



United States Department  
of Agriculture



Natural Resources  
Conservation Service

Lakewood, Colorado

RWA 14030005

May 2010

# Upper Colorado–Kane Springs Watershed

Hydrologic Unit Code 14030005

Rapid Assessment





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## Introduction

### Background Information

The Natural Resources Conservation Service (NRCS) is encouraging the development of rapid watershed assessments in order to increase the speed and efficiency generating information to guide conservation implementation, as well as the speed and efficiency of putting it into the hands of local decision makers.

Rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations and stakeholders. These assessments help landowners and local leaders set priorities and determine the best actions to achieve their goals.

### Benefits of these Activities

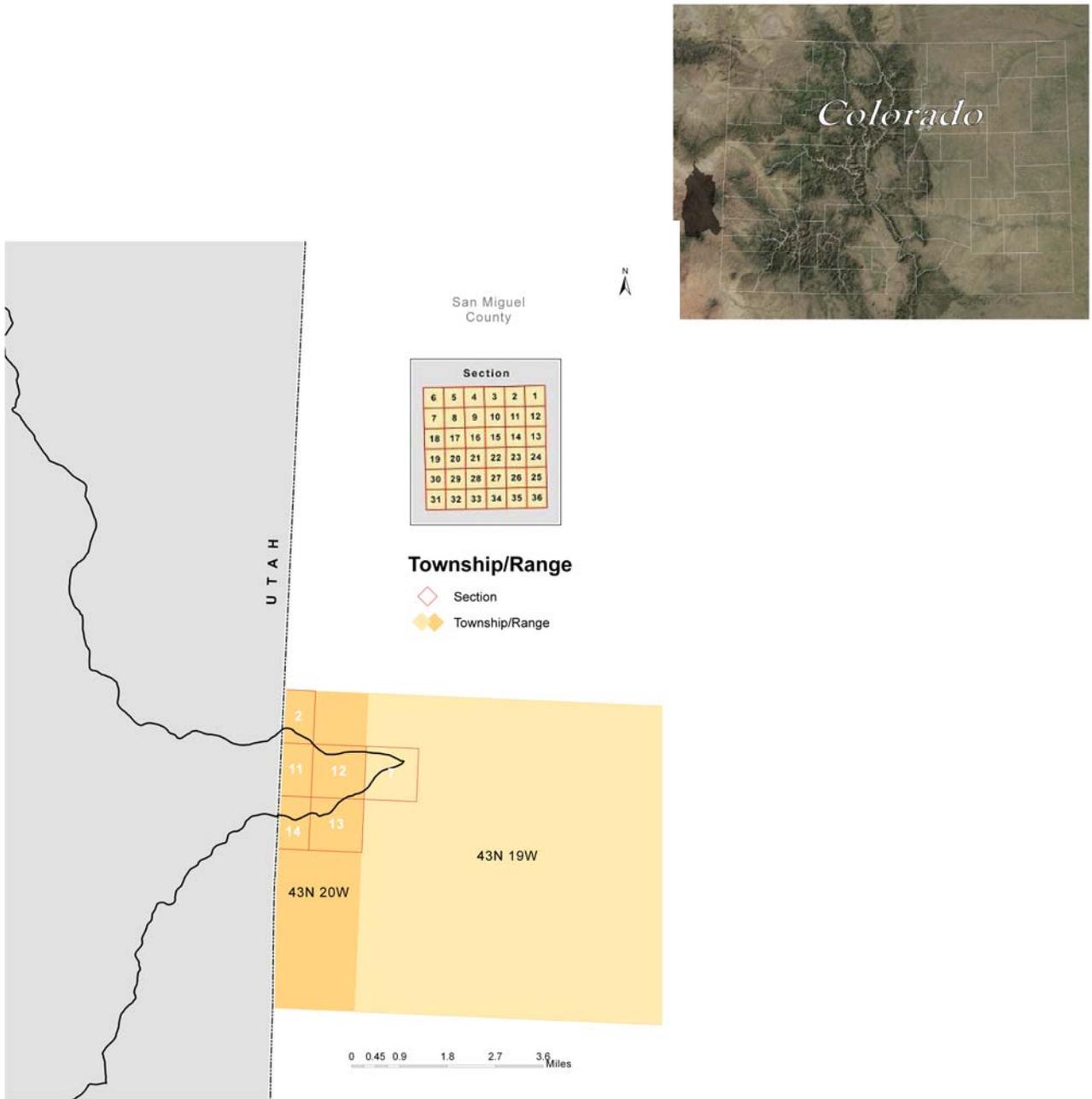
While rapid assessments provide less detail and analysis than full-blown studies and plans, they do provide the benefits of NRCS locally-led planning in less time and at a reduced cost. The benefits include:

- Quick and inexpensive tools for setting priorities and taking action
- Providing a level of detail that is sufficient for identifying actions that can be taken with no further watershed-level studies or analyses
- Actions to be taken may require further Federal or State permits or ESA or NEPA analysis but these activities are part of standard requirements for use of best management practices (BMPs) and conservation systems
- Identifying where further detailed analyses or watershed studies are needed
- Plans address multiple objectives and concerns of landowners and communities
- Plans are based on established partnerships at the local and state levels
- Plans enable landowners and communities to decide on the best mix of NRCS programs that will meet their goals
- Plans include the full array of conservation program tools (i.e. cost-share practices, easements, technical assistance)

