United States Department
of Agriculture

Natural Resources
Conservation Service

Lakewood, Colorado

RWA 14080104

April 2010

Animas Watershed

Hydrologic Unit Code 14080104

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.

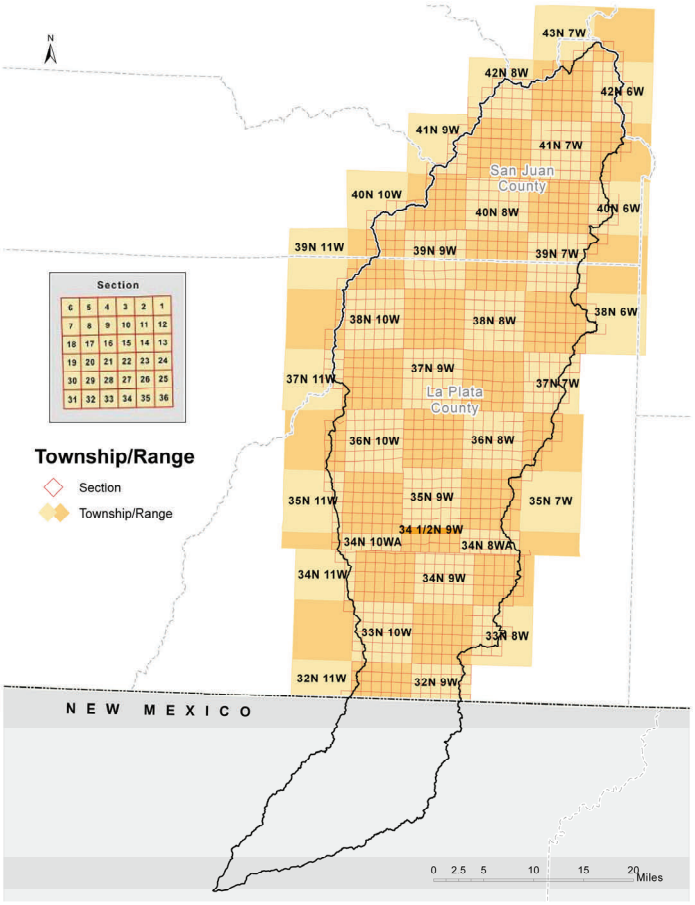
Rapid watershed assessments provide initial estimates of where conservation investments would best address the concerns of landowners, conservation districts, and other community organizations and stakeholders. These assessments help land-owners and local leaders set priorities and determine the best 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:

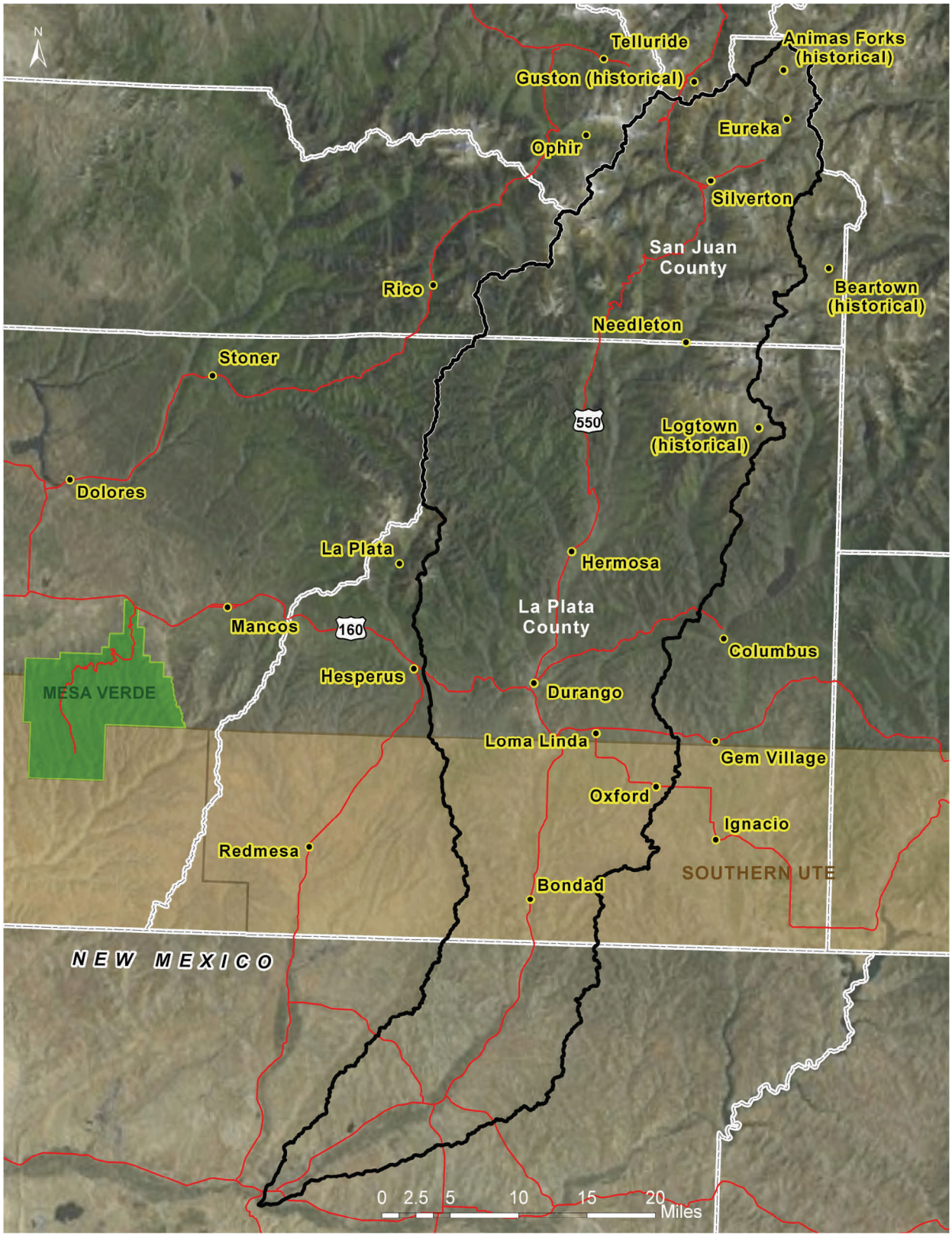
- Quick and inexpensive tools for setting priorities and taking action
- Providing a level of detail that is sufficient for identifying actions that can be taken with no further watershed-level studies or analyses
- Actions to be taken may require further Federal or State permits or ESA or NEPA analysis 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)

