



United States Department  
of Agriculture

# Upper Arkansas Watershed



Hydrologic Unit Code 11020002

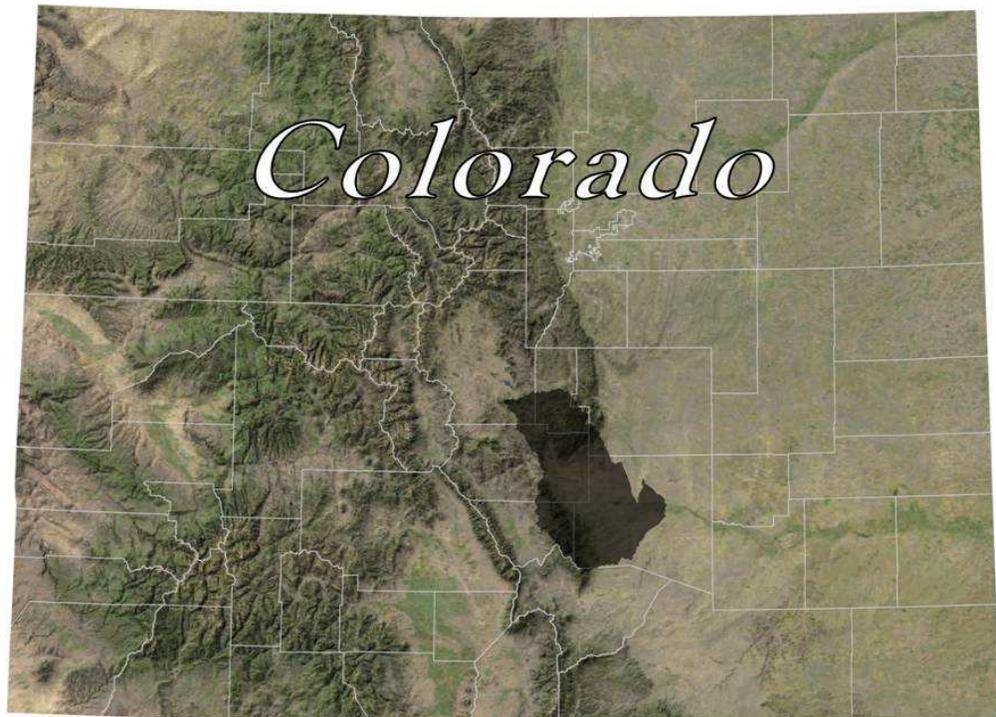
Natural Resources  
Conservation Service

## Rapid Assessment

Lakewood, Colorado

RWA 11020002

August 2007



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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.**

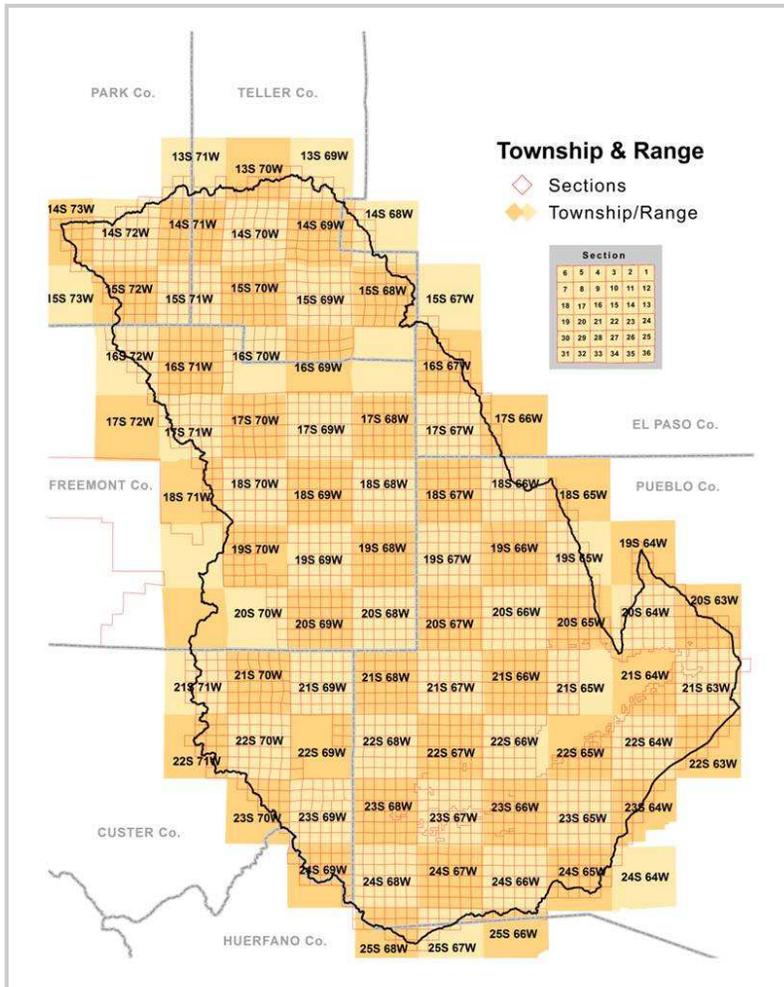
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## Introduction