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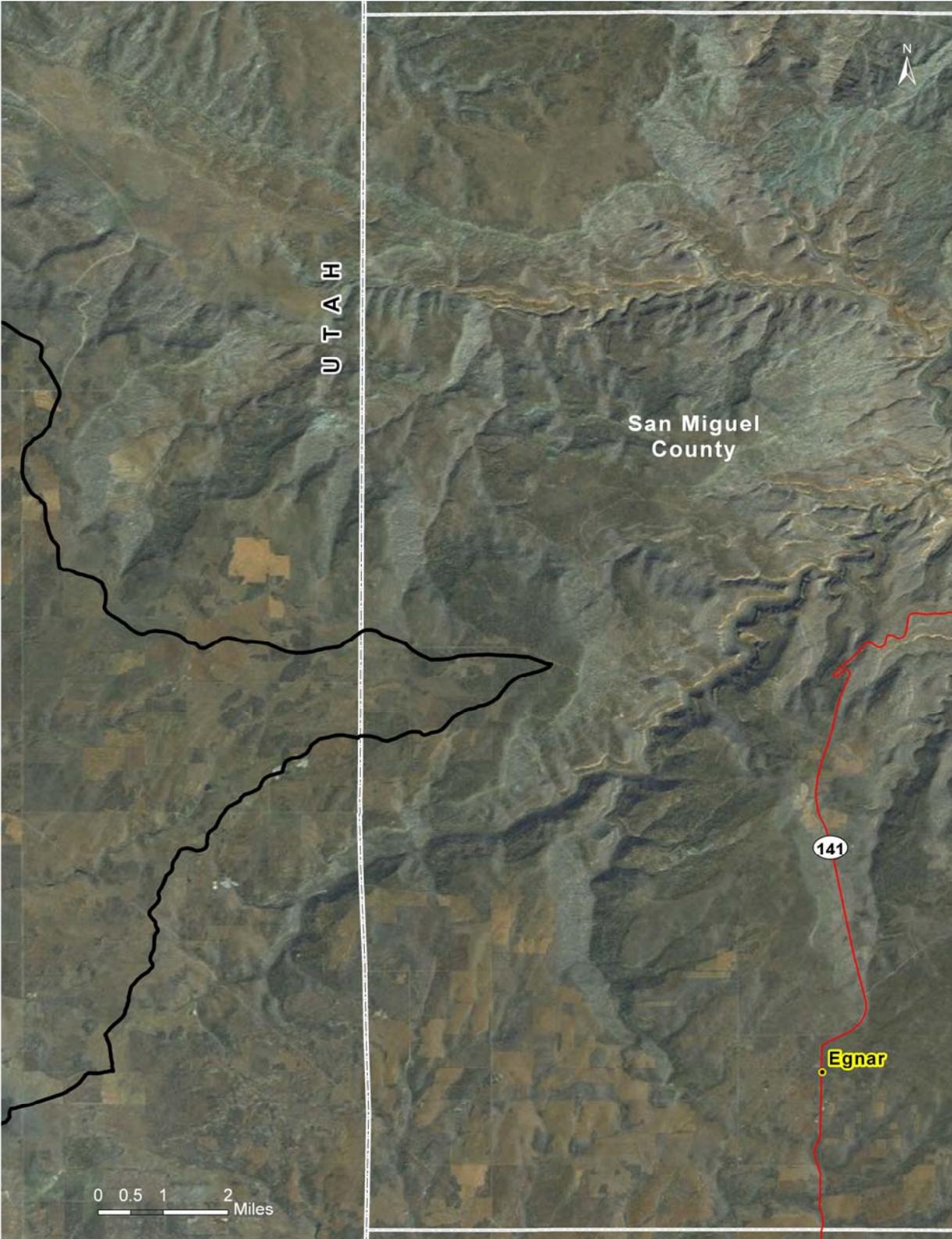
Rapid Watershed Assessments provide information that helps land-owners and local leaders set conservation priorities.

