



COLORADO COUNTIES, INC.

Educate · Advocate · Empower

Collaborative Water Strategies for Resilient Agriculture & Communities

CCI Concurrent Session | December 2, 2024

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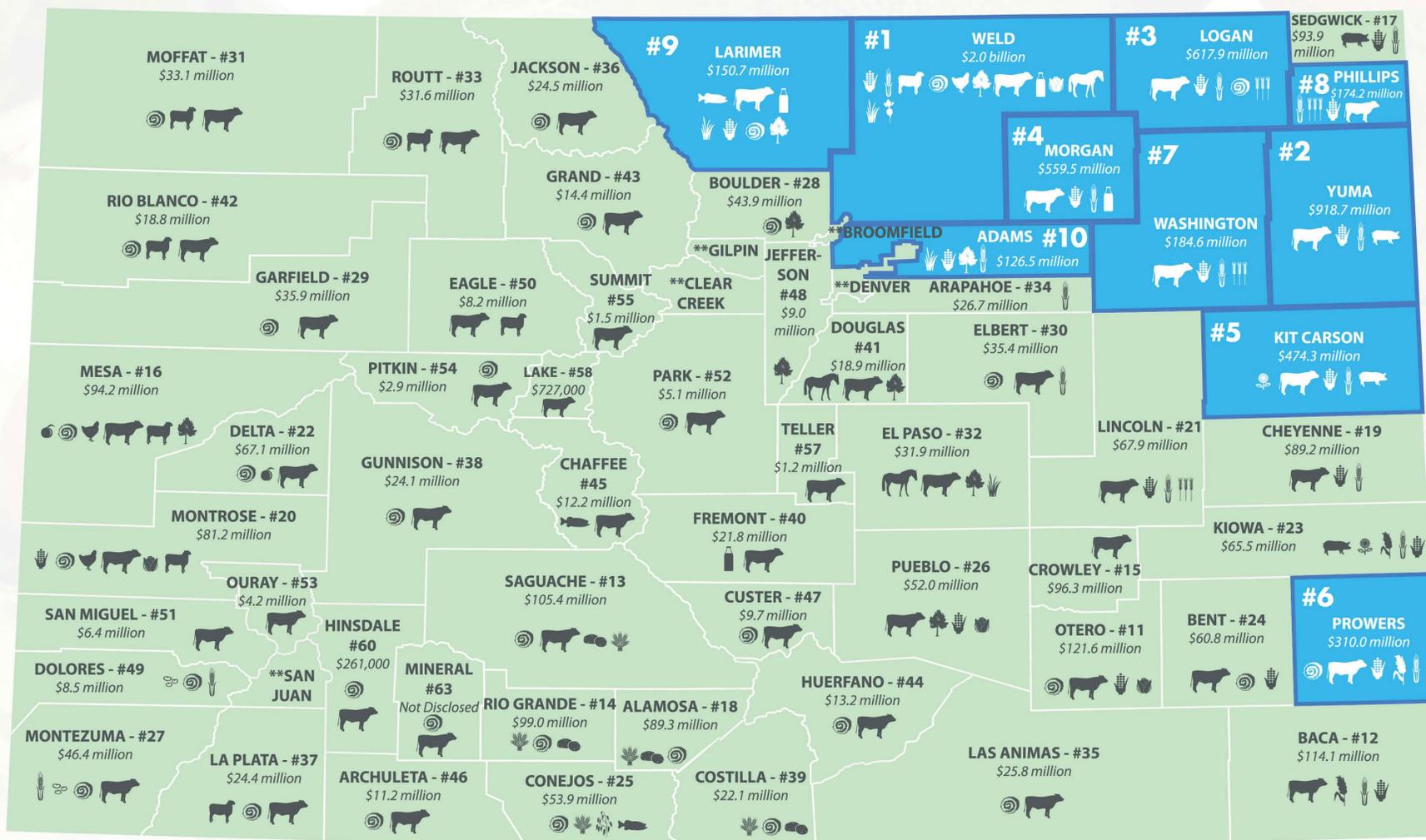
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A GLIMPSE OF COLORADO AGRICULTURE*



COLORADO
Department of Agriculture



KEY

- Aquaculture
- Barley
- Cattle
- Corn
- Dairy
- Dry Beans
- Fruits
- Hay
- Hogs
- Horses
- Millet
- Nursery
- Oats
- Poultry & Eggs
- Potatoes
- Sheep
- Sod
- Sorghum
- Sugarbeets
- Sunflowers
- Vegetables
- Wheat

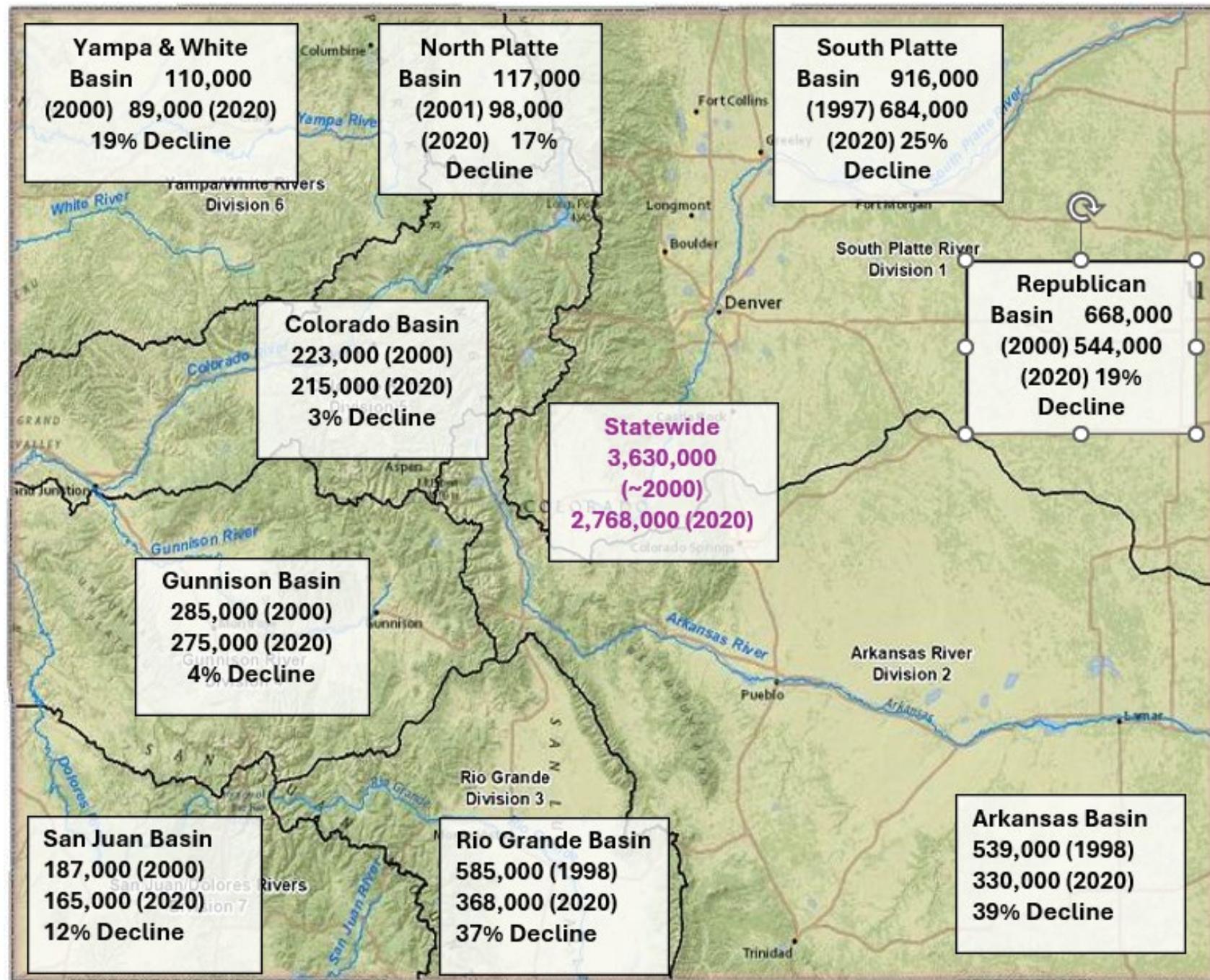
** #56 DENVER Not Disclosed
 #59 BROOMFIELD \$613,000
 #61 GILPIN \$216,000
 #62 CLEAR CREEK \$174,000
 SAN JUAN Not Available

