

Water Sharing Agreements in Colorado's Front Range

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Hot, Dry & Crowded: Planning for the Future



Research Question

Under what conditions are Alternative Transfer Methods (ATMs) successful in augmenting municipal water supplies in Colorado's Front Range and addressing water scarcity?

What is an Alternative Transfer Method (ATM)?



1) Water is diverted from the Arkansas River to the irrigation ditch. This is known as the head gate.



2) Ditch water is monitored for its flow rate and quantity.



3) Depending on whether a utility decides to take water, the box divider channels water to either the irrigator's field, or the utility's water treatment facility.

Diamond Farms, a participating farm in the Catlin Canal pilot project temporary water leasing agreement. Photos by author, 2019.

Why are ATMs and temporary water leasing agreements used?



Olney Springs, Crowley County. Photo by Colorado Ag Water Alliance.

Findings

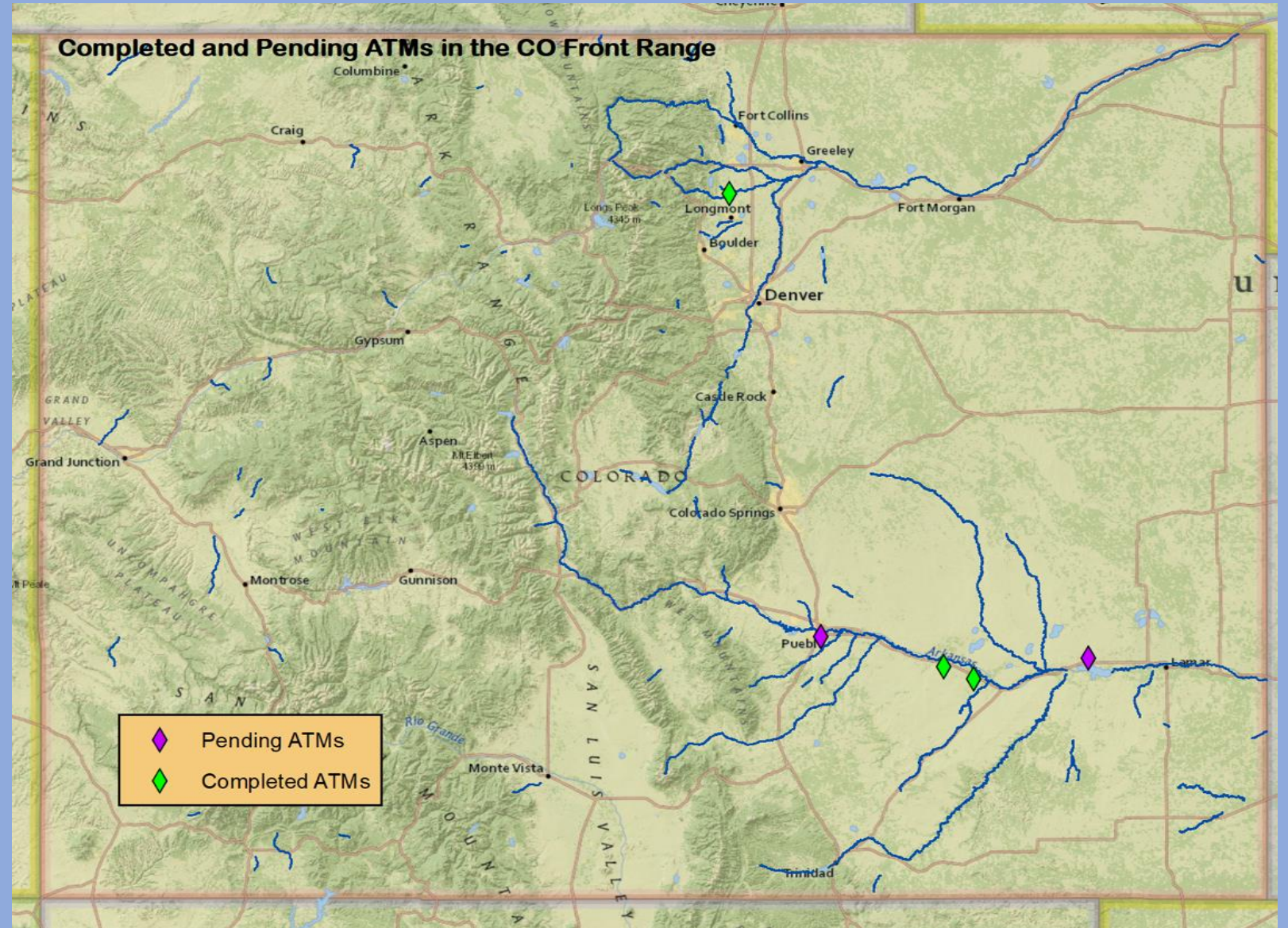
Temporary water leasing agreements are an opportunity to maximize shared communal benefits and will become more successful if:

- 1) Conservation easements or local government-sponsored land sponsored conservation initiatives
- 2) Political and socio-normative barriers
- 3) Further education and outreach

Methodology

Water Utilities (water resource managers, project managers, project engineers)	Third Party Entities (directors, project specialists)	Regional Entities (general managers and program coordinators)
Arkansas River Basin: Cities of Colorado Springs, Fountain, and Aurora	Nonprofit entities: Palmer Land Trust, Colorado Open Lands Program, and WaterNow Alliance	Water districts: Lower Arkansas Water Conservancy District (Arkansas River Basin)
South Platte River Basin: City of Broomfield	For-profit entities: Western Water Partnerships	Irrigation ditch companies: Lower Arkansas Water Management Association
	Government land management agency: Larimer County Department of Natural Resources	Statewide water management agency: Colorado Water Conservation Board
	Agricultural entities: Colorado Ag Water Alliance and Colorado Cattlemen's Association	State-commissioned water management work group: Southern Platte Regional Opportunities Work Group

Where are temporary water leasing agreements occurring?



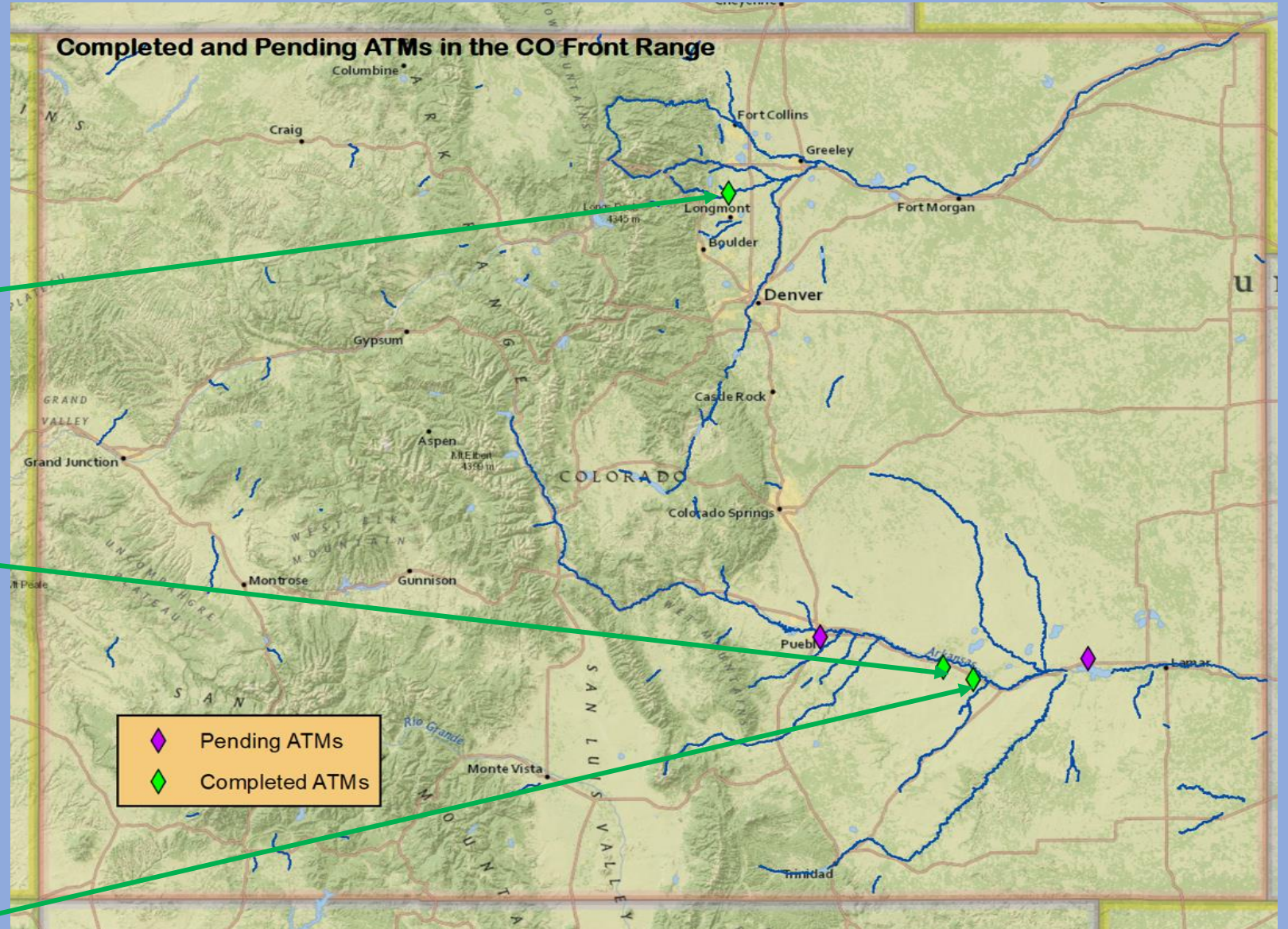
Map by author, 2019

Completed

1. Larimer County
Department of Natural
Resources-owned Little
Thompson Farm and City
of Broomfield

2. Catlin Canal and Town
of Fowler, City of
Fountain, and Town of
Security

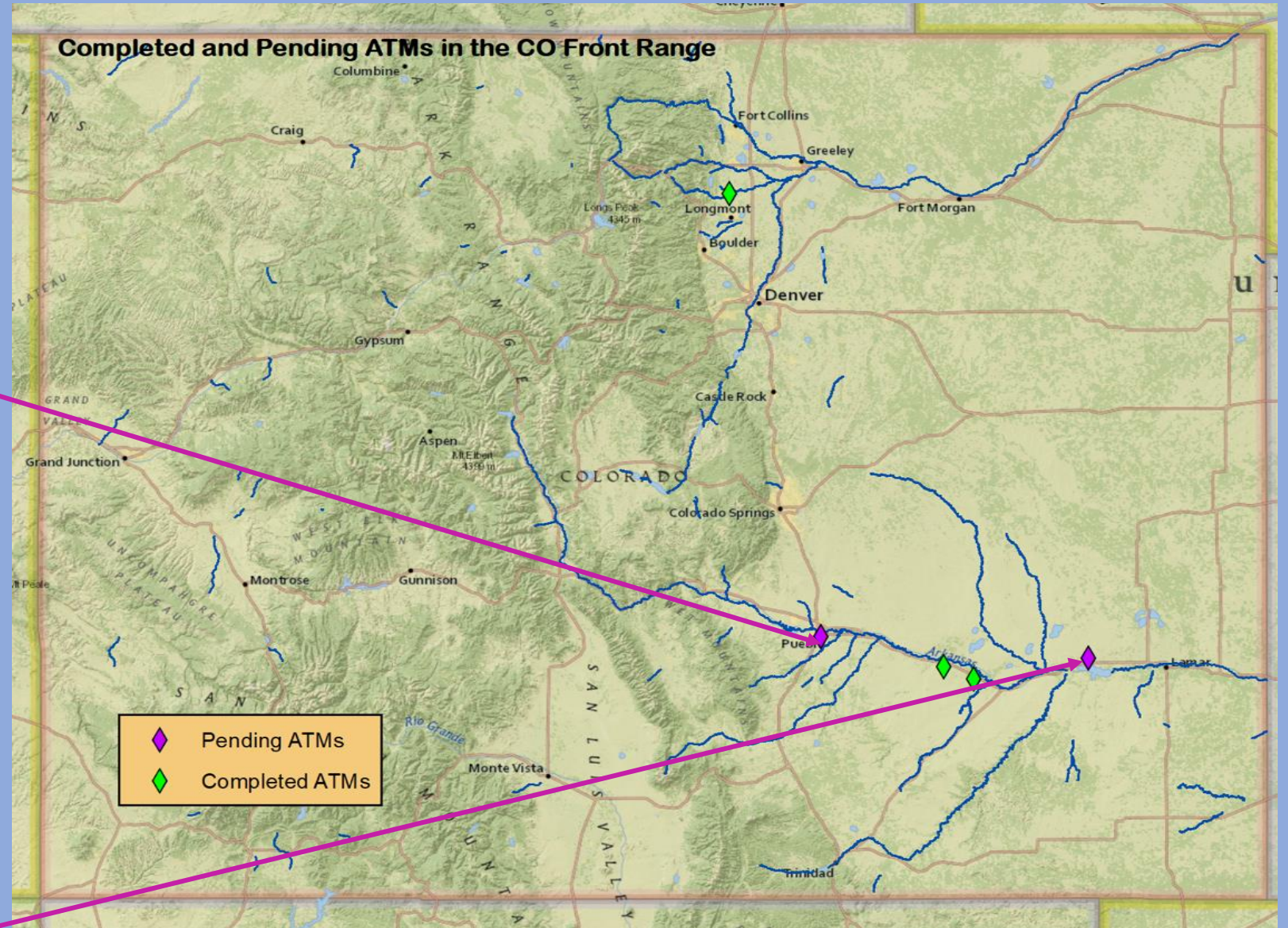
3. Rocky Ford Highline
Canal Company and City
of Aurora



Pending

1. Bessemer Ditch and City of Pueblo

2. Lower Arkansas Water Management Association (LAWMA) and City of Colorado Springs



Finding #1: Conservation easements or local government-sponsored land conservation initiatives are coupled with Interruptible Water Supply Agreements (IWSAs)

- Agreements that are at least 50 years in length account for a utility's need for certainty and long-term supply.
- Multi-parcel agreements and storage infrastructure can make ATMs more scalable and therefore more replicable.

Finding #2: Political and socio-normative barriers can be overcome through greater coordination between water providers and agricultural ditch companies

- Definition of a political barrier: 1) “the mobilization of constituencies that find other water supply policies that better match their interests” (Brown & Hess, 2017)
- Socio-normative barrier: “water managers either lack the capacity or incentives to try to new approaches to water management. Water managers may not feel compelled or empowered to implement ATMs that have broader economic, social, and environmental benefits, but make their primary difficulties more difficult or do not align with their primary goals.” (Colorado Water Plan Technical Update, 2019)

Finding #3: Further education and outreach target and inform municipal officials about the broader public benefits of ATMs

- Water providers should consider marketing the benefits of temporary water leasing agreements provide for community planning, open space conservation, and food security
- Greater streamlined coordination between land and water planning agencies will enable temporary water leasing agreements to be more impactful.
- Targeted strategizing and information sessions will enable citizens to engage and learn more about water scarcity.

Implications



South Platte River. Photo by author, 2019.

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Questions?

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