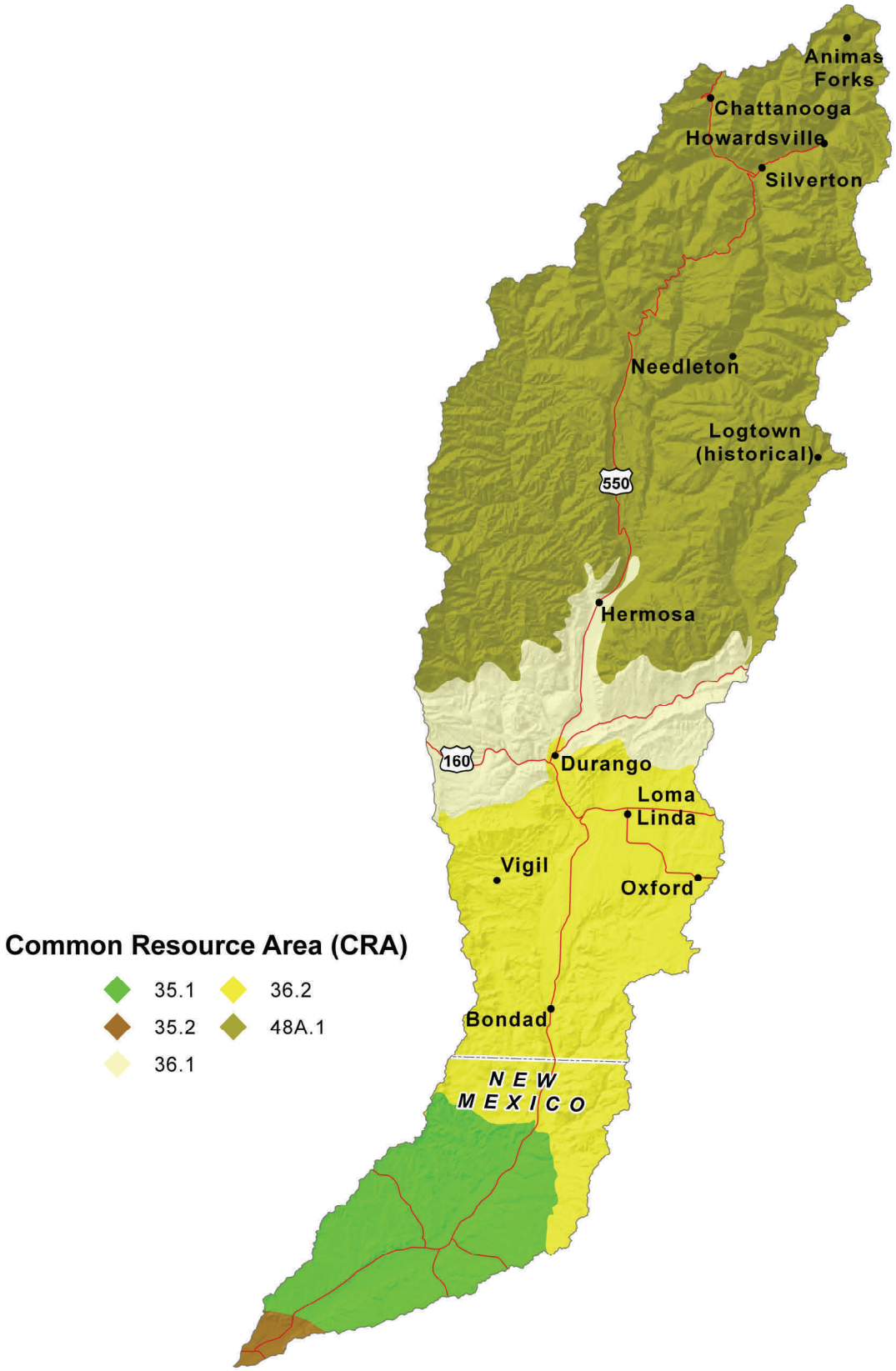
Rapid Watershed Assessments provide information that helps land-owners and local leaders set conservation priorities.



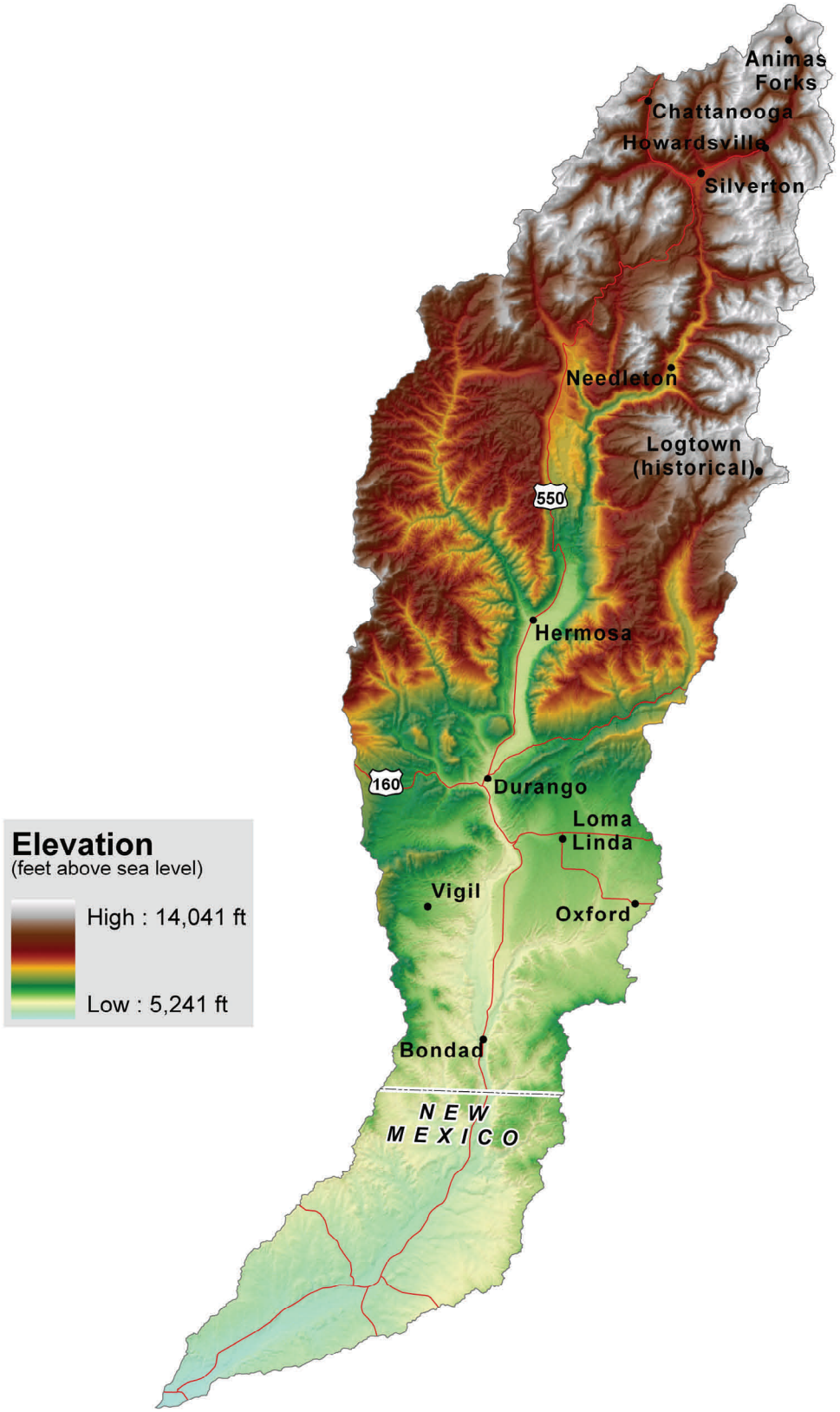
COLORADO County	County Acres	County Acres in ANIMAS Watershed	% of County in the Watershed	% of Watershed in the County
La Plata	1,087,734	522,883	48.1%	59.6%
San Juan	249,413	209,918	84.2%	23.9%
NEW MEXICO				
San Juan	3,549,439	144,322	4.1%	16.5%
		877,123		

Animas Watershed - 14080104




Animas Forks
Chattanooga
Howardsville
Silverton
Needleton
Logtown (historical)
550
Hermosa
160
Durango
Loma
Linda
Vigil
Oxford
Bondad
NEW MEXICO
Common Resource Area (CRA)
35.1
35.2
36.1
36.2
48A.1