BLUE AREAS
 are top ten agricultural
 counties in Colorado.

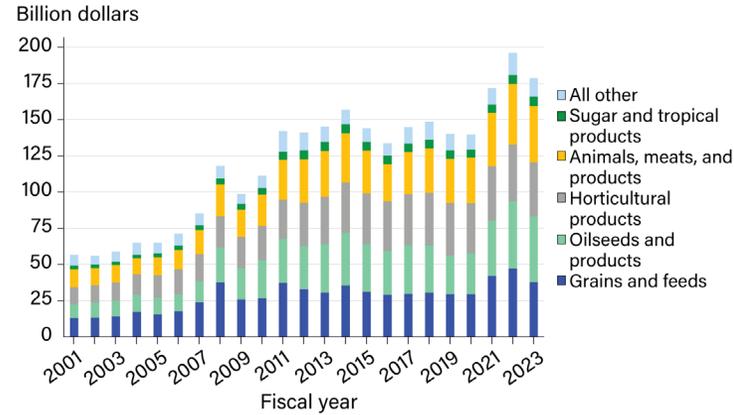
*Value of agricultural products sold by county. Data from 2017 Census of Agriculture, USDA.

DWR CDSS Information

Courtesy of Kara Sobieski with
Wilson Water Group

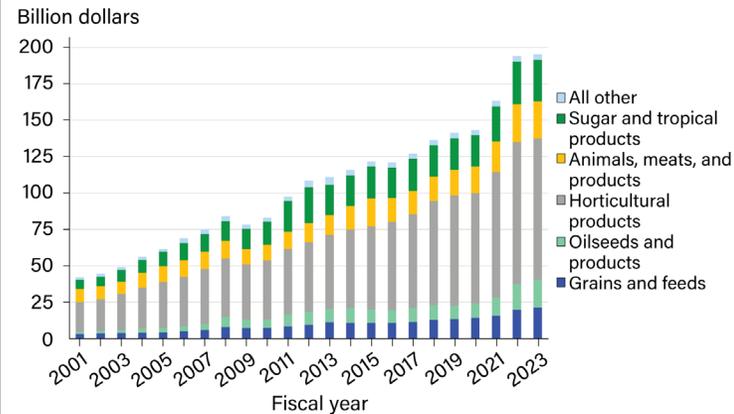


U.S. agricultural exports, 2001-23



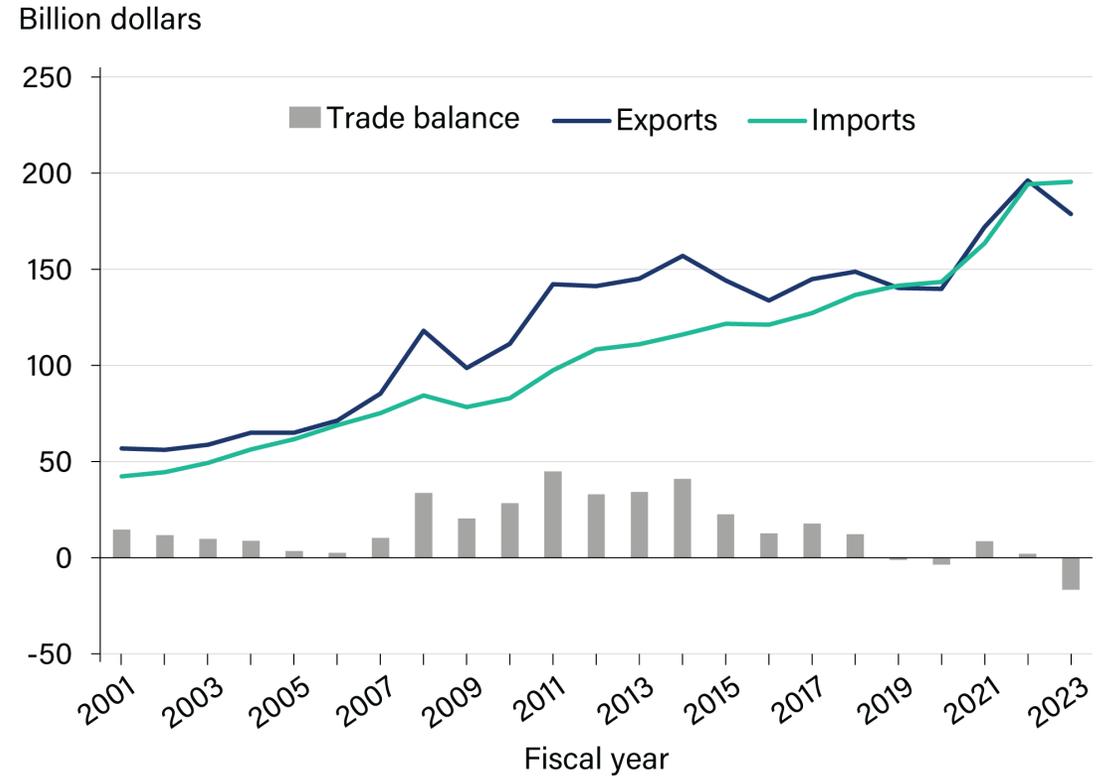
Note: Values are not adjusted for inflation.
 Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural imports, 2001-23



Note: Values are not adjusted for inflation.
 Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census.

U.S. agricultural trade, 2001-23



Note: Values are not adjusted for inflation. The trade balance is equal to the value of exports minus the value of imports. When the balance is negative, imports exceed exports.
 Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of the Census.