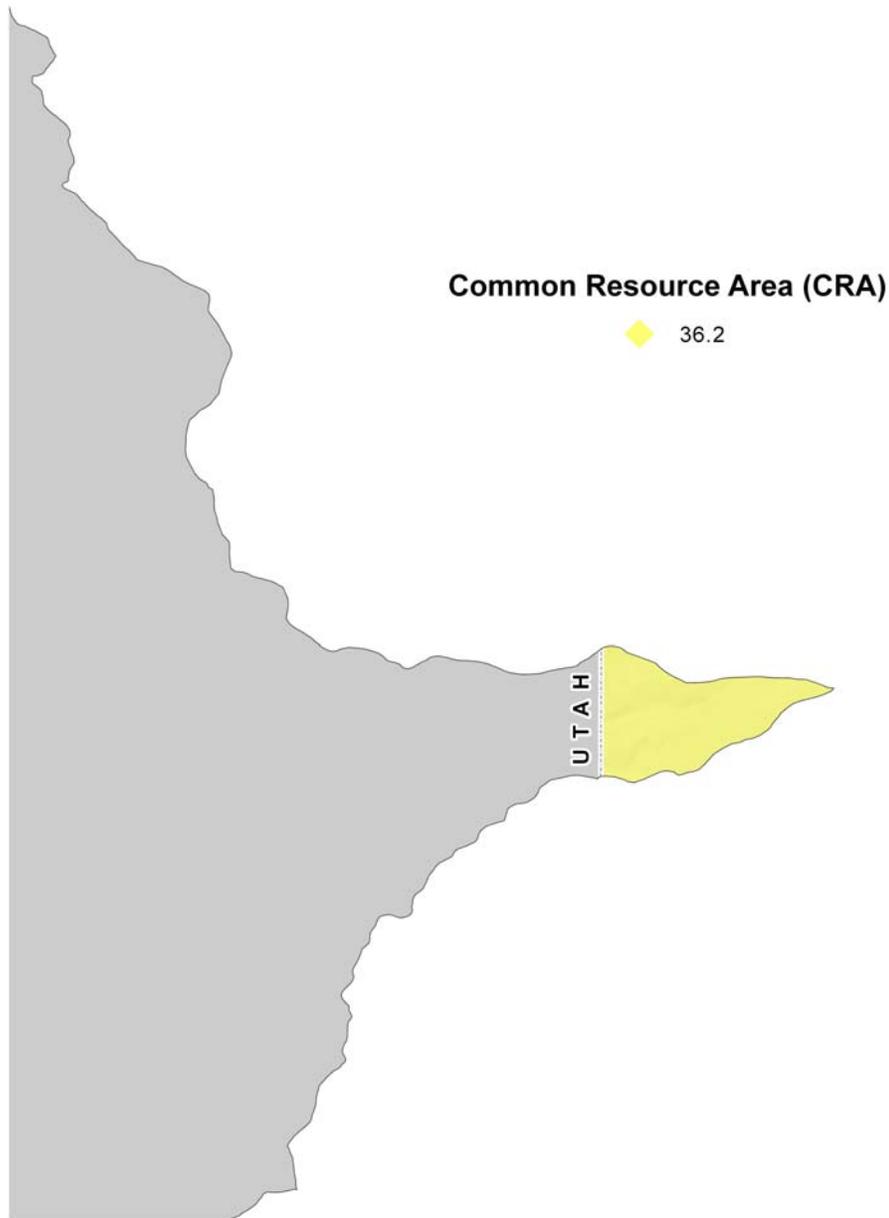
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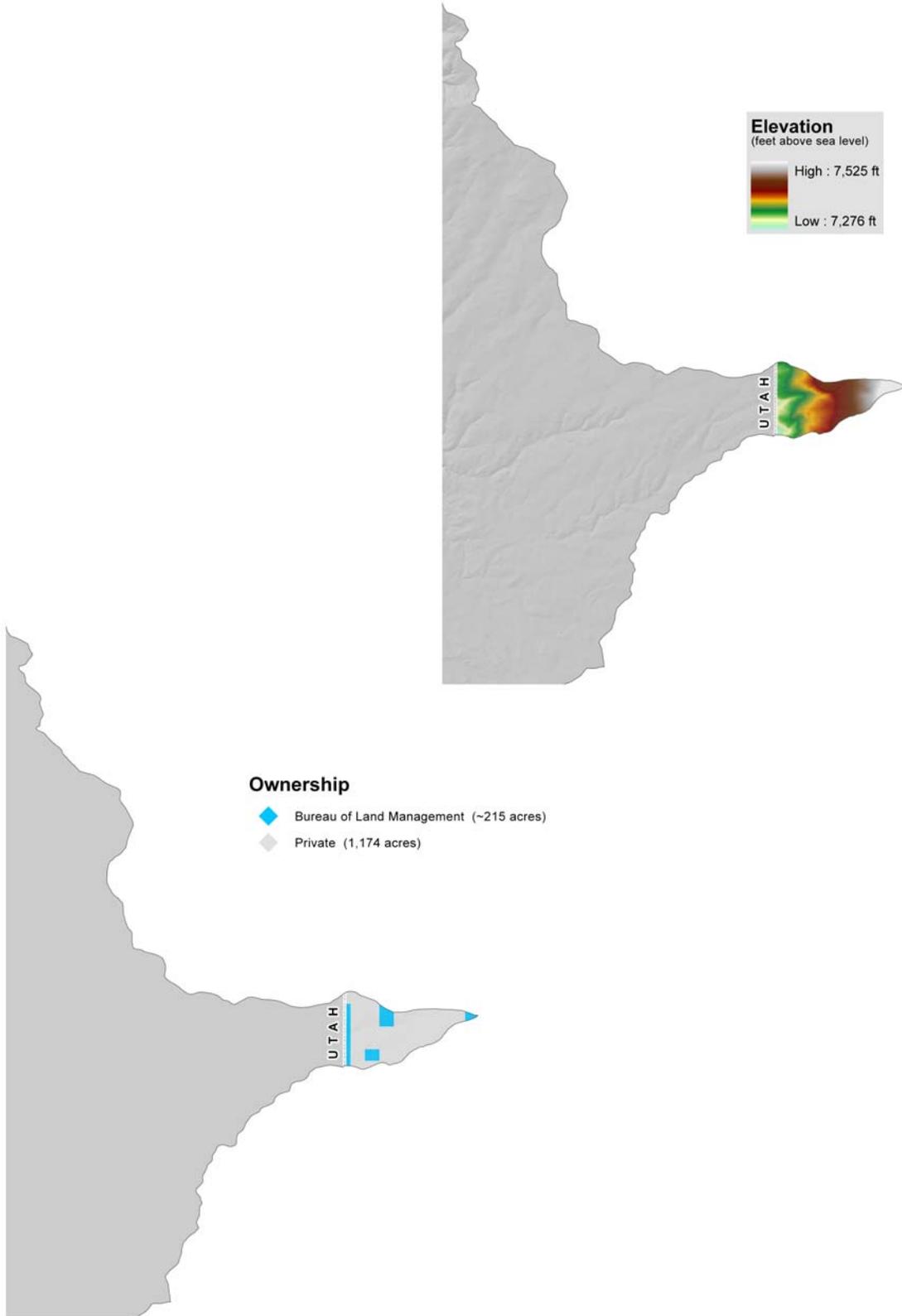
<b><i>COLORADO</i></b> <b>County</b>	<b>County</b> <b>Acres</b>	<b>County Acres in UPPER COLORADO-</b> <b>KANE SPRINGS Watershed</b>	<b>% of County in</b> <b>the Watershed</b>	<b>% of Water-</b> <b>shed in the</b> <b>County</b>
San Miguel	826,078	1,394	0.2%	0.1%
<b><i>UTAH</i></b> <b>County</b>				
San Juan	5,074,979	1,458,897	28.7%	99.9%
		1,460,291		

