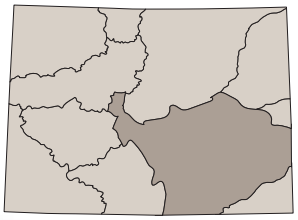
Arkansas Basin

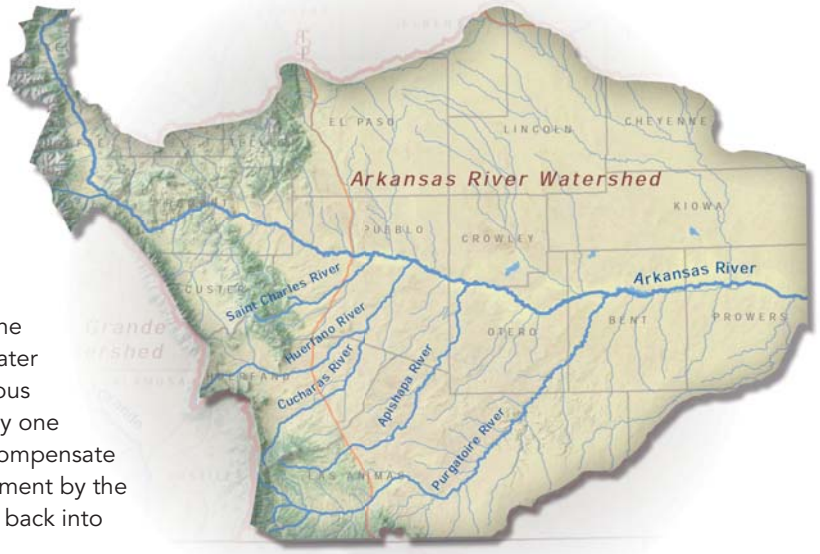


Colorado

The Arkansas Basin has a long history of litigation and conflict. This report focuses on two of the experiences the Arkansas Basin has had in managing water for compact compliance. The first required an abrupt curtailment of wells. In the second, having learned from the first experience, state regulators and water users have worked to stay ahead of potential new compliance problems by developing efficiency rules.

Managing to Come into Compliance: Well Augmentation and Curtailment

The Arkansas Basin was fully appropriated by the 1880s and underwent decades of litigation with Kansas before a compact on sharing the river was ratified in 1949. Then, large scale pumping from groundwater wells began in the 1950s and altered the hydrology the compact had been built upon. In 1985, Kansas initiated a lawsuit alleging that well-pumping in Colorado was causing depletions to the river, and in 1995, the US Supreme Court agreed. In 1996, Colorado's Division 2 water court required augmentation for well depletions and numerous wells were shut down, reducing the available water supply by one third. Shutting down the wells, providing augmentation to compensate for those that continued to operate, and a $34.5 million payment by the State of Colorado to Kansas for damages brought Colorado back into compliance with the compact.



Arkansas Basin

Managing to Stay in Compliance: Efficiency Rules

As both irrigation technology and capabilities for satellite monitoring of irrigation advanced, concerns emerged that the adoption of more efficient irrigation systems, which allowed additional consumptive use, could lead to renewed problems with compact compliance. Rather than waiting for Kansas to take them to court, water leaders worked with the Colorado Division of Water Resources to develop the basin's efficiency rules, which include several options to compensate for any increased depletions from the river due to enhanced irrigation efficiencies. This has kept the Basin out of court and helped maintain a higher level of local control in water management decisions for compact compliance.

Experiences

The Arkansas Basin's experience with mandatory well augmentation and curtailment in 1996 has loomed large over water users as they have worked to stay in compliance with the compact going forward. The desire to avoid further legal trouble, embracing the need to measure water use, and figuring out how to work together have been crucial to their success so far.

The Price of Delaying Action and Going to Court

According to interviewees, Arkansas Basin water users paid a heavy price for not reacting strongly enough to early signs that increased groundwater pumping could be impacting surface water flows, and therefore their compliance with the compact.

A municipal water manager with a background in well augmentation and farming recalled that while the state didn't get sued by Kansas until 1985, the issue had been raised as early as the 1970s by surface water users in Colorado.

The state responded with a little-enforced rule that limited pumping to three out of seven days. The rule didn't do much to reduce pumping or to keep Colorado out of legal trouble with Kansas. In 1995,

a Special Master appointed by the US Supreme Court required an inventory of all the wells and augmentations for stream depletions.

