

FARMERS AND URBAN WATER MANAGERS WORKING TOGETHER TO SEEK SOLUTIONS: IF WATER IS GOING TO BE TRANSFERRED FROM AG TO URBAN, HOW CAN WE “GET IT RIGHT?”

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ABSTRACT

Following a major investigation into its water supply needs by the year 2030 which projects a significant shortage, Colorado’s state legislature in 2006 enacted a Colorado Water for the 21st Century act. Stakeholders from each of the state’s major water basins formed roundtables to first assess their respective basins’ water challenges, and then to potentially agree on “interbasin” compacts to affect multi-basin solutions to the state’s water supply dilemma.

One of the issues of particular concern in the Arkansas Basin is the effect on the viability of agricultural communities when water is transferred from agriculture to cities—a practice which is expected to increase in the state as water supplies for urban needs fall short. A group of stakeholders from rural communities in the lower stretch of the Arkansas Basin proposed a set of guidelines to govern such transfers, upon which stakeholders representing basin urban areas proposed an alternate set of guidelines. In an attempt to resolve their differences, an “ag to urban water transfers” committee was established.

This paper provides something of a sociological case study of the committee’s progress in understanding their underlying beliefs and values, approaching such concerns as how to manage urban growth and revitalize rural economies, and attempting to develop prototypes for “how to get it right” when water is transferred, whether through “buy and dry” or such alternative practices as rotational fallowing. Their use of outside resources in “joint fact finding” is discussed.

Projected Reduction of Ag Lands to Meet Urban Water Needs

The Colorado Water Conservation Board’s “Statewide Water Supply Initiative” (SWSI) in 2004 projected that Colorado has only enough water to meet about 70% of its needs by the year 2030, with most of the gap occurring in the front range urban areas of the state. The SWSI report forecasted that a majority of the water needed for cities will transition from agriculture, which currently uses more than 80% of the state’s water: “Colorado will see a significantly greater reduction in agricultural lands as municipal and industrial water providers seek additional permanent transfers of agricultural water rights to provide for increased urban demand.”

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Following on the heels of SWSI, the state legislature in 2005 enacted a process by which roundtables made up of diverse stakeholders from each of the state's major water basins would be charged with looking for solutions to the water supply dilemmas uncovered by SWSI. The Arkansas Basin, which covers roughly the southeast quadrant of the state, is the state's largest roundtable, with more than 50 members.

When the findings of the SWSI report were presented to the Arkansas Basin Roundtable, some members representing rural communities in the lower Arkansas were alarmed at the graphic depicting that as much as 72,000 additional acres were projected to be lost from Arkansas Basin agriculture by the year 2030.

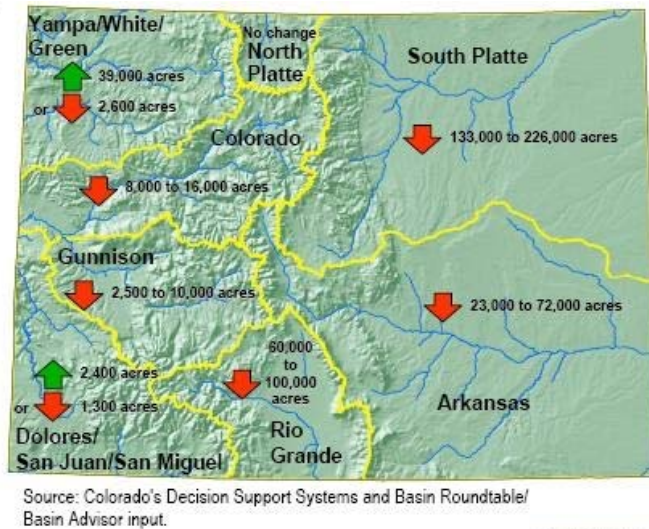


Figure ES-5
Projected Change in Irrigated Acreage by 2030

These acres are in addition to the approximately 78,000 acres of agricultural land permanently dried up in the past two decades as a result of agricultural to urban water transfers. These rural roundtable members proposed that the roundtable endorse a set of transfer guidelines they had written, part of which called for cities to control urban growth. Other members of the roundtable, particularly water managers representing urban interests, responded with an alternative set of guidelines for the roundtable to consider. When it became obvious that the differences in the two documents could not be easily settled, the roundtable appointed a Water Transfers Guidelines Committee.

