

38.2%: 119.29  
51.25%: 108.98  
61.6%: 99.19

# Water Sharing Between Agriculture & Municipalities



**COLORADO  
WATER CENTER**  
COLORADO STATE UNIVERSITY

Larimer County Water Education Series  
September 20, 2023



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WestWater Research, LLC  
Fort Collins, CO



# OUTLINE

- 1. Water & Agriculture**
- 2. Alternative Transfer Methods**
- 3. Example in Colorado**
- 4. Barriers to Water Sharing**
- 5. Complementary Actions**

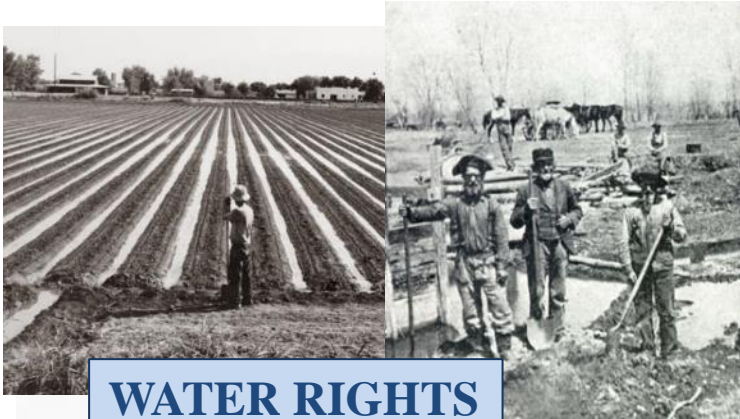
Photo: South Platte River, USGS



# Irrigated Agriculture

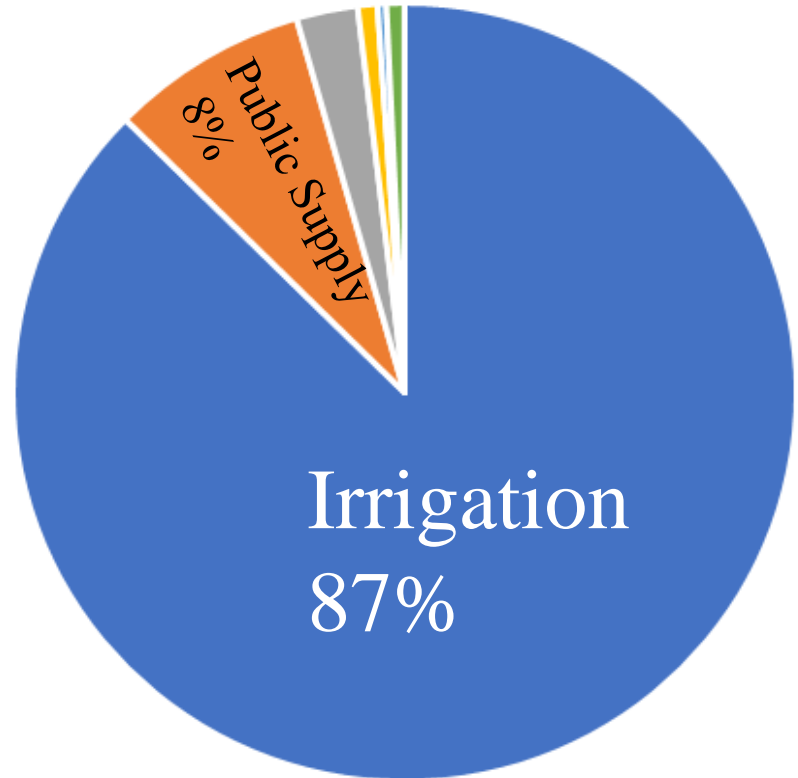
## History

- Original economic engine
- First water uses / water rights
- Federal reclamation programs