The Upper Arkansas Watershed

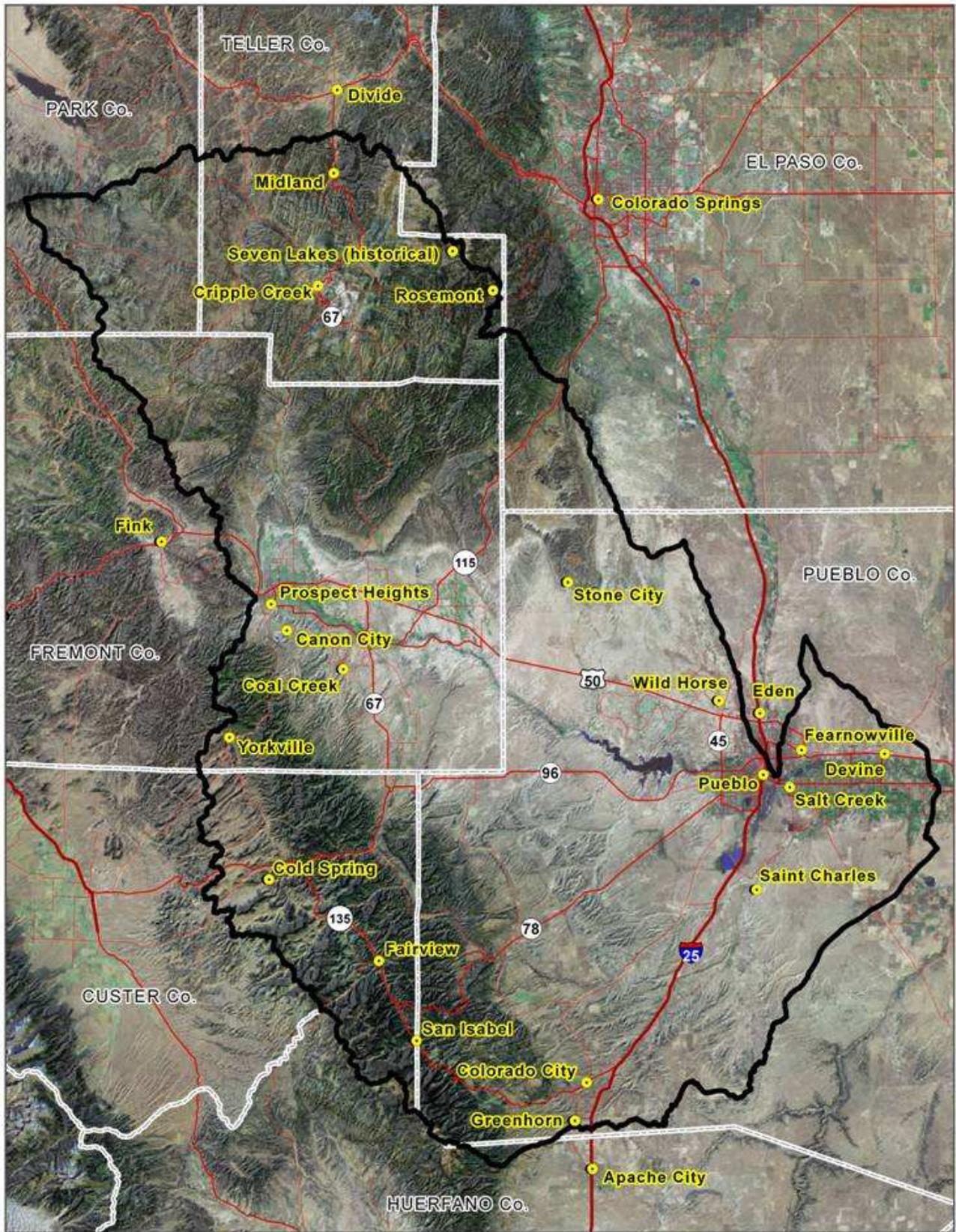


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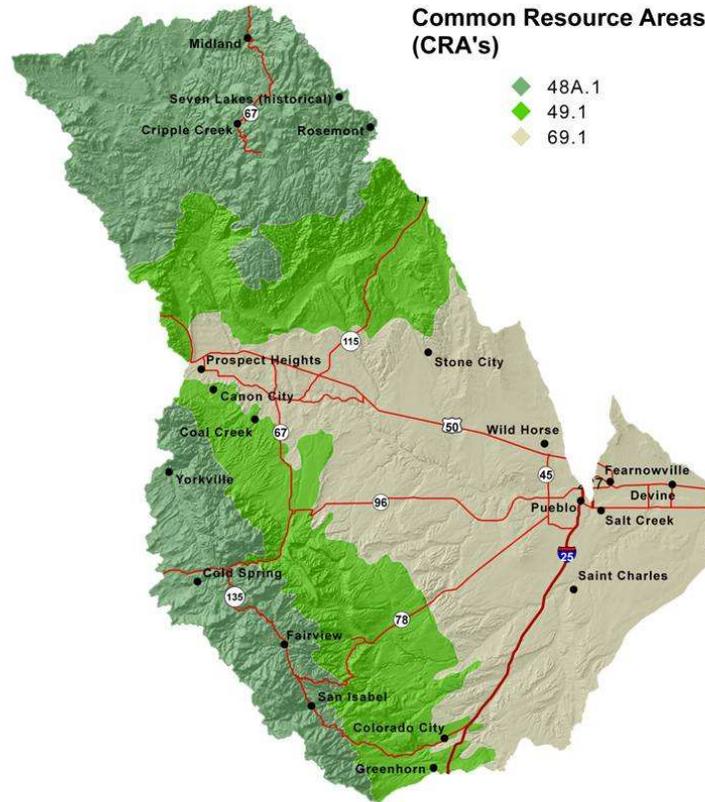


	County Acres	County Acres in UPPER ARKANSAS Watershed	% of county in the Watershed	% of Watershed in the county
Custer	473,652	148,583	31.37%	10.08%
El Paso	1,362,117	45,228	3.32%	3.07%
Fremont	983,920	380,971	38.72%	25.83%
Huerfano	1,018,970	3,064	0.30%	0.21%
Park	1,413,688	64,704	4.58%	4.39%
Pueblo	1,533,605	657,129	42.85%	44.56%
Teller	357,405	175,017	48.97%	11.86%

### Upper Arkansas Watershed - 11020002

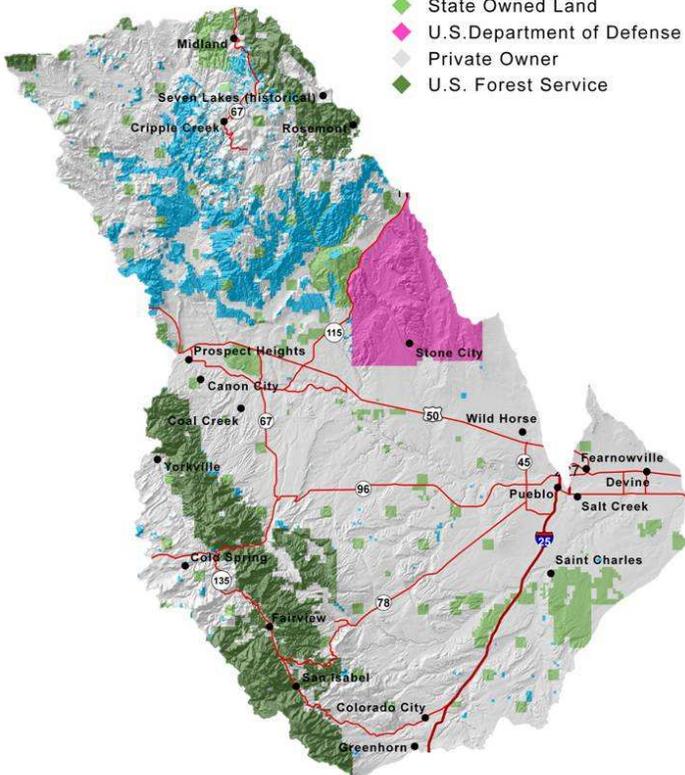
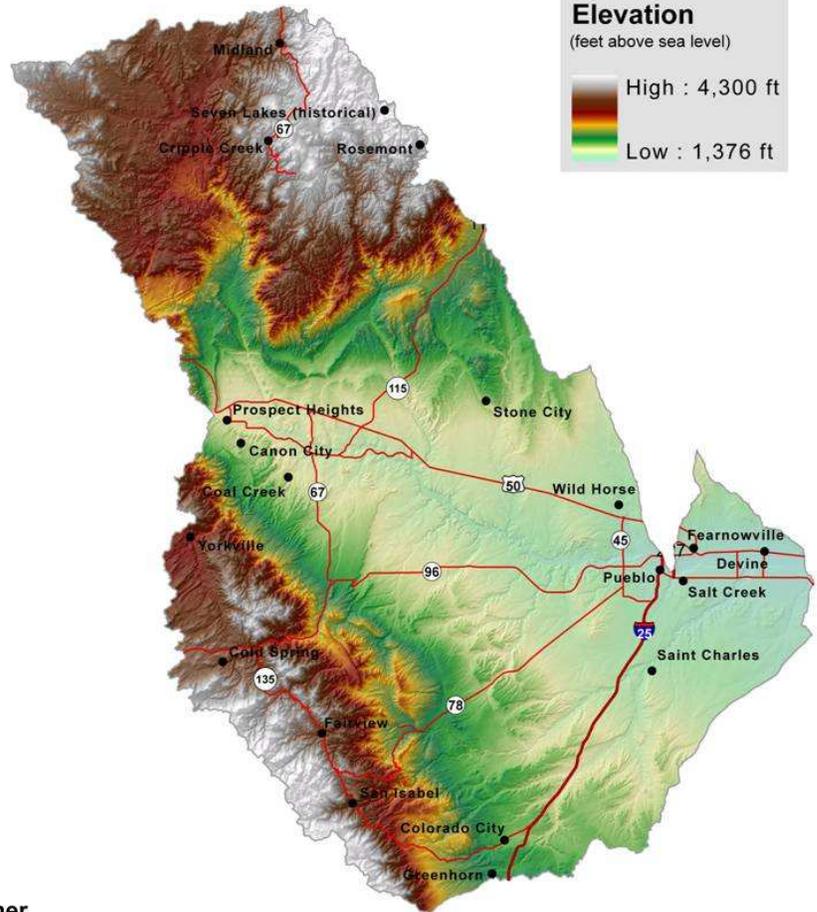