MLRA	CRA	CRA NAME	CRA DESCRIPTION
35	**35.1**	Colorado Plateau Mixed Grass Plains	This area occurs at elevations ranging from 5100 to 6000 feet and precipitation averaging 10 to 14 inches per year. Vegetation includes Stipa species, Indian ricegrass, galleta, blue grama, fourwing saltbush, winterfat, and cliffrose. The soils in the area have a mesic soil temperature regime and an ustic aridic soil moisture regime. The dominant soil orders are Aridisols and Entisols. Shallow and deep, moderately coarse to moderately fine-textured, soils occur on sandstone and shale plateaus.
35	**35.2**	Colorado Plateau Shrub - Grasslands	This unit occurs within the Colorado Plateau Physiographic Province and is characterized by gently dipping sedimentary rocks eroded into plateaus, valleys and deep canyons. Volcanic fields occur in places. Elevations range from 3500 to 5500 feet. Precipitation averages 6 to 10 inches per year. The soil temperature regime is mesic and the soil moisture regime is typic aridic. Vegetation includes shadscale, fourwing saltbush, mormon tea, Indian ricegrass, galleta, and blue and black grama.
36	**36.1**	Southwestern Plateaus, Mesas, and Foothills - Cool Subhumid Mesas and Foothills	This area encompasses the higher elevation mesas and foothills that represent a transition to the Southern Rocky Mountains. The temperature regime is frigid, and the moisture regime is ustic. The typical vegetation is big sagebrush, Gambel oak, and ponderosa pine. Land use is mainly forest and grazing land.
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.
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.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Vigil
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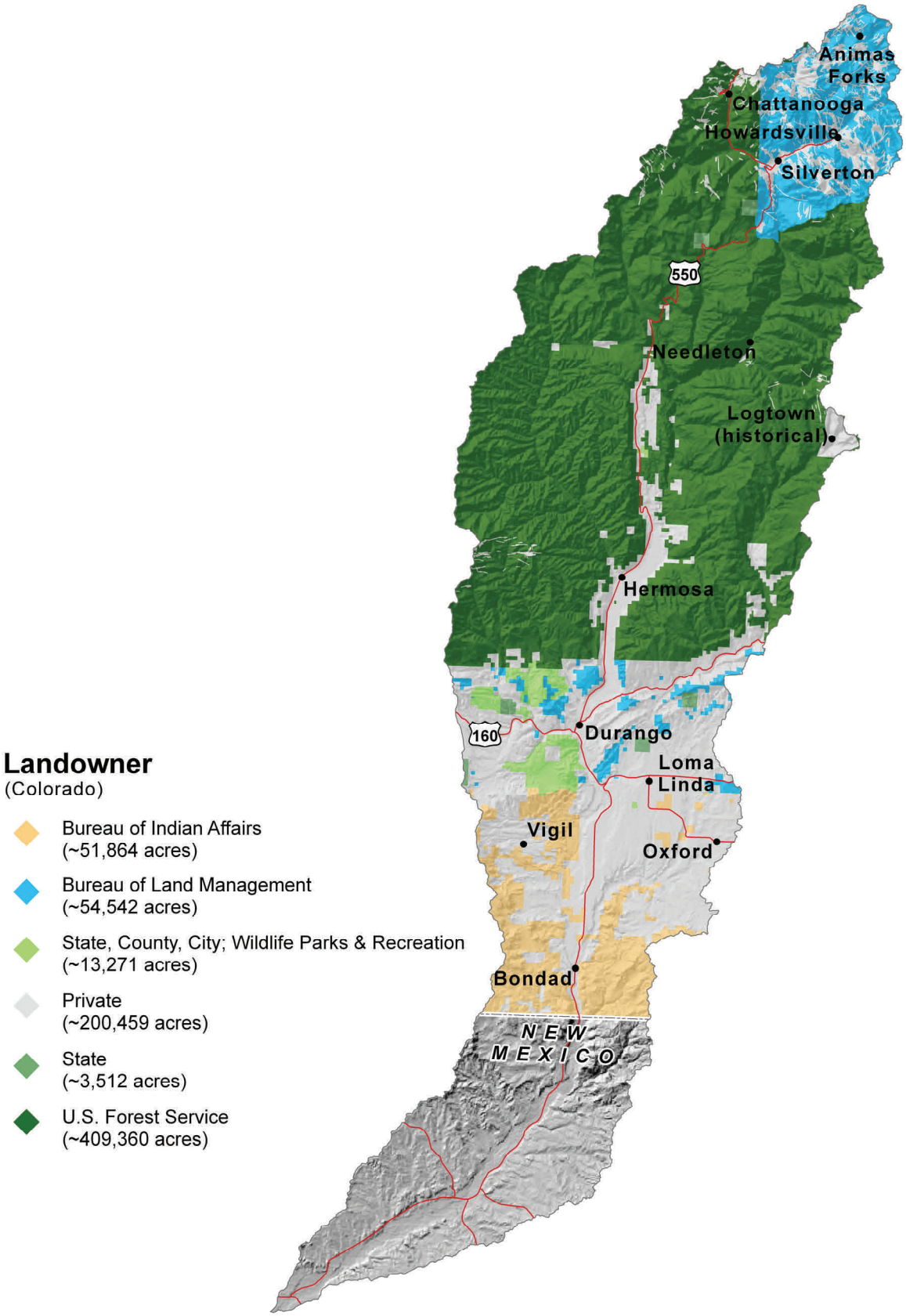
Bondad
NEW MEXICO
Elevation
(feet above sea level)
High : 14,041 ft
Low : 5,241 ft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160
Durango
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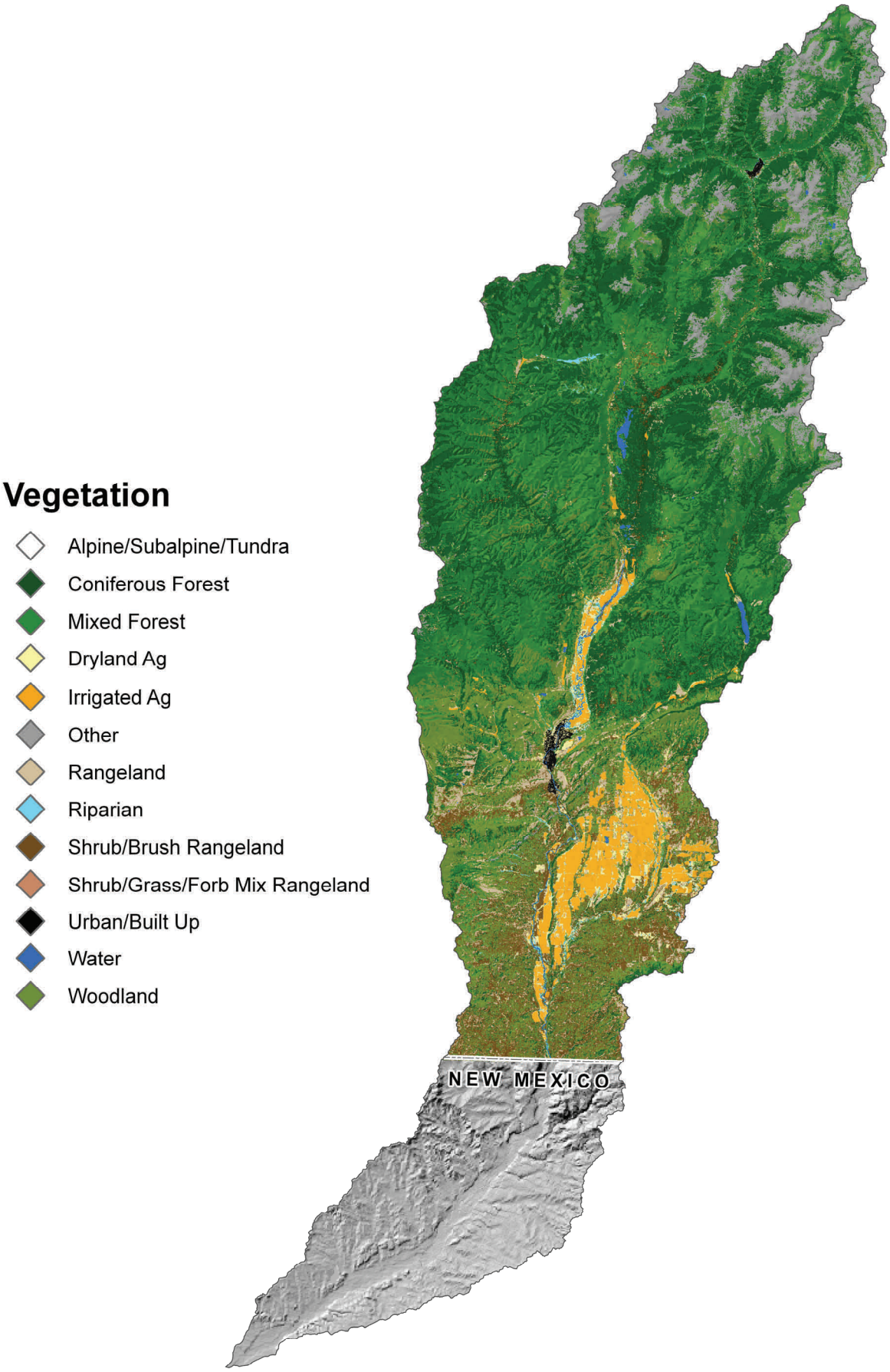
Vigil
Oxford
Bondad
NEW MEXICO
Landowner
(Colorado)
Bureau of Indian Affairs
(~51,864 acres)
Bureau of Land Management
(~54,542 acres)
State, County, City; Wildlife Parks & Recreation
(~13,271 acres)
Private
(~200,459 acres)
State
(~3,512 acres)
U.S. Forest Service
(~409,360 acres)