Though the two sets of guidelines were not dramatically different, trying to wordsmith them into one document brought out significant conflict dividing the group. Early in the process, when it became obvious that the committee was spinning its wheels, funds available through the roundtable process were used to hire a facilitator to work with them.

Shortly thereafter, one committee member pointed out that most, if not all, of both group's beliefs and values were covered by the 2003 *Arkansas River Water Preservation Principles*, which had been signed by a number of diverse entities within the basin. The facilitator encouraged the committee to adopt these principles as their "working" set of guidelines, but more importantly, to turn its attention to the more critical matter—how to

put those principles into practice. Agreeing that they did not wish to create yet another document which might just sit on a shelf, the committee adopted the principles and began work on this broader goal.

The Committee

The committee is made up of a diverse group including:

- mayor of one of the small towns in the lower basin
- individual doing environmental compliance work for one of the rural counties
- water utilities manager for the largest municipality in the basin
- water utilities manager for a large municipality exporting water from the basin
- former commissioner of one of the counties who earlier sold water from his farm to a large municipality and now regrets it because of the effect on his rural community
- superintendent of one of the major irrigation canals in the basin
- cattle rancher
- manager of a water conservancy district providing to agriculture and municipalities water exported from the state's west slope
- owner of land in the upper basin whose community was affected by enlargement of upper basin reservoirs necessitated by transfers of water to major municipalities
- consulting engineer working with various entities throughout the basin

In addition, three individuals not on the roundtable have been adopted by the committee as standing advisors:

- university research associate studying ag to urban transfers for more than a decade
- anthropologist who published studies on the sociological effects of earlier "buy and dry" deals in the basin (permanent transfers of ag water to municipalities)
- municipal water manager who administered "on the ground" aspects of one of the earlier "buy and dry" acquisition deals

Building Trust

The facilitator used a number of strategies to break down animosity in the group. In an early exercise she asked members of the group to share with one another what the results would be if they were not able to come to solutions they could all agree to. Answers ranged from "we will continue to spend millions of dollars on litigation" to "we will have lost an opportunity to save the rural communities of this basin." At one point, a committee member repeatedly expressed his frustration that rural entities would continue to have to fight first one "head of the snake" and then another, never knowing where the next battle would come from. Recognizing that repetition of the same point often comes from a person not feeling as if they have been heard, the facilitator asked an urban member of the committee to "play back" what he heard expressed by the rural committee member. The urban committee member's quite accurate replay revealed an underlying empathy which yielded an opportunity for a connection between the two sides.

Another trust building exercise was employed which called on committee members to identify shared values. Some of the interests the group found they could agree on include:

- IF the water moves, move it in a way to benefit all entities
- Try to retain flexibility
- Find solutions so we don't all go broke paying lawyers
- Protect private property rights
- Protect communities from which water is transferred
- Look for ways to tweak water law to better meet all needs

That municipalities and conservancy districts have resources of money and personnel beyond those of rural communities which they can apply to study and address issues is most likely one of the factors dividing these committee members. One member even confided to the facilitator that he perceived that it was to the advantage of municipalities to create an endless loop of discussion about the issues affecting agriculture because meantime transactions were occurring to benefit municipalities. Though the facilitator recognized the importance of allowing opportunity for venting, particularly by those members of the committee coming from a less powerful position, a major challenge she faced was that of moving the group beyond “bellyaching” and continuous loop regurgitation of the issues to productive dialogue. When one member of the group would suggest a potential solution, another would inevitably respond with “yes, but....” Indeed, there were considerable obstacles to any solutions being offered, but the group needed some successes to build on if they were to move forward.