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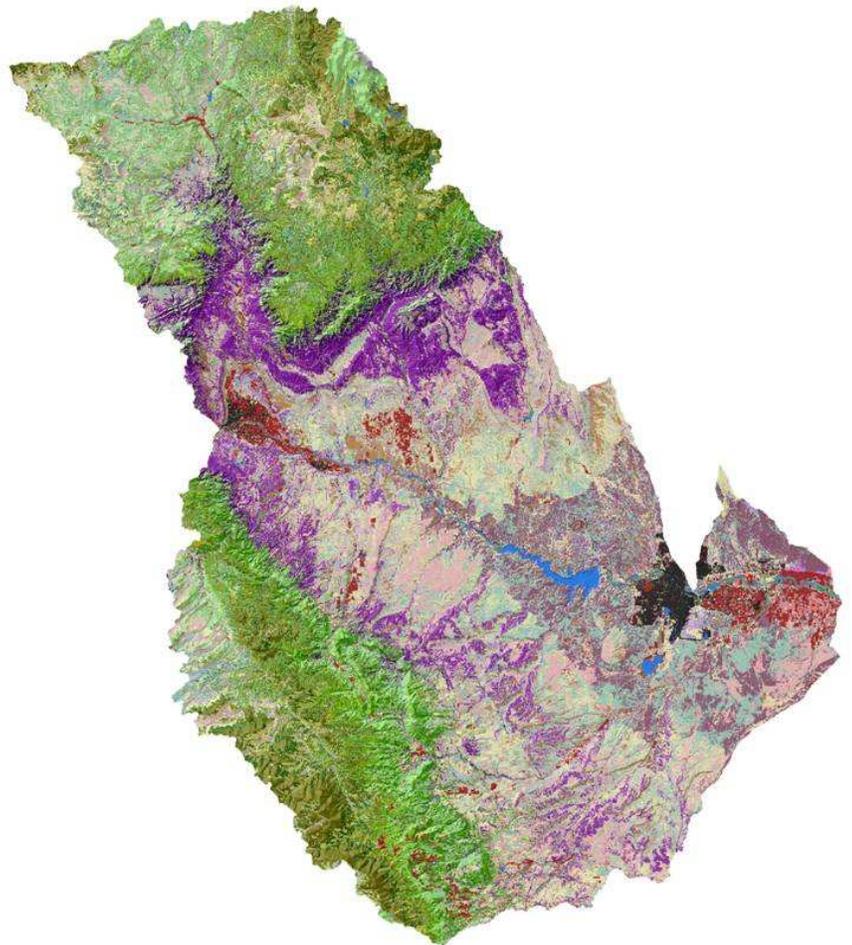
**Common Resource Areas (CRA):** Geographical areas where resource concerns, problems, and treatment needs are similar. Landscape conditions, soil, climate, human considerations, and other natural resource information are used to determine the geographical boundaries of the common resource area.

MLRA	CRA	CRA NAME	CRA DESCRIPTION
48A	48A.1	Southern Rocky Mountains - High Mountains and Valleys	This area is best characterized by steep, high mountain ranges and associated mountain valleys. The temperature regimes are mostly frigid and cryic; moisture regimes are mainly ustic and udic. Vegetation is sagebrush-grass at low elevations, and with increasing elevation ranges from coniferous forest to alpine tundra. Elevations range from 6,500 to 14,400 feet.
49	49.1	Southern Rocky Mountain Foot-hills	This area is generally a transition between the Great Plains and the Southern Rocky Mountains. The temperature regime is mesic or frigid, and moisture regime is ustic. Characteristic native vegetation ranges from grasslands and shrubs to ponderosa pine and Rocky Mountain Douglas fir forest.
69	69.1	Upper Arkansas Valley Rolling Plains	The Upper Arkansas Valley Rolling Plains CRA is broad, undulating to rolling shale plains occurring along the upper tributaries of the Arkansas River. Local relief reaches 200 feet. Soils are shallow to deep and formed in loess, aeolian, alluvial and outwash materials. Pre-settlement vegetation was short grass prairies and pinyon and juniper stands on the stony and rocky soils. Nearly all of this area is in rangeland. Small areas of irrigated cropland occur along the floodplains and terraces.



