

Colorado Natural Resources Conservation Service Programs

Sustaining Colorado Watersheds
Vail Cascade Resort and Spa
Vail, Colorado

October 5-7, 2010

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Area Conservationist
USDA-NRCS
La Junta, Colorado



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Topics to be Covered

- NRCS—Who We Are
- Rapid Watershed Assessments
- Soils Program
- Snow Survey Program
- Watershed Protection and Flood Prevention Act (PL-566)
- Colorado River Salinity Control Program
- NRCS Watershed Partnership Programs—AWEP, CCPI, CPP
- Wildlife Programs—Sage Grouse and Lesser Prairie Chicken
- Easement Programs—FRPP, GRP, WRP, EWPP-FPE



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Natural Resources Conservation Service

Who We Are

- Created after 1930s Dust Bowl
- Agency in the US Department of Agriculture
- Six Mission Goals
 - High Quality, Productive Soils
 - Clean and Abundant Water
 - Healthy Plant and Animal Communities
 - Clean Air
 - An Adequate Energy Supply
 - Working Farms and Ranchlands



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Natural Resources Conservation Service

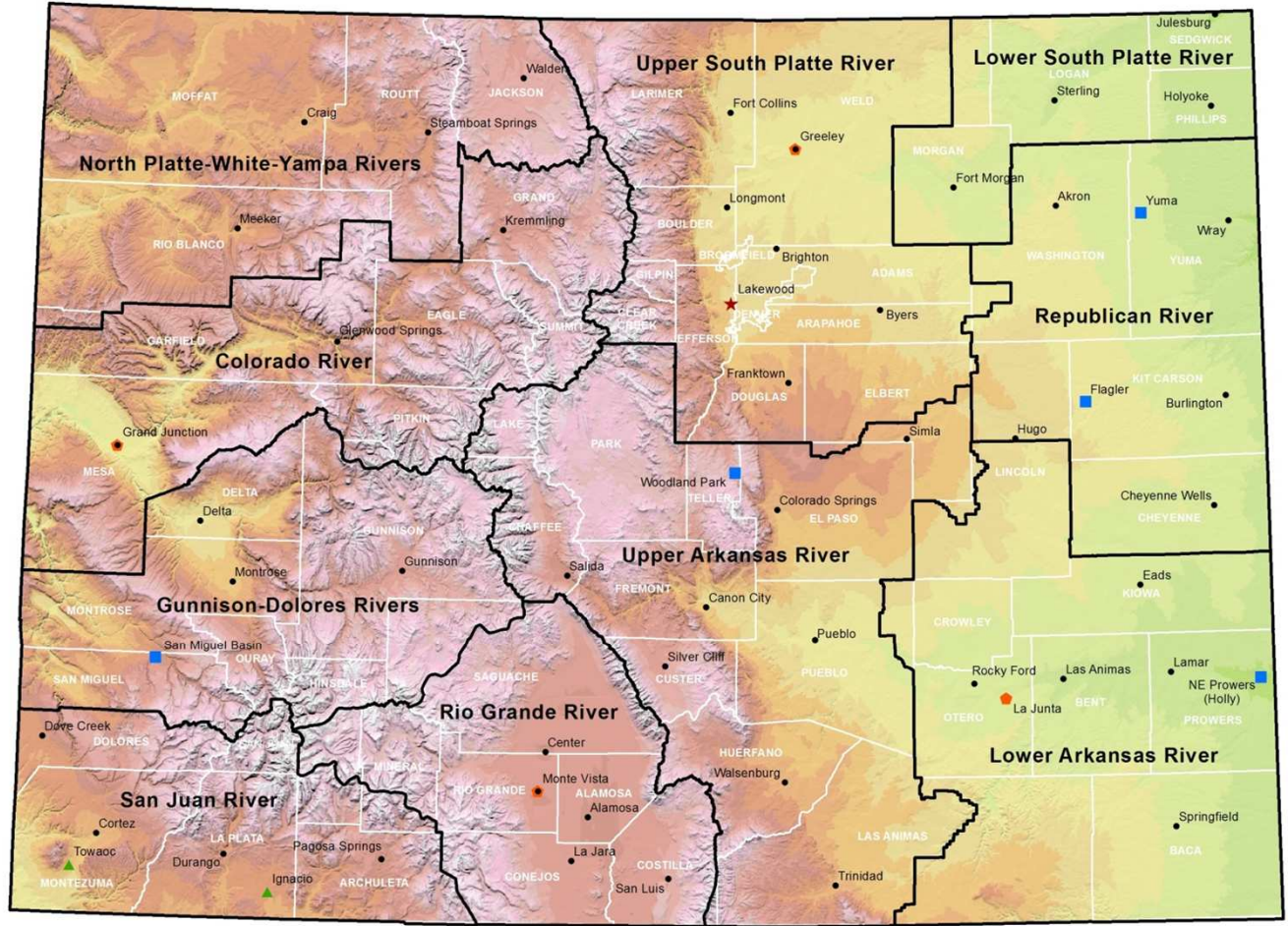
Who We Are

- 12,000 Employees in Nearly 2,900 Field Offices
- Provides Incentive Payments for Conservation Practices in Various Programs
 - Agricultural Management Assistance (AMA)
 - Agricultural Water Enhancement Program (AWEP)
 - Conservation Stewardship Program (CSP)
 - Environmental Quality Incentives Program (EQIP)
 - Wildlife Habitat Incentive Program (WHIP)
- Administers Easement Programs
 - Farm and Ranch Land Protection Program (FRPP)
 - Grassland Reserve Program (GRP)
 - Wetlands Reserve Program (WRP)
 - Emergency Watershed Protection Program Flood Plain Easements



