

Banking on a Better Day: Water Banking in the Arkansas Valley

Troy Lepper*

Department of Sociology, Colorado State University, Fort Collins, CO 80525, USA

Abstract

This paper is an exploration into the administration of water banking as a natural resource strategy in the West, and the State of Colorado in particular. Water banking is a relatively new strategy for managing water in the Arkansas Valley in South Eastern Colorado. In this paper I will give some insights into what is happening with water banking in the State of Colorado.

1. Introduction:

The history of the lower Arkansas River Basin is one of discovery, prosperity, and tragedy. When the first settlers arrived in the valley they were confronted with a harsh, arid environment that produced less than twenty inches of precipitation a year. This environment was vastly different than the humid environments that many of the settlers were traveling from; therefore, these new settlers were forced to adapt to the new environment or die. The main source of water in the Arkansas Valley was the Arkansas River, but the annual flows of the Arkansas were seasonal and dependent on snow melt in the mountains; therefore, the river's flow was quite unpredictable. One way the settlers in the Arkansas Valley adapted to this new environment was to develop lateral ditches off the Arkansas River for irrigation. By diverting the Arkansas River flows for irrigation, the settlers in the Lower Arkansas River Basin transformed the barren desert into a productive agricultural valley, and for close to one hundred years this land of plenty produced crops for an agricultural economy that sustained communities throughout the valley. These agricultural communities were founded on mutual ditch companies made up of irrigators in the valley who organized collectively to accomplish a task they could not do individually. Mutual ditch companies like the Rocky Ford Ditch Company, the Fort Lyon Canal and Irrigation Company, and the Bessemer Ditch Company were founded on principles of democratic participation, distributional justice, and

* Tel.: +1-970-377-0532

E-mail address: troylepper@yahoo.com (T.P. Lepper)

environmental sustainability, but even common property organizations founded on such noble principles could not save the valley, and recently the valley has begun to show signs of failure.

In the past 30 years the population on the Front-Range of the Rocky Mountains has developed into a string of metropolitan cities which represent over 90% of the State of Colorado's population. This demographic shift towards metropolitan cities is creating an urban bias that is beginning to shift the focus of the Colorado State Legislature's agenda away from agriculture; which has been showing signs of failure in Colorado, towards urban interest favoring industry, recreation, and environmental needs. This process is being fueled by individual farmers in the Arkansas Valley who sell their water rights for retirement to urban interests, and by doing so destabilize rural communities that relied on that water to fuel its local economy. These communities have been severely impacted by the failure of agriculture, especially in regards to funding for local governance and the maintenance and improvement of public facilities (water, pipes, schools, roads, and sidewalks). This is a classic example of how individual choices to maximize economic gain result in a collective disaster for agriculture, and the communities that rely on it in Colorado. Now these communities are finding it extremely difficult to access federal sources of funding to help fix these problems because the federal government has shifted these responsibilities to the states and localities. Even where there is funding for rural development, it is still earmarked for agriculture.

The proposed solution from the Colorado State Legislature for the problems in the Arkansas Valley is the creation of water markets. In theory, water markets would allow irrigators who have a water excess to lease, exchange, or outright transfer their water rights to those who are water short. The neoclassical economic problem with a water market in the Arkansas Valley is that the transaction costs are too high. Legal procedures and engineering costs associated with water court are far too expensive for present market mechanisms to pay off for prospective investors. Therefore, one way of establishing a water market in an area that lacks a formal institutional mechanism to operate such a market is to create a water bank. According to Larry Mac Donnell, "a water bank is an institutionalized process specifically designed to facilitate the transfer of developed water to new uses." (MacDonnell and Howe, 1994) Water banks are a popular solution to the changing water use patterns in the west. The states of Idaho and California have led the way in the use of water banks, and now it seems that the State of Colorado is following suit. This paper looks at the development of water markets in the State of Colorado by examining the use of water banks in the west, and their particular manifestation, or should I say potential manifestation, in the Arkansas Valley.