**Vegetation**

- ◆ No Data
- ◆ Alpine Grass Dominated
- ◆ Alpine Grass/Forb Mix
- ◆ Aspen
- ◆ Aspen/Mesic Mountain Shrub Mix
- ◆ Bristlecone Pine
- ◆ Commercial
- ◆ Cottonwood
- ◆ Douglas Fir
- ◆ Douglas Fir/Aspen Mix
- ◆ Douglas Fir/Englemann Spruce Mix
- ◆ Dryland Ag
- ◆ Englemann Spruce/Fir Mix
- ◆ Fir/Lodgepole Pine Mix
- ◆ Forested Riparian
- ◆ Gambel Oak
- ◆ Grass Dominated
- ◆ Grass/Forb Mix
- ◆ Grass/Forb Rangeland
- ◆ Grass/Misc. Cactus Mix
- ◆ Grass/Yucca Mix
- ◆ Greasewood
- ◆ Herbaceous Riparian
- ◆ Irrigated Ag
- ◆ Limber Pine
- ◆ Lodgepole Pine
- ◆ Lodgepole Pine/Aspen Mix
- ◆ Lodgepole/Spruce/Fir Mix
- ◆ Mesic Mountain Shrub Mix
- ◆ P. Pine/Gambel Oak Mix
- ◆ PJ-Mtn Shrub Mix
- ◆ PJ-Oak Mix
- ◆ Pinon-Juniper
- ◆ Ponderosa Pine
- ◆ Ponderosa Pine/Aspen Mix
- ◆ Ponderosa Pine/Aspen/Mesic Mtn.
- ◆ Ponderosa Pine/Douglas Fir Mix
- ◆ Ponderosa Pine/Mesic Mtn. Shrub
- ◆ Rabbitbrush/Grass Mix
- ◆ Residential
- ◆ Riparian
- ◆ Rock
- ◆ Sagebrush Community
- ◆ Sagebrush/Grass Mix
- ◆ Saltbush Community
- ◆ Shrub Riparian
- ◆ Shrub/Grass/Forb Mix
- ◆ Soil
- ◆ Sparse Grass (Blowouts)
- ◆ Sparse PJ/Shrub/Rock Mix
- ◆ Spruce/Fir/Aspen Mix
- ◆ Spruce/Fir/Lodgepole/Aspen Mix
- ◆ Spruce/Lodgepole Pine Mix
- ◆ SubAlpine Shrub Community
- ◆ Subalpine Grass/Forb Mix
- ◆ Talus Slopes & Rock Outcrops
- ◆ Upland Willow/Shrub Mix
- ◆ Urban/Built Up
- ◆ Water
- ◆ Willow
- ◆ Xeric Mountain Shrub Mix



Land Use	Total Acreage	Vegetation	Acreage
Cropland	43,045	Dryland Ag	5,934
		Irrigated Ag	37,111
Rangeland/Grassland	959,116	Alpine Grass Dominated	7,859
		Alpine Grass/Forb Mix	2,607
		Gambel Oak	41,558
		Grass Dominated	200,845
		Grass/Forb Mix	191,465
		Grass/Misc. Cactus Mix	79,025
		Grass/Yucca Mix	50
		Greasewood	12
		Mesic Mtn. Shrub Mix	10,828
		PJ/Mtn. Shrub Mix	46,061
		Pinon Juniper	116,831
		Rabbitbrush/Grass Mix	4,199
		Sagebrush Community	35
		Saltbrush Community	9,612
		Shrub/Grass/Forb Mix	201,864
		Soil	307
		Sparse Grass (Blowouts)	6
		Sparse PJ/Shrub/Rock Mix	44,516
		Subalpine Shrub Community	5
		Subalpine Grass/Forb Mix	971
Upland Willow/Shrub Mix	429		
Xeric Mtn. Shrub Mix	28		
Forest	436,046	Aspen	26,601
		Aspen/Mesic Mtn. Shrub Mix	2,337
		Bristlecone Pine	2,661
		Cottonwood	9,524
		Douglas Fir	43,449
		Douglas Fir/Aspen Mix	12,091
		Douglas Fir/Englemann Spruce Mix	9
		Englemann Spruce/Fir Mix	65,438
		Fir/Lodgepole Pine Mix	19
		Limber Pine	1,552
		Lodgepole Pine	114
		Lodgepole Pine/Aspen Mix	35
		Lodgepole Pine/Spruce/Fir Mix	18
		Pinon Pine/Gambel Oak Mix	33,042
		PJ/Oak Mix	38,584
		Ponderosa Pine	75,537
		Ponderosa Pine/Aspen Mix	11,273
		Ponderosa Pine/Aspen/Mesic Mtn.	5,527
		Ponderosa Pine/Douglas Fir Mix	51,252
		Ponderosa Pine/Mesic Mtn. Shrub	9,345
Spruce/Fir/Aspen Mix	36,697		
Spruce/Fir/Lodgepole/Aspen Mix	5,910		
Spruce/Lodgepole Pine Mix	180		
Willow	4,851		
Riparian	7,971	Herbaceous Riparian	6,428
		Shrub Riparian	1,541
Water	7,977	Water	7,977
Other	20,459	Commercial	8,704
		Residential	8,884
		Rock	1,883
		Talus Slopes & Rock Outcrops	950
		Urban/Built Up	9
		No Data	29

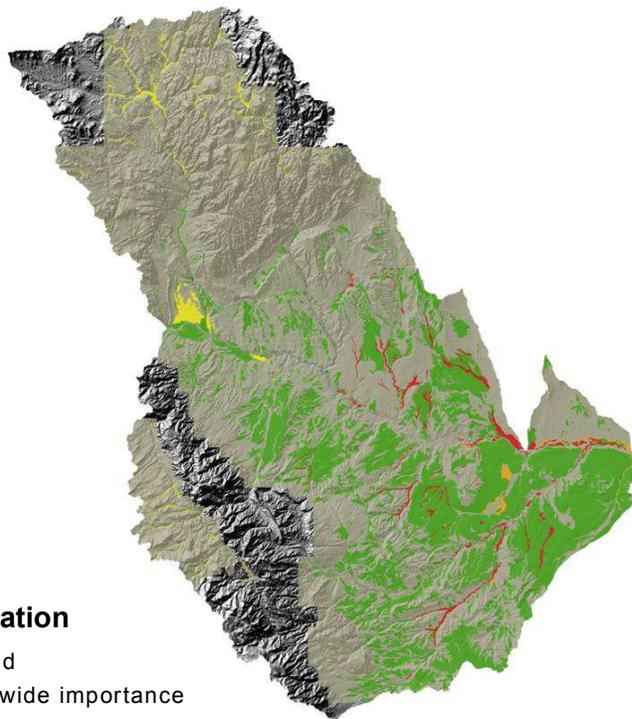
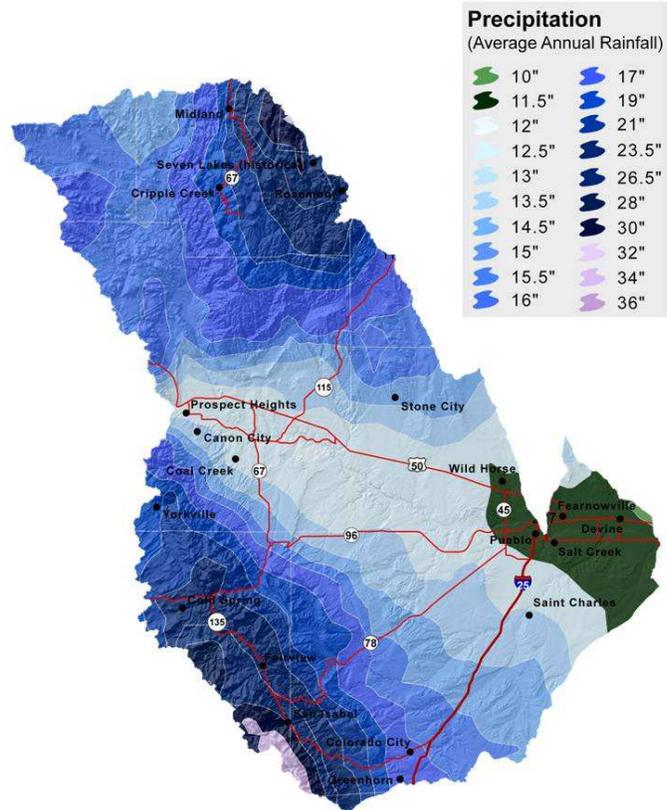
Total Watershed Acres