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Colorado Geopolitical Watersheds



NRCS Offices • Field • Area • District • Tribal • State



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Colorado Rapid Watershed Assessments

- Provide a natural resource snapshot and overview of each Colorado 8-digit Hydrologic Unit Code (HUC-8)
- Provide initial estimates of where conservation investments will best address concerns of landowners and other stakeholders
- A process that evaluates resource conditions on an 8-digit hydrologic basis
- Intended to inform decision makers by providing basic information needed to set priorities and determine actions to achieve goals



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Colorado Rapid Watershed Assessments

- Physical resources
- Land use and land cover
- Water quality conditions report
- Soil, stream, precipitation data
- Resource concerns
- Census and social data
- Estimated future conservation practice application and associated costs



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USDA

United States Department of Agriculture

Rush Watershed

NRCS

Hydrologic Unit Code 11020012

Natural Resources Conservation Service

Lakewood, Colorado

Rapid Assessment

RWA 11020012

July 2007

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Rush Watershed – 11020012

Watershed Overview

The Rush Watershed is located in the Lower Arkansas River Basin on the eastern plains of Colorado. This highly agricultural watershed is 861,240 acres in size. There are approximately 385 farms and ranches covering 718,000 acres in the watershed. As of April 2005 there are 64,329 acres of land in the Conservation Reserve Program

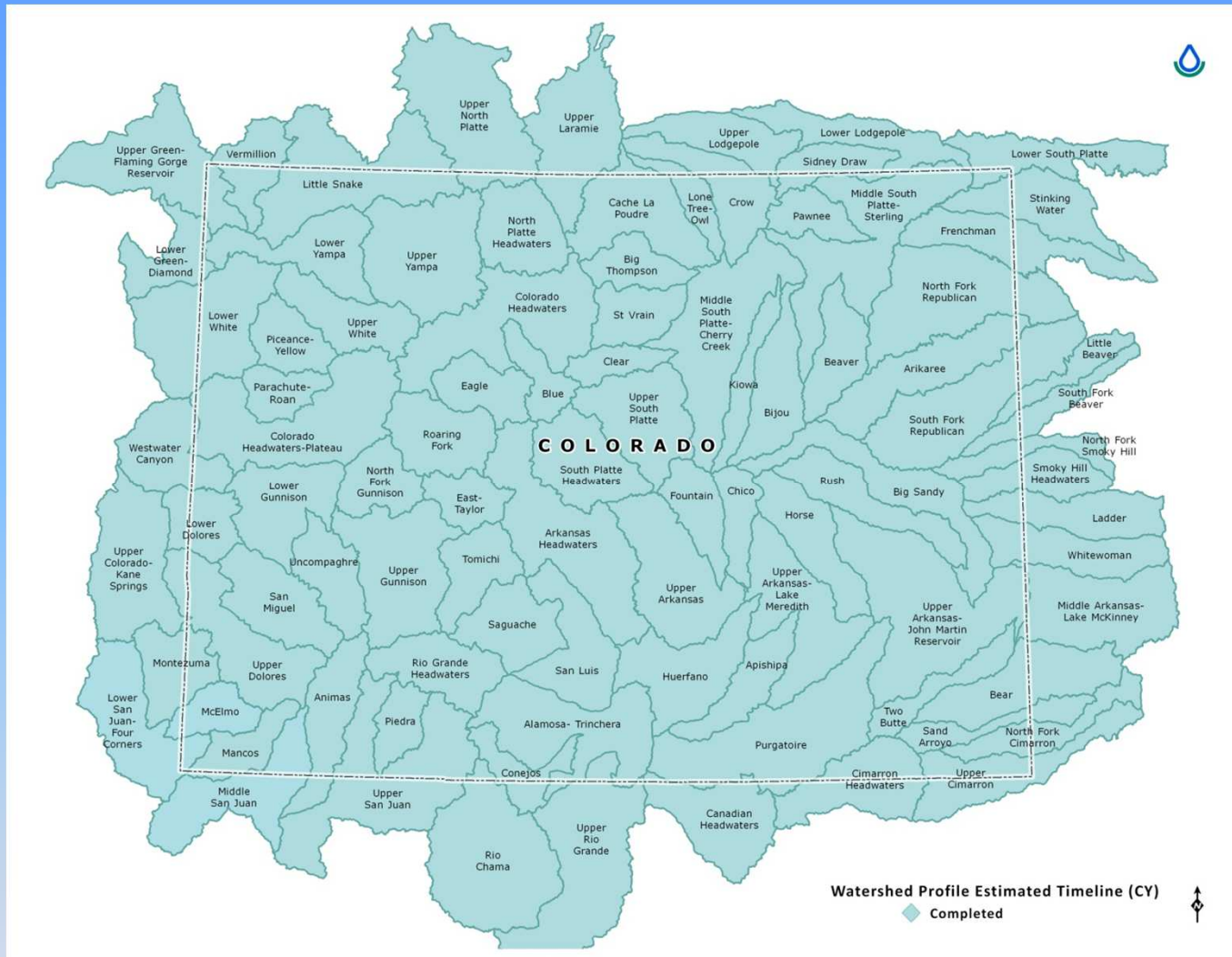
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Downloadable pdf files found at:

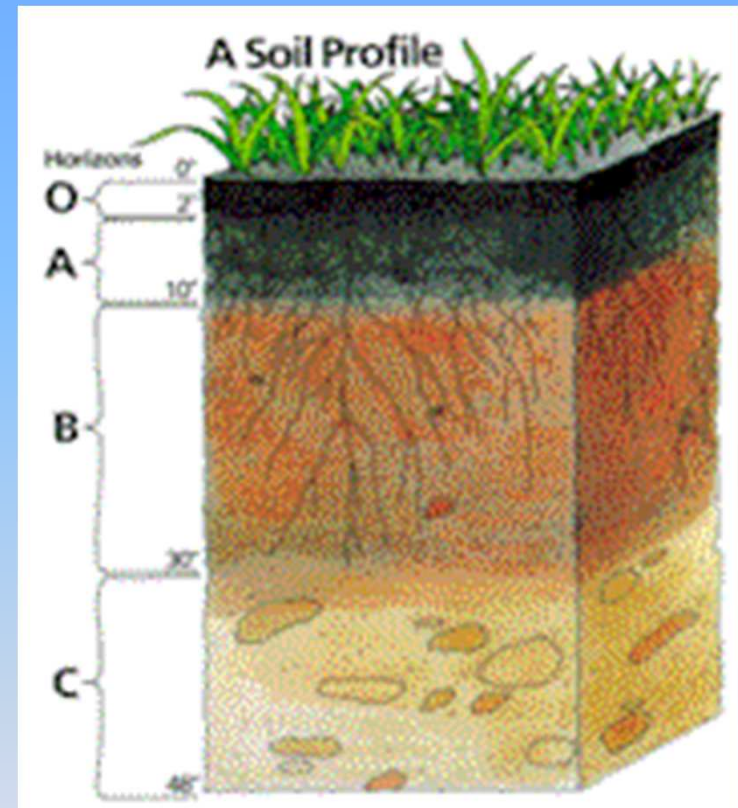
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Colorado Soils Program

Soil surveys contain information that may be used for many land planning and management activities. Surveys highlight soil properties, interpretations, limitations, potential, and problems that may be related to the soil.



Colorado Soils Program

Ensuring High Quality, Productive Soils

- Complete soils surveys of all lands within Colorado by 2011
- Provide quality soil and related resource information
- Increase the use of soil information in decision-making processes of land managers



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Colorado Soils Program

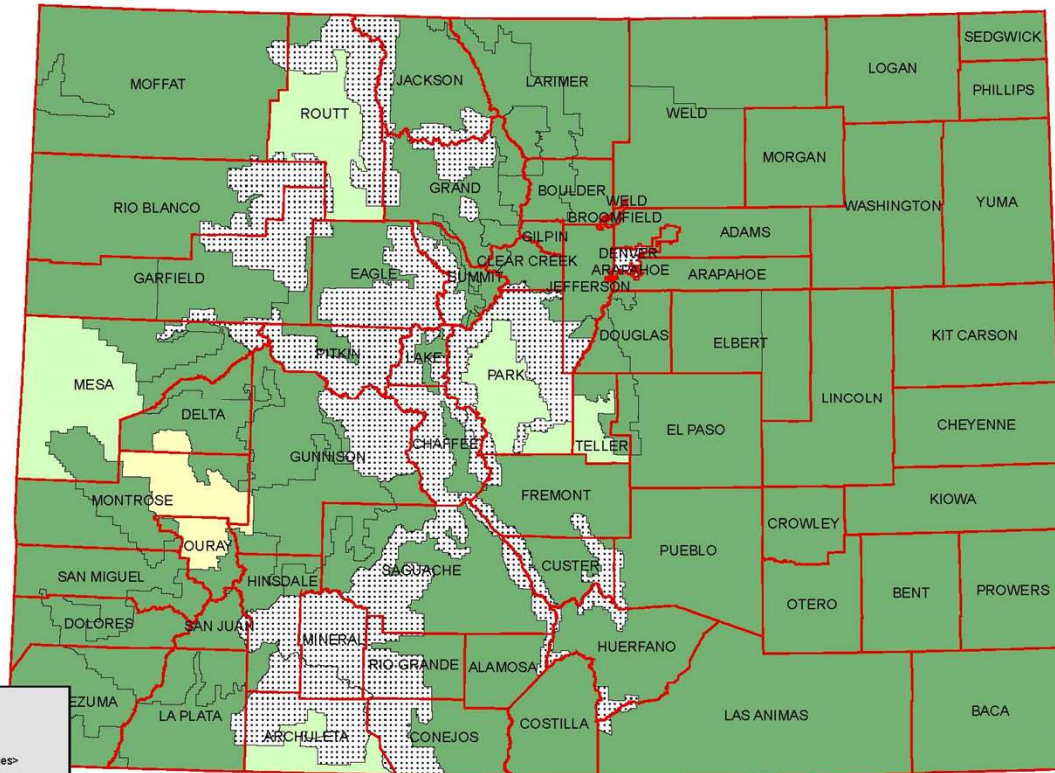
Ensuring High Quality, Productive Soils

- Increase application of soil quality principles in order to:
 - Reduce erosion
 - Improve soil health
 - Improve water quality
 - Assist with nutrient management
- Increase the education and awareness of soil resources in Colorado



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Colorado Digital Soil Survey June 2009



Legend

- counties
- <all other values>
- Good, Final Correlation
- Good, Draft Correlation
- Partial, Draft Correlation
- At the Digitizing Unit
- Not Available