USGS Water Use Data 2015  
Statewide

## Water Use in Colorado (Diversion)



Diversion

10.1 Mafy

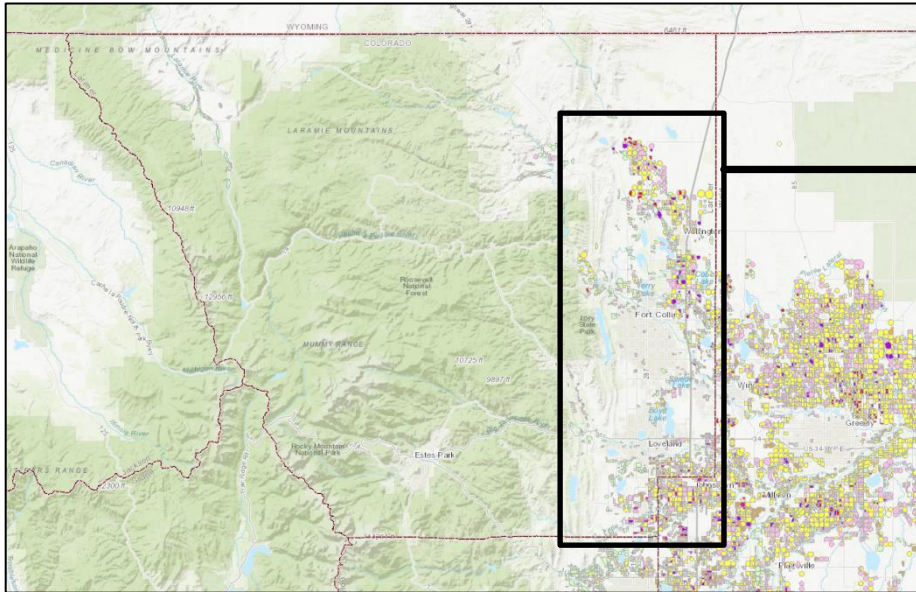
3.3 AF per acre

Consumptive Use

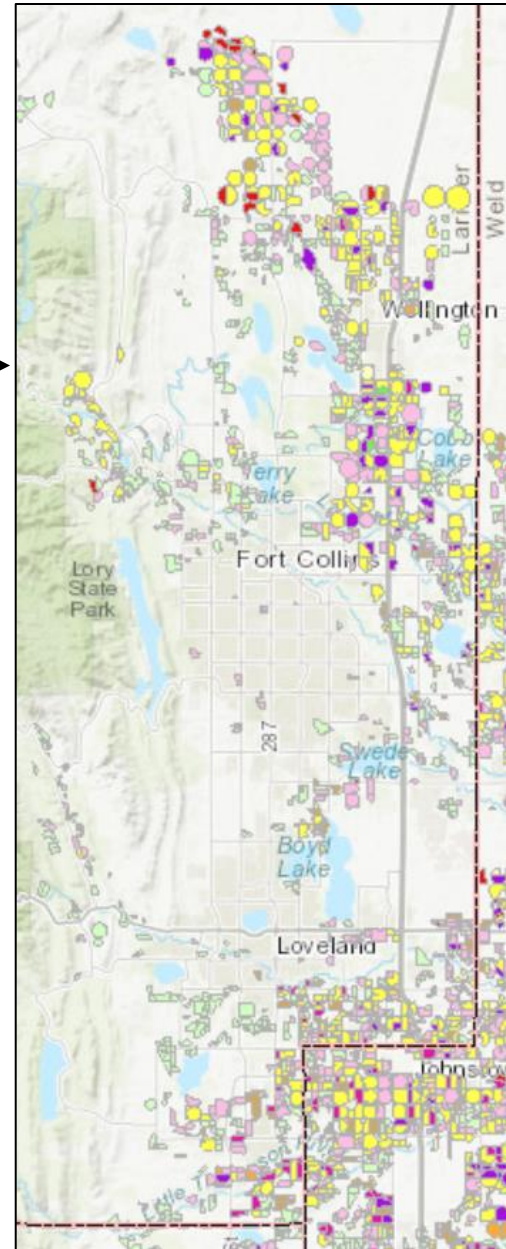
3.0 Mafy

1.0 AF per acre

# Irrigated Lands in Larimer County



CDWR Map Viewer  
2015 Irrigated Lands in Division 1



# Water Sharing Agreements

## Willing Seller

## Willing Buyer

Status Quo

Large Payment  
Freedom  
Finality



*Farmers who do not want to continue farming*



Permanent Sale



Known Supply  
Ownership  
Finality

*M&I water users who need a reliable base water supply*

ATM Concepts

Annual Payment  
Keep Farming  
Flexibility



*Farmers who have a long-term interest in the land*



Water Sharing Agreement



Known Supply  
Regional Benefits  
Aesthetics / Ecology

*M&I water users who can bring in more flexible water supplies to their portfolio*



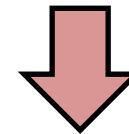
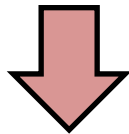
# History on Alternative Transfer Methods

2005 SWSI plans predicted 500k irrigated acres (~20% of total) could be lost statewide due to:

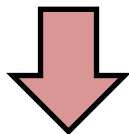
- **Urbanization** (100k acres, 20%)
- **Municipal Transfers (200k acres, 40%)**
- **Other Reasons** (200k acres, 40%)
  - Augmentation Needs
  - CRP Enrollments
  - Compact Compliance
  - Groundwater Overdraft

## Influence from:

- Significant dry-up in Crowley County in Arkansas Basin
- Example following programs developed in Southern California



SB 07-22 (2007) authorized CWCB to develop a grant program to facilitate development and implementation of Alternative Transfer Methods (ATMs)