While surface irrigators felt that their concerns might finally be dealt with, the municipal water manager recalled that there was resistance from well users.

The well users [were] thinking, no wait a second, I've always done this legally. I built my livelihood off of this well. And now they felt like they were getting that taken away from them… So you've got the animosity already there. Now it's being built upon because well augmentation groups are going and buying surface water rights and drying up the land to do it.

In the end, the available water supply was reduced by one third, and Colorado paid Kansas over $30 million in damages.

The Role of Measurement

According to several interviewees, one of the issues that caused Colorado trouble in the lawsuit brought by Kansas was the fact that Colorado didn't have good data on what was happening with wells. In the aftermath of the court decision, the State required comprehensive measurement and reporting on water use from both wells and surface water. In addition to benefiting the state, enhanced measurement has also improved water management at the individual and ditch level, as well as the deeper understanding of the system that was necessary to develop the efficiency rules.

An experienced water lawyer suggested that measurement is important for Colorado to be able to make its own case to other states in disputes.

> *"One of the things that crippled Colorado initially was lack of data on water use. Without knowing how much water is being used and by whom, you can't make any assessments of where you are relative to your rights under the compact. So you have to have rigorous measurement of both surface and groundwater diversions, because when you're challenged by another state, you have to be able to show what your diversions and consumption of water are. People hate it, because measuring devices are expensive. They say, "But I don't take very much water," but you get 2,000 people that don't take very much water, and that's a lot of water.*

While there was initial resistance to rules requiring water measurement, interviewees provided numerous examples of the ways it has facilitated improved water management and group decision-making.

One Arkansas Basin farmer described the level of detail he can see about how water is moving through the system:

> *"The first thing that I do every morning is I look at the Division 2 website. Not only because I'm an irrigator but I'm also on the board of [-- Canal]. So, I am looking every day at what is going on in my river. I know with some reasonable sense of security who's diverting, what they're diverting, I can even find out what color of water they're diverting: the project water, winter water, leased water, native water. I can then look at certain gages that tell me how far off I am from my water right getting in [to my ditch]. I am not the only person doing that every morning.*

He recounted how the availability of this data not only impacts individuals' knowledge and management capacity, but also facilitates system-wide understanding.

> *"During the irrigating season, there are daily meetings between the engineers, the water commissioners and the canal superintendents. Everybody is looking at everybody else, and if something funky happens, nobody feels any compunction about calling the water commissioner or river manager and asking what the hell is going on.*

Several interviewees noted that the ability to see how water moves and is being used also builds trust and accountability, essential elements for the cooperation that is necessary to keep the system working and develop innovations in water management.

Scaffolding for Proactive Solutions

Factors that appear to have enabled the proactive development of locally-designed compact compliance measures included leadership by the State to convene stakeholders, lots of time to process and discuss, and a local organization that could participate in the discussion and help implement the solution.

One interviewee, a water manager, recalled the process in detail, starting with the role of the State Engineer.

> *In the mid 2000s, the state of Colorado identified that there was a potential issue that could eventually be raised to the level of a lawsuit between Kansas and Colorado as you had more efficient irrigation methods being adopted. The State Engineer convened a working group, and it was a very big one. The very first one must have had 200 farmers in a room. And you had the State Engineer at the time telling them, "Hey, the center pivots you're putting in or drip irrigation systems you're putting in, you're going to have to buy augmentation water for them…." [The State] has the backstop of saying, "If we don't deal with this, our concern is that we're going to end up in another lawsuit. We're going to lose the lawsuit and we're going to have a solution imposed upon us. We don't want to do that."*

He described how, after that initial prompting, local water users engaged in a long, sometime contentious process of discussing what to do.

> *From the large group of people, you get floated to the top the best representatives of folks that were most interested. Some of them hated the idea of being proactive and some of them loved the idea, but you got a smaller working group, and they worked over a very long period of time. It was over several years that they worked to come up with the solution. If you were to talk to farmers today, they would grumble about it and say, "Yeah, it's not the ideal solution." But it's nowhere close to the reaction they had against the well use rules.*

Venting frustration was part of the process, but importantly, with effective organization and leadership, it didn't stop there.