Source: F:\Geodata\Project_Data\NRCS\CSP\Colorado
Updated June 2009



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Colorado Soils Program Resources

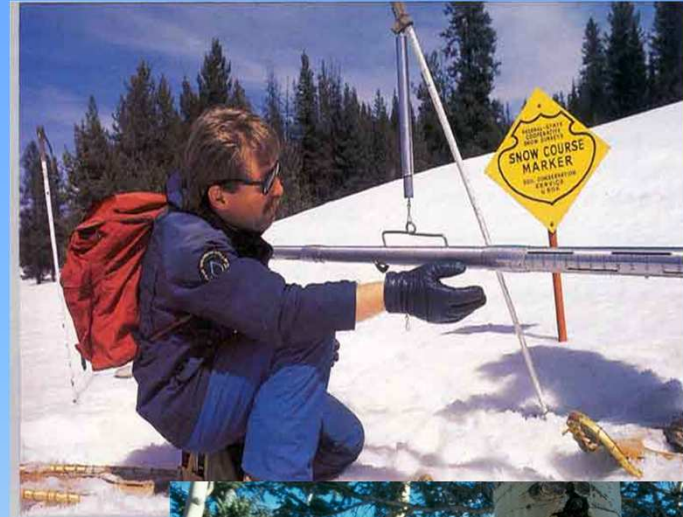
- Soils Information: <http://soils.usda.gov>
- Web Soil Survey: <http://websoilsurvey.nrcs.usda.gov/app/>
- Soil Data Mart: <http://soildatamart.nrcs.usda.gov>
- Soil Data Viewer: <http://soildataviewer.nrcs.usda.gov>



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Colorado Snow Survey Program

The Colorado NRCS Snow Survey Program provides mountain snowpack data and stream flow forecasts for Colorado. Common applications of snow survey products include water supply management, flood control, climate modeling, recreation, and conservation planning.



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Colorado Snow Survey Program

Snow Courses

- Large manual climate network
- Began in 1936 in Colorado
- Approximately 100 remote sites in Colorado
- Generally high elevation areas
- Monthly measurements
- Collect Snow Depth and Snow Water Equivalent (SWE)



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Colorado Snow Survey Program

SNOTEL—SNOpack TElemetry

- Large automated climate network
- Began in 1978
- Approximately 110 remote sites in Colorado
- Utilizes meteor burst communication technology to telemeter data
- Allows for daily reports for snow and precipitation data available on-line
- Provides critical information for water management decision-making



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Colorado Snow Survey Program

SNOTEL—SNOpack TElemetry

SNOTEL Site in Summer



SNOTEL Site in Winter



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Colorado Snow Survey Program

Colorado Specific Snow Survey Information and Data

<http://www.co.nrcs.usda.gov/snow>



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Watershed Protection and Flood Prevention Act (PL-566) in Colorado

- Authorizes NRCS to provide technical and financial assistance to local organizations in planning and carrying out watershed projects
- The program works through local government sponsors to help participants solve natural resource and related economic problems in a specific watershed



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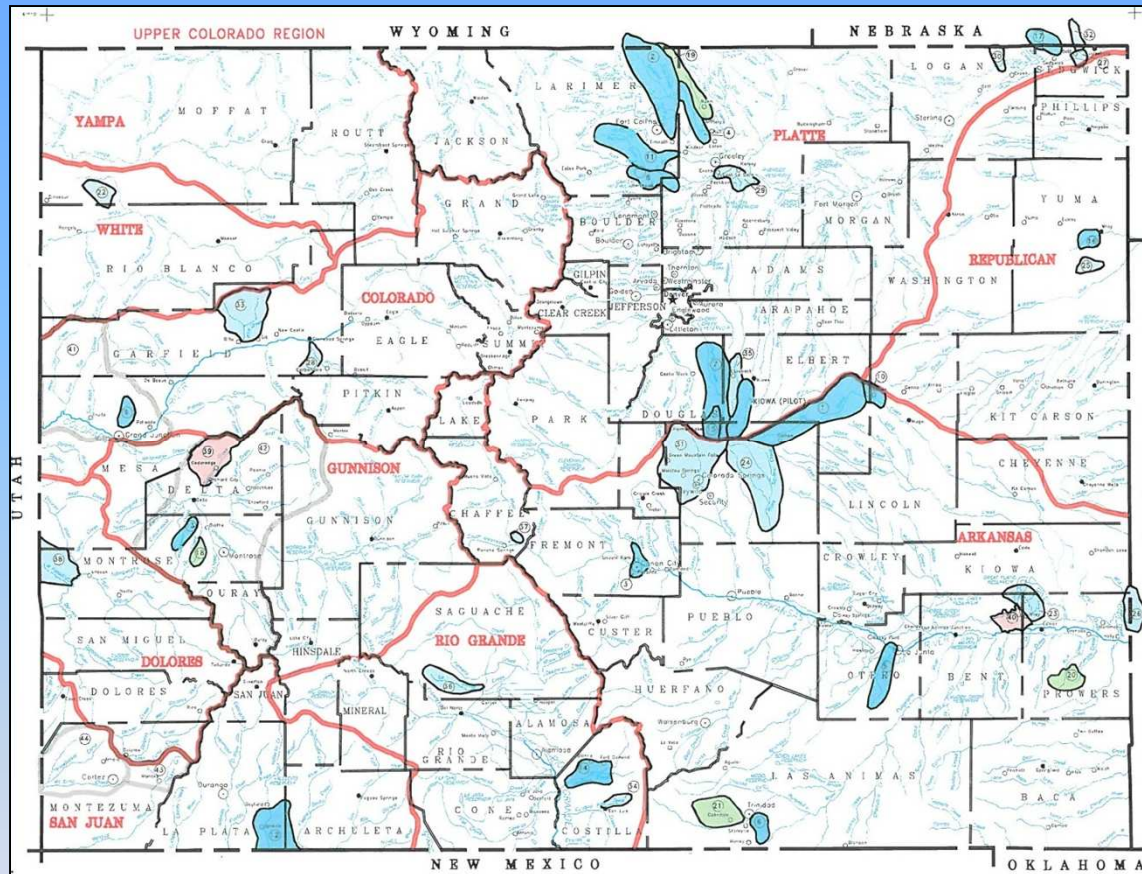
Watershed Protection and Flood Prevention Act (PL-566) in Colorado