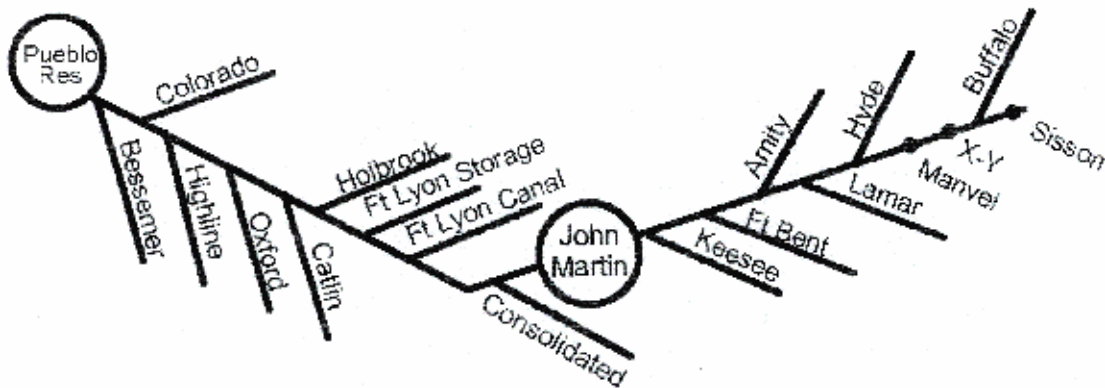
2. History of Water Banks in the West: A Review of the Literature

Unlike a water market where the buyer and the seller, or those interested in a water exchange, find each other and deal directly with each other, in a water banking system, the water bank acts as a third party by getting those who are in water excess to deposit it in the water bank for leasing, exchanging, or transferring that excess to other uses, but the end result is the same, the temporary or permanent change in the use of a

water right. There is a diverse history of water banks in the West dating back to the creation of the first water bank in the State of Idaho during the drought of the early 1930's. The bank was finally put into law when the Idaho State Legislature formalized annual leases of storage water entitlements in 1979. "The purpose of the Idaho water bank is to encourage the highest beneficial use of water, provide an adequate water supply to benefit new and supplemental water uses, and to provide a source of funding for improving water user facilities and their efficiencies." The Idaho Water Supply Bank is a water exchange market operated by a board to assist marketing water rights to natural flow or stored water in Idaho reservoirs. Like many water banks, the Idaho Water Supply Bank was created for "the purpose of acquiring water rights or water entitlements from willing sellers for reallocation by sale or lease to other new or existing uses."¹

3. Doctrine of Prior Appropriation and the Development of Water Banks

Colorado water law is founded on the idea of "first in time, first in right"; which has been codified into the doctrine of prior appropriations. According to David Freeman², "This notion is rooted in a fundamental ethical concern illustrating that those who came before and who have invested in the community irrigation works should be protected from the depredations of those who came after."(Corbridge and Rice, 1999)



Office of the Colorado State Engineer's Office-Schematic of the Lower Arkansas Valley³

The State of Colorado recognized the doctrine of prior appropriation by writing it into the Colorado State Constitution Article XVI, Sections 5 and 6. This legally mandated the State of Colorado to administer the Doctrine of Prior Appropriation as the water law of the land. To carry out this new task, the State of Colorado created the Colorado State Water Court to adjudicate legal claims to water based on the doctrine of prior appropriation, and they created the Colorado State Engineer's office to administer the decisions made by the Colorado State Water Court. The Doctrine of Prior appropriation established an institutional mechanism that legally protects water use as a private property right. The state also recognizes various water delivery systems that move water around the Colorado landscape. This system allows water to be moved from

one place to another and from one use to another. These new water markets would not have been possible in a riparian system. But as we know, water is a scarce resource in Colorado, but it is also a necessary resource, so Colorado Water Law adapted its institutional regulations to account for this scarcity by creating a system based on seniority and priority, where the date of your water right determines your place in line, and in order to get in line you had to have a good reason, or a beneficial use for the water.