She asked the group to consider two questions from the joint perspective of the committee: “What Ties our Hands?” and What CAN we realistically do?” Under the category of “what ties our hands” the group agreed on:

- Intergovernmental agreements and other deals already underway
- Highly regulatory environment
- Economic transformations happening already
- The bigger universe that's involved (it's not just the water)

And under the category of “what we can do” they agreed on:

- Have objective, candid dialogue
- Tackle misinformation in a non-hostile environment
- Understand what each of us needs
- Produce a sense of we are all in this together
- Wrestle with the serious questions, but perhaps start with a small success
- Consider whether there are projects/processes/activities to move us forward, either new ones we can champion or ongoing ones we can support
- Build on our common vision

Urban Growth

Two issues the committee struggled with without much success at coming to consensus were that of urban growth and private property rights vs. the public good. A persistent

rural community concern is what they perceive to be uncontrolled, unsustainable growth of urban communities. Rural members argued that urban communities wouldn't need so much water if they would just control their growth. Urban members pointed out that studies have shown that you can't control growth by limiting water. In one meeting, strategies urban communities might use to control growth were proposed by rural committee members, while each strategy presented was shown by urban members to have unintended consequences.

Eventually, the committee agreed that regardless of who was right, the committee would have very little influence on the topic. They compromised by agreeing that they could all support the somewhat nebulous but descriptive term "smart, sustainable growth."

However, the underlying concern remains, on the part of the rural and some of the urban members, that growth is an issue that cannot be ignored even if we do not appear to have answers to it.

Public Good vs. Private Property Rights

Another issue the committee struggled with revolves around the paradox of preserving private property rights while watching out for the good of the larger community. The classic example is a farmer who wants to farm until retirement and then sell his water to urban buyers in order to fund that retirement, albeit such sales diminish the viability of the rural community where he resides. Another example has to do with the right of rate payers in a municipality to insist that their water managers seek water at the best price available regardless of the effect on "third parties" to the transaction, such as rural communities. Some of the points made regarding this subject were embraced by most but not all of the committee.

- Economic/social mitigation is needed in the case of transfers, not just through cash payments, but for instance through economic redevelopment in ag communities.
- We need to promote an urban sense of responsibility that goes beyond the narrow view of a rate payer's own economic interest.
- We need a modification to the philosophy that "private property rights trump the public good."
- We need a process whereby the larger public can learn about the tradeoffs and weigh in on the desired balance.
- We should be promoting the concept of "distribution of impact" when water is transferred between urban and agricultural communities.
- Current practices and institutional rules regarding water transfers are proceeding from historic conditions that may no longer apply.
- We have a political standard that doesn't balance well the public interest and the private interest. Water court isn't designed to consider the public good.
- We need a full and serious public debate about this issue instead of a largely blind process. Private transactions set the pace and the public has no say in these transactions, though the transactions have repercussions which greatly affect the public.

In general, the committee agreed that, as in the case of the urban growth issue, they could have little influence on this issue and that their time could be better spent working on those arenas where they could have some influence.

Consensus Statement/Focus Question

After half a dozen meetings, the group was able to write a consensus statement and agree on a focus.

Consensus Statement

We support: smart, sustainable growth; sustainability of rural communities; and maximizing utilization of water to enhance the vitality of the environment and the economy of the basin, especially rural communities, while protecting private property rights.

Focus Question

“How should water be relocated/reallocated from agriculture uses in a way that supports the economy and environment of rural communities while recognizing ongoing processes and utilizing information from ongoing studies?”

By “recognizing ongoing processes” the committee was referring to the reality that a number of important processes are currently underway that would impact any decisions the committee might make. Examples of these are a nine party intergovernmental agreement being negotiated, and the reality that water transfer contracts are not public until the parties want to or have to disclose them.

By “utilizing information from ongoing studies” the committee was referring to work currently being done by university researchers on irrigation efficiencies/water quality, and Lower Arkansas River Water Conservancy District’s efforts to establish a “Super Ditch” cooperative group to rotationally fallow a portion of lands to make water available to be sold at competitive prices for urban uses.

