101,124.57 Acres

40,923.82 Hectares

### SITE SIGNIFICANCE

Biodiversity Significance Rank B2: Very High Biodiversity Significance

## Biodiversity Significance Comments

The site supports good to fair (BC-ranked) occurrences of a globally critically imperiled (G1/S1) bird species. These are the highest quality occurrences of Gunnison Sage Grouse (*Centrocercus minimus*) in far western Colorado, and are of critical importance to conservation of this species.

Other Values Rank No Data

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## Other Values Comments

No Data

## LAND MANAGEMENT ISSUES

### Land Use Comments

"Most of the Dry Creek area is managed by the BLM (57%), CDOW (12%), or the Colorado State Land Board (1%), and the rest is privately owned (30%). Hamilton Mesa is primarily in private ownership (85%), with limited Colorado State Land Board (11%) and BLM (4%) managed property. [Miramonte] landownership is 76% private, 6% controlled by USFS, 15% managed by CDOW, and 2% by the BLM. A large portion of the area [Guley Reservoir] (91%) is privately owned with the rest being managed by USFS (4%), BLM (3%) and the Colorado State Land Board (2%). Landownership in both areas is heavily private (Beaver Mesa - 99.5%, Iron Springs - 89%). The remaining portion of Beaver Mesa (0.5%) is managed by the BLM. At Iron Springs the remainder is managed by the USFS (6%), and the Colorado State Land Board (6%). Livestock production and farming are the primary landuses in the San Miguel Basin. Rural housing is common and some residential development is occurring" (GSGRSC 2005). Range now restricted due to habitat loss resulting from sagebrush eradication, grazing of livestock, agriculture, and land development. Populations have declined in some areas, apparently in response to widespread treatment (chaining, spraying, burning) of sagebrush-dominated rangeland to benefit livestock production (Ritchie et al. 1994). Use of organophosphorus insecticides on agricultural lands adjacent to sagebrush can result in grouse die-offs and should be avoided. Grazing should be eliminated during the chick rearing period (May-August) and pinon - juniper stands, utility polls, and other perching sites should be thinned around lekking sites to prevent predation of adults on lek by raptors. Threats include habitat loss, fragmentation, and degradation of sagelands by development, agriculture, and grazing. Large scale treatment of sagelands with herbicide and fire have negatively impacted Sage Grouse habitat (Braun et al. 1994).

### Natural Hazard Comments

No Data

### Exotics Comments

Cheatgrass.

### 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>
17758	<i>Centrocercus minimus</i>	Gunnison Sage Grouse	G1	S1	Yes
17758	<i>Centrocercus minimus</i>	Gunnison Sage Grouse	G1	S1	Yes
17758	<i>Centrocercus minimus</i>	Gunnison Sage Grouse	G1	S1	Yes
17758	<i>Centrocercus minimus</i>	Gunnison Sage Grouse	G1	S1	Yes
17758	<i>Centrocercus minimus</i>	Gunnison Sage Grouse	G1	S1	Yes
21213	<i>Amphispiza belli</i>	Sage Sparrow	G5	S3B	No
21213	<i>Amphispiza belli</i>	Sage Sparrow	G5	S3B	No

## REFERENCES

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<u>Reference ID</u>	<u>Full Citation</u>
100569	American Ornithologists' Union (AOU). 1983. Check-list of North American Birds, 6th edition. Allen Press, Inc., Lawrence, Kansas. 877 p.
165068	Andrews, R. R. and R. R. Righter. 1992. Colorado Birds. Denver Museum of Natural History, Denver. 442 pp.
194305	Apa, A.D. 2004. Habitat use, movements, and survival of Gunnison sage-grouse in southwestern Colorado. Unpublished report to the Colorado Division of Wildlife, Colorado, USA.
163528	Blus, L. J. 1989. Effects of organophosphorus insecticides on sage grouse in southeastern Idaho. J. Wildl. Manage. 53:1139-1146.
171893	Braun, C. E. 1995. Distribution and status of sage grouse in Colorado. Prairie Naturalist 27:1-9.
162507	Braun, C. E., K. M. Giesen, R. W. Hoffman, T. E. Remington, W. D. Snyder. 1994. Upland bird management analysis guide, 1994-1998. Division Rept. 19. Colorado Division of Wildlife. 48 pp.
194308	Colorado Division of Wildlife. 2005. Gunnison Sage Grouse Overall Range. Fort Collins, CO. GIS data online at <a href="http://ndis.nrel.colostate.edu/ftp/index.html">http://ndis.nrel.colostate.edu/ftp/index.html</a>
194272	Gunnison Sage-grouse Rangewide Steering Committee (GSGRSC). 2005. Gunnison sage -grouse rangewide conservation plan. Colorado Division of Wildlife, Denver, Colorado, USA.
192792	Lyon, P. and J. Sovell. 2000. Final Report: A Natural Heritage Assessment, San Miguel and Western Montrose Counties, Colorado. Colorado Natural Heritage Program, Fort Collins, CO.
160253	Ritchie, M. E., M. L. Wolfe, and R. Danvir. 1994. Predation of artificial sage grouse nests in treated and untreated sagebrush. Great Basin Nat. 54:122-129.
168990	Schroeder, M. A., J. R. Young, and C. E. Braun. 1999. Sage Grouse ( <i>Centrocercus urophasianus</i> ). No. 425 in A. Poole, P. Stettenheim, and F. Gill, editors. The Birds of North America, Inc., Philadelphia, PA.

## ADDITIONAL TOPICS

### Additional Topics

Original site design by Lyon, M.J and J.R. Sovell 2000-03-13. Also, combined with two other sites designed by Lyon, M.J and J.R. Sovell 1999-11-23 (Dry Creek Basin) and 1999-12-01 (Beaver Mesa).

## VERSION

**Version Date** 05/01/2006  
**Version Author** Gaughan, C.R.

## Disclaimer

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