Natural Resources Conservation Service
U.S. DEPARTMENT OF AGRICULTURE

COLORADO

2022 Natural Resources Conservation Service ANNUAL REPORT

Natural Resources Conservation Service

co.nrcs.usda.gov

November 2022

Helping People Help the Land

Sign up online for **Client Gateway**
A secure online portal for individual landowners and land managers to track payments, request assistance, sign documents and request conservation assistance anytime, anywhere.
www.nrcs.usda.gov/clientgateway

USDA Natural Resources Conservation Service (NRCS)
Colorado State Office
Denver Federal Center
Building 56, RM 2400
PO BOX 25426
Denver, CO 80225-0426
www.co.nrcs.usda.gov

NRCS_CO

Follow us on twitter.
www.twitter.com/NRCS_CO

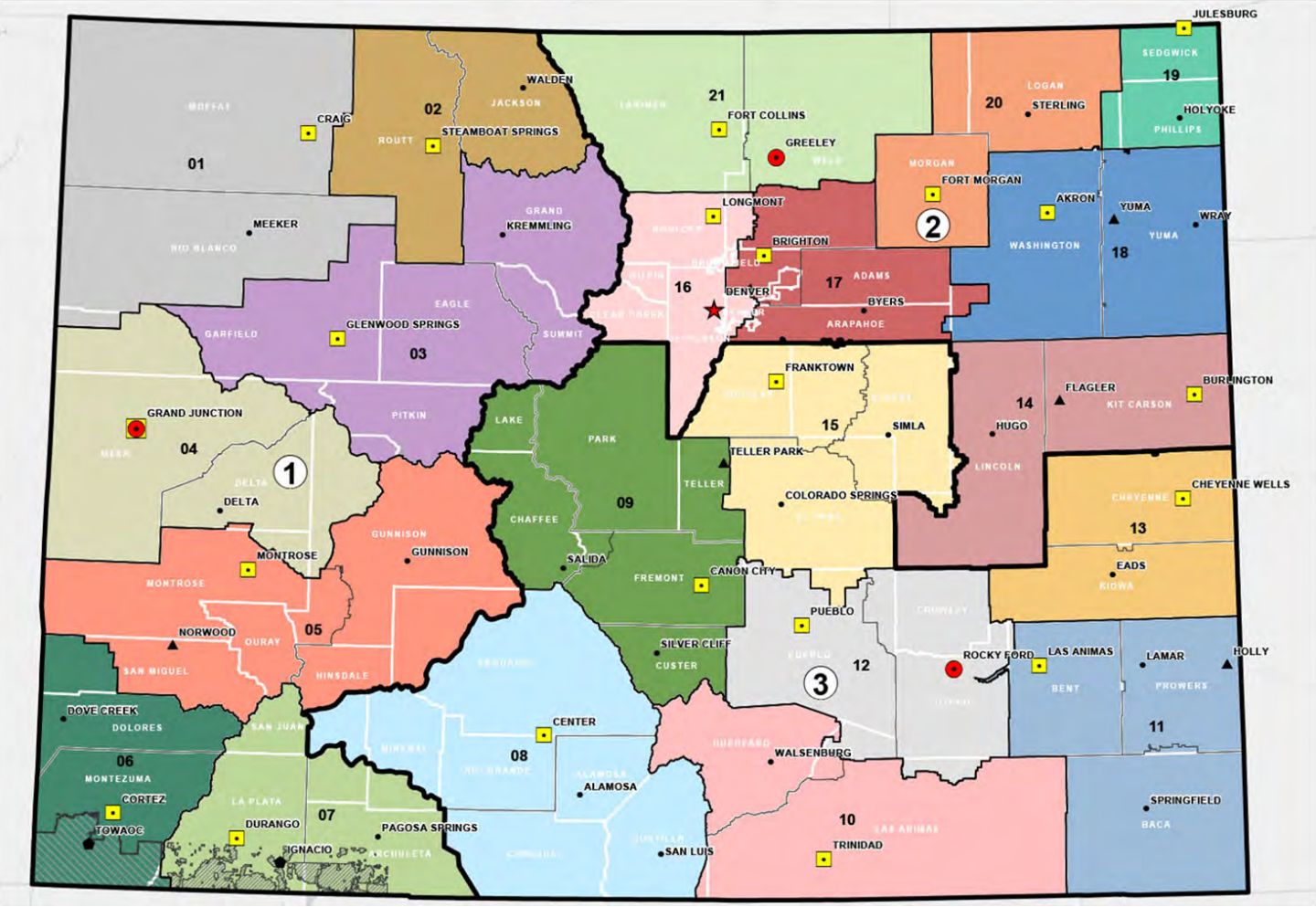
NRCS COLORADO

Find us on YouTube.
https://bit.ly/2OeoRDz

USDA NRCS

GovDelivery
Sign up for emails.
https://public.govdelivery.com/accounts/USDANRCS/subscriber/new

Colorado NRCS Resources Team



Inside NRCS in Colorado

USDA's Natural Resources Conservation Service (NRCS) provides services in every county across Colorado. The Agency is committed to helping private landowners care and make healthy choices for the land and water, while using them productively. Through voluntary incentive-based programs, NRCS works directly with farmers, ranchers, forest owners and other land stewards to provide technical expertise and financial assistance to make conservation work on private lands. The NRCS does much of its work through partnerships and conservation programs associated with the Farm Bill.

Partnerships expand the reach and depth of conservation on the land. The federal, state, and nonprofit groups that comprise the Agency's conservation partnerships have a diversity of expertise in discipline, area, and focus. As partners in conservation, these groups share their unique areas of expertise and conservation work to put more conservation on the ground. Scan the code at right for a video highlighting conservation partnerships in Colorado.

NRCS provides conservation assistance in cooperation with each of its partners across the state through a locally-led approach. Colorado's Department of Agriculture (CDA), the Colorado State Soil Conservation Board (CSCB), the Colorado Association of Conservation District (CACD), the 75 local Conservation Districts (CD), Bird Conservancy of the Rockies, Pheasants Forever/Quail Forever, Intermountain Joint Venture (a division of US Fish and Wildlife Service), River's Edge West, Trout Unlimited, American Forest Foundation, Central Colorado Conservancy, and Colorado State University (CSU) are all critical partners for the Agency.