Thinking about a Think Tank

Building on this foundation the facilitator challenged the committee to move into an action phase. What could the committee do to begin answering the question they had narrowed in on? Out of this discussion came the idea of forming a think tank made up of selected members of the committee willing to devote considerable and concentrated time, along with outside “experts.” The think tank was to perform two primary functions, one relating to research and the other to demonstration/model projects.

In regard to research, the emphasis was to be put on annotating existing research, evaluating such research to determine its relevance, and recommending additional research, taking care to “avoid needless restudy of problems so small or so complex that results will not be helpful in the next few critical years, or needless delay where enough

is known that prudent and effective responses can be identified without further study and delay.”

In regard to demonstration/model projects, the think tank was to explore water transfer strategies which could be incorporated in prototypes, demonstration projects and/or models that would showcase the necessary elements of “how to get it right when you transfer water.” Specifically: *“Develop a portfolio of prototypes to address issues and mutual benefits associated with transfers of water from agriculture.”*

The “experts” were envisioned to be not only state and federal agency and municipal specialists and researchers, but also farmers whose knowledge and experience are critical to understanding the issues. It was pointed out that a struggling water bank had earlier been launched without considering the views of the practitioners who would be using the bank or others who could have offered insights to increase its chances of success. Also, the agriculture community has traditionally responded to demonstration projects to help them understand the needs for their own applications before adopting an approach or strategy.

Several members of the committee emphasized that the transfer of water from agriculture to urban uses is only one factor in the difficulty rural communities are facing in remaining viable. Indeed, one member asserted that water is leaving agriculture *because* agriculture is not viable, not the other way around. Sustaining a rural economy and lifestyle was seen to include both agricultural transformation and rural economic development. For this reason, the committee felt it would be important for the think tank to include rural economic development and agricultural economy specialists to help it “uncover, develop, consider and propose ideas and proposals that extend beyond traditional water specific issues, such as promotion of rural economic development, diversification and sustainability; agricultural-business innovations and alternatives that yield more competitive and profitable products; and cooperative agricultural/municipal water management and use.”

The committee acknowledged what could be significant barriers to meaningful work by this think tank, including: advocacy obligations of those working for water entities and elected/appointed officials representing particular constituencies, the problem of proprietary information in a competitive water market, the burden of political and media influences that could attempt to sway or obstruct progress for parochial self interest.

Pilot Think Tank

The committee asked its facilitator to convene an all day work session with a sample of prospective experts or “outside advisors” to help them work out the details of how such a think tank might function. A half dozen members of the committee joined with four such experts to include a university agriculture economics professor, an environmental engineer in private practice, a former municipal water utilities manager now heading up the state’s Colorado Water Congress, and a rural economic development specialist from the state’s department of local affairs.

To get a flavor for how the think tank might work, the facilitator split the gathering into four small groups, each containing one of these outside advisors. Each group was asked to brainstorm ideas for water transfer prototypes which could provide the mutual benefits—rural and urban—sought by the committee. The exercise yielded creative ideas for the committee to build on in the future, but more importantly showed the benefits of bringing in outside advisors to work with committee members in a concentrated forum. From this experience came the conclusion that the committee would stage monthly all day work sessions in a think tank format, drawing on not a set group of outside advisors, but bringing in a variety of advisors depending on the particular issue to be addressed at each work session. The committee reported to the full roundtable that these advisors would help them flesh out, reality test and challenge their ideas, as well as lend them credibility later when their ideas are challenged by others.

Work Sessions: From Theory to Reality

Moving from the abstract to the concrete has been perhaps an even more difficult challenge for the committee than building trust. As one member said, “we had to go down some rabbit trails” before we hit on a format we believe will provide the structure needed to yield a tangible “deliverable” upon which the full roundtable can take action.