Major city announces ban on new homes due to concerning conditions: 'We're going to manage this situation'

Laurelle Stelle

September 17, 2023 · 2 min read

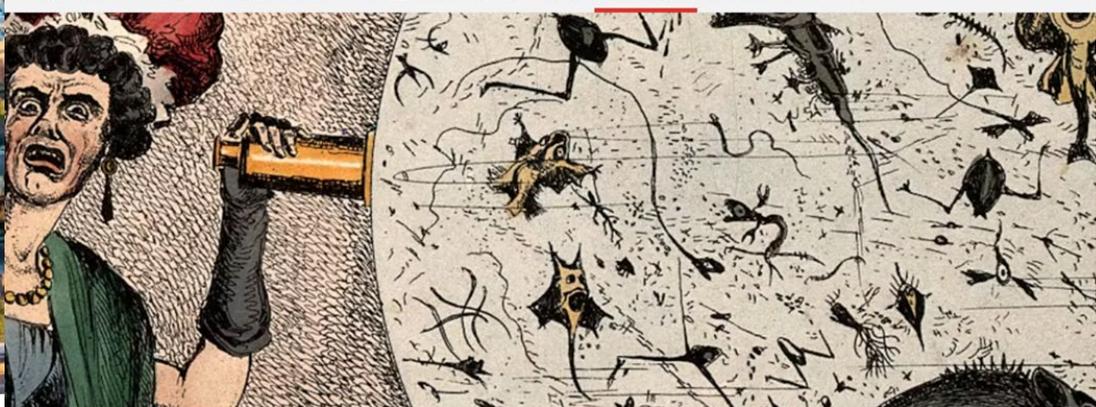
↑ 2.3k



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Britain's 'broken' water system: a history of death, denial and diarrhoea

Published: July 31, 2024 12:05pm EDT Updated: August 6, 2024 4:57am EDT

'The monstrous contents of a magnified drop of River Thames water', as envisaged by the artist William Heath in 1828. Wellcome Collection, CC BY-NC-ND

World / Climate

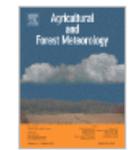
One of the world's biggest cities may be just months away from running out of water

By Laura Paddison, Jack Guy and Fidel Gutiérrez, CNN



Agricultural and Forest Meteorology

Volume 331, 15 March 2023, 109343

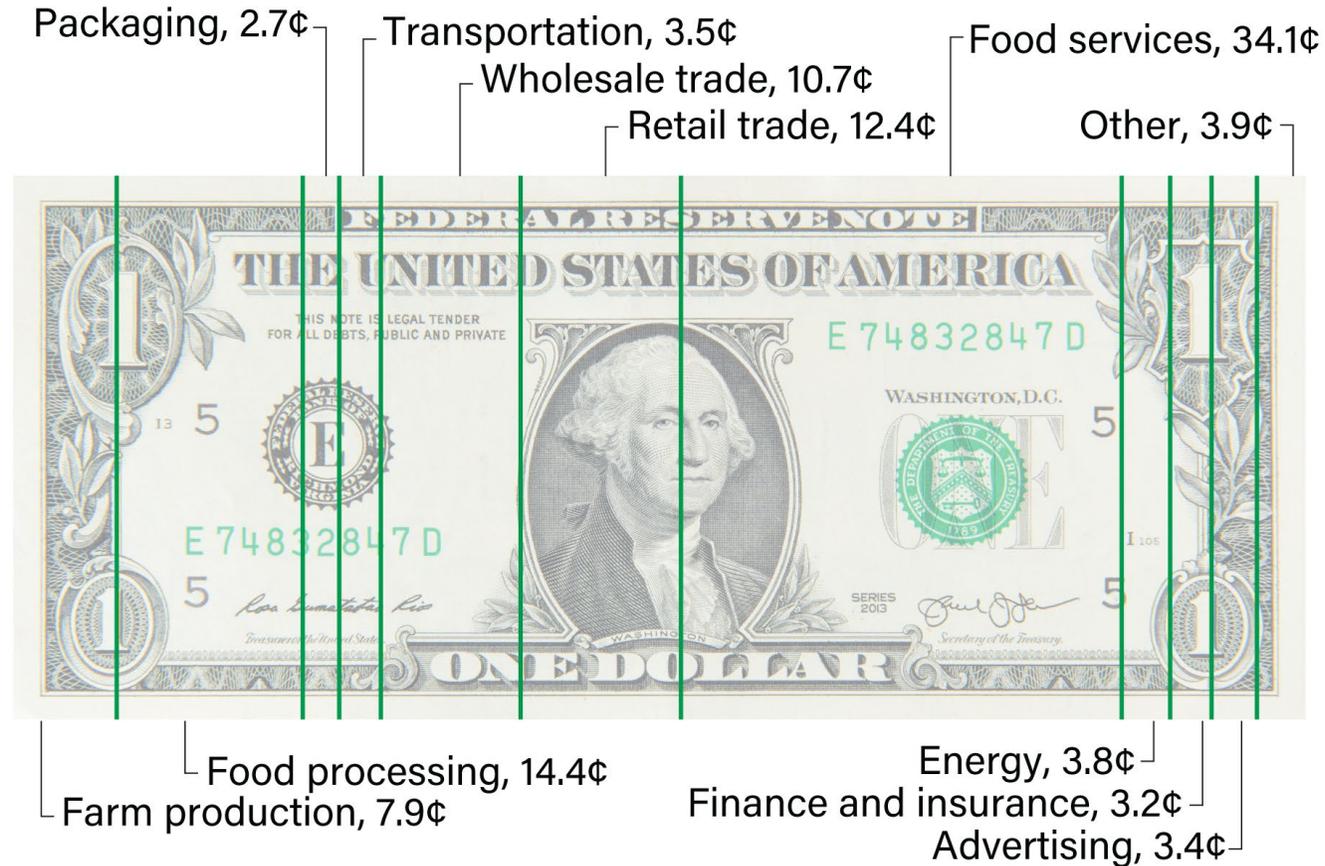


Rural agriculture largely reduces the urban heating effects in China: A tale of the three most developed urban agglomerations

Zhangmei Yan †, Decheng Zhou †



2022 Food Dollar Series' industry group dollar, nominal



Note: The food dollar estimates provide the average industry group shares of each nominal, or unadjusted for inflation, dollar spent on domestically produced food in a year. **Other** includes Agribusiness (2.1 cents) and Legal and accounting (1.8 cents).

Source: USDA, Economic Research Service, Food Dollar Series.



