

Section 12

Conclusions and Recommendations

The following is a summary of the major lessons learned in the course of the Study, and recommendations for further action.

12.1 Water Transfers Should Preserve Economic Benefit in Local Economies

By definition, any water transfer – whether traditional “buy and dry” or “ATM” - results in a reduction of water supply to irrigated agriculture. The question is not whether reductions will occur, but when, where, how much, and most importantly—the extent of the economic impact to the locale losing the water supply. Traditional “buy and dry” approaches are damaging to local economies because they remove water supplies permanently in exchange for a one-time payment. The party selling the water right achieves a substantial economic gain, but the economic ‘fuel’ of the local economy – the renewable water supply – is permanently removed, dramatically and unalterably changing the economic and social landscape long after the party receiving the payment is gone.

ATM approaches have often been defined in temporal terms as a method by which the water leaves the land but only on a ‘temporary’ basis, allowing agriculture to resume upon its return. This may be true in some cases, but in a broader sense, the goal of alternative transfer mechanisms should be to retain the economic benefit of the water rights in the historical location of the rights, even as some water supplies move towards urban uses, and to retain sufficient water supply in the historical location to permit productive irrigated agriculture to continue. Limiting ATM discussion to ‘temporary’ arrangements ignores M&I Users need for permanent supplies. While there is an application for markets meeting demand for temporary supply, the opportunities to meet ATM goals – retaining economic benefit, and retaining sufficient water supply – multiply dramatically if the discussion is opened to permanent elements. “Permanent” need not be synonymous with “buy and dry.” It is possible to meet M&I and EC permanency concerns, retain economic benefit, and retain sufficient water supply to foster irrigated agriculture.

The study team found that one key to ATM implementation lies in rethinking the terms of previous discussions. While terms such as “buy and dry,” “leaseback” “ATM” have been useful in the past, they can become limiting factors as new concepts are developed that are properly neither one nor the other, but a combination of both. Shared or “unbundled” ownership concepts particularly blur these distinctions. For example, a permanent agreement between an M&I User and an Ag User whereby the Ag User agrees to deliver a senior right to the M&I User’s reservoir if reservoir levels reach a specific low point is in a sense a “buy” and has an element of “dry,” but at the same time may allow the Ag User to continue farming in 8 out of 10 years, and to receive compensation in the other two. This arrangement, and many more like it, achieve the goals of ATMs but do not succumb easily to labels.

After discussing these concepts with numerous water users and water professionals, the study team believes there is reason to be optimistic regarding the potential for successful ATM implementation. Large scale implementation has the potential to substantially reduce the externalities associated with “buy and dry” methods of acquiring additional supply. Parties that have been traditionally reticent to examine new concepts of water rights use and management (on all sides) have consistently demonstrated a willingness and interest in pursuing the FLEX and related ATM concepts.

The principal barrier to ATM implementation continues to be concern over legal standards and processes. The team finds reason for optimism in this area too. Though the last 10 years have witnessed a dramatic increase in cost and complexity of water court proceedings, large scale well augmentation plan and change in use litigation in Division One has had the unexpected benefit of yielding technical and legal approaches to address some of the thorniest problems in administration. These concepts proved useful as the Water users group worked in good faith to establish the Model Terms and Conditions. Ironically, after working through the issues, the Water Users Group was among the more optimistic of study participants regarding the viability of terms and conditions addressing alternative transfer mechanisms. Though each case is unique, the study team is hopeful that the model terms and conditions will provide a foundation for change in use decrees implementing ATM principles.

12.2 Keep It Simple

One of the most pronounced themes in the study group meetings was a desire to keep the ATM transfer process as simple as possible. The Ag User Group felt that simplicity in concept, explanation and execution was critical to achieving mutual ditch company board and shareholder support. Those promoting ATM concepts need to be able to explain them in simple, easy to grasp terms so that the entry barriers for individual participants are as low as possible. M&I Users likewise had a desire to keep the market as straightforward as possible so that transaction costs could remain low enough to generate M&I interest. Attorneys and engineers expressed a consistent preference for reducing complexity in the Model Terms and Conditions, and chose terms and conditions incorporating conservative, simplifying assumptions over complex, detailed terms that were perhaps more technically precise but difficult to administer. All of the User Groups repeatedly stressed that excessive complexity was a danger to ATM implementation. Better an executed, simple transaction than an elaborate plan that is never implemented.