2015 CO Water Plan created an objective of 50,000 AF of ATMs by 2030

ALTERNATIVE AGRICULTURAL TRANSFERS

6.4

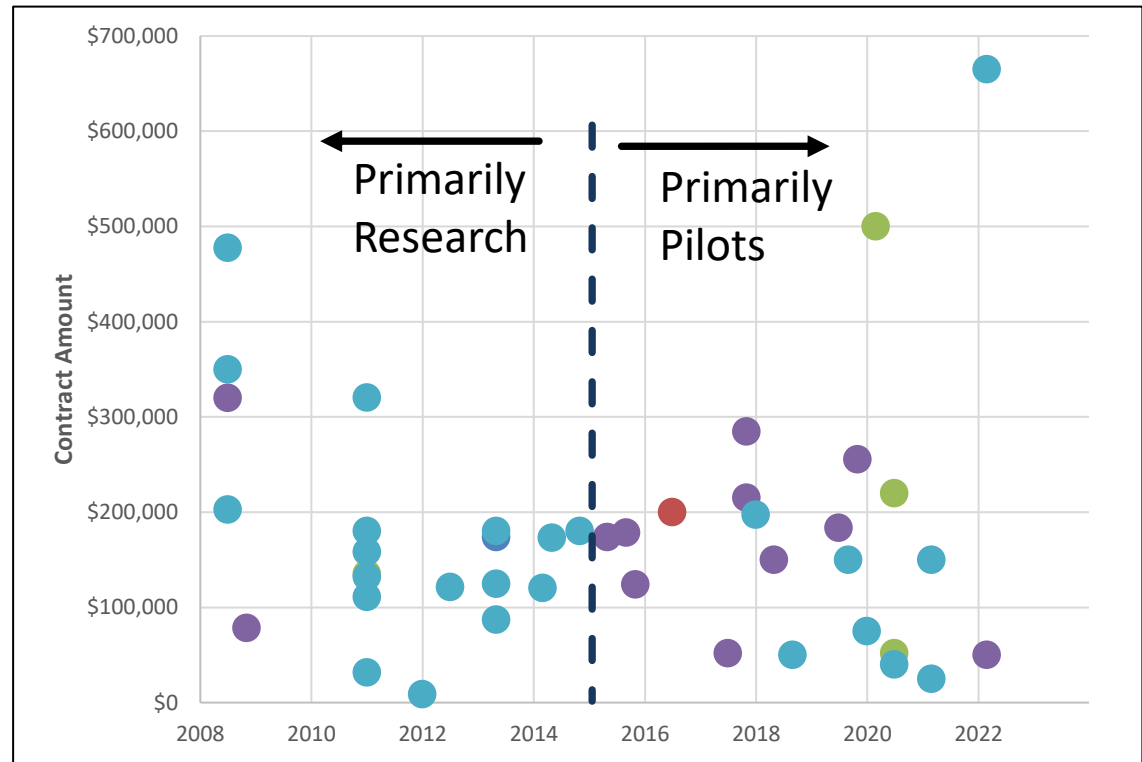
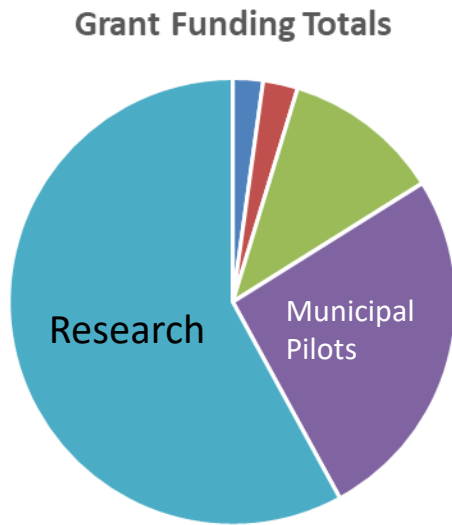
Respect the contributions of the agricultural industry by maximizing options to permanent buy-and-dry. Achievement of a sharing goal of 50,000 acre-feet could serve up to 350,000 people annually.

Pressures at state, national, and international levels threaten to reduce agricultural lands in the short term. Future municipal water demands contribute to an increasing pressure to transfer agricultural water rights to help satisfy urban demands and other non-agricultural water needs across the state.<sup>291</sup>