1,474,614

10

## 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.



## Farmland Classification

- ◆ Not prime farmland
- ◆ Farmland of statewide importance
- ◆ Prime farmland if irrigated
- ◆ Prime farmland if irrigated and reclaimed of excess salts and sodium
- ◆ Prime farmland if protected from flooding or not frequently flooded during the growing season
- ◆ No Data

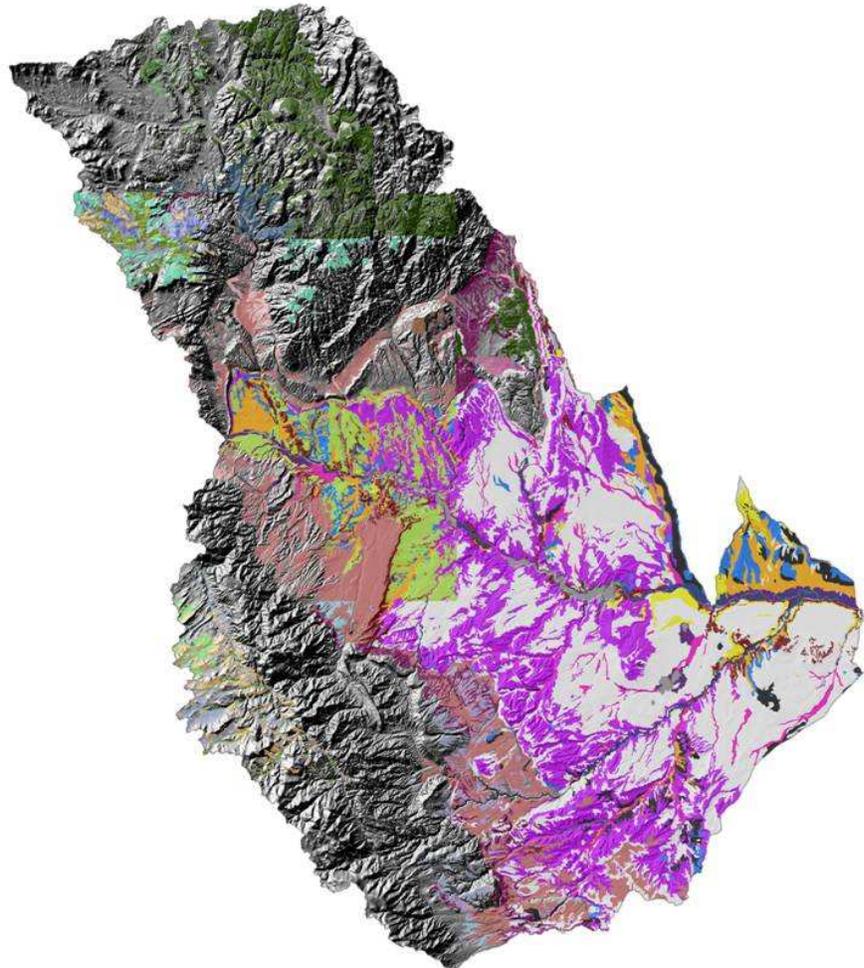
## Ecological Sites

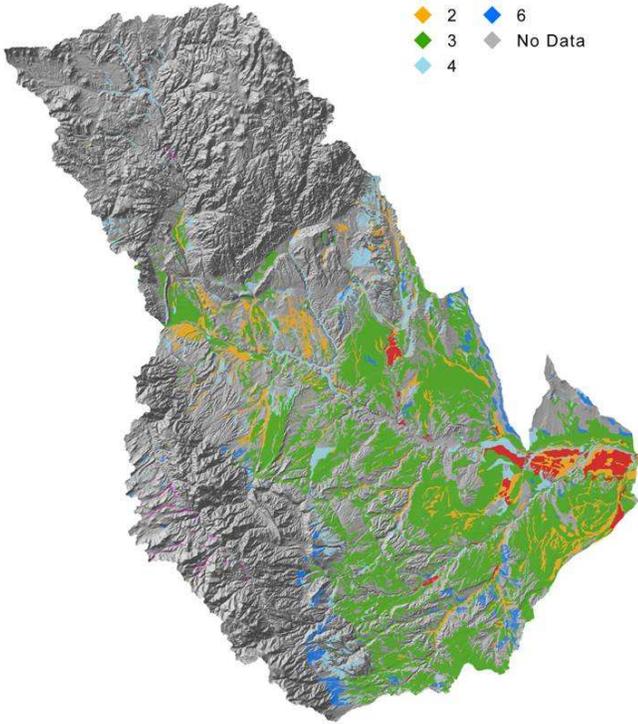
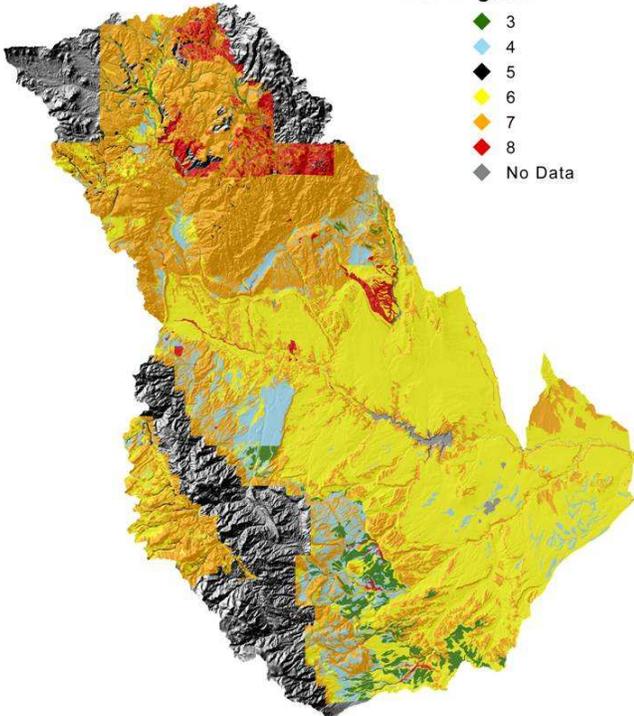
The plant community on an ecological site is typified by an association of species that differs from that of other ecological sites in the kind and/or proportion of species or in total production.