LOCAL WORK-GROUPS & the State Technical Committee

FY-22 Top Five Natural Resource Concerns

- Water Quality
- Water Quantity
- Rangeland Health
- Soil Health
- Forest Health

"Listening at the local level is essential. Land-use and natural resources concerns vary from community to community, as well as operation to operation. Gathering information and recommendations from the landowners we service is one of the best resources we have to establish priorities and to help address natural resource needs."

Clint Evans
NRCS State Conservationist, CO

NRCS coordinates with the state's 75 conservation districts to hold local work-group meetings in order to help identify natural resource concerns and to help guide Farm Bill program implementation at the local level.

Data generated by local work-groups is then forwarded to the State Technical Committee. State Technical Committees serve in an advisory capacity to the NRCS and other agencies of the U.S. Department of Agriculture (USDA) on the implementation of the natural resources conservation provisions of Farm Bill legislation.

USDA Top Priorities

- Climate-Smart Ag & Forestry
- Urban Agriculture
- Equity
- Tribal Engagement/Partnerships
- New Partnerships

Participants for both the local work-group and the State Technical Committees can include representatives from federal, state, and local natural resource agencies, American Indian Tribes, agricultural and environmental organizations, as well as agricultural producers.

Did you know...

A structure for water control is a structure in a water management system that conveys water, controls the direction or rate of flow, maintains a desired water surface elevation, or measures water.

Top 10 Conservation Practices Installed through the Environmental Quality Incentives Program (EQIP) in FY-22

Conserving natural resources on privately owned lands requires a diverse approach. A variety of options and solutions are needed to address and mitigate natural resource concerns while assisting landowners achieve their land-use goals.