Water markets in Colorado are based on three different types of water transactions: water exchanges, water transfers, and groundwater augmentation plans. But in the pilot water bank we are only concerned with water exchanges and water transfers. A water transfer results in the sale or lease of a water right to another party. “Water exchanges differ from water transfers in that there is generally no change in ownership of a water right associated with a water exchange, and third-party injury is generally not a problem” (Wilkens-Wells, 2003). Traditionally water exchanges have been carried out for irrigation purposes. Water exchanges have relatively low transaction costs, because the parties involved in the exchange are not changing the use assigned to that particular water right, they are just changing the timing. Those parties involved in water exchanges are also tapping into social capital that is founded on longstanding market relationships built on trust and reciprocity. Water transfers (i.e. sales of water rights), on the other hand, have high transaction costs, due to legal and engineering restrictions that require the parties involved in the transaction to submit their request for transfers to the State Water Court, which is a costly process, and/or they have to cover the engineering costs for reconfiguring the physical structures in the water system. Water exchanges increase productivity by improving the timing of water deliveries relative to crop; water transfers on the other hand reduce efficiency in the system because they take water out of the river. “Water districts and ditch companies long have facilitated “rotation” of water among users within their system. The important difference of modern water banks is that they act to facilitate transfers to uses outside of their original delivery system and for uses other than irrigation”(MacDonnell and Howe, 1994).

Water banks are a proposed solution to the high costs of transferring water rights from one beneficial use to another. The proposed water bank in the Arkansas Valley, HOUSE BILL 01-1354 states:

“The pilot water bank program created by this article is intended to simplify and improve the approval of water leases, loans, and exchanges, including interruptible supply agreements, of stored water within the Arkansas River Basin, reduce the costs associated with such transactions...It is also the purpose of this pilot water bank to assist farmers and ranchers by developing a mechanism to realize the value of their water rights asset without forcing the permanent severance of those water rights from the land.”(Arkansas River Water Bank Pilot Program, 2001)

4. Colorado’s Problem

Now that we understand what is at stake, we can try to make sense of the recent developments in the Arkansas Valley. With HOUSE BILL 01-1354: *Arkansas River*

Water Bank Pilot Program, the State of Colorado passed legislation mandating the creation of a water bank in the Arkansas Valley as an alternative to water transfers that have been wreaking havoc on the water system in the valley. “A 1991 proposal to purchase a majority of shares in the Fort Lyon Canal Company for permanent transfer of the associated water to urban users in the Front Range of Colorado prompted the State of Colorado to sponsor a study of alternatives”(MacDonnell and Howe, 1994). The Fort Lyon Plan, which was a result of this study, recommended the creation of a water bank by emulating the organizational structure of the mutual ditch company. The 1991 proposed water bank in the Arkansas Valley would be operated by a not-for-profit organization with a full-time manager and a board of directors. Unlike the other water banks in the West like the Idaho Water Supply Bank, the Arkansas Valley Water Bank will only allow stored water to be traded in the market. According to Hal Simpson, the Colorado State Engineer, “we’re trying to create a mechanism for farmers to lease stored water through a water bank, rather than have to sell the water off the land permanently”(Flanagan, 2002). These leases are usually agreed to for a specific amount of time, but during the pilot years of the program, water leases will only be for one year. Simpson goes on to say that the Arkansas Valley Water Bank is intended to establish an exchange market where farmers can engage in water exchanges and temporary water leases, while still holding on to their water right.

5. Operation and Practice

The operation of the Arkansas River Water Bank Pilot Program is just starting to come into focus, but where did it originally come from? House Bill 1354 is the result of the Governor Owen’s Commission on Saving Open Space, Farms and Ranches. The purpose of this bill is to test a water bank project over a five-year period, and the intent of this program is to “allow water rights to remain in agriculture by allowing leasing to users who have temporary and immediate needs.”⁴ But, according to the State Engineer’s office, there are certain things that the water bank cannot do:

1. The water bank cannot be used to injure other water users.
2. The water bank cannot be used as a place to avoid water court proceedings long-term.
3. Unlike the State of California, the State of Colorado will not buy the water to be placed into the water bank.
4. The water bank will only operate on stored water. No direct flow water will be allowed in the bank.⁵

So what is the current status on the development of the Arkansas River Water Bank Pilot Program? Public hearings were held in 2001 and 2002 to comment on the development of the rules of the new pilot water bank, and there were 4 objectors. These 4 objectors were the South Eastern Colorado Water Conservancy District, the Fort Lyon Canal Company, District 67 representing the Amity Ditch Company, and the Upper Arkansas Water Conservancy District. There were four primary objections from these organizations:

1. The main objection to the new program was related to the limited ability to guarantee the protection of due process of law that is covered under the Doctrine of Prior Appropriation.
2. The second objection is concerning the potential injury to senior water users who are presently protected from injury under the Doctrine of Prior Appropriation.
3. The third objection is related to the time it takes to complete a water transaction in the pilot water bank compared to the time it takes to complete a water court petition. There is reason to worry that the proposed 45 day process is not long enough to protect senior water rights, and they are concerned that the process places the burden of proof of injury on water users not involved in the water transactions, unlike the current system.
4. The final objection is related to the rules creating the posting process. It has been decided that the posting of water transactions will be done electronically through a website coordinated by the South Eastern Water Conservancy District. This process is different from the standard operating procedures that call for the public posting of water sales and leases in the local and regional news media; which some argue will disadvantage those water users who are accustomed to the old way of doing things⁶.

6. Goals and Objectives

The goals of the pilot water bank program are clearly stated in House Bill 1354, and the order they are stated could be an insight into the priority the State of Colorado assigns them⁷:

1. The pilot water bank program is intended to simplify and improve the approval of water leases, loans, and exchanges of stored water in the Arkansas River Basin.
2. The pilot water bank program is intended to also reduce the transaction costs associated with the current water transfer process.
3. The pilot water bank program is also intended to improve the availability of information utilized in the transfer and exchange of water in the Arkansas River Basin.
4. And finally, the pilot water bank is designed to assist farmers and ranchers by developing a mechanism to realize the value of their water rights assets without forcing the permanent severance of those water rights from the land.(Arkansas River Water Bank Pilot Program, 2001)

The outcome is also explicitly stated in House Bill 1354, and that is to mandate the creation of the Arkansas Valley Pilot Water Program; therefore, this legislation empowers the Colorado State Engineer to create the rules necessary for the operation of the program. The development of this project is still in beginning stages of the administrative process, so whether the outcomes will actually be realized is still to be seen.

7. Discussion

So how does water banking fit into this scenario? Who benefits the most from a water bank, and who doesn't? The answer to how a water bank fits into this scenario relates back to the issue of water transfers out of the valley. One of the interesting things about the management of the Arkansas River is that there is no longer any room for exchanges below Pueblo Reservoir. What this means is that a farmer in the Arkansas Valley who would like to sell his water to an upstream interest would have a more difficult time doing so, because of the physical limitations of the system, effects of return flows, and environmental regulations. It was already being recognized that water transfers on the Arkansas River were drying up, so the introduction of a water bank in the Arkansas Valley comes in and reopens the gates by proposing a water bank that will be administered out of Pueblo Reservoir. By administering the water bank out of Pueblo Reservoir, willing buyers and sellers are no longer limited by the physical structure; therefore upstream interests can once again gain access to agricultural water for lease, exchange, and transfer out of the valley.

Another point is that even though the State of Colorado is committed to the interests of keeping water in the Arkansas Valley, its actions may produce different outcomes. The first three goals of the water bank legislation were focused on lowering the transaction costs related to water transfers. Lowering transaction costs would ultimately make it easier to transfer water out of the Arkansas Valley. Two more reasons to question the State of Colorado Legislature's motives for this program are related to the 30-day timeframe for a water transaction, and the lack of limitation on who can gain access to the water in the water bank. The State Engineer's water bank rules state that a typical water bank transaction will take approximately 30 days, but many water users in the Arkansas Valley, especially those interests represented by the Upper Arkansas Valley Water Conservancy District, do not think this is enough time. The Upper Arkansas Valley Water Conservancy District feels that 30 days is not long enough to determine whether a water bank transaction could cause harm to downstream users. It also argues that this process places the burden of proof on the water users who will be potentially injured and takes the onus of proof of injury off the buyer or the seller, placing it on third parties⁸. These rules also give water users in the Arkansas Valley the first crack at the water but they do not guarantee a sale, and after the water has been in the bank for 10 days anyone in the State of Colorado can bid on the water, as long as they have a way to exchange the water up or downstream. This puts agricultural interests in competition with municipal, industrial, and environmental interests who have deep pockets, and when push comes to shove in a market system, those with the deepest pockets usually win out.