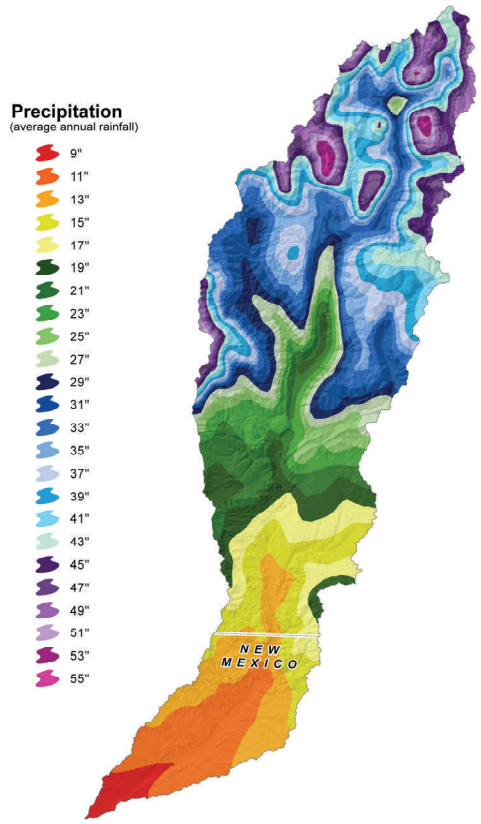

Vegetation
Alpine/Subalpine/Tundra
Coniferous Forest
Mixed Forest
Dryland Ag
Irrigated Ag
Other
Rangeland
Riparian
Shrub/Brush Rangeland
Shrub/Grass/Forb Mix Rangeland
Urban/Built Up
Water
Woodland
NEW MEXICO

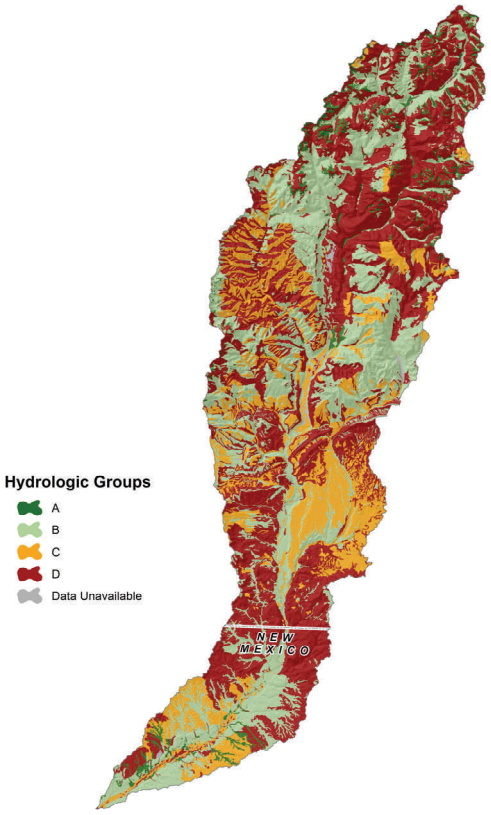
ANIMAS WATERSHED Land Use	Total Acreage	Vegetation	Acreage
Cropland	27,894	Dryland Ag	343.0
		Irrigated Ag*	27,551.0
Rangeland/Grassland	180,728	Gambel Oak	16,172.0
		Grass/Forb Rangeland	22,495.6
		Greasewood	0.3
		Mesic Mountain Shrub Mix	31,586.4
		PJ-Mtn Shrub Mix	22,640.1
		PJ-Oak Mix	10,365.0
		PJ-Sagebrush Mix	17,353.7
		Pinon-Juniper	11,966.1
		Rabbitbrush/Grass Mix	38.6
		Sagebrush Community	47,795.3
		Sagebrush/Grass Mix	313.8
		Sparse PJ/Shrub/Rock Mix	0.9
Forest	359,069	Aspen	60,975.4
		Douglas Fir	17,389.7
		Douglas Fir/Aspen Mix	31,363.9
		Englemann Spruce/Fir Mix	118,141.2
		P. Pine/Gambel Oak Mix	34,648.7
		Ponderosa Pine	37,074.3
		Ponderosa Pine/Aspen Mix	5,427.7
		Spruce/Fir/Aspen Mix	54,048.3
Riparian	18,104	Herbaceous Riparian	29.5
		Riparian	4,644.5
		Sedge	15.0
		Willow	34.0
		Upland Willow/Shrub Mix	13,381.2
Water	3,035	Water	3,034.9
Other	144,995	Alpine Forb Dominated	0.8
		Alpine Grass Dominated	182.2
		Alpine Grass/Forb Mix	61.0
		Alpine Meadow	63,892.5
		Urban/Built Up	1,822.7
		Barren Land	13,834.5
		Rock	58,158.9
		Snow	17.8
		Soil	6.8
		Talus Slopes & Rock Outcrops	7,018.1
~Total Watershed Acres			**733,825.4**