- Projects must address one or more of the following purposes:
 - Watershed Protection
 - Flood Prevention
 - Agricultural Water Management
 - Non-agricultural Water Management
 - Ground Water Recharge
 - Water Quality Management
 - Municipal and Industrial Water Supply



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Watershed Protection and Flood Prevention Watershed Dams in Colorado



20 Completed Projects in Colorado

- 1 Pilot Project (66 dams)
- 3 RC&D Projects (3 dams)
- 16 PL-566 Projects (89 dams)



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40 Sponsoring Organizations

- 17 Conservation Districts
- 2 State Government Entities
- 8 County Governments
- 5 Cities
- 10 Non-government Entities



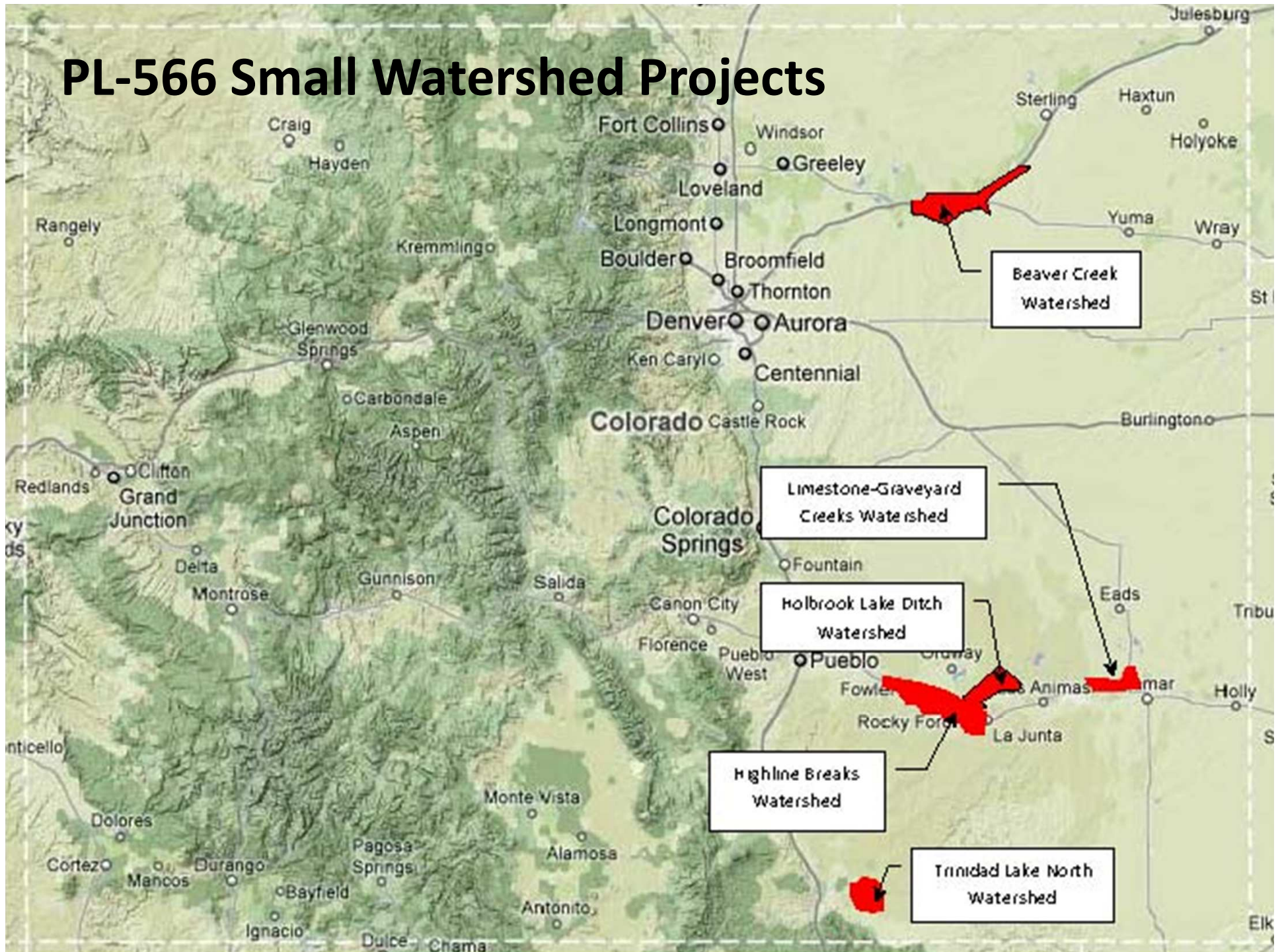
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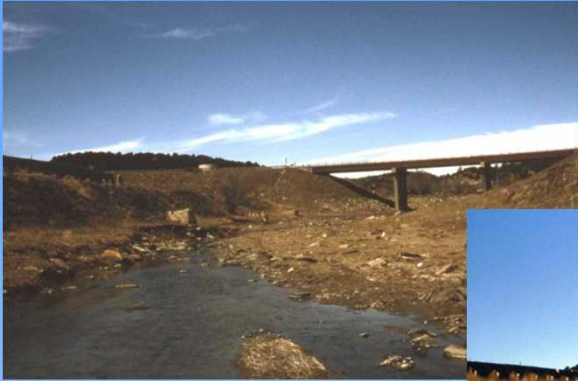
Kiowa Creek Small Watershed Dams