COLORADO WATER PLAN HOLISTIC PLANNING

Russ Sands – Director for Local Climate Action
CCI Winter Conference – December 2, 2024

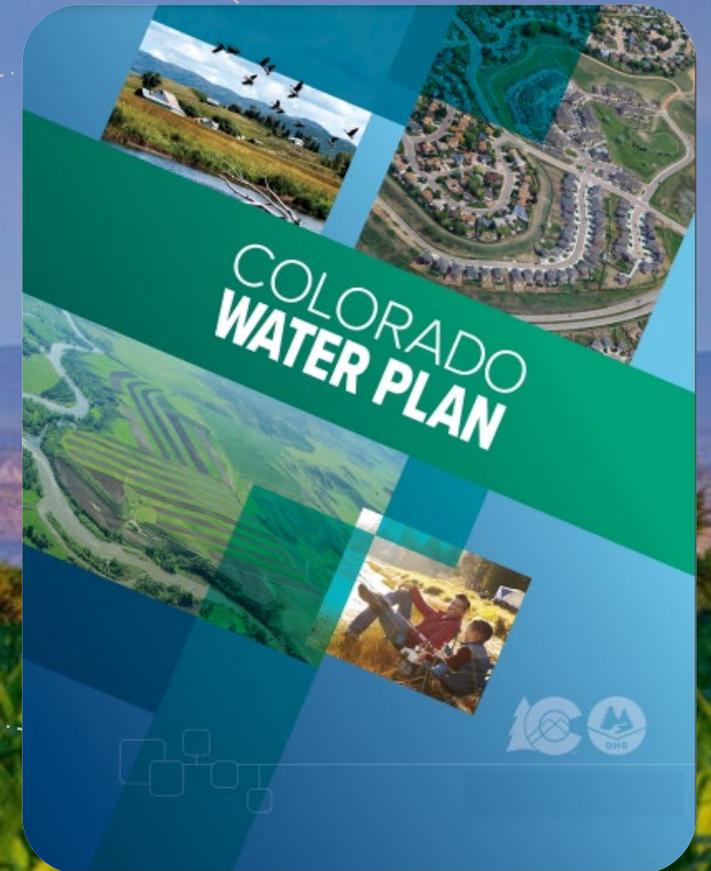
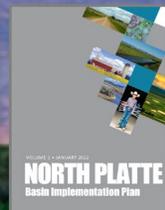
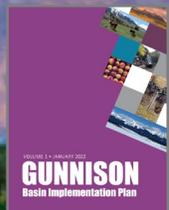
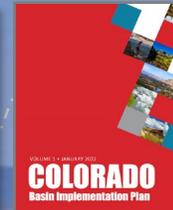
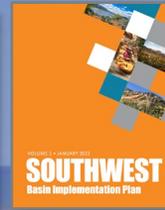
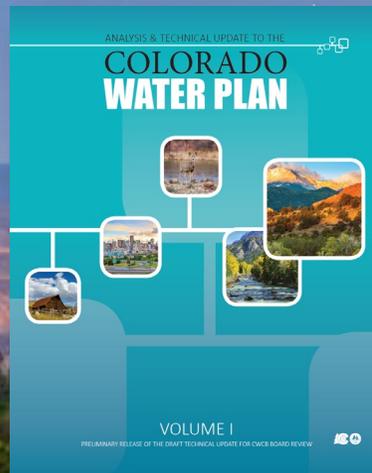


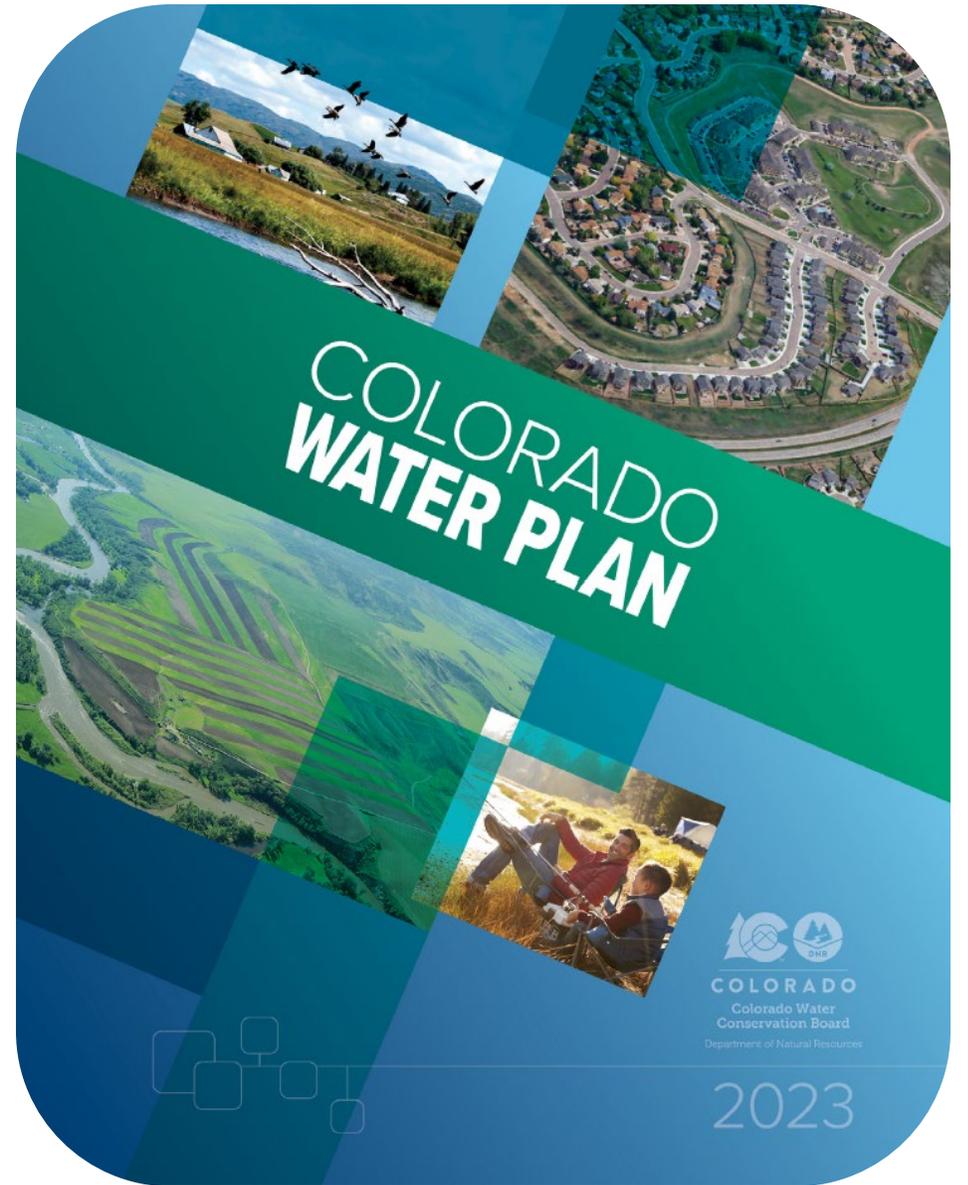
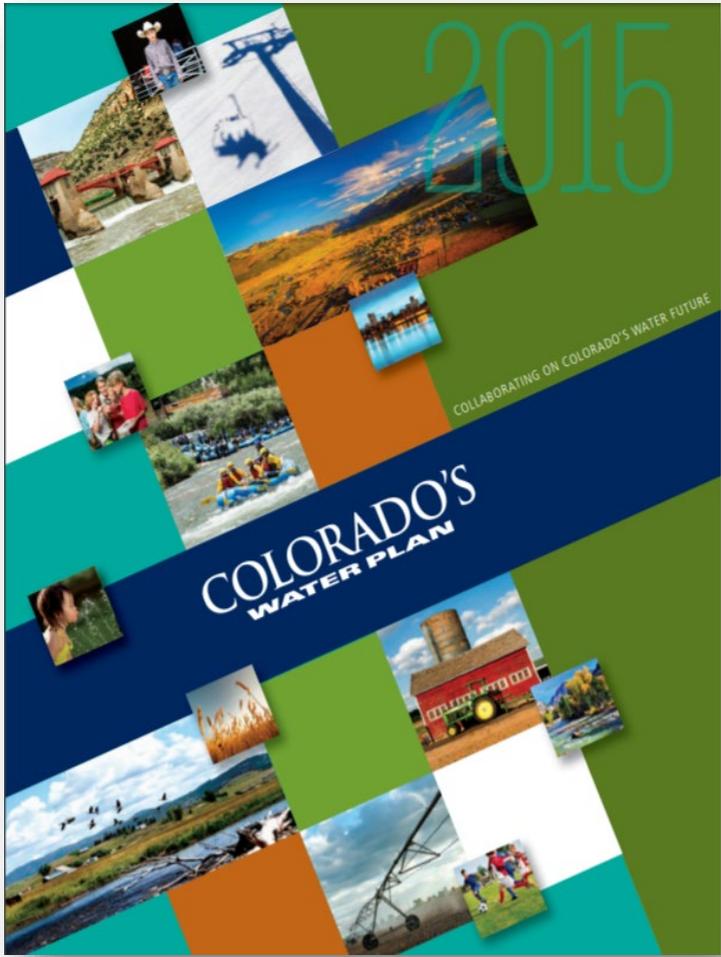
COLORADO
Energy Office