One such rabbit trail which provided substance for later work was an exercise assigned by the facilitator asking the group to develop a list of characteristics of a model water transfer. Some of the 56 characteristics which came out of this exercise include:

- Guarantee perpetual stewardship of de-watered, fallowed lands
- Provide certainty to both water provider and water receiver
- Add to water information for more transparent markets
- Have no negative impact on non-participating shareholders in a ditch company

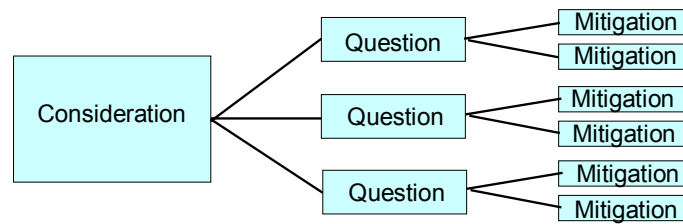
In one particularly difficult meeting, the facilitator asked the group to categorize these 56 characteristics such that they would provide a matrix the group could use to guide its investigation. That attempt morphed into listing characteristics of past “buy and dry” transactions in order to come up with a set of basic considerations and accompanying questions that should be addressed in any water transfer, whether a sale or a lease. As one of the committee members said, “Until we know exactly what the positive and negative impacts or consequences of a water relocation are, how is it possible to proceed with discussion of how such transfers can be done in a way that protects and/or enhances rural economies?”

Thus, the rabbit trail lead to a subcommittee of the group devising an “If—Then” type of matrix which the committee eagerly adopted to give structure to its work. The matrix has three basic components: Considerations, Questions, and Mitigation. Specifically:

1. What must be considered when contemplating a transfer?
2. What questions need to be asked specific to each of those considerations?
3. What mitigation might be needed, depending on the answers to those questions?

The following figures illustrate the matrix format.

Water Transfer Matrix



Sample Transfer Considerations

Size of Transfer Relative to Affected Area	Impact on Recreation	Point of Diversion
Location of Transfer Relative to Affected Area	Economic Impact to Affected Communities	Time of Diversion
Impact on Tax Bases	Period of Time to Implement the Transfer	Length of Lease
Water Quality Impacts	Means of Conveyance	Frequency of Transfer Under the Lease
Impact on Environment	Storage Issues	

An Example

Consideration	Question	Mitigation
Economic Impact to Affected Communities	Will there be negative economic impacts on the affected communities? (Counties, towns, local businesses?)	Provide financial compensation
		Assist in Rural Economic Development
		Relocate Jobs to the Area
		Assist in Agricultural Modernization such as Niche Market Development

One Consideration: Water Quality

The committee is fine-tuning its draft considerations and questions prior to tackling the third component of the matrix—potential mitigation. Following something of an “adaptive management” direction, the committee is taking one consideration at a time and calling in outside advisors to assist in ascertaining that the proper questions are being asked, then revising the matrix. For example, in investigating the issue of water quality considerations, the committee spent one work session in dialogue with three different advisors working from three different angles on the issue of water quality specific to the Arkansas Basin. Among the questions the committee asked the advisors are: What would be the effects of transfers and exchanges on water quality? Could there possibly even be an indirect beneficial effect if through a lease arrangement you were to fallow fields which you expect currently contribute a big source of selenium to the river through return flows? If you leave a field out of production for awhile, do you get more concentration of salts so that when you DO apply water you get a slug of salt going down into the soil?

This dialogue brought out the point that in the past 100 years our often inefficient irrigation practices have created something of an artificial environment which now supports a great deal of biological diversity that could be negatively affected by leaving more water in the river for urban transfers. The point was made that as we consider how to “get it right” when doing transfers, we may need to bring in these biological interests as another of the “third parties.”

Others Writing about Collaborative Problem Solving

The still unfolding experience of this committee can be seen as an “on the ground” example of the kind of collaborative natural resource problem solving being written about in recent years by a variety of individuals. Here are some examples:

John A. Kitzhaber, M.D., former governor of Oregon, in his forward to *WaterShed Solutions: Collaborative Problem Solving for States and Communities* asserts that collaboration in watershed matters reduces conflict and litigation which often results in unsatisfactory, narrow decisions that don’t address underlying problems, can turn apparently inflexible federal or state mandates into opportunities, and provides an alternative way of approaching problems that avoids the gridlock often associated with traditional governmental approaches.