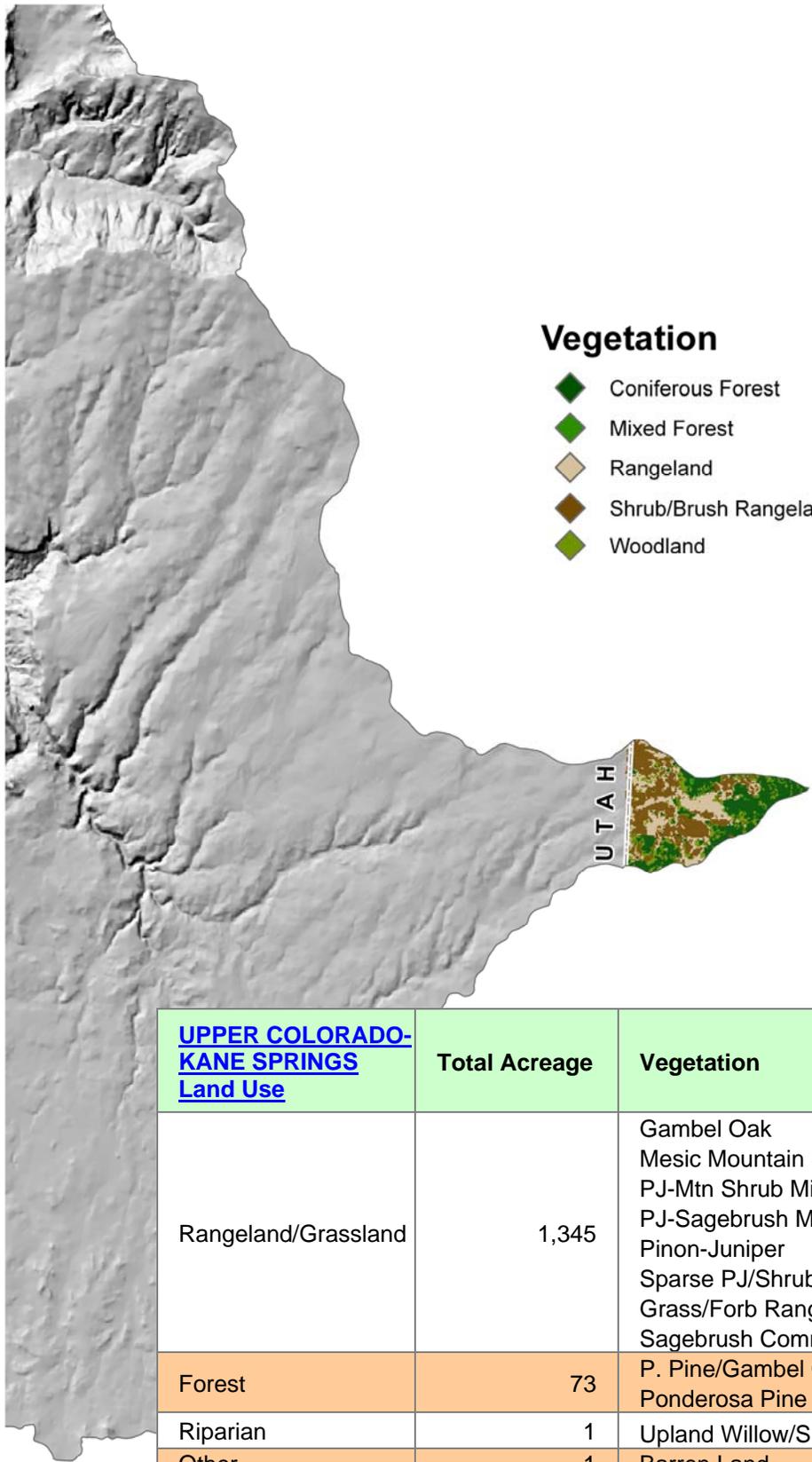
Upper Colorado-Kane Springs - 14030005





MLRA	CRA	CRA NAME	CRA DESCRIPTION
36	36.2	Southwestern Plateaus, Mesas, and Foothills - Warm Semiarid Mesas and Plateaus	This area encompasses the lower elevation mesas and plateaus. The temperature regime is mesic and the moisture regime is transitional from ustic to aridic. Vegetation is typically twoneedle pinyon, Utah juniper, and big sagebrush. Cropland is a significant land use in parts of this area, particularly on soils formed in thick deposits of eolian material. Precipitation ranges from 10 to about 16 inches. Elevations range from about 6,000 to 7,000 feet.

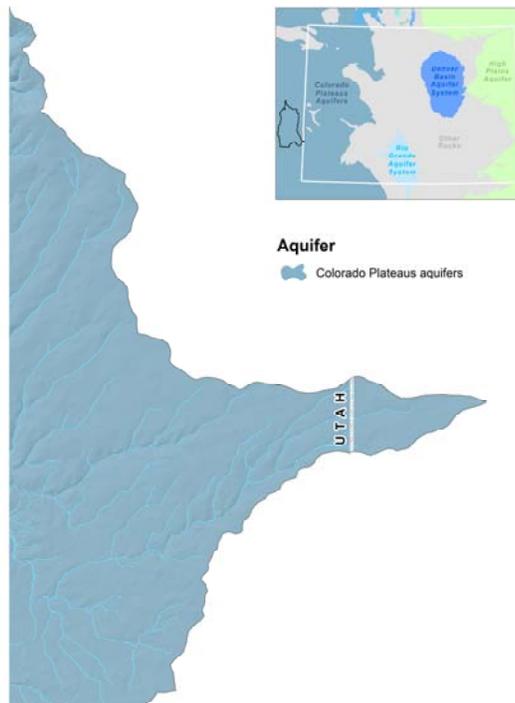
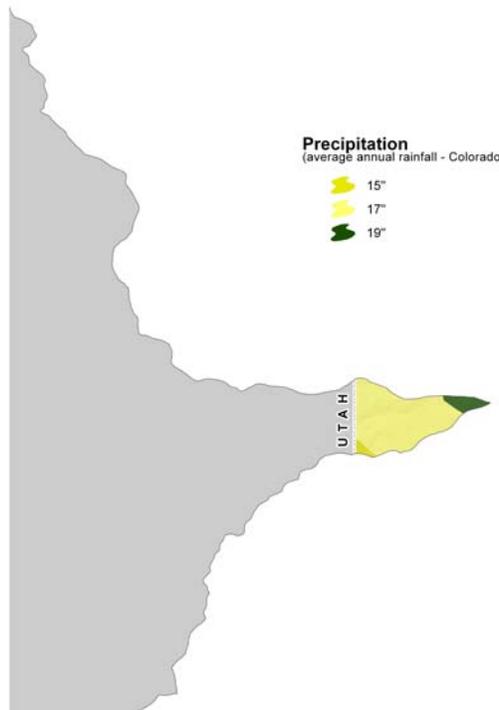