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PL-566 Small Watershed Projects





Trinidad Lake
North Watershed



Beaver Creek



Highline Breaks



Limestone-Graveyard Creeks



Holbrook Lake Ditch



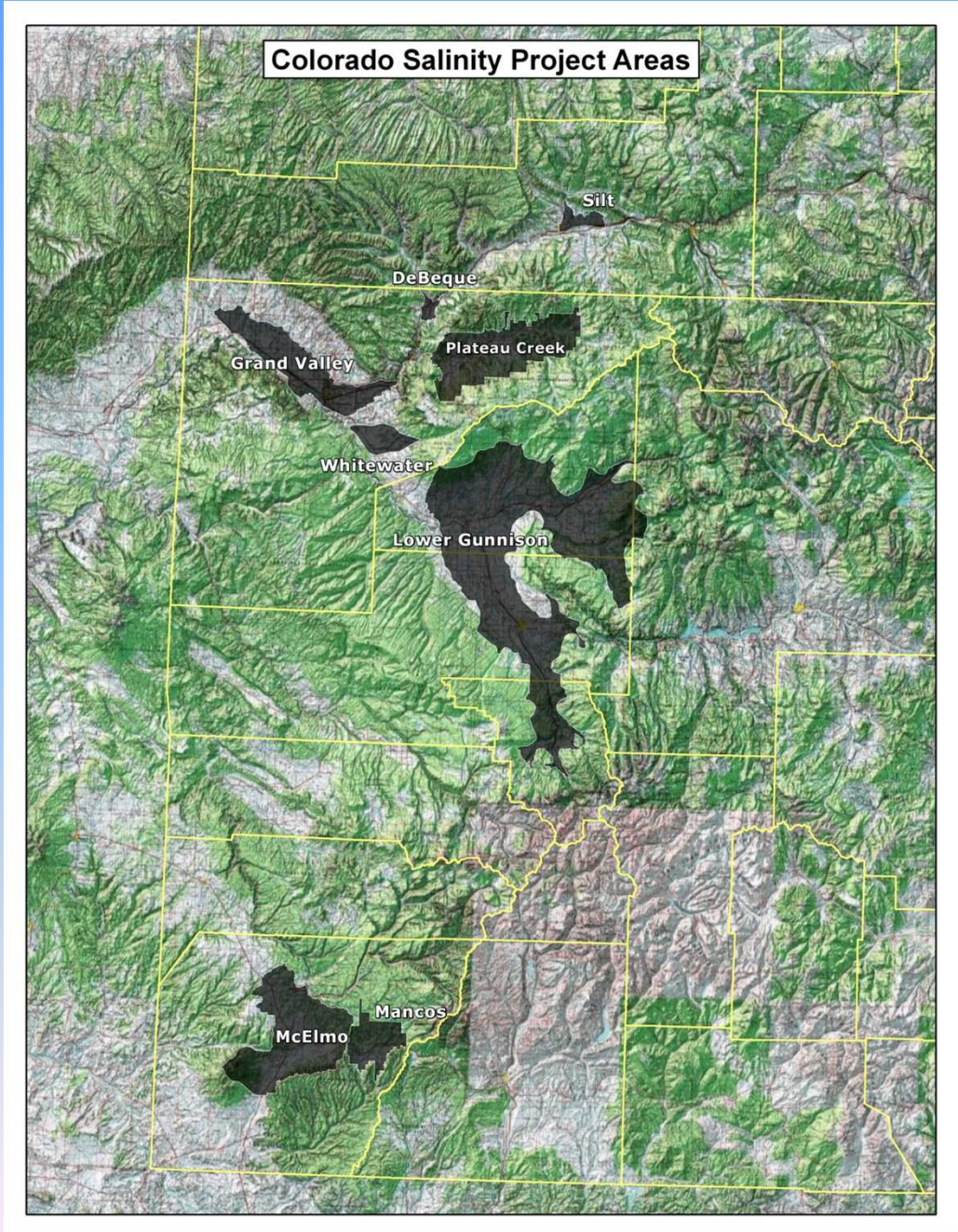
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Colorado River Basin Salinity Control Program

- Enacted by Congress in 1974
- Authorized the construction, operation, and maintenance of salinity control works in the Colorado River Basin
- A long-term , interstate and interagency public/private partnership effort
- Reduces salinity preventing salts from dissolving and mixing with the river's flow



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Colorado NRCS Watershed Partnership Programs

- Agricultural Water Enhancement Program (AWEP)
(National NRCS Projects)

Purpose is to promote ground and surface water conservation and improve water quality (EQIP)