Ecological Site maps give an overall indication of the soils plant relationship in the area. More detailed descriptions of ecological sites are provided in the Field Office Technical Guide (FOTG). The FOTG is available in local offices of the Natural Resources Conservation Service (NRCS) and online at <http://www.nrcs.usda.gov/technical/efotg/>.

## Soil: Ecological Site Names

◆ No Data	◆ Mountain Loam
◆ Alkaline Plains	◆ Mountain Meadow
◆ Brushy Mountain Loam	◆ Mountain Outwash
◆ Clayey Foothill	◆ Pinyon-Juniper
◆ Cobbly Foothill	◆ Ponderosa Pine
◆ DOUGLAS FIR	◆ Saline Overflow
◆ Douglas-fir	◆ Salt Flat
◆ Dry Loam Slopes	◆ Salt Meadow
◆ Dry Shallow Pine	◆ Sands
◆ Gravel Breaks	◆ Sandy
◆ Gravelly Foothill	◆ Sandy Bottomland
◆ Limestone Breaks	◆ Sandy Foothill
◇ Loamy	◆ Shallow Foothill
◆ Loamy (formerly Loamy Plains)	◆ Shallow Loam
◆ Loamy Foothill	◆ Shallow Pine
◆ Loamy Park	◆ Shaly Plains
◆ Loamy Plains	◆ Skeletal Loam



**Land Capability Class: Irrigated****Land Capability Class: Non Irrigated**

**Land Capability Classification** shows, in a general way, the suitability of soils for most kinds of field crops. Crops that require special management are excluded. The soils are grouped according to their limitations for field crops, the risk of damage if they are used for crops, and the way they respond to management. The criteria used in grouping the soils do not include major and generally expensive landforming that would change slope, depth, or other characteristics of the soils, nor do they include possible but unlikely major reclamation projects. Capability classification is not a substitute for interpretations that show suitability and limitations of groups of soils for rangeland, for woodland, and for engineering purposes.

Capability classes, the broadest groups, are designated by the numbers 1 through 8. The numbers indicate progressively greater limitations and narrower choices for practical use.

**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.

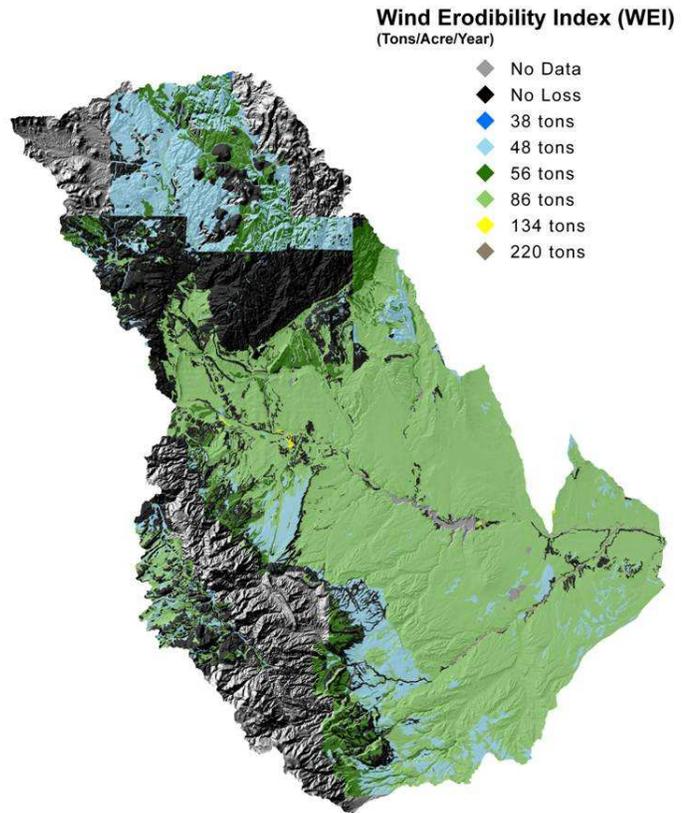
**Class 7** - soils have very severe limitations that make them unsuitable for cultivation and that restrict their use mainly to grazing, forestland, or wildlife habitat.

**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.

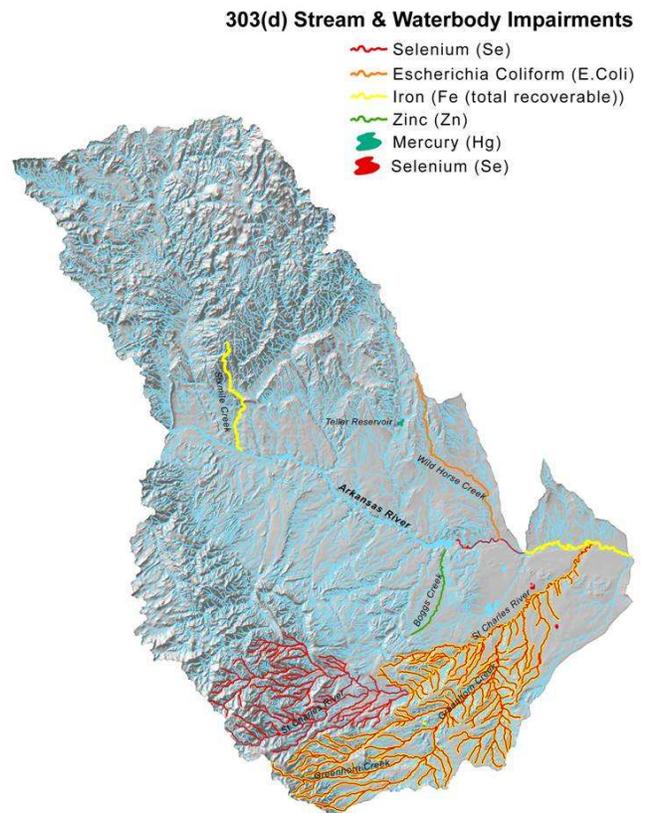
The Wind Erodibility Index (WEI), is a numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion if it is assumed there is no vegetative cover or management.

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

As shown on the Wind Erodibility Index map below, most soils in the Upper Arkansas Watershed are considered highly erodible.



This map shows stream locations within the watershed that are listed on the 303d list. Section 303(d) of the Clean Water Act requires states to identify and list all water bodies where state water quality standards are not being met. Thereafter, TMDLs compromising quantitative objectives and strategies have been or will be developed for these impaired waters within the watershed in order to achieve their water quality standards.



