
ATMs: The Time is Ripe

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Harvest season in the lower Arkansas River Valley is a bustling time of year, with farmers reaping the crops they sowed the previous spring. The harvest is a result of months of planning, irrigating, protecting, and occasionally even praying. Fields are full of workers picking cantaloupes, watermelons, tomatoes, chilies, and a host of other fruits and vegetables, all of which are sold to hungry consumers throughout Colorado and neighboring states. The demand for locally grown food has increased dramatically in recent years, with a 2016 Colorado Department of Agriculture survey showing that 85 percent of respondents buy Colorado agricultural products when shopping or eating out.



Beyond the produce fields, alfalfa is being cut, baled and shipped throughout Colorado and across the country. The hot and dry climate in this area produces high quality alfalfa that is greatly sought after for feed by dairies, beef producers and horse operations. Corn and sorghum are also nearing maturity, where millions of bushels will soon be harvested, sold and then fed to livestock or used to make a multitude of food and industrial products including starch, sweeteners, beverage and industrial alcohol, and fuel ethanol.



When traveling through this valley, it doesn't take long to notice that the foundation of the local economy is rooted in irrigated agriculture. That's been the case since the 1860's, when pioneers first settled the area and began constructing canals to irrigate crops in the fertile soils. Irrigated agriculture has been a significant part of Colorado's economy and its lifestyle ever since.

Similar to most farming communities, the health of the rural economy in this valley is largely dependent on commodity prices and hydrology. Both factors continually ebb and flow. Occasionally, they fall together, forcing some farmers to look for alternative means to make ends meet. In a few significant instances in the last fifty years, these poor conditions persisted long enough to cause some growers to sell their farms, or at least the water that irrigated it, to water providers along the Front Range. The farmers were legally entitled to sell this water as a private property right and the cities were simply securing water resources for their inevitable future growth. At the time, this type of transaction was just business as usual, but the negative economic result to the local

communities and the decrease in productive irrigated farm ground, due to the transfer of the water, is permanent in nature.

More recent water right purchases by municipalities have included additional considerations, including improved revegetation of retired farm ground and even continued farming programs, where municipalities lease water back to farmers until it's needed. These programs have certainly shown some success, but municipal populations will eventually grow into this water as well.

The State Demography Office estimates that Colorado's population, primarily along the Front Range, will almost double by 2050. Colorado's Water Plan estimates that this increase in population could create an additional annual demand of 600,000 to nearly 1 million acre-feet of water. A combination of actions will be necessary to support this growth with sufficient water.

Colorado's Water Plan and the Basin Implementation Plans (BIPs) call for a number of actions to fill this water supply gap, including additional storage, increased conservation, more local land use planning, and a focus on implementing voluntary alternative transfer methods (ATMs). Municipalities have made great strides in conserving water and continue to implement new technologies and practices that will advance this effort. In addition, various groups are planning and even executing new storage projects that will help store saved water and provide additional carry-over supply from wet years to drought years. These efforts are critical to our state's future and will need to be amplified going forward, but with the vast majority of the water in Colorado used in irrigated agriculture, ATMs must also be implemented on a large scale to meet this supply gap. Recognizing this, Colorado's Water Plan set a goal of sharing at least 50,000 acre-feet of agricultural water using voluntary alternative transfer methods by 2030.



The Catlin Pilot Project, which was approved for ten years of operation by the CWCB in January of 2015 to test the efficacy of lease-fallowing, is one example of how ATM projects could work. It has allowed farmers to implement rotational lease-fallowing to provide nearly 1,200 acre-feet of water to the Town of Fowler, the City of Fountain and the Security Water District over its three years of operation. This project has been praised by both participants and non-participants alike. Several other relatively small-scale ATM projects throughout the state have also proven to be successful. These types of projects temporarily dry up farmland to lease up to a third of a farm's water to municipalities, while keeping farms in business and providing them with an additional crop: water.

Even though the projects so far have been modest in size, a good deal has been learned that can be used for new larger projects. For instance, the Catlin Pilot Project employed a creative payment method that allowed both farmers and cities to share financial risk. Farmers were paid a base payment of \$150 per acre of land fallowed and \$500 for every acre-foot of water delivered. This gave the farmers assurance that they'd at least be paid something if a very dry year occurred when less water would be delivered, but also limited the municipalities' risk of significantly overpaying for the water they did receive. Although in dry years the payments are expected to be less, farmers have averaged around \$1,000 per

acre. This has gotten the attention of farmers outside of the project, particularly after watching crop prices fall in recent years.

Project participants also employed another new concept to ease the concerns of downstream water right holders regarding the replacement of historical return flows. In lieu of storing water in Pueblo Reservoir to provide monthly releases for several years after the project ends, recharge ponds are used to replace the absence of historical delayed return flows. Termed “Pay-As-You-Go”, deliveries are made to recharge ponds that deposit water into the ground to mimic the delayed return flows that would have occurred if irrigation had never ceased. This concept has proven successful and is one of the many lessons learned from this project.

A survey conducted by the Colorado Cattleman’s Association in 2016 showed that less than one percent of farmers thought that selling their irrigated farm is more attractive than leasing its water or continuing to farm. Twenty percent said that they would participate in a water leasing program and another forty percent would consider it if the terms were right.

In addition, all nine basin roundtables throughout Colorado identified the importance of agriculture in their respective Basin Implementation Plans as an economic driver and an overall community benefit. The Arkansas Basin BIP states, “The preservation of irrigated agriculture in the Arkansas Basin shall be given a high priority in the state water plan. It is too important to tourism, the preservation of food production, recreation, the environment and the health and well-being of our citizens as well as the economy of the State of Colorado to be ignored.”

It’s clear that there is great interest and support for implementing alternatives to permanently drying up irrigated agriculture. This is not only true to maintain the bounty of locally grown food and feed products that come from the lower Arkansas River Valley and other farming locations throughout Colorado, but also to preserve all of the other consequential benefits that would be lost.

ATMs are a relatively new concept to the water world and one size definitely won’t fit all, but the momentum generated and the lessons learned from recent projects need to be utilized to develop new, larger and longer term projects so that farmers and municipalities will have an alternative to buy and dry when they’re forced to look for one. With collaboration, innovation and foresight, we and future Coloradans will be able to enjoy and benefit from the beauty and bounty provided by irrigated agriculture for generations to come.