Conservation practices are utilized to treat and combat natural resource concerns. FY-22 most utilized conservation practices in Colorado include:

PRACTICE CODE AND NAME	NUMBER APPLIED	APPLIED (FT) (AC)
382 Fence	271	812,325 (Ft)
516 Livestock Pipeline	277	488,264 (Ft)
430 Irrigation Pipeline	402	275,226 (Ft)
600 Terraces	21	218,197 (Ft)
528 Prescribed Grazing	469	134,050 (Ac)
380 Windbreak	39	84,056 (Ft)
325 High Tunnel	29	55,048 (Sq Ft)
340 Cover Crop	230	22,206 (Ac)
449 Irrigation Water Management	381	16,568 (Ac)
328 Conservation Crop Rotation	99	15,294 (Ac)

Did you know...

Forests provide clean air and water, habitat for wildlife, forest products that support local economies, recreational opportunities, and so much more. Forest Stand Improvement protects our forests by reducing risk against pests, diseases, and wildfires.

FOREST STAND Improvement

By managing forest density, structure, and species composition with the intent to achieve specific objectives within management units as shown on the conservation plan or Forest Management Plan.

Forest stand improvement help:

- improve and sustain forest health and productivity,
- reduce damage from pests and moisture stress,
- initiate forest stand regeneration,
- reduce fire risk and hazard and facilitate prescribed burning,
- restore or maintain natural plant communities,
- improve wildlife and pollinator habitat,
- alter quantity, quality, and timing of water yield, and
- increase or maintain carbon storage.

Natural Resources BENEFITS of Conservation Practices

Woody Residue Treatment

- Reduce hazardous fuels.
- Reduce the risk of harmful insects and disease.
- Protect/maintain air quality by reducing the risk of wildfire.
- To improve access for management purposes.
- Improve access to forage for livestock and wildlife.
- Develop renewable energy systems.
- Enhance aesthetics.
- Reduce the risk of harm to humans and livestock.
- Improve the soil organic matter.
- Improve the site for natural or artificial regeneration.

Streambank and Shoreline Protection

- Prevent the loss of land or damage to land uses, or facilities adjacent to streambanks or constructed channels, shorelines of lakes, reservoirs, or estuaries.
- Main the flow capacity of streams or channels.
- Reduce the offsite or downstream effects of sediment resulting from bank erosion.
- Improve or enhance stream corridor for fish and wildlife, aesthetics and recreation.

Cover Crop, Residue and Tillage Management

- Reduces wind and water erosion.
- Increases soil organic matter.
- Suppresses weeds.
- Increases efficiency of soil nutrients.
- Provides supplemental forage for livestock.
- Provides food and escape cover for wildlife.
- Increases plant-available moisture.

Riparian Forest Buffers

- Create shade to lower or maintain water temperatures to improve habitat for aquatic organisms.
- Create or improve riparian habitat and provide a source of detritus and large woody debris.
- Reduce excess amounts of sediment, organic material, nutrients and pesticides in surface runoff.
- Reduce excess nutrients and other chemicals in shallow ground water flow.
- Reduce pesticide drift entering the water body.
- Restore riparian plant communities.
- Increase carbon storage in plant biomass and soils.

Irrigation Water Management

- Improves irrigation water use efficiency.
- Minimizes irrigation-induced soil erosion.
- Decreases degradation of surface and groundwater resources.
- Manages salts in the crop root zone.
- Manages air, soil, or plant micro-climate.
- Reduces energy use.
- Provides water supply for such purposes as irrigation, recreation, livestock and wildlife.

HEALTHY AND PRODUCTIVE WORKING LANDS

TECHNICAL Assistance

CTA

Conservation Technical Assistance (CTA)

Some landowners and natural resource stakeholders partner with NRCS, seeking only the Agency's technical expertise and assistance. NRCS works with those entities through the **Conservation Technical Assistance (CTA)** program. CTA is a Farm Bill program which helps the Agency provide land users assistance and opportunities to address concerns and problems related to the use of natural resources. It provides assistance to conduct resource assessments, develop practice designs, establish resource monitoring, or follow up on installed practices. One of the most popular tools the Agency provides through CTA is the development of a conservation plan.