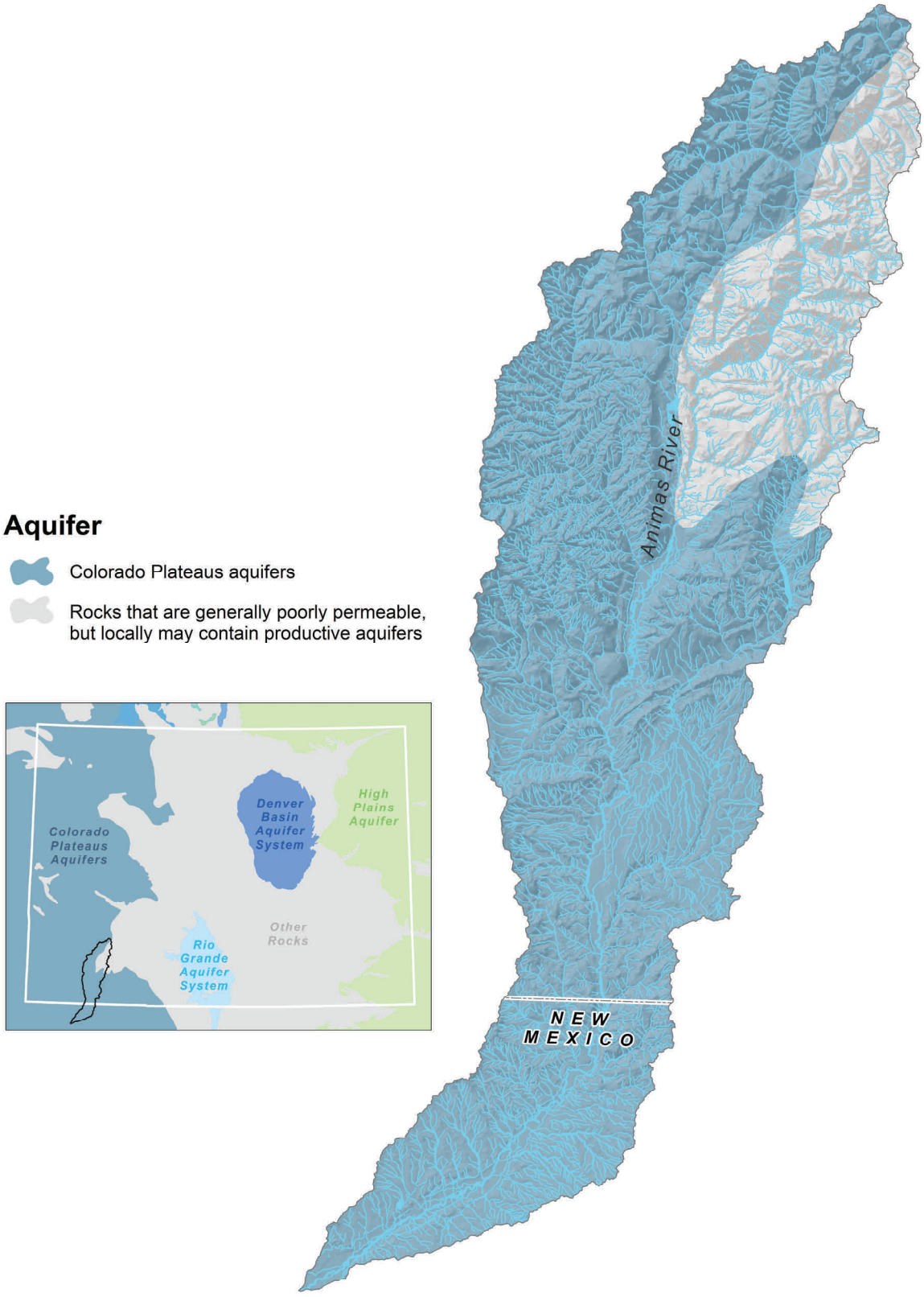
* Colorado Decision Support Systems Data

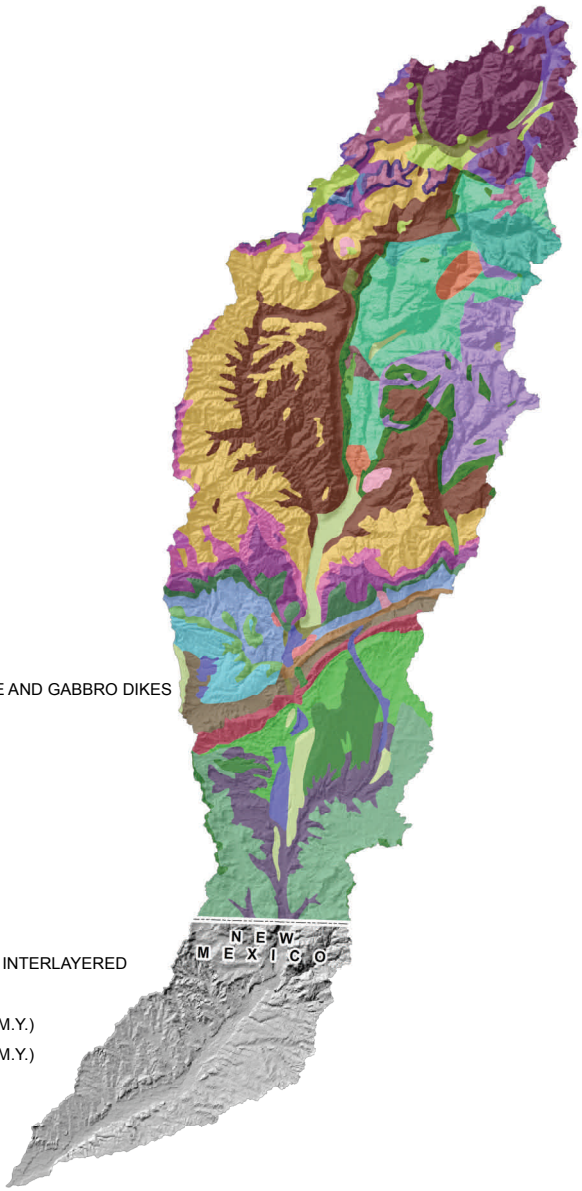
Precipitation

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. Precipitation in winter is usually snow.






Aquifer
Colorado Plateaus aquifers
Rocks that are generally poorly permeable, but locally may contain productive aquifers
Colorado Plateaus Aquifers
Denver Basin Aquifer System
High Plains Aquifer
Rio Grande Aquifer System
Other Rocks
Animas River
NEW MEXICO



Geology

- ALKALIC AND MAFIC ROCKS IN SMALL PLUTONS, AND DIABASE AND GABBRO DIKES
- ANIMAS FORMATION
- ASH-FLOW TUFF OF MAIN VOLCANIC SEQUENCE
- CLIFF HOUSE SANDSTONE
- CUTLER FORMATION
- DAKOTA SANDSTONE
- DAKOTA SANDSTONE AND BURRO CANYON FORMATION
- DOLORES FORMATION
- EOCENE PREVOLCANIC SEDIMENTARY ROCKS
- FELSIC AND HORNBLENDIC GNEISSES, EITHER SEPARATE OR INTERLAYERED
- GLACIAL DRIFT OF PINEDALE AND BULL LAKE GLACIATIONS
- GRANITIC ROCKS OF 1,400-M.Y. AGE GROUP (AGE 1,350-1,480 M.Y.)
- GRANITIC ROCKS OF 1,700-M.Y. AGE GROUP (AGE 1,650-1,730 M.Y.)
- GRAVELS AND ALLUVIUMS (PINEDALE AND BULL LAKE AGE)
- INTRA-ASH FLOW ANDESITIC LAVAS
- KIRTLAND SHALE AND FRUITLAND FORMATION
- LANDSLIDE DEPOSITS
- LARAMIDE INTRUSIVE ROCKS (AGE 40-72? M.Y.)
- LEADVILLE LIMESTONE, GILMAN SANDSTONE, DYER DOLOMITE AND PARTING FORMATION
- LEADVILLE, GILMAN, DYER, PARTING, AND SAWATCH FORMATIONS
- MANCOS SHALE
- MENEFEE FORMATION (SANDSTONE, SHALE, AND COAL) AND POINT LOOKOUT SANDSTONE
- MESAVERDE GROUP, UNDIVIDED
- MIDDLE TERTIARY INTRUSIVE ROCKS (AGE 20-40 M.Y.)
- MODERN ALLUVIUM
- MORRISON, WANAKAH, AND ENTRADA FORMATIONS
- NACIMIENTO FORMATION
- OLDER GLACIAL DRIFT (PRE-BULL LAKE AGE)
- OLDER GRAVELS AND ALLUVIUMS (PRE-BULL LAKE AGE)
- PICTURED CLIFFS SANDSTONE AND LEWIS SHALE
- PRE-ASH-FLOW ANDESITIC LAVAS, BRECCIAS, TUFFS, AND CONGLOMERATES(GENERAL AGE 30-35 M.Y.)
- RICO AND HERMOSA FORMATIONS
- SAN JOSE FORMATION
- UNCOMPAHGRE FORMATION (OLDER THAN GRANITES OF 1,400-M. Y. AGE GROUP AND YOUNGER THAN GRANITES OF 1,700 M.Y. AGE GROUP)
- UPPER TERTIARY INTRUSIVE ROCKS (AGE <20 M.Y.)
- WATER

