

From farms to cities: Analysis shows Colorado-Big Thompson water right ownership changes



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EATON — For three hours, auctioneer Scott Shuman led a bidding war in a crowded room. In a scene worthy of Wall Street, spotters walked back and forth from bidders yelling new share prices.

At stake was one of Colorado's most coveted resources: water.

On Wednesday, 96 Colorado-Big Thompson water shares and 154 acres of farmland from the Carlson Family Trust were auctioned for \$5,473,600 and \$990,000, respectively. It was the second such water auction in February. Earlier this month, Carol Oswald Yoakum sold her 90 shares of Colorado-Big Thompson water for an average of \$52,481 per share.

The Colorado-Big Thompson Project is a diversion project that brings water from melting snowpack in the Colorado River headwaters to the northeast portion of the state. Although it was originally intended for irrigation farming, its purpose has been evolving.

“Over time, those shares have shifted to municipal use as those farms have sold,” said John Thornhill, Windsor's community development director.

“People have sold their shares because water is a private property.”



In recent years, around 95% of Colorado-Big Thompson shares that were transferred went from farms to municipalities and water districts, a Coloradoan analysis found.

When Colorado-Big Thompson water changes hands, it is recorded in the Northern Water Board's monthly meetings agenda. The Coloradoan manually compiled every document available online, with records going back to June 2019, to understand this trend.

The analysis focused on the transfers where there was a change in contract class. This excludes transfers where water is kept in the same use, like when shares are passed down in a family farm. Different contract classes allow for different water uses.

More details about the [methodology can be found here](#).

For example, irrigation farming falls under contract class D. Water for a municipality like a city or town falls under class B. Water districts, industrial users, mutual ditch companies and irrigation districts fall under class C, according to the [Northern Water website](#).

Change of ownership versus change of use

During the time period covered by the analysis, the Coloradoan found 237 transfers, which moved 4,396 shares. The 10 biggest receivers, which were all water districts or municipalities, accounted for nine out of every 10 shares. However, that doesn't necessarily mean most water is being used by cities.

“When we look at the data of where water is delivered, we see that on average it's a little more than 50% that goes to municipal use, but municipal ownership is about 75%,” said Jeff Stahla, spokesperson for Northern Water, referring to water use from the Colorado-Big Thompson Project.

Statewide, nearly 90% of water is still being used in agriculture, a trend similar across the Western states, [according to CSU's Colorado Water Knowledge](#).

Christopher Goemans, an associate professor in the Department of Agricultural and Resource Economics at Colorado State University, said “we've seen this shift in the ownership of rights from agricultural to municipal uses. And yet the vast majority of the water is still diverted and used in agriculture.”

“One of the reasons that you see that divergence is that when a new development wants to join a municipal water provider system, they have to secure the rights for the home that's being built,” Goemans said.

Depending on the municipality, developers must either bring their own water shares or pay cash in lieu. The amount of water required depends on the customer class, for example if it's a commercial building or a single-family home. In most years, cities have enough water to meet their demand.

“That means cities are usually leasing some water back to farms on a year-to-year basis if communities' needs are going to be met by that year's supplies,” Stahla said.

Challenges in allocating water

“Water, for the most part, is what we would call fully appropriated in the South Platte,” Goemans said. “That means that there isn't new water for us to use to meet new demands.”

There are two kinds of challenges to allocating water: climate change and population growth.

Climate change can affect the supply side of the equation. A recent report from CSU found “since 2000, annual streamflow in all of Colorado major river basins has been 3% to 19% lower than the 1951-2000 average.”

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This trend, which is projected to continue, was partly attributed to warming temperatures.

For most Western states, who gets prioritized when there's not enough water is dictated by the Doctrine of Prior Appropriation. That means senior or older water rights rank higher.

The Colorado-Big Thompson Project, however, allocates water proportionally — when there's less water around, a lower quota can be set for all users.

Colorado is home to some of the fastest-growing cities in the country, which increases the demand on water.

"The other side is the impact that climate change may have on demand, both agricultural and municipal," Goemans said. "So, you can imagine if we start having warmer, drier springs, people are turning on their sprinklers earlier."

In Berthoud, water demand during the summer can be three times as much as what "the demand would be on a day like today," said Ken Matthews, the town's director of water utilities.

How cities and towns are reacting

Goemans said there's not a silver bullet "to meet these challenges without negatively impacting someone." Instead, a "portfolio approach" will be needed.

The municipalities that have been buying shares in recent years don't rely exclusively on Colorado-Big Thompson water. For example, Severance also has water from the North Poudre Irrigation Company, Berthoud has been

acquiring units from the Windy Gap Project, and Windsor and Frederick are part of the Northern Integrated Supply Project.

In addition, many towns and water districts have been implementing different conservation practices. A common measure is shifting to non-potable water for irrigation.

“If you're going to build in town, you have to have a non-potable system,” Severance Town Manager Nicholas Wharton said. “I didn't want treated water being used outside anymore. That's a waste of a resource.”

To Matthews, limitations on lawn watering are a “no-brainer.” In Berthoud, non-potable systems in a neighborhood usually have a finite capacity for raw water — in the form of a pond.

“Once you use that up, then the pumps turn off and you don't water your yard anymore. Whereas, if you were watering with potable water, you could just keep watering all day long if you wanted to,” Matthews said.

Little Thompson Water District, the largest receiver in our analysis, has different levels of actions depending on the severity of the emergency. These responses include water restrictions, rate increases and fines for failing to comply with restrictions.

North Weld County Water District, the second largest receiver in our analysis, has also implemented its own policies to “promote smart growth.”

For example, the district “implemented increases in both residential and commercial water surcharges for exceeding water allocations and capped

annual usage through increases in surcharge for commercial customers,” Eric Reckentine, the district manager, told the Coloradoan in an email.

"By charging more for the use of treated water, we're encouraging everyone to think carefully about their water use and to use water more efficiently — think of it as setting a budget for water use to make sure it's used wisely and not wasted," Reckentine said.

The price of water

“When we think about the cost of water, there's really two different things we're talking about,” Goemans said. “One is what's the cost of actually getting the water and the other is the cost of treating and delivering water.”

The cost customers see on their monthly bill is driven by the cost to treat and deliver the water.

“As we have aging systems, which we're starting to have in Colorado, that need to be updated, as we have higher costs to hire municipal workers, as we have higher costs to treat the water, as we have costs associated with expanding our systems, that is what's going to drive the cost of the monthly bill,” Goemans said.

On the other hand, the cost of acquiring water is driven in large part by the market for water rights. Wednesday’s auction averaged around \$57,000 per Colorado-Big Thompson water share — several orders of magnitude higher than it cost when the project began. In 1960, three years after the project first started delivering water to users, the cost per share was \$1.50.