- In FY-22, NRCS in Colorado wrote CTA plans to treat over 817,536 acres.
- In FY-22 NRCS in Colorado implemented CTA plans and measures treating:
  - Improve cropland soil quality ..... 85,847 (Ac.)
  - Improve soil health and sustainability on cropland ..... 62,358 (Ac.)
  - Soil Health Management System on cropland ..... 7,593 (Ac.)
  - Improve water quality ..... 122,338 (Ac.)
  - Improve irrigation efficiency ..... 725 (Ac.)
  - Improve agricultural irrigation water management ..... 466 (Ac.)
  - Protect and improve the resource base on grazing lands ..... 47,064 (Ac.)
  - Achieve a sustainable forage-animal balance on grazing lands ..... 36,339 (Ac.)
  - Improve fish and wildlife habitat quality on non-federal land ..... 22,669 (Ac.)
  - Conservation on actively managed land for wildlife habitat ..... 18,682 (Ac.)
  - Conservation applied to improve Environmental Quality ..... 145,121 (Ac.)

USDA Completes Initial Soil Survey of Denver County

Denver, Colorado recently became the newest member of a distinctive club within the world of natural resource conservation, and more specifically, soils. It is now one of only a few major cities within the U.S. to have a modern soil survey through the National Cooperative Soil Survey program, administered by the U.S. Department of Agriculture's (USDA) Natural Resources Conservation Service (NRCS).

The USDA appropriated its first budget to field operations for the development of soil surveys in 1899. "From the beginning, the Department prioritized the importance of understanding soils," said Andy Steinert, NRCS Major Land Resource Area (MLRA) Soil Survey Leader in Fort Morgan and lead soil scientist for the Denver survey. "In 1935, it established the Soil Conservation Service (SCS), now the NRCS, and within the first two years, SCS published the first official soil survey manual, providing direction and procedures for all future USDA soil surveys. It truly is an honor to continue and expand upon the works and accomplishments of so many scientists before me, including those who have worked on modern soil surveys in urban areas like New York, Los Angeles, Chicago, and Detroit."

The 1930's Dust Bowl was one of the catalysts for the USDA to establish a higher priority on soil management, and thus mandated soil surveys across the U.S. Soil survey is a detailed report about the soils of an area. It includes maps with soil boundaries, photos, descriptions, and tables of soil properties and features. It was a tool, that could be, and still is, used to help understand and prevent how and why soils erode. Today, soil surveys are used by city and county planners, homeowners, urban farmers, gardeners and many more. They help community planners determine appropriate areas for urban expansion and land use planners determine suitable areas for recreation, landfills, highway construction, housing, or onsite sewage disposal systems. Home buyers and developers use them to determine soil-related hazards or limitations that affect home sites, while farmers use them to help estimate potential crop or forage production. Today's modern urban soil survey a valuable tool.

"USDA's mandate of soil surveys was to map all the private lands around North America," said Gene Kelly, a Professor of Pedology and Deputy Director of the Agricultural Experiment Station at Colorado State University in Fort Collins, Colorado. "Cities were not included because most of the work was focused on agriculture. Now, however, the lands that are unmapped, many of which are urban centers, have the highest density of people, and we closely engage with soils."

Within the past decade, NRCS had placed greater emphasis on providing assistance to smaller, less rural ag landowners. Small acreage landowners, traditionally characterized by the Agency as those having less than 35 acres, had become an increasingly growing customer base in the early 2010s. As a result, NRCS established more technical and financial support for small acreage landowners and organic produce farmers. The Agency also formed the Urban Soil Focus Team in 2017.