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.

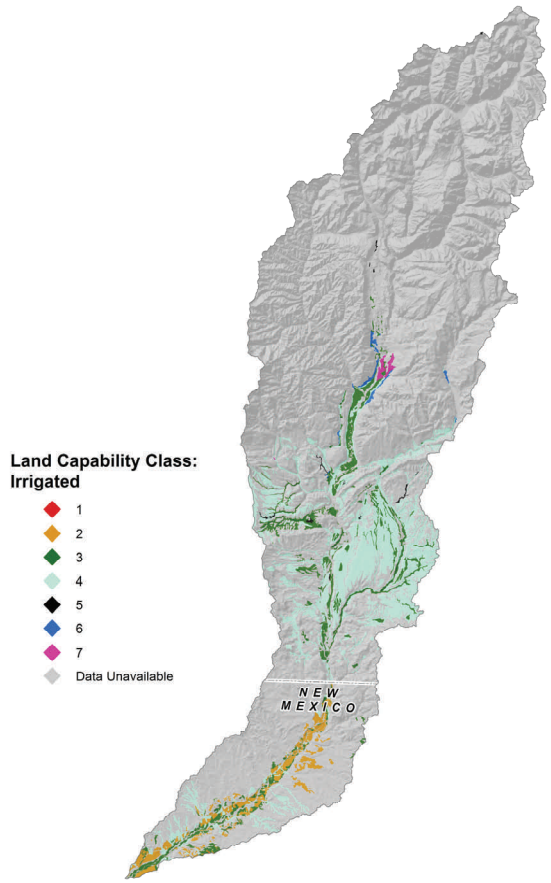
Class 4 - soils have very severe limitations that reduce the choice of plants or that require very careful management, or both.

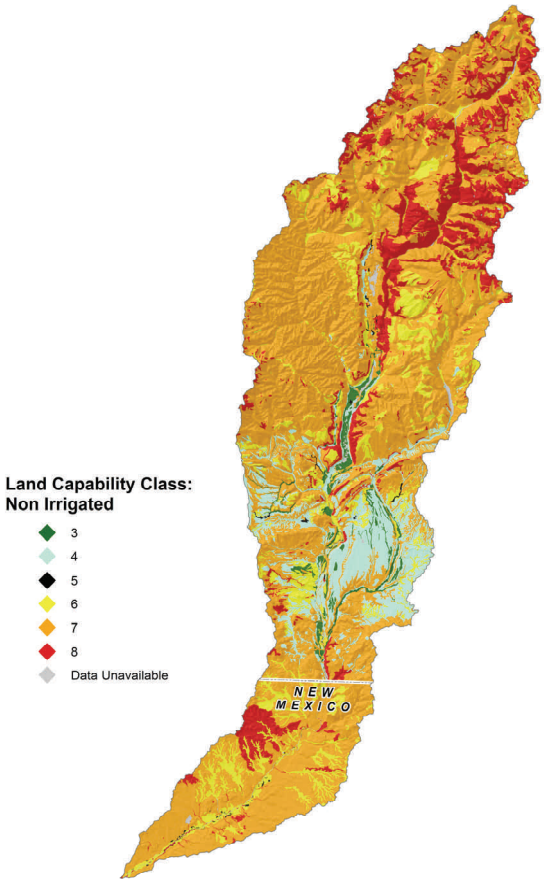
Class 5 - soils are subject to little or no erosion but have other limitations, impractical to remove, that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

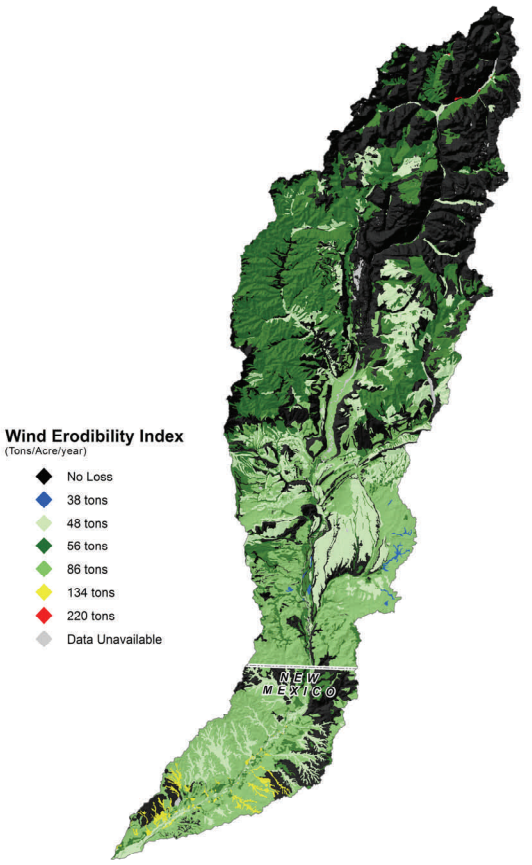
Class 6 - soils have severe limitations that make them generally unsuitable for cultivation and that restrict their use mainly to pasture, rangeland, forestland, or wildlife habitat.

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.