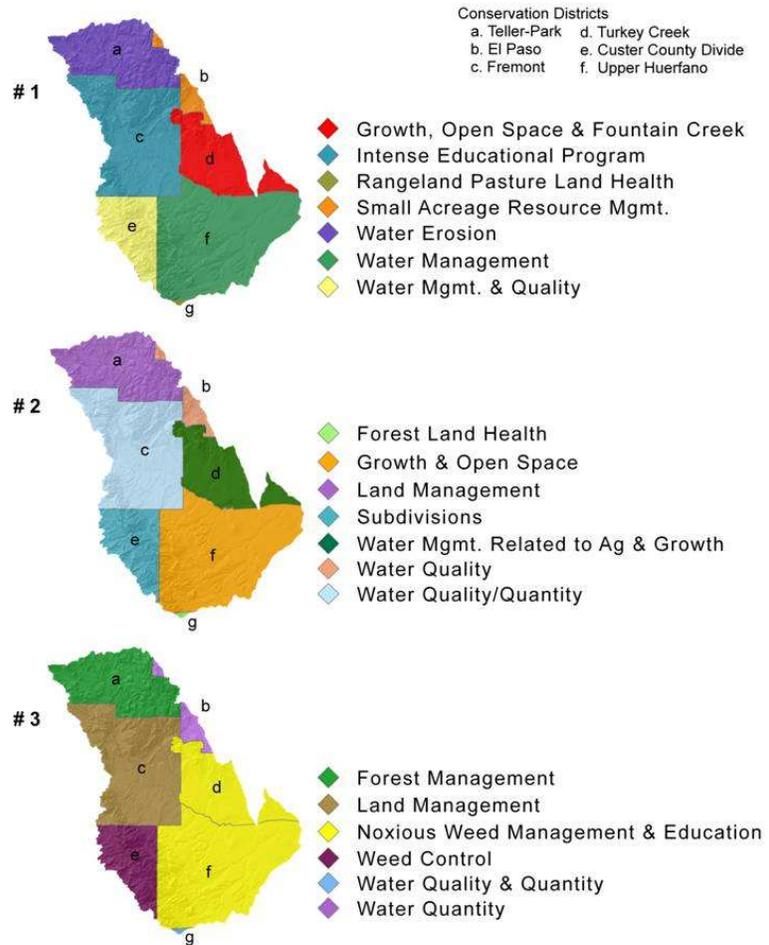
## Upper Arkansas Watershed Natural Resource Concerns

### Map Legend—Conservation Districts

- a—Teller-Park
- b—El Paso
- c—Fremont
- d—Turkey Creek
- e—Custer County Divide
- f—Upper Huerfano

Note: The Colorado Conservation Districts identified and prioritized these resource concerns during facilitated public meetings and are included in their Long Range Plans.

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



### Ranking of Conservation District's Natural Resource Concerns

	Forest	Erosion	Rangeland	Water Quality	Water Quantity	Wildlife	Invasive Species	Small Ag Acreage Mgt	Urban
Teller Park		5							
El Paso County				4	3		2	5	1
Fremont				4	4				
Turkey Creek					4	2	3		5
Custer County Divide			2	5		1	3		4
Upper Huerfano	4	1	5	3	3	2			
Total Points	4	6	7	16	14	5	8	5	10

## State and Federal Threatened, Endangered, and Candidate Species and Species of Special Concern in Upper Arkansas Watershed

Common Name	Scientific Name	Class	State Status/Federal Status	Comments
American Peregrine Falcon	<i>Falco peregrinus anatum</i>	Birds	Concern/None	Occurs in the watershed
Arkansas Darter	<i>Etheostoma cragini</i>	Fish	Threatened/Candidate	Not currently known, but may occur in the watershed
Bald Eagle	<i>Haliaeetus leucocephalus</i>	Birds	Threatened/None	Roost sites and winter habitat along Arkansas River
Black-footed Ferret	<i>Mustela nigripes</i>	Mammals	Endangered/Endangered	No current records of occurrence
Black-tailed Prairie Dog	<i>Cynomys ludovicianus</i>	Mammals	Concern/None	Occurs in the watershed
Botta's Pocket Gopher (rubidus ssp)	<i>Thomomys bottae rubidus</i>	Mammals	Concern/None	Occurs in the watershed
Burrowing Owl	<i>Athene cunicularia</i>	Birds	Threatened/None	Occurs in the watershed
Canada Lynx	<i>Lynx canadensis</i>	Mammals	Endangered/Threatened	May occur in the watershed
Ferruginous Hawk	<i>Buteo regalis</i>	Birds	Concern/None	Occurs in the watershed
Flathead Chub	<i>Platygobio gracilus</i>	Fish	Concern/None	Occurs in the watershed
Greenback Cutthroat Trout	<i>Oncorhynchus clarki stomias</i>	Fish	Threatened/Threatened	May occur in the watershed
Long-Billed Curlew	<i>Numenius americanus</i>	Birds	Concern/None	May occur in the watershed
Mexican Spotted Owl	<i>Strix occidentalis lucida</i>	Birds	Threatened/Threatened	Occurs in the watershed
Mountain Plover	<i>Charadrius montanus</i>	Birds	Concern/None	Occurs in the watershed
Northern Leopard Frog	<i>Rana pipiens</i>	Amphibians	Concern/None	Occurs in the watershed
Plains Leopard Frog	<i>Rana blairi</i>	Amphibians	Concern/None	Occurs in the watershed
Southern Redbelly Dace	<i>Phoxinus erythrogaster</i>	Fish	Endangered/None	Occurs in the watershed
Swift Fox	<i>Vulpes velox</i>	Mammals	Concern/None	Occurs in the watershed
Townsend's big-eared bat (pale ssp)	<i>Corynorhinus townsendii pallescens</i>	Mammals	Concern/None	May occur in the watershed
Triploid checkered whiptail	<i>Cnemidophorus neotesselatus</i>	Reptiles	Concern/None	Occurs in the watershed
Wolverine	<i>Gulo gulo</i>	Mammals	Endangered/None	Occurs at high elevation in the watershed

The diverse terrestrial habitat types in this watershed range from shortgrass prairie to foothills shrublands to coniferous forest. Wildlife species found in this watershed are equally diverse. Species such as mountain plover, black-tailed prairie dog, and swift fox are adapted to the shortgrass prairie and its arid climate. The Arkansas River and Pueblo and St. Charles Reservoirs provide permanent water in this watershed. Seasonal streams with associated riparian areas and stock ponds provide additional aquatic habitats. At high elevations in the watershed, in the shrub and forest habitats, species such as elk, Canada lynx, and Mexican spotted owl may be found. Economically important wildlife species that occur in the watershed include black bullhead, green sunfish, trout, mule and white-tailed deer, elk, and wild turkey; mourning dove, pronghorn (antelope), and scaled quail in the lower half of the watershed; and snow geese, bobwhite quail, and pheasant along the Arkansas River in the lower part of the watershed.