# ATM Grant Program

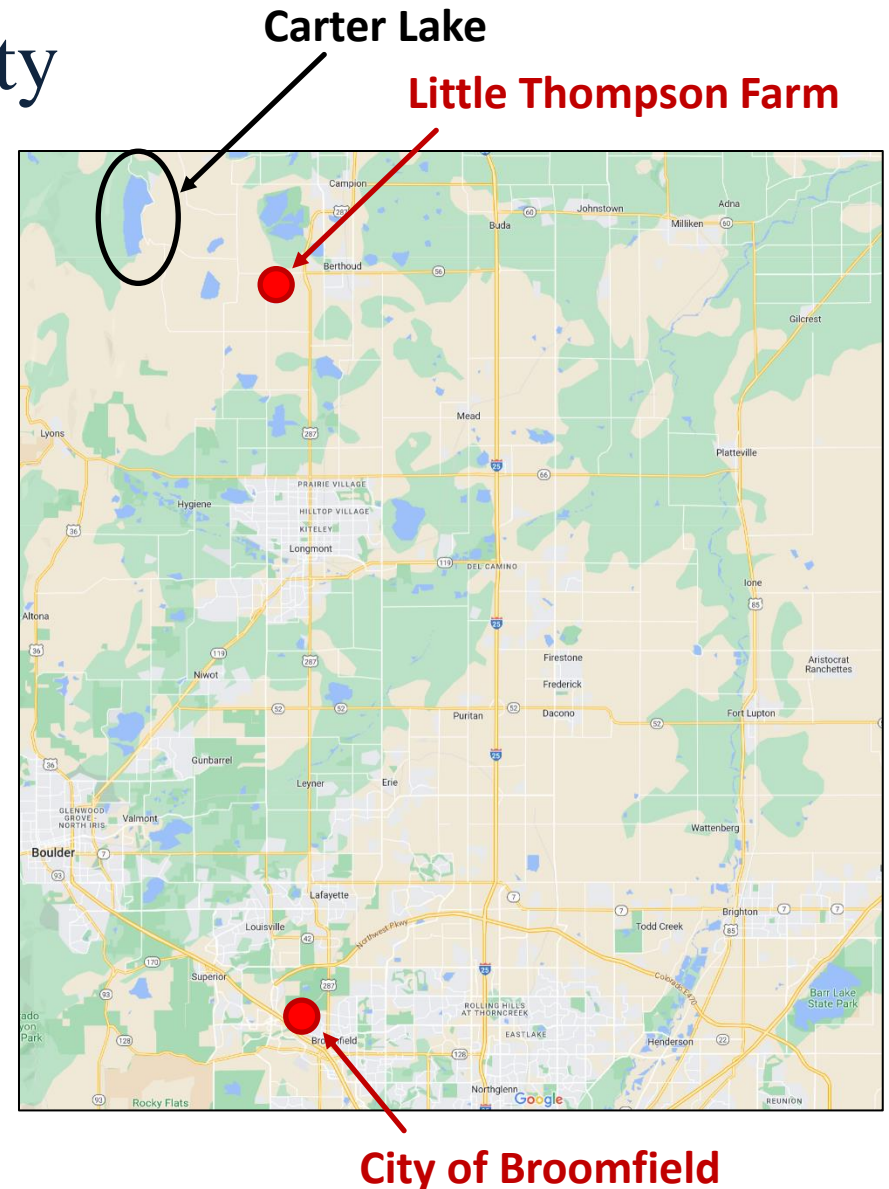
## \$7,956,300 in Grants Awarded

(as of January 2023)



# Example in Larimer County

- 2017 water sharing agreement between Larimer County and City of Broomfield. A primary objective of this agreement was proof of concept.
- Larimer County Open Space purchased 211 acre farm near Berthoud for \$8.2M. Farm came with CBT units and ditch co. shares as water supply.
- Broomfield paid \$2.9M to buy some of the CBT units and paid \$0.8M (upfront) for a 3-in-10 year call option for additional CBT units. Lease rate of \$225/unit if lease is exercised.
- Agreement is perpetual.
- Involved a high valued and highly transferrable type of water supply
- County has decisions around long-term management of the farm property
- “Larimer County Little Thompson Farm”





# Barriers to Water Sharing Agreements

- **Economic**
  - Municipal: Often better to buy a long-term asset than rent it
  - Agricultural: Tying up high value water rights in an agreement takes flexibility and value off the table
- **Regulatory**
  - Water transfers receive high level of scrutiny for regulatory approvals
- **Hydrologic**
  - In Larimer County, most of the agricultural land is down-river from the municipal water treatment plants. Moving water uphill is difficult.
- **Comfort**
  - Municipal: If permanent water acquisition options are available, it is difficult to see the upside of doing a water sharing agreement.
  - Agricultural: Dry up operations in transfer years are difficult to manage and a permanent sale may be the retirement plan.



# Complementary Actions to Preserve Agricultural Lands

- **Agricultural Conservation Easements**
  - Target the land aspect and not the water aspect. Water is complicated.
  - Focus on lands that have a particular value in agriculture
- **Municipal Water Dedication Policies for New Development**
  - Provide developers the option for less water cost for less water demand
  - Encourages denser development and less outdoor water use
- **Municipal Water Leasebacks to Agriculture**
  - Already taking place at a scale much larger than water sharing agreements
  - Long-term water leases are the most useful for agriculture



# THANKS!

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**Water Resource Economics | Transaction Services | Water Valuation**

Photo: South Platte River, USGS