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Colorado Water
Conservation Board
Department of Natural Resources

ITERATIVE PLANNING





50 PARTNER ACTIONS

EXAMPLES OF LOCAL WATER PROJECTS & INITIATIVES

WATER PLAN GRANTS



CONSERVATION
& LAND USE



WATERSHED HEALTH
& RECREATION



WATER STORAGE
& SUPPLY



AGRICULTURE



ENGAGEMENT
& INNOVATION

50 AGENCY ACTIONS

AGENCY ACTIONS CWCB + SUPPORTING AGENCIES WILL TAKE

2.5 Support the integration of robust agriculture into local government planning

Lead Agency: CWCB; CDA
Collaborating Agencies: DOLA

Related Action Area:
■ Vibrant Communities
■ Resilient Planning

Many of the services provided by agriculture align with local government goals, such as providing jobs, local food, open space buffers between communities, scenic views, and ecosystem diversity. Purposeful incorporation of agricultural considerations into resilience planning can enhance these goals.

The CWCB and local government partners will create and promote a framework of agriculture-informed educational materials that help integrate robust agriculture into local government planning. The goal is to help inform planners and developers who may not have the expertise needed to realize impacts of planning decisions on agriculture. This effort will include, but is not limited to, assembling lessons from communities that have successfully maintained agricultural productivity, considering the needs of agriculture in planning (e.g., agricultural equipment transportation or worker housing), integrating urban agriculture, and preserving irrigated land and open space in areas that are pressured by urbanization. This effort will also explore how to encourage CWSAs or long-term reliable water leasebacks with farmers to maintain irrigation on municipal-owned lands and identify barriers and opportunities for municipalities to best manage land purchased in water transactions.



Colorado Water Conservation Board

TOOLS used for this action

-  Policy and regulatory changes
-  Public outreach and education
-  Land use and water planning integration
-  Collaboration groups
-  Equity

AGENCY ACTIONS

ROBUST AGRICULTURE

2.6 Assess the economic opportunities of avoided buy and dry to communities, ecosystems, and recreation

Lead Agency: CWCB
Collaborating Agencies: CDA; CPW; DOLA

Related Action Area:
■ Vibrant Communities
■ Thriving Watersheds

TOOLS used for this action

-  Data collection and sharing
-  Policy and regulatory changes
-  Equity
-  Innovation
-  Climate adaptation

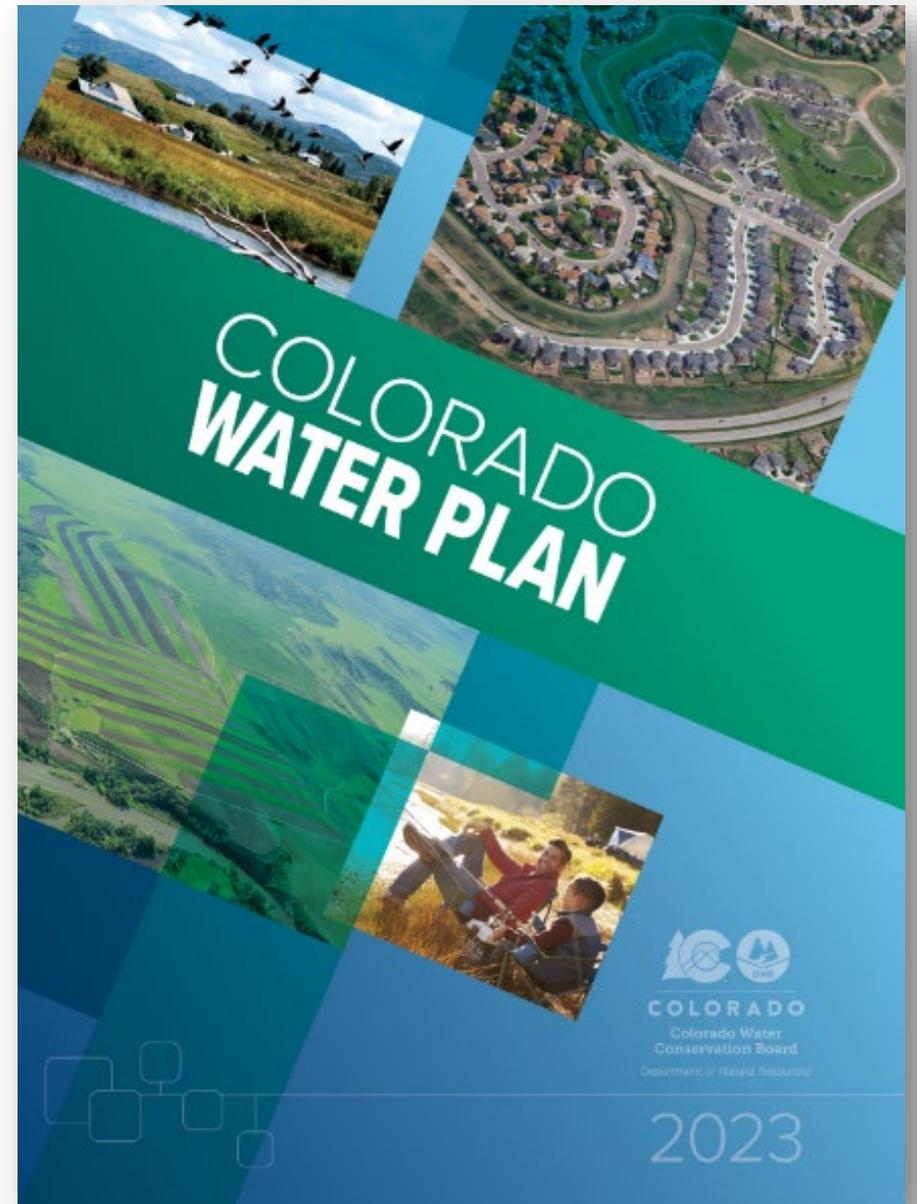
Agriculture is a critical component of the state's economy and has many subsequent impacts on other state values like open space and wildlife habitat. While the connection between agriculture and other economic sectors and rural quality of life is acknowledged, the intricacies of these relationships are rarely realized before the irreversible impacts of buy and dry are set in motion. Where there are changes to agriculture, especially when buy and dry occurs, there can be negative impacts on the local economy, ecosystem services (e.g., wetland habitat or food sources for wildlife), and recreation opportunities.