- Colorado AWEP Projects

- **Republican River Water Conservation District**—water conservation, sustainable land conversion from irrigated to dryland farming, grazing lands, wildlife habitat
- **Neegronda Irrigation Partners (Lower Arkansas)**—water conservation, sustainable land conversion from irrigated to dryland farming, grazing lands, wildlife habitat
- **Central Colorado Water Conservancy District (South Platte)**—water conservation, high tech irrigation monitoring, internal district member water trading market and management



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Colorado NRCS Watershed Partnership Programs

- Cooperative Conservation Partnership Initiative (CCPI)
(National NRCS Projects)

Purpose is to promote ground and surface water conservation and improve water quality (CSP, EQIP, WHIP)

- Colorado CCPI Projects

- **Rio Grande Headwaters Restoration Trust**—riparian restoration, in-stream improvements
- **Lake County Conservation District Upper Arkansas Restoration Project**—water quality improvements, riparian and stream restoration, irrigation and riparian grazing lands practices



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Colorado NRCS Watershed Partnership Programs Lake County Conservation District CCPI



Active bank erosion and high water on Arkansas River in
Lake County—June 2010—Active erosion of
contaminated soils on left bank



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Colorado NRCS Watershed Partnership Programs

- Colorado Partnership Program (CPP) (In-state Colorado NRCS Projects)

Purpose is to facilitate grass roots group natural resource conservation efforts (EQIP)

- Colorado CPP Projects

- **Riparian Health and Restoration Partnerships** (Big Thompson, Arkansas, Republican Watersheds)
- **In-stream Eco-friendly Irrigation Diversions** (Mancos Creek Watershed)
- **Rangeland Health** (Purgatoire River Watershed)
- **Invasive Plant Species Management** (Morgan, Huerfano, and Las Animas Counties)



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Colorado NRCS Watershed Partnership Programs—CPP— Invasive Plant Species Management Tamarisk Project



Mechanical Control



Aerial Application



Biological Control



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Colorado NRCS Watershed Partnership Programs—CPP— Invasive Plant Species Management Tamarisk Project



Restored Riparian Area



Treated Tamarisk



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Colorado NRCS Watershed Partnership Programs—CPP— Invasive Plant Species Management Tamarisk Project



Conservation Districts



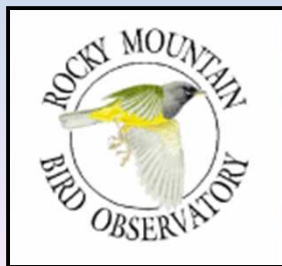
Sangre de Cristo RC&D



Upper Arkansas Cooperative Weed Management Area



Private Landowners



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Colorado NRCS Special Wildlife Initiatives 2010

- Sage Grouse

- EQIP and WHIP—approximately \$769,000
- Brush management, fencing, herbaceous weed control, pasture/hayland planting, pest management, water facilities, pipeline, upland wildlife habitat management