<u>UPPER COLORADO-KANE SPRINGS Land Use</u>	Total Acreage	Vegetation	Acreage
Rangeland/Grassland	1,345	Gambel Oak	3.2
		Mesic Mountain Shrub Mix	5.8
		PJ-Mtn Shrub Mix	74.8
		PJ-Sagebrush Mix	84.0
		Pinon-Juniper	335.9
		Sparse PJ/Shrub/Rock Mix	18.4
		Grass/Forb Rangeland	322.2
		Sagebrush Community	500.4
Forest	73	P. Pine/Gambel Oak Mix	7.3
		Ponderosa Pine	65.6
Riparian	1	Upland Willow/Shrub Mix	0.9
Other	1	Barren Land	1.2
<b>~Total Watershed Acres</b>			<b>1,420</b>

### Precipitation

Droughts are regular visitors to the watershed as with the rest of Colorado. Statewide, in the 1900's alone, four prolonged dry spells occurred. There was one in the 1910s. Another, in the '30s, caused the dust-bowl period. The second worst drought on record in the state occurred in the mid-50s. A series of hot, dry summers following a period of scant mountain snowpack created water shortages. The fourth drought hit parts of Colorado in the late 1970s. In this century, the most severe drought since 1723 hit the state in 2002. Prior to the 1700's, researchers looking at tree ring records have found evidence of even more severe droughts, some lasting many years. Rainfall occurs as frontal storms in the spring and early summer and high intensity, convective thunderstorms in late summer. Maximum precipitation is from mid spring through late autumn.



**Class 1** - soils have few limitations that restrict their use.

**Class 2** - soils have moderate limitations that reduce the choice of plants or that require moderate conservation practices.

**Class 3** - soils have severe limitations that reduce the choice of plants or that require special conservation practices, or both.

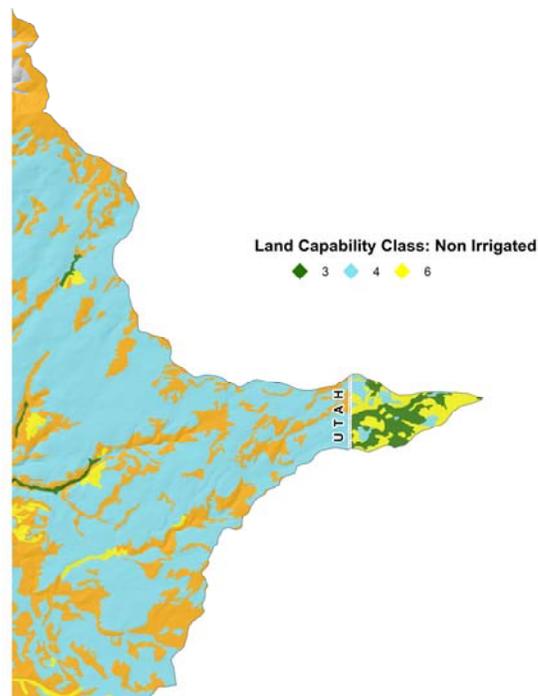
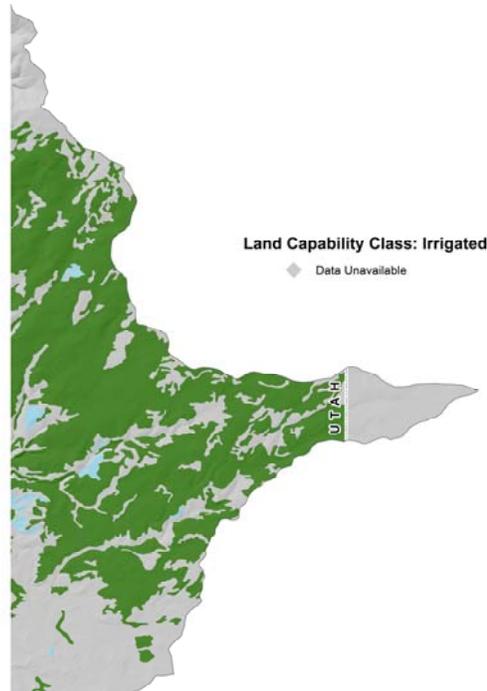
**Class 4** - soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