Another way of understanding who benefits from this process is to look at who supports the water bank, and who doesn't. We know that the State Legislature and Governor of Colorado support the water bank, because they were the entities that created the legislation, but other than that it is still unclear. We know that urban interests could potentially benefit from the proposed water bank, but we also know that the city of Pueblo has been reluctant to give its support to the water bank. We can also sense that the agricultural sector in the Arkansas Valley, especially those represented by individual ditch companies along the Arkansas River, do not support the water bank and this lack of acceptance from the agricultural sector could make or break the water bank. According

to the financial administrator of the South Eastern Water Conservancy District, the lack of support from irrigators in the valley is a problem because the irrigators are the ones who own the rights to the water stored in Pueblo Reservoir, the same rights that are being factored into the water bank pilot program.⁹ If none of the farmers in the valley deposit their stored water in the bank, then there will be no water to be traded, making the creation of a water market improbable.

8. Alternative Solutions to Water Transfers in the Arkansas Valley

In November of 2002, the counties representing the Lower Arkansas Valley (Pueblo, Otero, Crowley, Bent, and Prowers) banded together to form the Lower Arkansas Valley Water Conservancy District. “The proposed water district’s mission is to provide an alternative market for irrigation ditch shares and other water rights in order to prevent the sale of the water outside the Arkansas basin.” (Mestas, 2002) The public referendum to create the Lower Arkansas Valley Water Conservancy District was put on the 2002 ballot and passed with over 60% approval rating, illustrating the desire of the citizens in the Lower Arkansas Valley to search for alternative solutions to water transfers out of the valley. According to Otero County officials, the new water conservancy district was a direct response to the most recent attempt to buy up water rights on the Fort Lyon Canal. Even though this new conservancy district is not a direct response to the pilot water bank, it is clear that the counties in the Lower Arkansas Valley were not completely satisfied with the State of Colorado’s solution to their problems. Unlike the State of Colorado’s plan, which makes water transfers out of the valley easier, the Lower Arkansas Valley Water Conservancy Districts goal is “to leverage tax revenue into \$50 to \$60 million in bonds and grants to purchase water rights and conservation easements, keeping the water in the valley for future development in agriculture, environmental, recreational, municipal, domestic, and industrial purposes.”(Mestas, 2002)

Rural communities in the Arkansas Valley are going to have to approach these problems from a variety of strategies. The first thing rural communities in the Arkansas Valley can do is to begin to organize regionally. This regional organizational strategy must focus on creating economic plans that foster the development of businesses imbedded in enterprise zones that serve as a piece of a greater integrated regional business plan, in an effort to stabilize rural economies experiencing the failure of agriculture. Maybe agriculture can be reshaped in a way that allows agriculture to adapt to the new global market structure, while rural communities begin to build new economic and social engines for change. This strategy also gives these rural communities a larger population base to draw off of in order to influence state and federal legislatures. Regional economic development also makes these areas more attractive to business investment, and investment from the State of Colorado, because the communities are showing the ability to adapt to the changes in the economy, especially related to the failure of agriculture, by reaching out to collaborate with neighboring counties in an effort to stimulate economic development.

An important element of this regional plan is the creation of new alliances between the Upper Arkansas Valley Water Conservancy District and the newly formed

Lower Arkansas Valley Water district; which are both in service of rural water users but have traditionally been at odds with each other¹⁰, in an attempt to counterbalance the effects of the Southeastern Water Conservancy District's strengthening allegiance to the metropolitan interests of Pueblo and Colorado Springs. This new alliance would allow the conservancy districts to form a rural water coalition in the Arkansas Valley that has the resources and intent to contest the removal of water from rural areas to metropolitan areas. In order for this to happen, the Arkansas Valley will need civic entrepreneurs with both strong ties to the local rural community and weak ties to the state and federal legislatures and other regional and state organizations. It is these people who can use their social networks to rally the local people to support a particular initiative; while simultaneously negotiating deals with external agencies to help them solve their local and regional problems.