"This new emphasis on urban areas fueled our focus on soil surveys in cities," said Randy Riddle, NRCS Soil Scientist and national Urban Soil Focus Team Chair. "Through these surveys, we're characterizing current soil conditions and trying to capture the soil's variability, including the degree and extent of overall alterations of the soils on the landscape."

The Urban Soil Focus Team was established to help standardize Agency practices, improve communication, and assist development of a modern and useful soil classification system for urban soils. "Soils on any anthropogenic

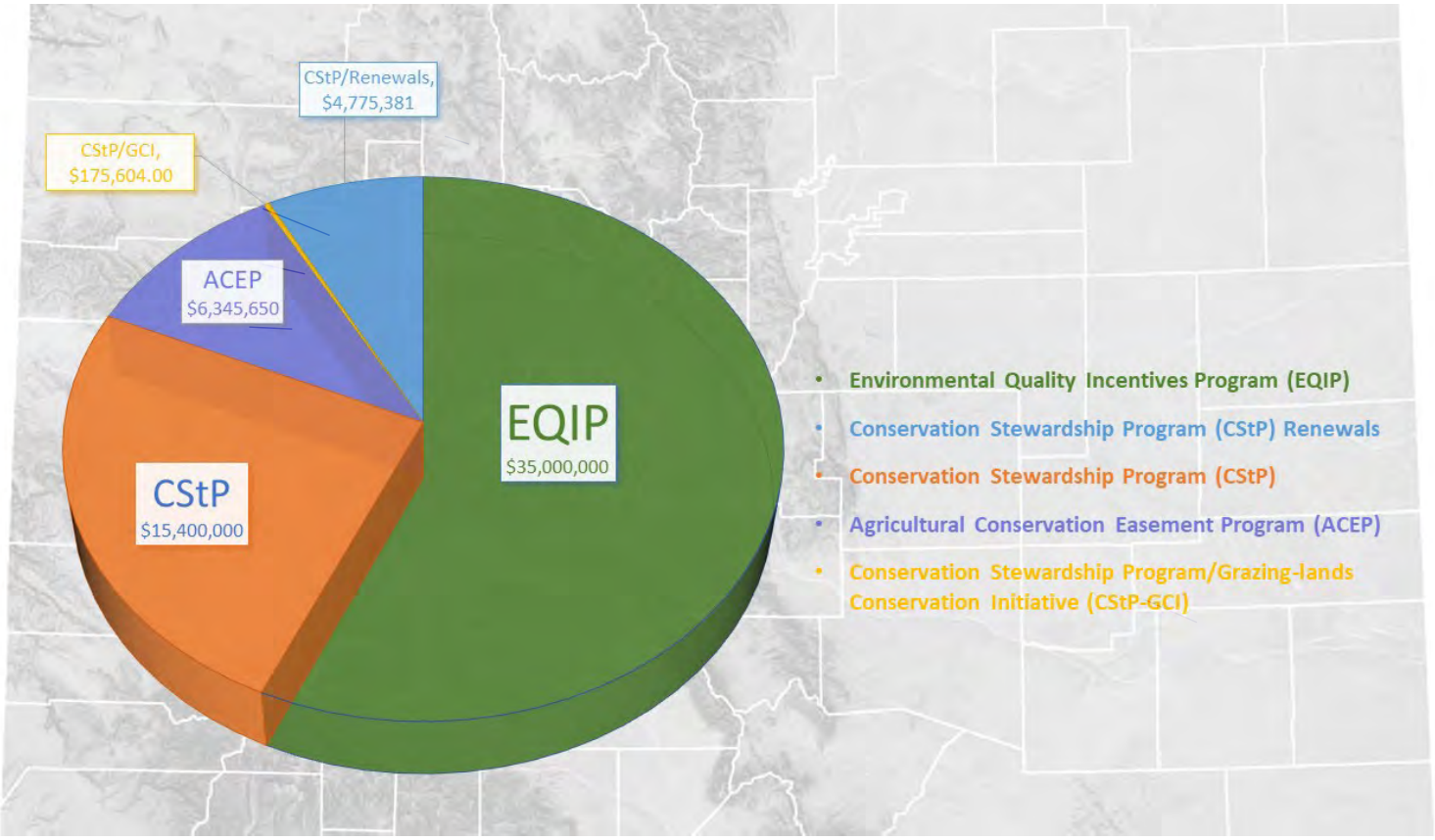
landscape may vary greatly in composition. As an Agency, we understood that, and had tools to assess and generate the kind of information needed for those kinds of soils," Riddle goes on to say. "NRCS completed the New York City soil survey in 2014 which has been used as a model for other urban surveys since. Soil scientists have found that urban soils may be intact, partially changed, or completely different than those found in rural communities because of human activity. The Agency needed different tools to classify these soils."