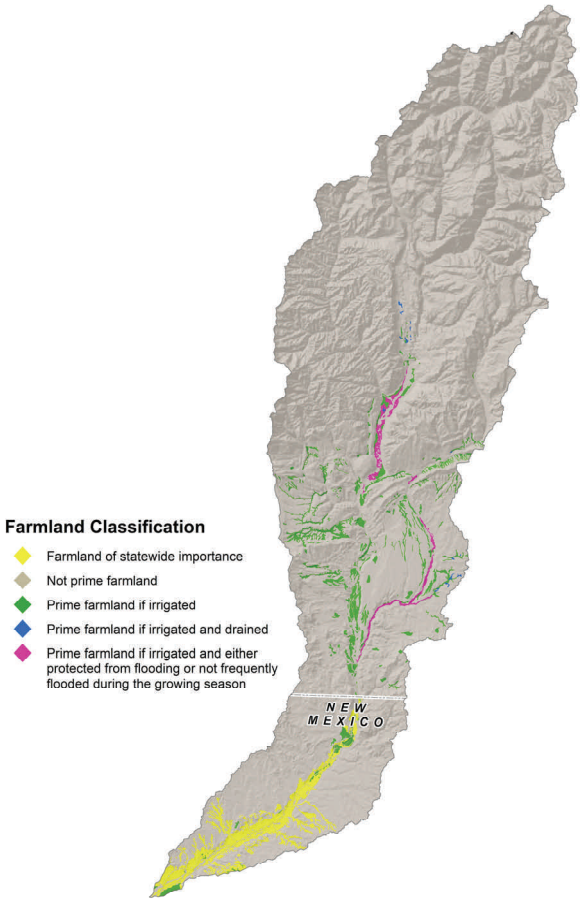


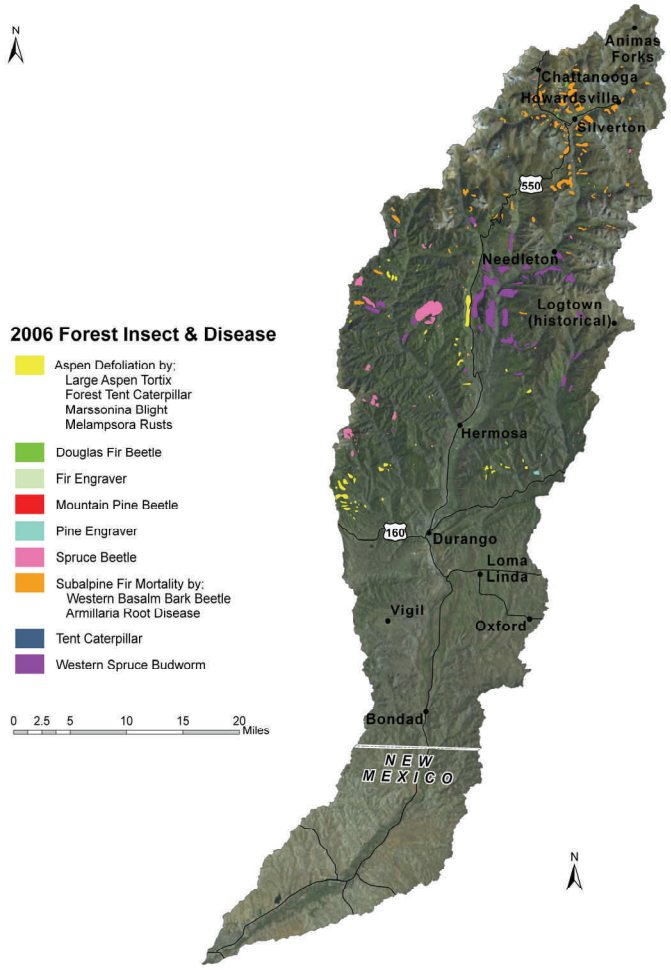


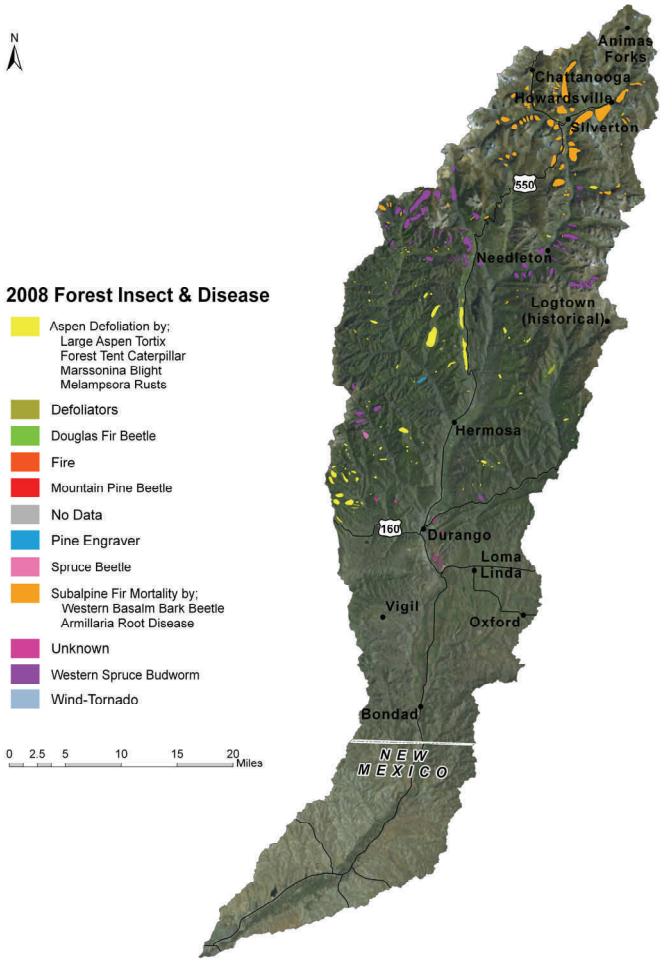


The Wind Erodibility Index (WEI): numerical value indicating the susceptibility of soil to wind erosion, or the tons per acre per year that can be expected to be lost to wind erosion if it is assumed there is no vegetative cover or management.

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




N
Animas Forks
Chattanooga
Howardsville
Silverton
550
Needleton
Logtown (historical)
Hermosa
160
Durango
Loma
Linda
Vigil
Oxford
Bondad
NEW MEXICO
2006 Forest Insect & Disease
Aspen Defoliation by:
Large Aspen Tortix
Forest Tent Caterpillar
Marssonina Blight
Melampsora Rusts
Douglas Fir Beetle
Fir Engraver
Mountain Pine Beetle
Pine Engraver
Spruce Beetle
Subalpine Fir Mortality by:
Western Basalm Bark Beetle
Armillaria Root Disease
Tent Caterpillar
Western Spruce Budworm
0 2.5 5 10 15 20
Miles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NEW MEXICO
2008 Forest Insect & Disease
Aspen Defoliation by:
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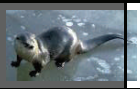
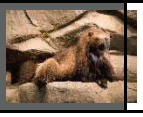
Forest Tent Caterpillar
Marssonina Blight
Melampsora Rusts
Defoliators
Douglas Fir Beetle
Fire
Mountain Pine Beetle
No Data
Pine Engraver
Spruce Beetle
Subalpine Fir Mortality by:
Western Basalm Bark Beetle
Armillaria Root Disease
Unknown
Western Spruce Budworm
Wind-Tornado
0 2.5 5 10 15 20
Miles

Threatened & Endangered Species

State & Federally Threatened, Endangered & Candidate Species as well as Species of Special Concern in Animas Watershed

	Common Name	Scientific Name	Class	State Status	Federal Status	Comments
	**American Peregrine Falcon**	*Falco peregrinus anatum*	Birds	**Concern**		Occurs and nests in the watershed
	**Bald Eagle**	*Haliaeetus leucocephalus*	Birds	**Threatened**	**None**	Year-round resident of the watershed
	**Canada Lynx**	*Lynx canadensis*	Mammals	**Endangered**	**Threatened**	Occurs in the watershed
	**Colorado Pikeminnow**	*Ptychocheilus lucius*	Fish	**Threatened**	**Endangered**	Water depletions in the watershed may affect downstream habitats/fish
	**Colorado River Cutthroat Trout**	*Oncorhynchus clarki pleuriticus*	Fish	**Concern**	**None**	Occurs in the watershed
	**Gunnison's Prairie Dog**	*Cynomys gunnisoni*	Mammals	**None**	**Candidate**	Occurs in the watershed
	**Northern River Otter**	*Lutra canadensis*	Mammals	**Threatened**		Occurs in the watershed
	**Razorback Sucker**	*Xyrauchen texanus*	Fish	**Endangered**	**Endangered**	Water depletions in the watershed may affect downstream habitats/fish
	**Southwestern Willow Flycatcher**	*Empidonax traillii extimus*	Birds	**Endangered**	**Endangered**	May occur at low elevations in the watershed
	**Townsend's Big-eared Bat**	*Corynorhinus townsendii pallescens*	Mammals	**Concern**	**None**	Occurs in the watershed
NO PHOTO AVAILABLE	**Uncompahgre Fritillary Butterfly**	*Boloria acrocnema*	Insects	**None**	**Endangered**	May occur in the watershed
	**Western Yellow-billed Cuckoo**	*Coccyzus americanus*	Birds	**Concern**	**Candidate**	May occur in the watershed
	**Wolverine**	*Gulo gulo*	Mammals	**Endangered**	**None**	Suitable habitat in watershed; No current records of occurrence