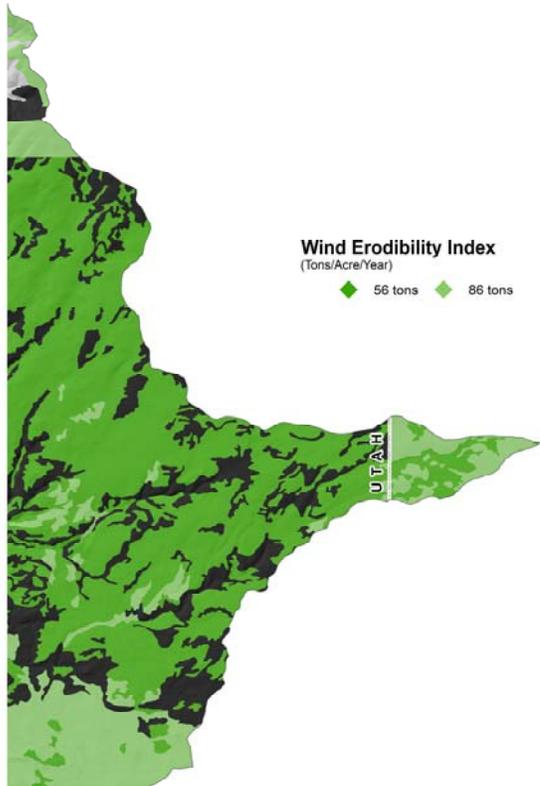
**Class 5** - soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

**Class 6** - soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

**Class 7** - soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

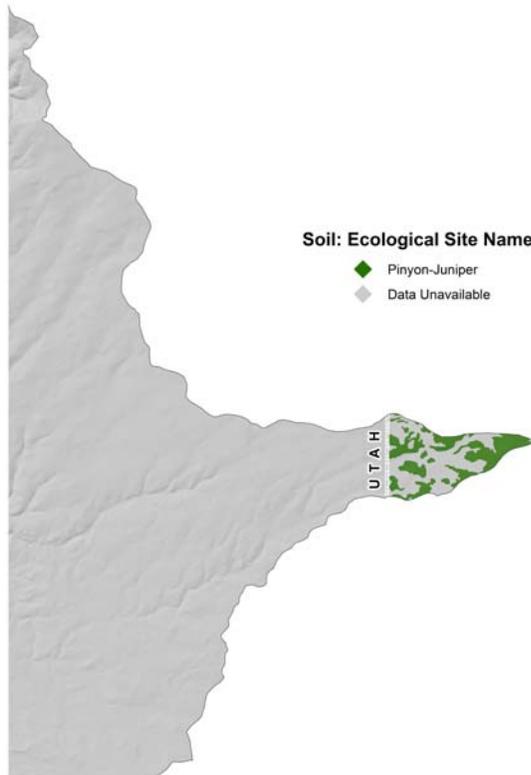
**Class 8** - soils and miscellaneous areas have limitations that preclude commercial plant production and that restrict their use to recreational purposes, wildlife habitat, watershed, or aesthetic purposes.

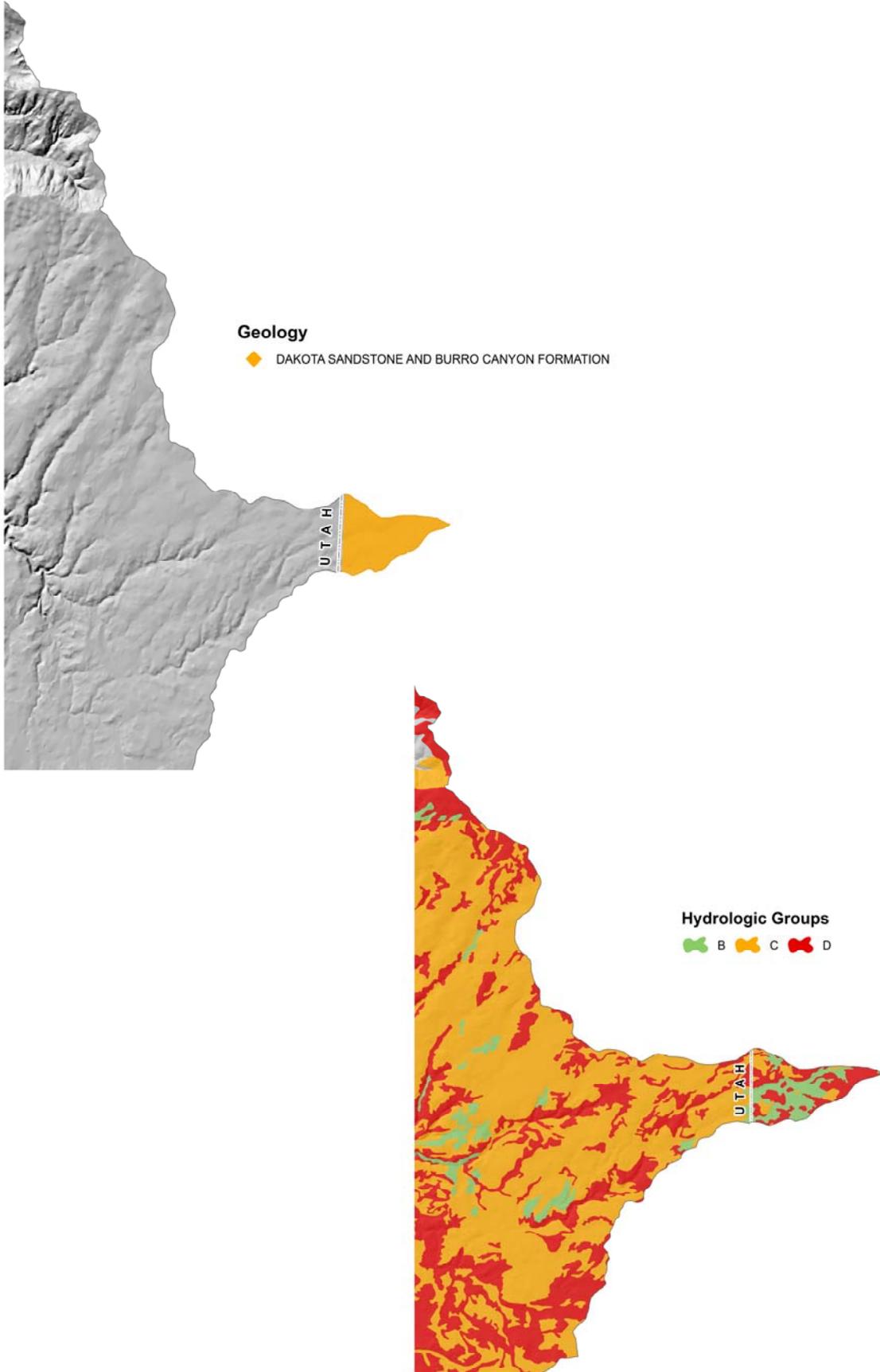




**The Wind Erodibility Index (WEI):** numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion if it is assumed there is no vegetative cover or management.