12.3 Promote Ditch Wide Changes in Use to Multiple End Users

In order for alternative transfers to occur, senior water rights must be quantified and the use changed to include M&I and EC uses. Until this occurs on a broad scale, obtaining significant water supply from ATM transactions is unlikely. Ditch wide changes in use, in which the entire senior water right of a mutual ditch company is quantified, are the most fair, efficient and protective method of quantifying historical diversions, consumptive use and return flows generated by the use of the senior right. All of the issues surrounding a change in use of the right can be examined in a single case, allowing water court participants and the Court to fashion protective terms and conditions that are applied consistently to all changes in use under the ditch. Diversions and historical consumptive use are determined for each shareholder, dramatically reducing the potential for unfair or unlawful division of the consumptive use and benefits of the senior right and associated disagreements between shareholders. New uses can be examined and decreed for all shares in the mutual ditch company, opening up the potential for FLEX transactions to all shareholders.

The ditch-wide approach is contrasted with a “parcel specific” approach whereby specific shareholders change the use of their pro-rata portion of a senior water right based upon historical use that occurred on the parcels served by the shares. Under this approach, each Applicant seeks their own decree and terms and conditions, which can vary depending upon a number of factors, including the timing of the application, the number and tenacity of opposers, and the Applicant and opposers’ respective budgets for legal and engineering counsel. Rates of consumptive use, return flows and protective terms and conditions vary between decrees, raising questions of consistency and fairness, and the potential for disputes among shareholders regarding the allocation of the historical consumptive use associated with the right.

Colorado’s Supreme Court has stated that the ditch wide methodology is “preferable for many reasons,” but neither that Court nor the Colorado General Assembly has mandated use of either methodology. CCWCD v. City of Greeley, 147 P.3d 9, 19 (Colo. 2006). Historically, the majority of cases have been prosecuted using

a parcel-specific methodology. Applicants and mutual ditch companies have been reticent to seek ditch wide changes in use because of the potential for limiting terms and conditions that could reduce the amount of water available to shareholders. Mutual ditch companies have been concerned about volumetric limitations on diversions, reduction in permissible irrigated acreage based upon “expanded use” arguments, and other forced changes in ditch administration affecting shareholders, particularly shareholders who have not elected to seek a change in use of their shares. Transaction cost and time frame to completion are also seen as significant concerns – companies do not desire to be at the center of protracted litigation. As a result, companies have not been supportive of ditch wide change in use efforts, preferring instead to shunt shareholders into “parcel specific” changes in use that are perceived to be safer, at least in the sense that a bad result effects principally the applicant, as opposed to the Company’s other shareholders.

One of the concerns—related to expanded use arguments—may have been mitigated by the passage of Senate Bill 13-74, the “Legacy Ditch Bill,” which recognized historical use occurring within the first fifty years following the entry of a decree as lawful. However, many of the other concerns remain, and could be barriers to implementation of wide scale, ditch wide changes in use. This section suggests some measures that could help address the remaining concerns and encourage ditch-wide changes setting the stage for regional FLEX implementation.

12.3.1 Statutory Amendments

The FLEX Market is designed to operate within the existing statutory framework. However, there are statutory amendments that could facilitate implementation. The following is a list of ideas, some generated by Water Users in the discussion groups, some by one or more members of the study team. The proposed statutory changes are not universally supported by those participating in the Study. They do, however, highlight some key issues with regard to implementation and provide a vehicle for discussion.