The CWCB and partners will research the primary and secondary impacts of agriculture on rural vitality, including economic outputs, jobs, tax revenue, quality of life, and impact of agriculture on environmental and recreational resources. The goal is to help CWCB, local governments, and stakeholders proactively understand and quantify the potential direct and indirect impacts of reducing irrigated acres or converting agricultural lands to other urban or industrial use. The report on this research will explore equitable solutions for water users that include, but are not limited to, assessing the services agriculture provides for cultural, environmental, and recreational values, and identifying programs, strategies, or policies to actively protect these values. The report will also include strategies to help agriculture maintain existing and vulnerable supplies and will look at potential multi-purpose projects to support both agricultural and environmental/recreational values.

BESSEMER FARMLAND CONSERVATION PROJECT

Nearly a third of the Bessemer Ditch water rights is owned by Pueblo Board of Water Works (Pueblo Water). The Bessemer Ditch irrigates lands in Pueblo County that produce chiles, corn, watermelons, onions, pinto beans, and a variety of organic produce. While Pueblo Water currently leases the water rights back to farmers, it will eventually be needed for municipal purposes. Transferring the water out of agriculture will create risks for farm families, rural communities, and the local economy. The Palmer Land Trust developed an innovative solution to lessen future economic risk by creating a strategy for focusing remaining Bessemer Ditch water supplies on the most productive lands. The strategy uses an innovative legal framework in the water rights decree that allows moving water from marginally productive farmland to the most productive land.¹

¹ Palmer Land Trust. 2021. [Bessemer Farmland Conservation Project](#)



AGRICULTURE

IS WORTH THE INVESTMENT

- Water Efficiency
- Energy Efficiency
- Easements
- Water Sharing
- Subsidies
- Planning
- Policies



32
MILLION
ACRES

\$47
BILLION
TO COLORADO'S
ECONOMY

38,900
FARMS
AND RANCHES

EMPLOYS MORE THAN
195,000

QUESTIONS?



COLORADO
Energy Office

Russ Sands – russ.sands1@state.co.us



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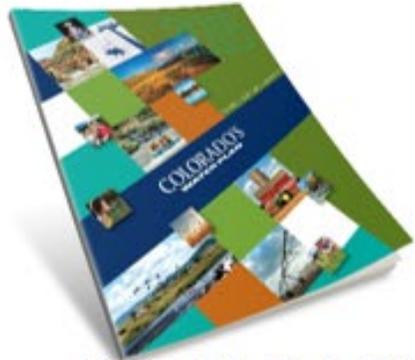
Jeff Rodriguez – jeff.rodriguez@state.co.us

Platte Valley Water Partnership

LOWER SOUTH PLATTE WATER CONSERVANCY DISTRICT
PARKER WATER & SANITATION DISTRICT



Realizing Ideas...