<b>Social Data</b>	<b>Custer</b>	<b>EIPaso</b>	<b>Fremont</b>	<b>Huerfano</b>	<b>Park</b>	<b>Pueblo</b>	<b>Teller</b>
<b>Demographics (US Census, American Factfinder)</b>							
Total population	3,503	550,130	46,145	7,862	14,523	147,187	2,055
Male	1,788	272,922	26,417	4,269	7,510	71,711	10,412
Female	1,715	277,208	19,728	3,593	7,013	75,476	10,143
Median age (years)	44.9	33.5	38.8	41.7	40	36	39.4
White	3,359	444,799	41,311	6,365	13,807	120,922	19,510
Black or African American	13	33484	2464	216	72	2046	113
American Indian and Alaska Native	39	4855	706	212	134	1647	200
Asian	10	15516	232	31	60	1072	120
Native Hawaiian and Other Pacific Islander	0	1241	26	6	4	202	16
Some other race	25	29575	564	740	179	16496	185
Hispanic or Latino (of any race)	88	70312	4776	2763	628	58024	718
<b>Economic Characteristics (US Census, American Factfinder)</b>							
In labor force (population 16 years and over)	1,576	288,867	17,107	3,148	8,134	72,727	11,493
Median household income (dollars)	34,731	50,714	34,150	25,775	51,899	37,305	50,165
Median family income (dollars)	41,198	61,719	42,303	32,664	57,025	45,765	57,071
Per capita income (dollars)	19,817	25,261	17,420	15,242	25,019	19,668	23,412
Families below poverty level	106	x	881	269	143	x	202
Individuals below poverty level	460	x	4314	1247	803	x	1096
X means that value is not applicable or not available							
<b>County Agricultural Characteristics (Colorado Agricultural Census, county data tables)</b>							
Farms (number)	158	1175	700	292	217	801	118
Land in farms/ranches (acres)	121,882	811,931	264,650	608,002	298,286	774,352	73,643
Average size farm/ranch (acres)	771	691	378	2,082	1,375	967	624
Median size farm (acres)	308	160	24	680	288	175	90
Average age of farmer or rancher	57.8	54.1	55.1	58.6	54.9	55.5	55.3
Net cash return from ag sales (\$1,000)	78	2,485	695	1,116	-529	5,788	-227
Cattle and calves (number)	7,000	26,000	11,000	13,000	8,000	33,000	1,500

Selected Conservation Application Data								Upper Arkansas 11020002	
	FY 2002	FY 2003	FY 2004	FY 2005	FY 2006	FY 2007	Total		
Total Conservation Systems Planned (Acres)	138,871	149,961	na	39,380	59,625	20,577	408,414		
Total Conservation Systems Applied (Acres)	139,433	92,375	na	23,355	34,421	81,778	371,362		
<b>Practices</b>									
Prescribed Grazing	38,071	6,296	4,682	14,115	26,707	8,903	98,774		
Irrigation Water Management	289	1,813	481	67	90	81	2,821		

### Conservation Systems to Address Major Resource Concerns

Primary Resource Concern: Rangeland Health				
Conservation System Description:	Prescribed Grazing—planned management that provides adequate recovery opportunity between grazing events and proper stocking of animals. Estimate 250,000 acres to be treated on a median sized ranch of 4,500 acres.			Based on Conservation System Guide Code: <a href="#">CO 69.1-GR-01-R-Grazing</a>
Practices	Unit	Quantity	Cost/Unit (\$)	Estimated Cost per Median Sized Ranch (\$)
Prescribed Grazing				
Fence (382)	Ft.	21,120	0.6	12,672
Pest Management (595)	Ac.	300	4,500	4,500
Pipeline (516)	Ft.	15,000	2.40	36,000
Upland Wildlife Habitat Management (645)	Ac.	300	na	0
Watering Facility (614)	No.	2	410	820
Windbreak/Shelterbelt Establishment (380)	Ft.	1,000	.85	850
<b>Subtotal: Costs to apply prescribed grazing per median sized ranch of 4,500 acres</b>	No.	55	54,842	<b>\$3,016,310</b>

### Conservation Systems to Address Major Resource Concerns (cont'd)

Primary Resource Concern: Water Quality				
Conservation System Description:			Reference Conservation System Guide Code:	
Sprinkler irrigation system with IWM, Crop rotation, Mulch-till, Nutrient and Pest Mgt.			CO 69.1-CR-Pivot-R-2	
Practices	Unit	Quantity	Cost/Unit (\$)	Estimated Cost (\$)
Conservation Crop Rotation (328)	Ac	5,000	10	50,000
Irrigation System, Sprinkler (442)	Ac	9,000	779	7,011,000
Irrigation Water Management (449)	Ac	9,000	5	45,000
Residue Mgmt, Mulch Till (345)	Ac	9,000	5	45,000
Nutrient Management (590)	Ac	9,000	5	45,000
Pest Management (595)	Ac	9,000	15	135,000
<b>Subtotal Irrigated Crops:</b>				<b>\$7,331,000</b>

### General Effects, Impacts, and Estimated Costs of Application of Conservation Systems

Landuse	Resource Concern	Measurable Effects	Non-measurable Effects	Estimated Cost (\$)
Rangeland	Plants		Improved plant condition, productivity, health and vigor. Grazing animals have adequate feed, forage, and shelter.	3,016,310
Irrigated Crop	Water		Nutrients and organics are stored, handled, disposed of, and managed so that surface water uses are not adversely affected.	7,331,000
<b>Estimated Total Costs to Address Major Resource Concerns:</b>				<b>\$10,347,310</b>

## References Not Cited in Document

**303(d)** listed streams within Big Sandy Watershed were created using data from Colorado Department of Public Health & Environments' Water Quality & Control Commission. Impaired streams are current as of April 30, 2006. For a list of all Colorado impaired streams, locations and priority ratings, visit <http://www.cdph.state.co.us/regulations/wqccregs/100293wqlimitedsegmdls.pdf>.

**Threatened and Endangered Species** information was gathered using data from the Colorado Division of Wildlife (CDOW) Natural Diversity Information Source (NDIS).

**Resource Concerns** were identified using the Colorado Association of Conservation Districts' (CACD) long range (10 year) plans from the period of 1996-2000. 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 surveys:

- El Paso County Area (CO625) Published 12/19/2005
- Pueblo Area (CO626) Published 12/19/2005
- Huerfano County Area (CO627) Published 01/12/2007
- Custer County Area (CO635) Published 12/20/2006
- Fremont County Area (CO637) Published 12/20/2006
- Teller-Park Area (CO638) Published 03/07/2006

**Vegetation** data was generated using the Colorado Division of Wildlife's "Colorado Vegetation Classification Project" (CVCP) data. visit <http://ndis.nrel.colostate.edu/coveg>.

**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. 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 visit <http://www.nrcs.usda.gov/products/datasets/climate/docs/fact-sheet.html> or <http://www.ocs.orst.edu/prism>.

**Land Ownership** (status, 2004 dataset) data was obtained from the Colorado Department of Transportation (CDOT). For more information, visit <http://www.dot.state.co.us>.

**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). The data was downloaded from the NRCS Geospatial Data Gateway at <http://datagateway.nrcs.usda.gov>.

**Conservation Systems to address major resource concerns** were extracted from the Conservation Systems Guides (CSG) compiled from local conservationists by the NRCS Ecological Sciences Section at the Lakewood State Office.

**Effects and Impacts** of application of conservation systems were extracted from Colorado eFOTG, Section III, Resource Quality Criteria, NRCS, Colorado, March 2005.