The NRCS has soil maps and data available providing access to the largest natural resource information system in the world. Information about soils is available online for more than 95 percent of the nation's counties. Urban communities are part of the remaining five percent and more surveys for those areas are in the works. "Milwaukee is next," said Riddle. NRCS will continue improving and modernizing older soil surveys in urban areas to keep them accurate and relevant to meet current needs.

"I'm here to see how this got done in Denver," said Tiffany Justus, NRCS MLRA soil scientist in Illinois. "This provides me with a template to follow. We may not do things the same, but this is a great opportunity to gather some standard operating procedures we can follow in Milwaukee. If I have questions, I know who to call."

"The process we've implemented in completing these surveys affords the Agency the opportunity to help reach long-term, strategic goals as well as unique training opportunities for our partners and employees," Riddle, finally states. "Next steps include continuing to work towards completing surveys in unmapped areas. There are more cities to map. We continually work on data gaps, making improvements, updating, and modernizing substandard information. Soils are dynamic in cities; we've set a high bar. Our standard must be to continue improving the accuracy and usefulness of our baseline information."

FINANCIAL Assistance



PROGRAM	OBLIGATED CONTRACTS	ACRES
EQIP	412	203,424
CSP-GCI	17	1,951
CStP (New)	80	260,381
CStP (Renewal)	36	87,699.9
ACEP	5	8,799.4

NRCS offers voluntary programs to eligible landowners and agricultural producers to provide financial and technical assistance to help manage natural resources in a sustainable manner. Through these programs, the agency approves contracts to provide financial assistance to help plan and implement conservation practices that address natural resource concerns or opportunities to help save energy, improve soil, water, plant, air, animal and related resources on agricultural lands and non-industrial private forest land.

PRACTICE: Watering Facility

EQIP

Environmental Quality Incentives Program (EQIP)

The **Environmental Quality Incentives Program (EQIP)** is NRCS' most flexible conservation program. Through EQIP, landowners receive financial and technical assistance to implement structural and management conservation practices which optimize environmental benefits on working agricultural land. NRCS offers a variety of opportunities for Colorado landowners to receive EQIP funding including targeting resource concern, customer demographics, and allocations based on the 21 NRCS resource teams located around the state.

- In FY-22, NRCS funded 412 contracts, helping address resource concerns on 203,424 acres, totaling $35.5 Million.
- From 2009–2022, NRCS in Colorado invested over $400M, towards over 8500 projects, totaling over 5.7M acres.

FY-22 EQIP Funding Opportunities Included:

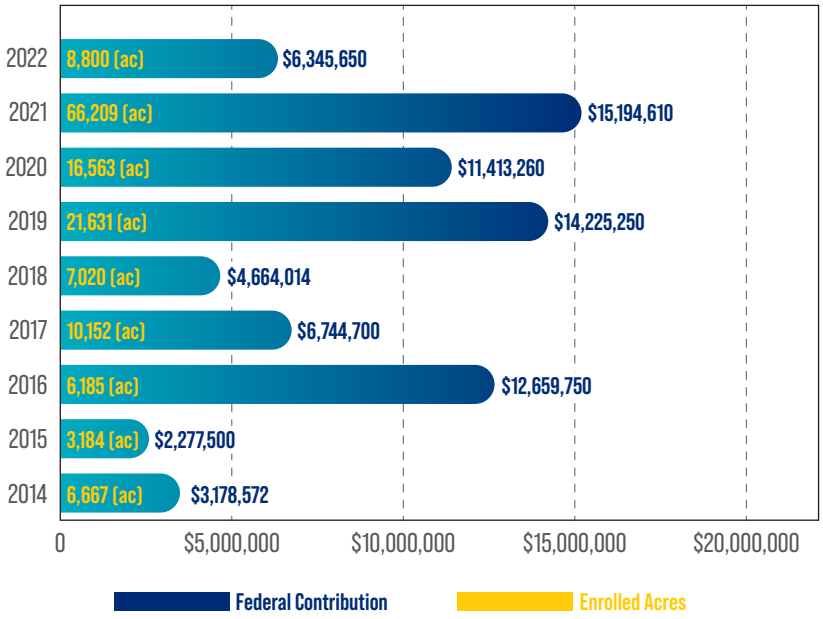
- CIC—Grazingland Resilience to Drought
- CIC—Tribal Conservation Projects
- Organic Transition/Certified
- On-Farm Energy
- High Tunnel
- NWQI—Limestone-Graveyard Creek
- Ute Tribal Conservation Projects
- Joint Chiefs—The Southern Front Range
- SGI—Greater and Gunnison Sage Grouse
- WaterSMART
- LPCI
- Salinity—Colorado River Basin
- BFR/LRF
- SDFR
- Animal Waste Management
- Wildlife Habitat
- TCP—Rio Grande Surface Water Project
- Source Water Protection
- Water Management Entities
- Energy CPA
- CPA General
- Ogallala Aquifer
- Black Footed Ferret
- National Air Quality Initiative
- Southwestern Willow Flycatcher
- Salinity—Colorado River Basin DIA

ACEP

Agricultural Conservation Easement Program (ACEP)

The **Agricultural Conservation Easement Program (ACEP)** provides financial and technical assistance to help landowners conserve agricultural lands and wetlands and their related benefits. Under the Agricultural Land Easements ACEP program, NRCS helps Indian tribes, state and local governments, private landowners, Land Trusts and non-governmental organizations protect working agricultural lands and limit non-agricultural uses of the land. Under the Wetlands Reserve Easements (WRE) component, NRCS helps to restore, protect, and enhance enrolled wetlands.

2014–2022 ACEP in Colorado



CARPs

COVID Agriculture Relief Payments (CARPs)

In addition to delivering our typical programs and services to producers, USDA also offered relief to producers through programs and flexibilities through the Pandemic Assistance for Producers initiative, a broad set of programs to help farmers, ranchers, and producers who felt the impact of COVID-19 market disruptions.

NRCS identified seven conservation practices whose scenarios increased in price (10% or more) as a result of COVID. Each scenarios has a new, NHQ-determined "CARP rate," which represents the percentage change in the costs of materials related to each unique scenario.

*Extended through work certified complete before December 31, 2022

COVID Agricultural Relief Practices

Practice Code	Practice Name
325	High Tunnels
367	Roofs and Covers
430	Irrigation Pipeline
443	Irrigation System, Surface and Subsurface
468	Lined Waterway or Outlet
516	Livestock Pipeline
575	Trails and Walkways
584	Channel Bed Stabilization

CStP

Conservation Stewardship Program (CStP)

The **Conservation Stewardship Program (CStP)** helps farmers, ranchers, and forest landowners earn payments for expanding conservation activities while maintaining agricultural production on their land. CStP also encourages the adoption of new technologies and management techniques.

- In FY-22, NRCS invested over $15M obligated, 132 Projects, totaling 350,000 acres.
- From 2010–2022, NRCS in Colorado invested over $255M, on over 2,600 acres, covering over 6.2M acres.

Top Five Conservation Practices Implemented through CStP

1. Improving nutrient uptake efficiency and reducing risk of nutrient losses.
2. Reduce risk of pesticides in water and air by utilizing IPM PAMS techniques.
3. Nutrient Management.
4. Harvest of crops (hay or small grains) using measures that allow desired species to flush or escape.
5. Use of body condition scoring for livestock on a monthly basis to keep track of herd health.