Stephen Snyder, Special Master in the Pecos and Rio Grande water rights adjudications in the New Mexico courts discusses using joint fact-finding with groups encountering water conflict. He says joint fact finding can lead to shareholders “participating in an interactive dialogue with neutral experts so as to enhance their understanding of the complexities involved in addressing problems to which there are no clear answers.” He says that parties “often find themselves revising their original assumptions and preconceived notions about what must be done to resolve the problem, finding they are able to favorably consider negotiating proposals they would never have entertained had there been no joint fact-finding process.” Snyder says some may consider the approach

of experts being asked to identify alternative methods for addressing the problems underlying the conflict as antithetical to objective research. But he asks, “Are we missing out on tremendous wisdom when we don’t access this source of assistance?”

Dipak Gyawali, a Nepali engineer and political economist, gave a European Commission report at the 2006 World Water Forum on “constructive engagement” of scientists with stakeholders. He emphasized that the most critical need in solving water problems today is not more technical solutions, but socio-political solutions. “Water policy reform is a very challenging process impacting long established water-intensive livelihoods. In contentious circumstances where water demand has begun to exceed resources a wide range of new institutional capacities are needed to cope with unfamiliar ideas and new priorities voiced by society.” He says we can’t expect to find all the answers to water dilemmas in the water sector. We have to look at the full “problemshed” beyond the watershed and look for ideas that draw from different, non-water sector solutions. “Constructively engaged research and communication requires a willingness to understand belief systems.”

Juan Carlos Alurralde, a Bolivian water engineer, was determined to resolve deep seated conflict between indigenous communities and the Bolivian government over how to manage water resources. He set out to apply a water simulation model to a computerized replica of Bolivian water systems to try out the conflicting approaches. But knowing that if indigenous groups did not trust the research there was a risk they would reject the findings, he included them in the research process—by inviting them to participate in the research design, asking them to help gather data, and regularly communicating and explaining findings. The research revealed that the approach favored by the government would lead to a more inefficient use of water and would cause larger differences in water availability between communities, actually resulting in water deficits in many cases. Subsequently the Government of Bolivia enacted a water rights law that has gained widespread acceptance.

William Ruckelshaus, the first director of the EPA, says adaptive management is just as applicable to social experiments as biological ones. We don’t have to get it right the first time, he says. We learn from our mistakes and keep on trekking. He warns that we have to break through the shallow façade of rhetoric and reach to the heart of the issue. “Only when people are united despite their differences by hard-earned trust, does the astounding political power of collaboration become effective.”

Peter Senge who writes about Appreciate Inquiry says “we are stuck in patterns where solutions are arrived at through the process of downloading, or taking an existing framework and applying it to the situation at hand.” He says we need to slow down and ponder a problem so that we can “illuminate the blind spot.” We need to create a deep awareness of the problem as a whole, not just its parts. He challenges us to retreat and reflect, to go to an “inner place of stillness, then listen and make sense of it.”

CONCLUSION

Delph Carpenter, famous for his leadership role as one of the negotiators of the 1922 Colorado River Compact, said that to work through differences in water issues, you have to really try to understand “the other fellow’s take on things.” And he said “it takes time, time, time.” Certainly the committee would concur with Mr. Carpenter.

Members of the committee have established a timeline for themselves, such that they anticipate providing a report to the Arkansas Basin Roundtable by September 2008. They expect that the report will outline a broad range of issues to be considered when water is transferred, questions to be asked pertinent to each of those issues which bring out both positive and negative aspects of the transfer, measures which could be employed to mitigate negative aspects, and identification of those alternatives which show the most promise for subsequent experimentation, demonstration, or academic research by others.

Recently asked what they think characterizes the strength of the committee, members cited: building on trust, grassroots effort, stakeholders finding solutions, looking forward not backward, diverse representation, tangible guidance for planners and policy makers. One member attempting to sum it up said, “You know, I think the underlying message in this whole thing is that we are going to have to do a better job of looking out for each other.”

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