This watershed has two distinctly different zones of terrestrial habitats. The upper, northern part consists primarily of tundra and spruce-fir forest. The lower, southern part contains irrigated land; oak, big sagebrush and pinyon-juniper shrublands; aspen, ponderosa pine, and Douglas fir forest. Riparian areas, wetlands, and some lakes and ponds provide aquatic habitats for a number of species providing food, cover, or water at some life stage.

Wildlife found at the highest elevations in the watershed include pika, marmot, lynx, bighorn sheep, mountain goat, and white-tailed ptarmigan.

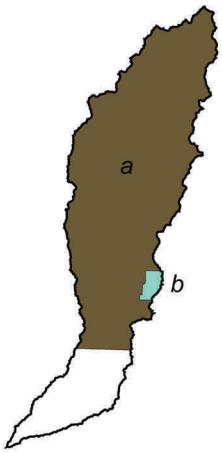
Economically important species in the watershed include: black bear, elk, moose, mule deer, mountain lion, and trout throughout most of the watershed. Wild turkeys use the central part of the watershed and snow geese are found in or near the Animas River in the southern part of the watershed.

Social Data	San Juan	La Plata
Demographics (US Census, American Factfinder)		
Total population	558	43,941
Male	293	22,362
Female	265	21,579
Median age (years)	43.7	35.6
White	542	38,364
Black or African American	0	136
American Indian and Alaska Native	4	2539
Asian	1	177
Native Hawaiian and Other Pacific Islander	2	24
Some other race	4	1712
Hispanic or Latino (of any race)	41	4571
Economic Characteristics (US Census, American Fact-finder)		
In labor force (population 16 years and over)	329	154,222
Median household income (dollars)	30,764	48,686
Median family income (dollars)	40,000	64,088
Per capita income (dollars)	17,584	26,963
Families below poverty level	21	x
Individuals below poverty level	115	x
County Agricultural Characteristics (Colorado Agricul-tural Census, county data tables)		
Farms (number)	1	1564
Land in farms/ranches (acres)		521,599
Average size farm/ranch (acres)		334
Median size farm (acres)		40
Average age of farmer or rancher		52.9
Net cash return from ag sales ($1,000)		124
Cattle and calves (number)		40,000

Identified Long Range Resource Concerns

Top Three Concerns within Conservation Districts

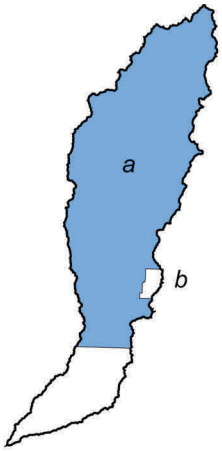
#1



Conservation Districts
a La Plata
b Pine River

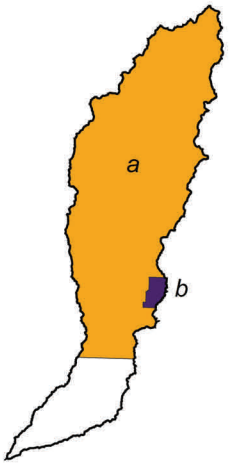
- Soil Loss-Erosion Control
- Water

#2



- Land Use/Growth
- Water Quality/Quantity

#3



- Weed Control
- Wildlife

Selected Conservation Practices Applied, FY 2005 through FY 2009*

Practice Code	Practice Name	Practice Unit	Applied Amount	Applied Count
511	Forage Harvest Management	ac	5,324	207
449	Irrigation Water Management	ac	6,924	225
528	Prescribed Grazing	ac	20,846	50

**Practices applied in Colorado portion of the watershed*

Conservation Systems to Address Major Resource Concerns *from the Field Office Technical Guide*

Grazed Rangeland—The grazing Resources need improved plant condition (similarity index), productivity, health and vigor. Animals need feed, forage, and shelter. The animals are adapted to the climatic and ecological condition of the resources.

CO 36.2-GR-01

Practices	*Description*	*Resource Concerns Addressed*
314 Brush Management 338 Prescribed Burning 378 Pond 382 Fence 528 Prescribed Grazing 574 Spring Development 595 Pest Management 614 Watering Facility 645 Upland Wildlife Habitat Management 666 Forest Stand Improvement	This area encompasses the lower elevation mesas and Plateaus that represent the transition to the Southern Rocky Mountains. The typical vegetation is a scattered overstory of two needle pinyon and Utah juniper with a understory of big sagebrush and perennial bunchgrasses. In some areas pinyon and juniper can increase and become a dominant species.	Fish and Wildlife - T&E Species: Declining Species, Species of Concern Plant Condition - Productivity, Health and Vigor Soil Erosion - Sheet and Rill Soil Erosion - Wind

Hayland—The Irrigation system is comprised of pipeline with side roll. The system efficiency is 65%.

CO 36.2-HY-Sideroll—R-1

Practices	*Description*	*Resource Concerns Addressed*
442 Irrigation System, Sprinkler 449 Irrigation Water Management 511 Forage Harvest Management 587 Structure for Water Control	Cool season grasses, alfalfa, or alfalfa/grass hay. Annual precipitation ranges from 8 - 20". Moisture usually lacking in the summer during peak ET and supplemented with gravity irrigation, the water source may be ground or surface water; rainfall often comes in short intense spring and early summer storms and as snowfall in the winter. Wildlife potential for use by elk, deer and other wildlife.	Soil Erosion - Sheet and Rill Soil Erosion - Wind Water Quantity - Inefficient Water Use on Irrigated Land

Irrigated Pasture—The Irrigation system is comprised of pipeline with side roll. The system efficiency is 65%.		**CO 36.2-PA-SideRoll—R-01**
Practices	***Description***	***Resource Concerns Addressed***
382 Fence 442 Irrigation System, Sprinkler 449 Irrigation Water Management 511 Forage Harvest Management 528 Prescribed Grazing 587 Structure for Water Control 614 Watering Facility	This system is a side roll irrigation system. Prescribed Grazing and IWM are applied to improve plant health and production.	Soil Erosion - Sheet and Rill Soil Erosion - Wind Water Quantity - Inefficient Water Use on Irrigated Land

Estimated Costs of Application of Conservation Systems

Landuse	Estimated Acres Need to be Treated	Estimated Average Cost per Acre ($)	Costs ($)
Range	10,000	30	300,000
Irrigated Pasture	9,500	1,600	15,200,000
Hayland	3,000	880	2,640,000
			Total Costs: $18,140,000

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:

La Plata County Area (CO669) Published 1/4/2007

Animas-Dolores Area (CO672) Published 1/8/2007

San Juan County (NM618) Published 12/9/2008

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

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

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.

Forest Insect & Disease data obtained from the U.S. Forest Service annual aerial survey. For more information visit http://www.fs.fed.us/r2/resources/fhm/aerialsurvey/