CSP/ GCI

Conservation Stewardship Program / Grassland Conservation Initiative (CSP/GCI)

The **Conservation Stewardship Program (CSP) / Grasslands Conservation Initiative (GCI)** is a new program implemented in 2019. Eligible lands are limited to cropland for which base acres have been maintained under FSA's ARC/PLC and were planted to grass or pasture, including idle or fallow, during a specific period. Enrolled acreage must be managed consistently with a grassland conservation plan.

- In FY-22, NRCS in Colorado invested $175,604.00 on 17 projects, totaling 1,951 acres.

DISASTER Assistance

Construction progress in Larimer County on Cameron peak fire.

EWP

Emergency Watershed Protection (EWP) Program

The **Emergency Watershed Protection Program (EWP)** was established by Congress to respond to emergencies created by natural disasters. It is designed to relieve imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences.

Typical Values at Risk:

- Life and Safety
- Residential Properties
- Commercial Properties
- Transportation
- Water Infrastructure
- Utilities
- Endangered Species
- Cultural Resources

Typical Recovery Measures:

- Erosion & Sediment Control
- Streambank Protection
- Structure Protection
- Flood Diversions
- Debris Removal
- Dike Repairs
- Mulching & Seeding
- Building Protection
- Road Protection

Over the past 24 years, Colorado experienced record breaking natural and man-made disasters which have had devastating impacts on the State's natural resources, private landowners, and their communities. Through the Emergency Watershed Protection Program, the NRCS has helped many impacted Coloradoans navigate towards stability, notably more so within the past 10 years. Over 80% of the State's EWP funding allocated between 1998 and 2020 has been expended between 2010 and 2020.

1998–2020	
NRCS EWP FA & TA	$165,654,393
Sponsor	$48,523,873
Total	$214,178,267

2010–2020	
NRCS EWP FA & TA	$147,959,393
Sponsor	$42,443,873
Total	$190,403,267

Colorado Disaster EWP Response Summary FY-22

INCIDENT NAME	Grizzly Creek	Pine Gulch	Cameron Peak	East Troublesome	Calwood	Totals
COUNTY	Garfield	Mesa/Garfield	Larimer	Grand/Larimer/ Jackson	Boulder	
DATE STARTED	8/10/2020	7/31/2020	8/13/2020	10/14/2020	10/17/2020	
SPONSOR(S)	Garfield County, City of Glenwood Springs	Mesa County, Garfield County	Greeley, Larimer County	Grand County, Northern Water	Boulder County Parks & Open Space	
NRCS INVESTMENT	$541,245	$811,546	$12,058,966	$30,800,571	$4,381,000	$48,593,328
SPONSOR INVESTED	$111,258	$164,062	$2,573,395	$8,663,524	$1,327,000	$12,839,239
VALUE OF PROPERTY PROTECTED	$23,625,000			$53,625,911	$12,440,693	$89,691,604
NET BENEFIT	$18,625,000			$13,663,815	$7,132,693	$39,421,508
OUTCOMES	Protected Glenwood Spring Municipal water intakes from sediment and flooding, reduced flood threat to 15 project sites.	Reduced threat of flooding/ sedimentation to homes, road infrastructure. 25 project sites.	Erosion control, sediment reduction, debris removal to benefit 5 municipal water reservoirs, homes and transportation infrastructure.	Erosion control, sediment reduction, debris removal to benefit 4 municipal & ag water reservoirs, protect water diversions, transportation infrastructure, and homes from threat of future flooding/ sedimentation.	Protecting life and property from erosion, sediment and threat from future flooding for homes, county road infrastructure and facilities.	
NUMBER PEOPLE DIRECT BENEFITS	111,676			4,527	5,944	122,147

USDA is an equal opportunity provider, employer, and lender.

COLORADO · 2022