Soils with an erodibility index equal to or greater than 8 are considered highly erodible.





## State and Federal Threatened, Endangered, and Candidate Species and Species of Special Concern in Upper Colorado-Kanes Springs Watershed

Common Name	Scientific Name	Class	State Status/Federal Status	Comments
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	Birds	Concern/None	May occur in the watershed
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Birds	Threatened/None	Occurs in the watershed
Black-footed Ferret	<i>Mustela nigripes</i>	Mammals	Endangered/Endangered	No current records of occurrence
Bonytail	<i>Gila elegans</i>	Fish	Endangered/Endangered	Water depletions in the watershed may affect downstream habitats/fish
Canada Lynx	<i>Lynx canadensis</i>	Mammals	Endangered/Threatened	May occur in the watershed
Colorado Pikeminnow	<i>Ptychocheilus lucius</i>	Fish	Threatened/Endangered	Water depletions in the watershed may affect downstream habitats/fish
Colorado Roundtail Chub	<i>Gila robusta</i>	Fish	Concern/None	May occur in the watershed
Humpback Chub	<i>Gila cypha</i>	Fish	Threatened/Endangered	Water depletions in the watershed may affect downstream habitats/fish
Longnose Leopard Lizard	<i>Gambelia wislizenii</i>	Reptile	Concern/None	May occur in the watershed
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Birds	Threatened/Threatened	May occur in the watershed
Northern leopard frog	<i>Rana pipiens</i>	Amphibians	Concern/None	May occur in the watershed
Razorback Sucker	<i>Xyrauchen texanus</i>	Fish	Endangered/Endangered	Water depletions in the watershed may affect downstream habitats/fish
Southwestern Willow Flycatcher	<i>Empidonax traillii eximius</i>	Birds	Endangered/Endangered	May occur in the watershed
Townsend's big-eared bat (pale ssp)	<i>Corynorhinus townsendii pallescens</i>	Mammals	Concern/None	May occur in the watershed
Western Yellow-billed Cuckoo	<i>Coccyzus americanus</i>	Birds	Concern/Candidate	May occur in the watershed

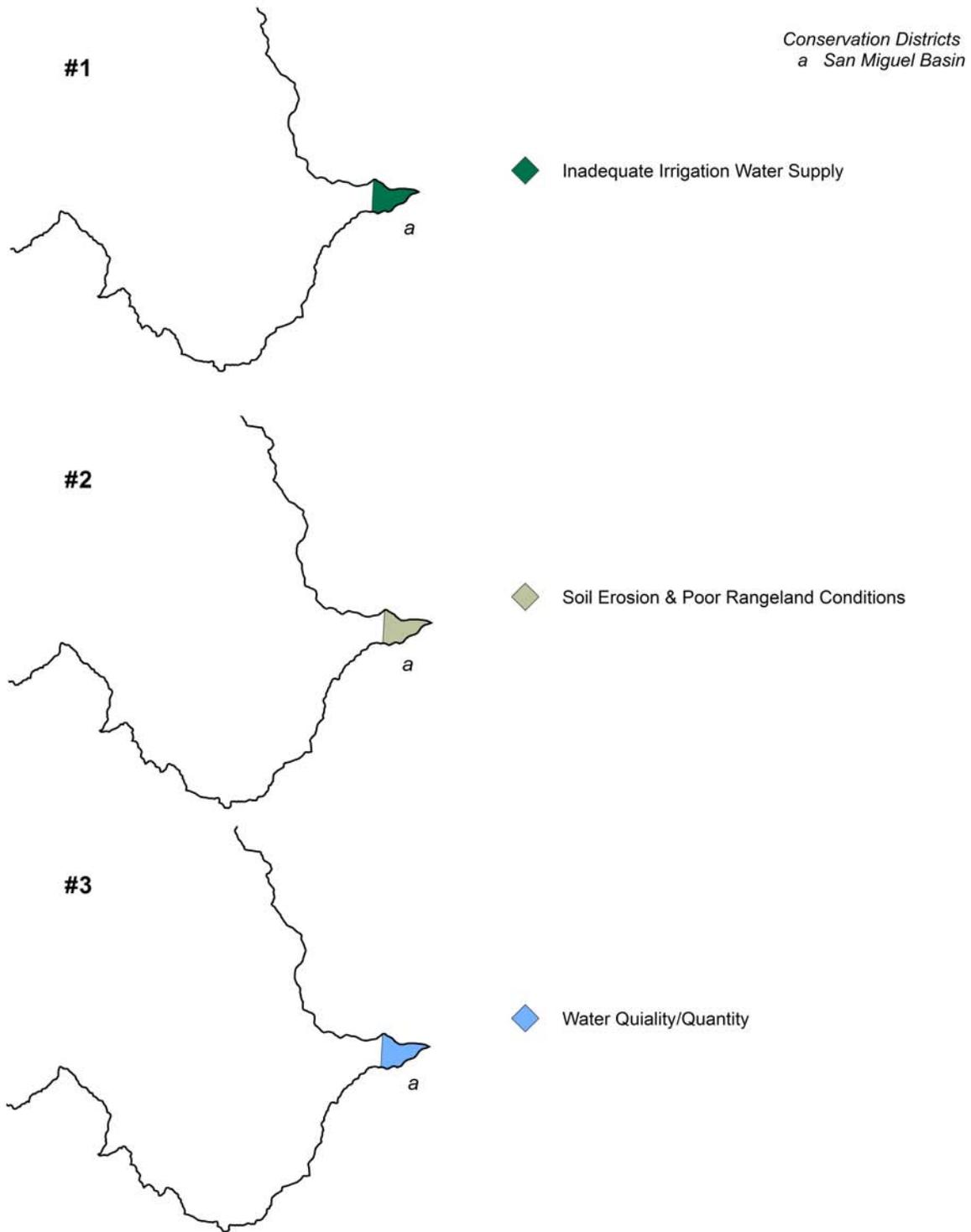
\*Recent genetic tests identified cutthroat population as greenback lineage.