- Incentives and Protections for Applicants and Mutual Ditch Companies. Statutory measures designed to encourage ditch wide changes in use. Some combination of the following:
 - Delayed Volumetric Limits. Recognition that for ditch wide change in use cases, no volumetric limits on use of senior right apply until share is first used for changed uses.
 - SWSP Approval. Applicants who have completed a system wide analysis entitled to participate in temporary approval (SWSP) (CWCB Pilot) based upon the terms of the ditch wide decree. Such applications would be presumptively valid and would be accelerated for approval.
 - Water Trades. Applicants who have completed the process are entitled to trade water with other users in the same basin through an abbreviated SEO approval process.
 - Funding. System wide applicants are entitled to apply for grants from a newly established program to fund infrastructure allowing alternative transfers.
 - Docket preference. Preference on the court docket over other water court applications for speedy resolution.
 - Entitlement to groundwater diversions. Right to install “headgate wells” - groundwater diversions in immediate proximity to river – delivering to the ditch under defined terms and conditions.
- Redefining Uses.
 - Use Types. Create broad “use types” by statute to substitute for named end users – e.g. “M&I Use” or “EC Use.” Changes in use would be approved for the use type, and delivery at specific locations, allowing a variety of users (to be determined later) to take water at delivery point. Increasing the number of potential end uses and users for a changed senior water right would provide additional incentive for water users to engage in changes of use.

- FLEX Use. Create a new use definition entitled FLEX Use that permits application to all lawful uses, or a set of lawful uses defined in the statute. Delivery of consumptive use would be to specified locations, where multiple end users (TBD) could take delivery of FLEX supplies. It may be possible to tighten abandonment provisions for FLEX supplies to address concerns re: non-use and hoarding.
- CU Quantification. Recognition that CU could be quantified and return flow requirements established in the absence of any specific use. This would permit ditch companies and water users to change the use of a right without the need of contracted end users, which could come later.

12.3.2 Standardized Approaches

Give rulemaking authority to the state engineer or CWCB to establish conservative, uniform assumptions regarding consumptive use and return flows for ditch systems, either for application in water court or in administrative contexts. Make the rule assumptions conservative enough that the majority of other water users would be comfortable with them. Leave potential for individual quantifications open at the discretion of the applicant.

12.3.3 Funding

Identify FLEX friendly infrastructure priorities in State Water Plan basin implementation plans. Provide grants and subsidized loans for installation of infrastructure and improvements necessary for operation of FLEX market.

12.4 Develop New Models of Ownership

12.4.1 Shared Ownership. Explore new models of shared ownership by separating the “sticks” in the water rights “bundle.”

Viewing ownership of water rights in new ways could facilitate ATM implementation. Each of the elements or “sticks” in the water rights ownership bundle could be the subject of terms in the FLEX Market. Examples of how the sticks might be distributed include:

- **One Party Holds All Ownership Rights.** In the simplest arrangement, all the sticks remain with one party – eg, the Ag User retains all ownership rights, and leases the supplies to M&I and EC Users. A traditional leaseback provision is another example, where an M&I User buys all ownership rights, then leases shares back the Ag User.
- **Several Parties Hold All Ownership Rights.** In this scenario, all the “sticks” remain in one bundle, but portions of the rights are owned by each party. For example, if 100 mutual ditch company shares are involved, the Ag User might retain all ownership rights on 80 shares, while the M&I User buys all ownership rights on 20 shares. Each party owns the shares outright and enjoys all ownership rights.
- **Ownership Rights Are Unbundled and Held by Different Parties.** For example, an Ag User could hold the majority of the ownership rights, but the right to possession and use could be divided between other parties on the basis of:
 - Time. The Ag User retains the right of use in 8 out of every 10 years. The M&I User has the right of possession and use in 2 out of every 10 years, subject to the terms and conditions of the agreement.
 - Drought Indicators.
 - Reservoir Levels. The Ag User could retain the right of possession and use except when the level(s) in identified storage vessel(s) are at or below a specified mark. When triggered, the consumptive use associated with the senior right could be delivered to the identified reservoirs until target levels are achieved.