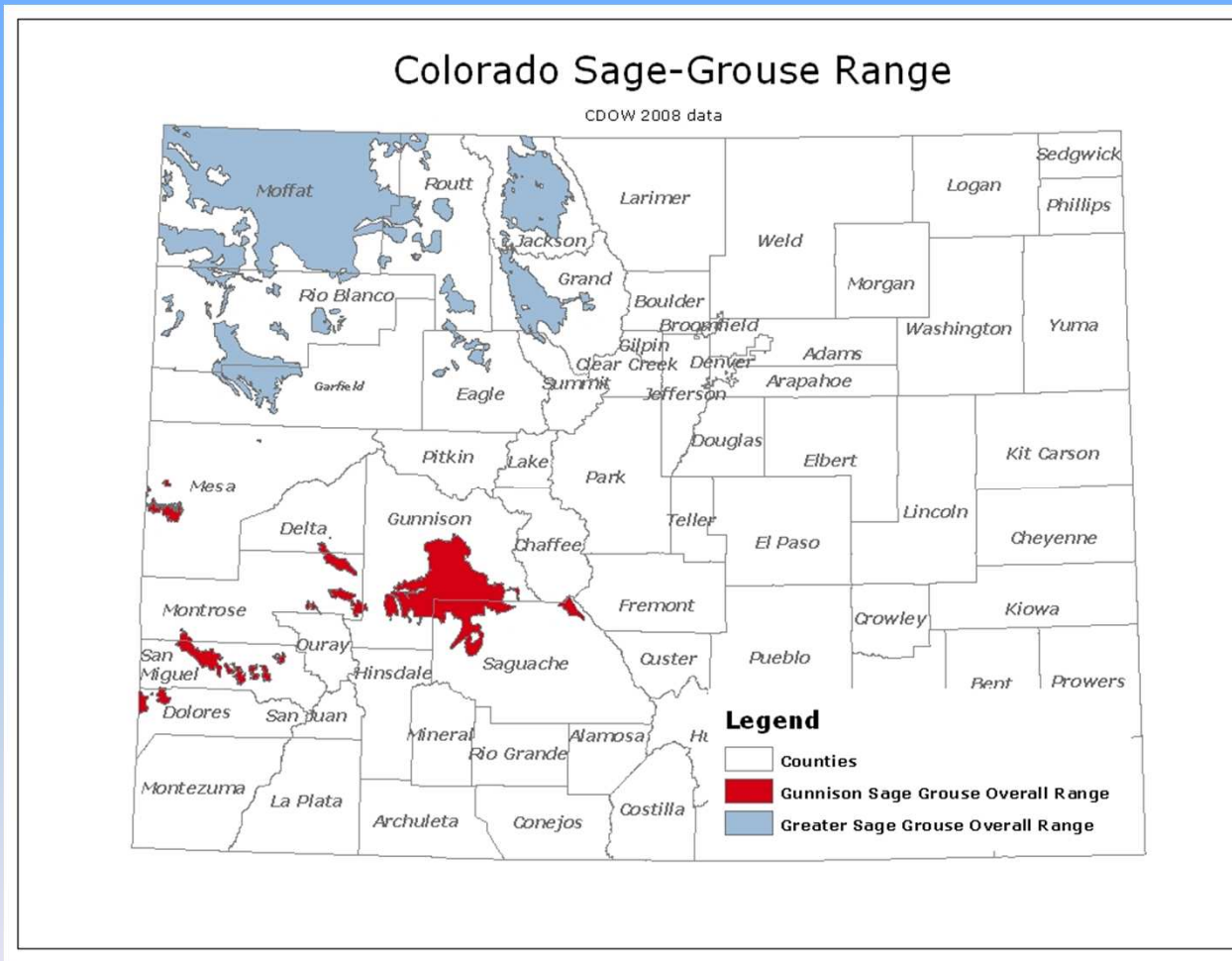
- Lesser Prairie Chicken

- EQIP and WHIP—approximately \$280,000
- Mineral placement, avoid lek disturbance, remove or mark problem fences, avoid new fragmentation, avoid new conversions, prescribed grazing, improve expired CRP

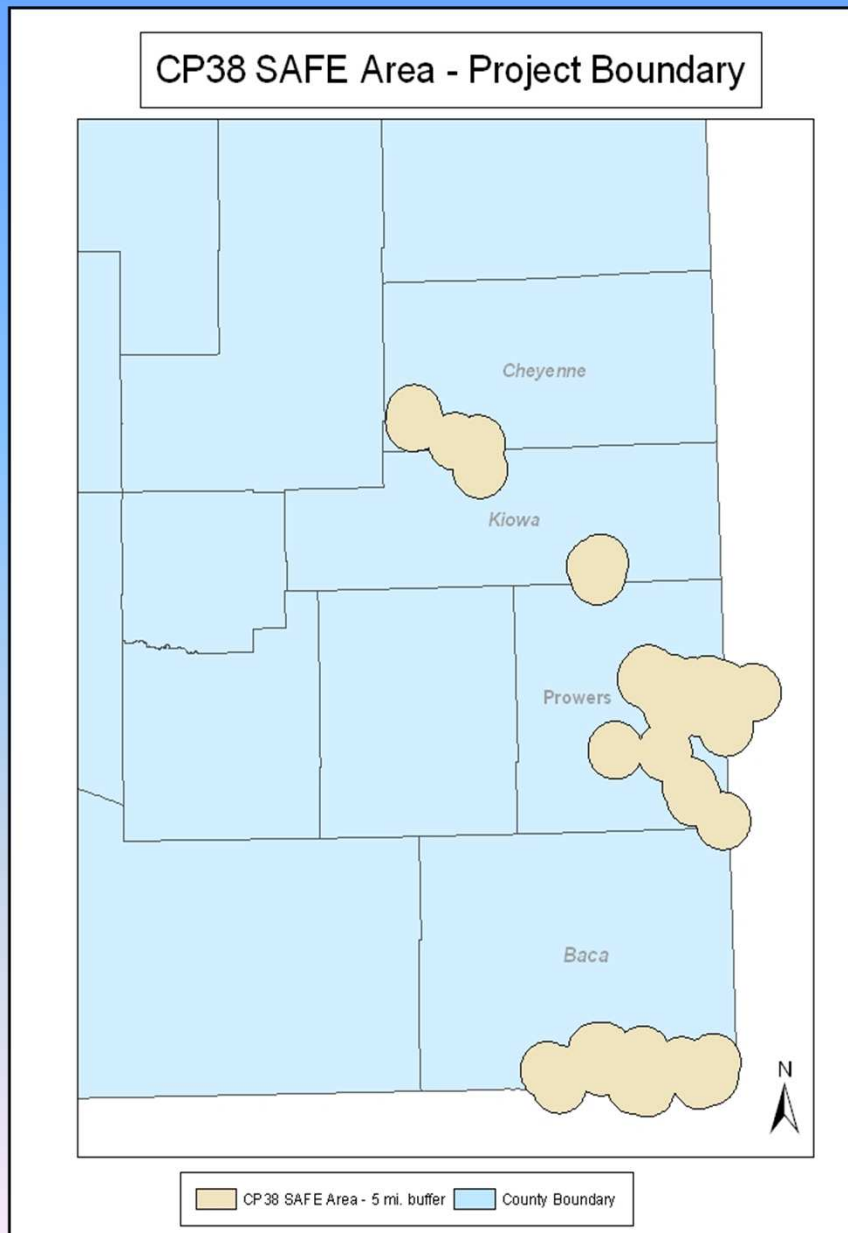


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Where Sage Grouse Occur



Where Prairie Chickens Occur



Colorado NRCS Easement Programs

- Farm and Ranchland Protection Program (FRPP)
- Grassland Reserve Program (GRP)
- Wetlands Reserve Program (WRP)
- Emergency Watershed Protection Program Floodplain Easements (EWPP-FPE)



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FRPP Easement in the Wet Mountain Valley



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Thank You

Questions???



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