Colorado's Water Plan



South Platte Basin Implementation Plan



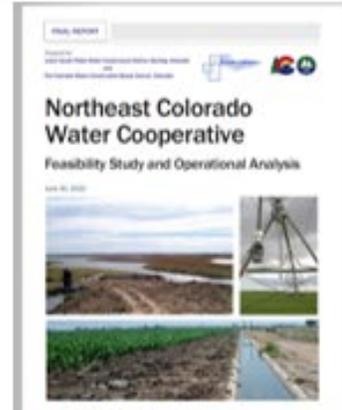
South Platte Storage Study

South Platte Regional Opportunities Water Group
Feasibility Study Report

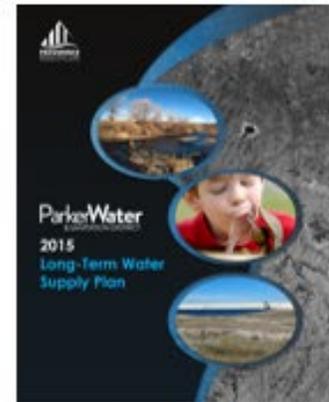
March 6, 2020



SPROWG Feasibility Study



Northeast Colorado Water Cooperative



Parker Water Long Term Water Supply Plan





Our Partnership

ParkerWater
& SANITATION DISTRICT



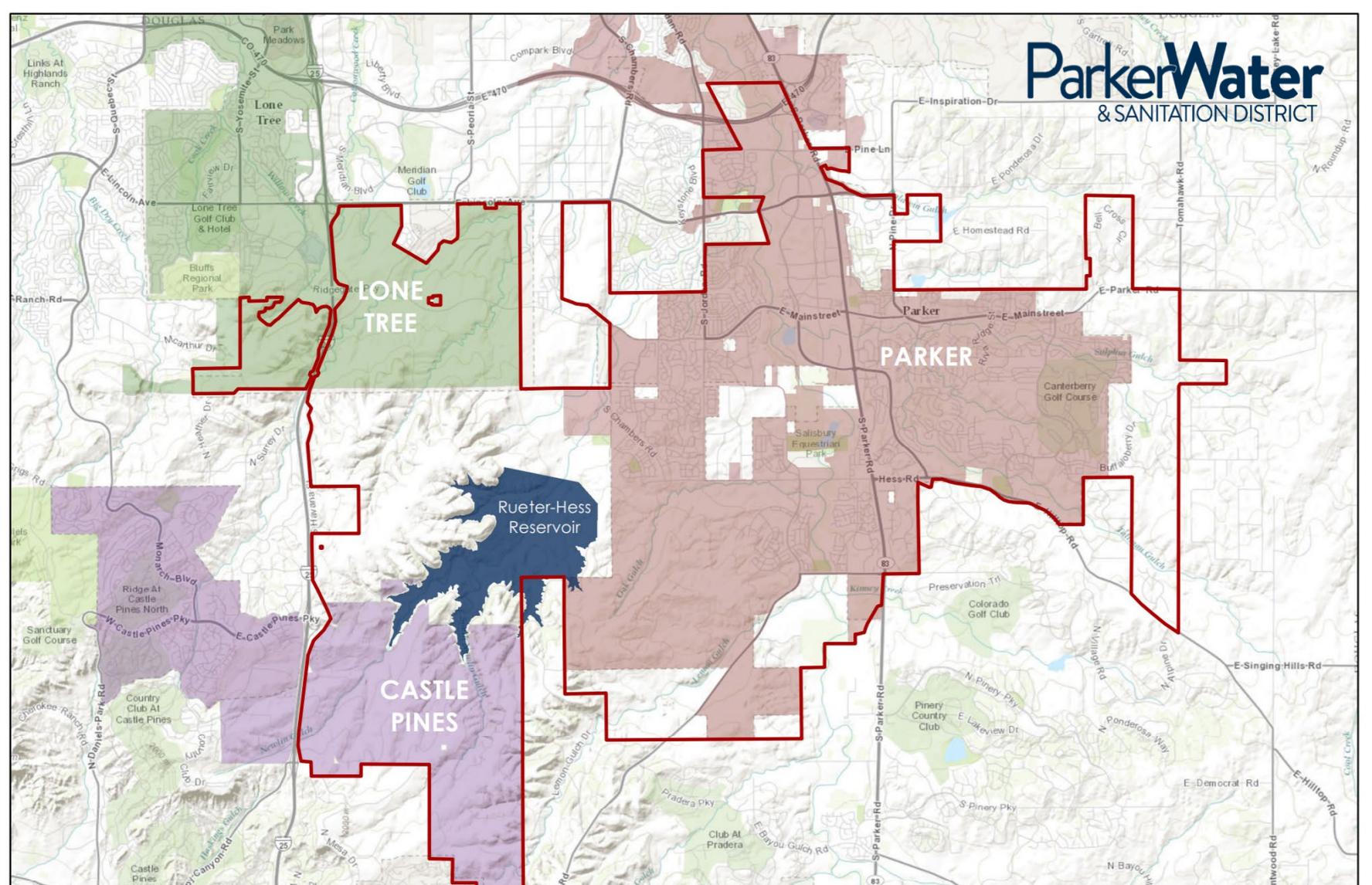


Current:

- 75,000 Residents
- 44+ square miles

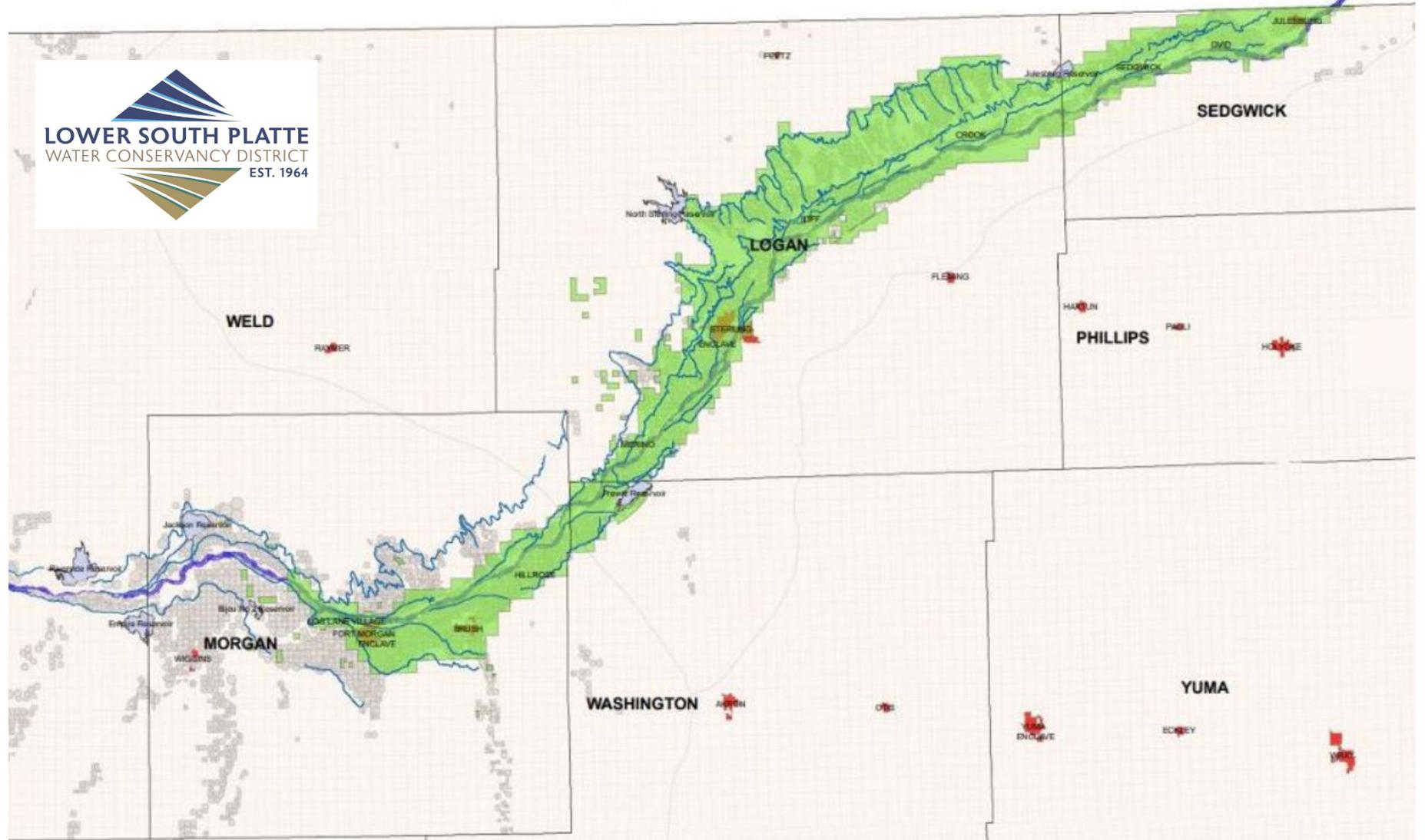
Build-out (2050):

- New Developments to the South and West
- 120,000-140,000 Residents



Vision: Sustaining Life for Our Community

Mission: To effectively manage our vital water resources to ensure quality and value to those we serve.



Our service area:

- Morgan, Logan, and Sedgwick Counties
- 406,000 Acres
- 30+ Ditches and Reservoirs

What we do:

- Water Supply Development
- Education/Outreach
- Policy and Advocacy
- District Services
 - Flow Monitoring
 - Aug Accounting,
 - Flow Meter Certification
 - Well Monitoring

Mission: To conserve, protect and enhance waters flowing in the South Platte River and its tributaries within the District boundaries; and to participate in water-related projects that will embody protection of water rights, thoughtful conservation, responsible growth, and beneficial water usage within the Lower South Platte Valley.