- Snowpack levels.
 - Climate Data. Precipitation, temperature and related measurements.
 - River flows at identified locations.
 - Yields of other water rights owned by the parties, such as Colorado-Big Thompson units.
 - Drought Indicator publications and services.
- Priority. The parties could divide the right to possession and use based upon river call. For example, Ag User could possess and use when the call is senior to 1870, and EC user when call is junior to 1870.
 - Water trading agreements. Exchanging senior Ag supplies under defined conditions for more junior M&I sources in amounts sufficient to supplement irrigation practices.
- Other examples of unbundling involve the right to alienate:
 - The Ag user could retain legal title and right to alienate (lease or sell) the rights, subject to a Right of First Refusal or Option to Purchase given to the M&I or EC User.
 - The M&I User could obtain legal title and the right to alienate, subject to a right of first refusal or option to lease given to the Ag User and EC User.
 - The Ag User could retain legal title, but give the right to alienate to the M&I User, subject to identified terms and conditions, such as payment of proceeds for leases.

Separating the ‘sticks’ in the water rights ‘bundle’ increases flexibility, permitting arrangements to be made that are best suited to the needs of the parties. In some cases, buy and dry may be an unavoidable necessity. In many, the goals of M&I and EC providers could be met while still providing water supply to Ag Users.

12.4.2 Market Based Interventions preventing buy and dry

It is possible that M&I and EC Users interested in creating an environment conducive to Ag uses could prevent “buy and dry” by buying the rights themselves, and then committing the water supply to sustain local Ag Economies when not needed for M&I and EC uses. This strategy could be viewed as a formalized leaseback, with additional elements of security for Ag Users so that water supply is assured in most years. Elements of this strategy might include:

- Intentional acquisition of Ag water by M&I and EC Users for delivery to local food production areas, as well as delivery to M&I and EC uses.
- Dedication of acquired water supplies to Ag in perpetuity, subject to identified M&I or EC use periods. Establishment of conservation easements or other land use strategies to preserve open space in FLEX zones.
- Establishment of M&I operated “over the counter” (“OTC”) markets benefitting local ag economies.
- M&I User purchase of shares, change in use to FLEX uses, then rededication to Ag users to run or participate in OTC market, subject to City rights based on growth, drought triggers.

12.5 Distinguish between ATM Market Types

Discussions with the Water User groups brought into focus two distinct needs that ATM projects could service. These needs can best be characterized in temporal terms. On the one hand, M&I Users in particular expressed a strong interest in term limited supplies to meet identifiable, one-time demands or shortfalls, such as drought recovery or interim supply while permanent supplies are developed. On the other, there was also a desire for permanent supply, and a reticence to develop any reliance on term limited supplies. These demands are very different, as are the market strategies used to address them. For the



purposes of communicating the distinctions between these market types, they are set forth below as distinct options. In reality, it is likely that many ATM projects will include elements of both.

12.5.1 “Over the Counter” (“OTC”) Market: Water available on a “cash and carry” basis for a limited term.

- **Ownership:** Ag Users retain all sticks in the ownership bundle, except for time limited surrender of possession/use.
- **Uses:** Drought Survival/Recovery, Interim Supply.
- **Methods:** Fallowing, regulated deficit irrigation, reduced consumptive use cropping
- **Process:** Water Court Application, Administrative Application

12.5.2 Permanent Supply: Water delivered to an end user perpetually

- **Ownership:** M&I and EC Users obtain some or all sticks in the ownership bundle. Ag Users retain enough sticks to facilitate delivery of water sufficient for irrigation
- **Uses:** Annual base supply or permanent drought survival/recovery
- **Methods:** Fallowing/reduced CU/regulated deficit irrigation
- **Process:** Water court application.

12.5.3 Blended Market

A blended market would contain elements of an OTC Market and Permanent Supply. For example, an M&I User might obtain a permanent right to fill identified reservoirs with a senior right if water levels reach a specified low point (permanent supply). At the same time, the remainder of the senior right might be FLEX water available for spot delivery or leasing on an annual term in the context of an OTC market.