The terrestrial habitats in this watershed include big sagebrush shrublands and pinyon-juniper woodlands. Aquatic habitats are limited in this watershed.

Economically important species in the watershed include: black bear, elk, mule deer, and mountain lion throughout the watershed.

Social Data	San Miguel
<b>Demographics (US Census, American Factfinder)</b>	
Total population	6,594
Male	3,607
Female	2,987
Median age (years)	34.2
White	6,170
Black or African American	19
American Indian and Alaska Native	56
Asian	49
Native Hawaiian and Other Pacific Islander	5
Some other race	22
Hispanic or Latino (of any race)	439
<b>Economic Characteristics (US Census, American Factfinder)</b>	
In labor force (population 16 years and over)	4,663
Median household income (dollars)	48,514
Median family income (dollars)	60,417
Per capita income (dollars)	35,329
Families below poverty level	95
Individuals below poverty level	685
<b>County Agricultural Characteristics (Colorado Agricultural Census, county data tables)</b>	
Farms (number)	112
Land in farms/ranches (acres)	151,093
Average size farm/ranch (acres)	1,349
Median size farm (acres)	234
Average age of farmer or rancher	57.1
Net cash return from ag sales (\$1,000)	-443
Cattle and calves (number)	6,000

## Identified Long Range Resource Concerns Top Three Concerns within Conservation Districts



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## FOOTNOTES/ BIBLIOGRAPHY

**Threatened and Endangered Species** information was gathered using data from the Colorado Division of Wildlife (CDOW) Natural Diversity Information Source (NDIS). NDIS GIS data may be downloaded at <http://ndis.nrel.colostate.edu>. For more information on Colorado's Endangered & Threatened Species, as well as Species of Concern, visit <http://wildlife.state.co.us/WildlifeSpecies/SpeciesOfConcern/ThreatenedEndangeredList/ListOfThreatenedAndEndangeredSpecies.htm> or <http://mountainprairie.fws.gov/endspp/CountyLists/COLORADO.htm>

**Resource Concerns** were identified using the Colorado Association of Conservation Districts' (CACD) long range (10 year) plans from the period of 1996-2000. Only the top three environmental resource concerns for each district were used. For more information on Colorado's Conservation Districts, visit <http://www.cacd.us>.

Maps were generated using Soil Survey Geographic Database (SSURGO) tabular and spatial data. SSURGO data was downloaded for the following Colorado & Border State surveys:

Grand Count	(UT624)	Published 7/23/2004	San Juan Area	(UT639)	Published 12/7/2006
San Miguel Area	(CO675)	Published 1/10/2007	Canyonlands Area	(UT633)	Published 1/1/2007

**Vegetation** data was generated using the Colorado Division of Wildlife's "Colorado Vegetation Classification Project" (CVCP) data. Completed in 2003, the CVCP is a landscape level vegetation dataset created using Landsat TM imagery and then formatted for GIS use. The species identified are an overview of the most common species associated in each cover type, in order of greatest occurrence. For more information on the Colorado Vegetation Classification Project, visit <http://ndis.nrel.colostate.edu/coveg>.

All border state (if applicable) vegetation data courtesy of the National Land Cover Dataset (NLCD). For more information visit [http://www.mrlc.gov/mrlc2k\\_nlcd.asp](http://www.mrlc.gov/mrlc2k_nlcd.asp)

**Common Resource Area (CRA)**, a subdivision of the Major Land Resource Area (MLRA), is a geographical area where resource concerns, problems, or treatment needs are similar. Geographic boundaries of a CRA are determined by landscape conditions, soil, climate, human considerations and other natural resource information. For more information on Common Resource Areas visit <http://soils.usda.gov/survey/geography/cra.html>.

**Average Annual Precipitation** data was developed through a partnership between the Natural Resources Conservation Service's (NRCS) National Water and Climate Center (NWCC), the National Cartography and Geospatial Center (NCGC), and the PRISM (the Parameter-elevation Regressions on Independent Slopes Model) group at Oregon State University (OSU), developers of PRISM. Mean annual precipitation maps were developed calculating averages of rainfall for the period of 1961-1990. For more information on PRISM data visit <http://www.ncgc.nrcs.usda.gov/products/datasets/climate/docs/fact-sheet.html> or for more information about technical aspects of PRISM, visit the PRISM website at <http://www.ocs.orst.edu/prism>.

**Land Ownership** (status,07/22/2006 dataset) data was obtained from the Bureau of Land Management, Colorado State Office. For more information, visit [http://www.blm.gov/co/st/en/BLM\\_Programs/geographical\\_sciences/gis.html](http://www.blm.gov/co/st/en/BLM_Programs/geographical_sciences/gis.html)

**Relief & Elevation** maps were created using the National Elevation Dataset (NED), 30m Digital Elevation Model (DEM) raster product assembled by the U.S. Geological Survey (USGS). A hillshade grid was created from the 30m DEM to create a 3D effect. For more information about the NED visit <http://ned.usgs.gov>. The data was downloaded from the NRCS Geospatial Data Gateway at <http://datagateway.nrcs.usda.gov>.