9. Conclusion

The fate of the Arkansas Valley is still to be determined, even though the future looks bleak. The trend of water transfers out of the valley has continued to concern irrigators relying on the Arkansas River flows. Changing trends in the priority system have also created concerns for water users in the valley. Projected urban growth, environmental preservation, and recreational use have begun to draw on the river's flow in ways that have no precedent in the development of the Colorado River Doctrine. How this change is going to take place in the Arkansas Valley is the question for further research. Presently, the State of Colorado is taking the lead in solving this problem by implementing the Arkansas River Water Bank Pilot Program to administer the temporary lease or sale of water rights to other users inside and outside the river basin. We also know that the counties representing the Lower Arkansas Valley have proposed a counter solution to the transfer of water out of the valley, by creating the Lower Arkansas Valley Water Conservancy District; which is designed to keep the water in the valley for future municipal, industrial, agricultural, and communal development. The development of the Lower Arkansas Valley Water Conservancy District may seem at odds with the development of the Arkansas River Water Bank Pilot Program, but I think this is healthy in many respects. The water bank alone will not save the Arkansas Valley; therefore, what is necessary for the survival of the valley is a variety of strategic approaches for rural development that focus on transforming agriculture into something more economically productive, while simultaneously trying to reinforce the industrial and commercial districts by creating regional business plans that buy from the local region allowing for the individual business successes to be distributed through other industrial and commercial outlets in the region. This in turn would funnel more resources into regional and local governments giving them the ability to update the physical infrastructure that is in desperate need of repair; which in turn would make these regions more attractive to external investment. Of course, rural development is not as easy as it looks on paper, but it becomes more manageable if you plan for it, and if rural communities in the Arkansas Valley are going to continue to survive, then they are going to have to create development plans that give direction, but are also flexible enough to respond to change.

Reference List:

Corbridge, J.N. and Rice, T. (1999). *Vranesh's Colorado Water Law (rev. ed.)* Niwot: University Press of Colorado.

Flanagan, M. (2002). Water Bank Rules Drafted for Pilot Program. *Pueblo Chieftain Denver Bureau*. 1/16/02. *Water News Digest, Colorado Water*. February, 31.

Colorado State Legislature HOUSE BILL 01-1354: *Arkansas River Water Bank Pilot Program*. 61st Sess. Representatives Hoppe, Young, Kester, Dean, Fairbank. (2001).

MacDonnell, L. and Howe, C. (1994). *Water Banks in the West*. Natural Resource Law Center. University of Colorado, School of Law, 1-4.

Mestas, A. (2002, October 23). New Water District Gets Support. *Pueblo Chieftain* [online]. Available: <http://www.chieftain.com/metro/1035352800/1>, internet.

Wilkins-Wells, J. Freeman D.M., Griguhn, A. (2003). Water Exchanges and Agricultural Production in North Eastern Colorado: Opportunities and Constraints for the Future. Colorado State University Agricultural Experiment Station Technical Report TR03-3, March.

Authors Notes

¹ These two quotes were taken from the Idaho Water Resource Board Website: www.idwr.state.id.us/planpol/watplan/planning/history.htm.

² David Freeman is a Professor of Sociology at Colorado State University. Dr. Freeman specializes in natural resource use, in particular water. With this quote, Freeman is summarizing the work of Vranesh's Colorado Law (Corbridge, and Rice, 1999).

³ This Diagram was taken from the Office of the Colorado State Engineer, and it is a schematic of the main ditches in the Lower Arkansas Valley.

⁴ Taken from a Power Point presentation given by Hal Simpson, Colorado State Engineer, to the Colorado State University Water Symposium on October 22, 2002.

⁵ Taken from a Power Point presentation given by Hal Simpson, Colorado State Engineer, to the Colorado State University Water Symposium on October 22, 2002.

⁶ These issues were raised at the Public Water Bank hearings in Pueblo Colorado, May 7-8, 2002. An interesting point should be made here. Recently, the State Engineer's office has issued the new rules, and the State Engineer's office did not meet any of the demands made by the dissenters.

⁷ What I am alluding to is that by placing the interests of farmers at the end of the priority list, the State of Colorado Legislature is implying that rural interests are their last priority in this bill.

⁸ This process puts agricultural and rural municipal interests at a disadvantage because they usually don't have the lawyers and hydrologists on retainer to immediately respond to the water transfer, and by the time they can respond to the water bank transaction, it is already too late.

⁹ This information comes from an interview conducted with the financial officer at the South Eastern Water Conservancy District.

¹⁰ Traditionally these two regions have been at odds with each other, because the interests in the Upper Arkansas Valley and the Interests in the Lower Arkansas Valley have competed over access to annual flows of the Arkansas River.