12.6 Use Land Use and Policy Tools

If the goal of maintaining irrigated agriculture is important to local communities, the tool box should not be limited to water rights strategies. Land Use and policy decisions could also be powerful methods of identifying and sustaining critical Ag production areas if used in concert with water rights strategies.

12.6.1 Real Covenants

This strategy is most effective in the context of M&I or EC acquisition of working farms and associated water rights. The M&I or EC owner of the land could impose covenants requiring continued irrigation/Ag use, and make a concurrent commitment to provide water supply back to farm in perpetuity, subject to specified terms.

12.6.2 Prioritizing Food and Fiber Production Areas

M&I Users, Ag Users and EC Users could work together to identify local “FLEX development zones” - ditch systems or parts of ditch systems identified as critical for preservation as FLEX source, local food supply, and open space. These zones would be carefully chosen to keep the most productive agricultural land in production, focusing any necessary permanent dry-up on marginal lands. The Water Users could develop a plan to supply water to the FLEX zone in perpetuity using OTC markets and ATM permanent supply concepts, and a system of real covenants or easements to address land use issues. M&I Users and or the Colorado General Assembly could provide zoning and tax incentives, creating a ‘water development’ or ‘ag development’ zone.

The logical outgrowth of the FLEX Development Zone concept is the creation of “Food Hubs” for the sale and distribution of local Ag products. See “Food Hubs: Creating Opportunities for Producers Across the Nation”



<http://blogs.usda.gov/2011/04/19/food-hubs-creating-opportunities-for-producers-across-the-nation/> . For a Colorado entity exploring local foodshed options see <http://ccfa.coop/category/blog> , describing the activities of the Central Colorado Foodshed Alliance.

12.7 Investigate Indexed Pricing Mechanisms

Discussions with Water Users indicate that one of the most difficult issues to reach agreement upon in the context of a term-limited ATM transaction is the price paid per acre foot of water delivered. Because there are no established markets, there is a great deal of uncertainty with regard to value. M&I Users do not always have good information about the value of water in the Ag Users operation. Conversely, Ag Users are without knowledge with regard to the financial realities of M&I operators. Several ideas came up in the group discussions that the study team feels have potential to bridge the gap between lessors and lessees by providing objective pricing standards.

- **Commodity based:** Key pricing on commodities markets in a way intended to reflect the profit the Ag User lessor could have made in the absence of the lease. Ag Users are familiar with the concept of managing risk, and locking in prices now for future sale.
- **Rate plus inflator.** An effort should be made to establish options for contractual inflators—eg, consumer price index—that are relevant to Ag related water transactions.
- **Other indices.** The study team felt it would be useful to open this question to a qualified economist in general terms. Are there other indices or pricing mechanisms that are available or that could be developed?

12.8 Educate

12.8.1 Water User Community

The study team found the water user community to be receptive to exploring ATM concepts. Intentional educational and outreach efforts should be continued. Water users, attorneys and engineers need to be aware of ATM developments and strategies in order to consider these options and to advise their clients accordingly. Policy makers in the executive and legislative branches would benefit from additional educational so that they can be supportive of ATM efforts as the opportunities arise. Specific ideas for further education and outreach include:

- A FLEX/ATM website dedicated to communicating study results and information about pilot projects on a statewide basis.
- FLEX/ATM summits in each water division, like the one held by the study team in Division One.
- Educational outreach to legislators and executive staff- scheduled presentation, reference materials

12.8.2 Public Education

The study team also felt that public education is key to widescale FLEX implementation. These educational efforts would focus on the importance of water as local economic driver, local food and fiber supplies, open space, and potential mechanisms to maintain healthy ag economies. These efforts would serve to cultivate awareness of costs of FLEX implementation and a willingness to fund FLEX Market efforts via “check the box” donations or dedication of public funds.