The Partnership Expands



"We are thrilled to have the trust and support of Castle Rock's leadership. This partnership between two of the largest water providers in Douglas County is a powerful statement about our commitment to regional collaboration and long-term water sustainability."

"This is a win-win for both Castle Rock and the broader region. By working together, we're ensuring our growing communities have the water they need while protecting agricultural resources across Colorado."



Project Overview

- Launched in 2019 between Parker Water & Sanitation District and the Lower South Platte Water Conservancy District.
- An innovative, long-term water supply solution that will benefit both agricultural and municipal communities in the South Platte River Basin.
- A 50/50 undivided split - half of the water controlled by LSPWCD.



HOW PVWP WILL WORK

PVWP will create crucial water storage and the infrastructure to transport it. The project is currently in the planning phase, with construction anticipated to begin in the late 2030s, and water being conveyed in 2040.

KEY INFRASTRUCTURE

- Small Storage Reservoir near Illiff (up to 6,500 acre-feet)
- PVWP Forebay Reservoir
- Pipeline and infrastructure for transport to Rueter-Hess Reservoir and delivery within LSPWCD
- Large Storage Reservoir near Akron (up to 72,000 acre-feet)

Model for Future Water Development



A True Partnership...



Agricultural Perspective

- Helps NE Colorado develop water to address current and future water gaps.
- Does not allow “Buy and Dry”
- A Partner like PWSD that listens and adapts to the needs of Ag. Multiple benefits other than Ag, to include environmental, wildlife habitat and recreation.
- The variable Hydrology allows for this project to capture of newly appropriated water that was not able to be captured before.
- Municipal partners help make projects economically feasible for Ag.

Municipal Perspective

- Not just ‘do no harm’, but will provide benefits to our partners
- Securing our renewable water supply to support build-out
- Consistent with practices outlined in the Colorado Water Plan
- Support from diverse stakeholders including agricultural, environmental, municipal, political, and Western Slope groups.

Model for Future Water Development



2019 Junior Water Right Example:

We could have stored 55,000 acre-feet (1.7 billion gallons) over the past three years if the project were online today.



Agricultural Perspective

- Prohibition is locked into our agreements with our partners.
- Collaborative Water Sharing Agreements allow farmers or other water users to temporarily lease water through the project.
 - Infrastructure has historically been a hurdle for this.
- This project won't stop "Buy and Dry," but we want to be transparent up front about not allowing in this project. Water Right holders can still sell their water if they choose through a different project.

Municipal Perspective

- No need to purchase any additional water.
- PWSD's current renewable water portfolio includes:
 - South Platte:
 - 5,000 acre-feet Senior Water Right (1883 & 1884)
 - 9,400 acre-feet Junior Water Right (2003)
 - 20,000 acre-feet Junior Water Right (2019 - shared with LSPWCD)
 - Other:
 - 8000 acre-feet of return flows
 - 5000 acre-feet Junior Water Right on Cherry Creek.

Support for the Plan



Agricultural Perspective

"This is an opportunity to keep water entitled to Colorado in Colorado to avoid future dry up of irrigated farms."

– Jerry Sonnenberg, Logan County Commissioner, former Colorado State Senator

"This is a monumental project. This is farmers working with cities for mutual benefits."

– Rod Mari, Logan Irrigation District Board

Municipal Perspective

"I've been covering water for 40 years and this is one of the most exciting things I've seen."

– Jeff Rice, *Sterling Journal-Advocate* Reporter

"The citizens of Douglas County can choose to invest in a water future that cripples a rural community, or they can join Parker [Water] in leading the Front Range in a new direction – one that reflects the spirit of the Water Plan."

– Sarah Parmar, Director of Conservation for Colorado Open Lands

"This is a win/win and shows how we can work together to meet water needs of ag and cities."

– Dan Kendrick, Morgan County Board Member of LSPWCD

In Summary



- Driven by joint 2019 Junior Water Right
- No Buy & Dry Water Allowed
- Model for Future Ag and Municipal Water Partnerships



Goals of Agreement (IGA)

- In 2018 Springs Utilities and Bent County began discussions on how future water projects could be developed to preserve and enhance the local economy. IGA approved by both parties Sept/Oct 2022
- Goals were
 - Meet the requirements for Bent County 1041 permits
 - Provide Bent County appropriate mitigation as Springs Utilities develops additional water supply within the County.
 - Provide Springs Utilities an identified path and process to receive Bent County approval of future water supply projects.
 - Protect, preserve, and enhance Bent County economy
 - Do the above while respecting the private property rights of farmers.
 - Opportunities for farmers to sell, lease and/or continue farming.

Key Terms

- Applies to 15,000 AF of **new** water supply delivered to Colorado Springs system
- Limits the amount of farmland that may be dried up. **Pivot Corners & up to 3,125 acres**
- Prioritizes the use of Water Sharing Agreements. **Max 5 of 10 Years & 2 Consecutive**
- Bent County has the opportunity to participate in water storage and water supply projects that Colorado Springs develops within the County. **Up To 1,000 AF & Includes Exchange**
- Bent County became signatories to the Arkansas Valley Preservation Principles.
- New CS-U supply cannot be used outside of natural drainage basin of the Arkansas River.
- Dryland farming prohibited and revegetation required.
- Colorado Springs may not assign rights or obligations without consent of Bent County.

Key Terms

- Monetary mitigation
 - Colorado Springs reimbursed Bent County for its expenses incurred in negotiating the IGA
 - Colorado Springs made an upfront payment of \$2,500,000 to the County
 - Colorado Springs funded a Land Use administrator position and development of a countywide GIS system for the County. \$135,000 annually.
 - Colorado Springs will make two \$800/acre-foot “economic mitigation” payments to Bent County as it develops new projects
 - Colorado Springs will pay Bent County a perpetual annual payment for every acre-foot of water developed and delivered under the IGA. \$45.00 per acre foot
 - All mitigation payments subject to annual inflation adjustment except upfront payment.
 - Payment in lieu of taxes on properties owned by Colorado Springs

Arkansas Basin Water Sharing



- Innovative partnerships with Ditch Companies, Farmers, and Colorado Springs
 - Transforming crop and water management.
 - Converting flood Irrigated acres to center pivot.
- Water previously used to irrigate parcel corners are changed to municipal use.
- Supply will guard against drought and mitigate risk of a Colorado River Compact call.
- Designed to meet goals of Colorado Water Plan and Arkansas Basin Implementation Plan

Water Sharing Projects

- Remaining shares tied permanently to the farm through deed restrictions
- Areas not under center pivots are revegetated, or available for development.
- Water is preferentially leased back to farms, ditches or agribusiness in Bent County.

Evaluating Alternative Crop Choices

- Working with ag partners to evaluate use of low water crops while maintaining economic productivity