> *I'll admit I was one of the skeptics to the stakeholder process, just because I saw that first meeting was a lot of negativity about what was going to happen. But over time everybody got to vent their frustration. And at some point it just became, "No, let's roll up our sleeves and actually build the solution for this."*

The end product was the basin's efficiency rules, which allow substantial flexibility for how to repay additional river depletions resulting from efficiency improvements and maintain compliance with the compact.

Another experienced water lawyer noted that the Lower Arkansas Water Conservancy District played an important role in facilitating the creation and implementation of solutions:

> *They [the farmers] responded well to the District; they responded horribly to the Division and State Engineers. They thought they were crazy. The District was the man in the middle and said, "Okay, we'll try and work something out on behalf of the farmers and ranchers who are down there that is workable," and got some changes in the proposed rules, including the ability to put together package plans that would involve lots of different farmers and ranchers.*

Clear leadership, motivation, time, and institutional capacity all appear to have been important to developing workable and acceptable rules to keep Colorado in compliance with the compact.

Relationships and Trust

Several interviewees pointed out that relationships and trust between water users, managers and officials at various levels were also important for developing and implementing compact compliance measures, as well as ongoing water management.

One farmer who was involved in the lawsuit and efficiency rules described how relationships and trust are central to managing constrained water supplies:

> *People are figuring things out. The Arkansas is an amazing framework of formal and informal communications and relationships that have been formed over many decades to deal with shortages so that the system continues to function. I mean the flow management program that keeps water in the river between Buena Vista and Cañon City... Then there's obviously coordination between how cities release waters from higher reservoirs into Pueblo. It just goes on and on and on, how we kind of change and trade and all those types of things.*

A state water official described how collegiality between compact partners, as well as neighbors, is also beneficial:

> *It has been very important to establish a good working relationship with our compact partner. Kansas and Colorado have fought like cats and dogs for a century…. So, a lot of bad blood between the states and it took a lot of effort as we began to comply.*
>
> *You have to learn to develop people-to-people relationships with folks, because they're trying to do their job, and we're trying to do our job. We may not always agree on how we measure success in doing those things. But by having relationships develop and understanding each other better, the states have worked through a number of agreements that help clarify, and take some of the guesswork out of it, so that we're not just pointing fingers at each other and you have a lot more measurable outcomes that both states can agree to. That's been really helpful and it's helped us in other negotiations we've had to do.*

Multiple interviewees discussed how essential diverse partners were for improving water management. Several people talked about how agricultural stakeholders work with municipalities to solve water management problems. For example, they recounted how agreements between urban water systems and augmentation groups for augmentation water help with compact compliance.

Carrots and Sticks

In discussing the effectiveness of "carrots and sticks" to spur action on compact compliance, one experienced water lawyer noted the usefulness of a big stick in recounting how the judge dealt with the first well owner in court over noncompliance with the new well rules:

> *The judge listened to the evidence and basically told the guy that he was going to levy a huge fine on him for noncompliance. If he failed to continue to comply, he was going to send him to jail. Then [the judge] said, "Now I know there are many others of you here who are set for hearing. If you would like to talk to the Attorney General before the hearing, I'm happy to take a recess."*
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> *I think he took the number of protests from in the mid 50s or 60s down to one or two by knocking the first guy really hard in the head and saying, "Pal, you're done. The rest of you, you saw what happened to him. Think about how you want to proceed."*

On a larger scale, the "stick" of curtailment has been effective in encouraging water users to proactively engage in developing alternative solutions to remaining in compliance with the compact. Having learned from the prior experience with that stick, the community has successfully mobilized to seize the "carrot" of the opportunity to develop their own rules, with options that better suit local conditions.

Conclusion

Colorado is currently in compliance with the Arkansas Basin Compact, and basin water users, managers and regulators appear to have developed a broadly accepted approach to keep it that way. Confronting the reality that water supplies and usage were out of balance was a painful lesson. But, the development of a strong, shared system for measuring and tracking water movement through the basin and the ability of water users and both states to communicate and coordinate with each other appear to be key factors in the basin's successful compliance. These factors may not have come together in this manner, however, without the previous painful experience of being found out of compliance and forced to curtail and augment wells. Farmers and ranchers are able to manage their irrigation with more flexibility now that the initial burden of curtailment has passed.

Sources (in addition to interviewees)

- Lower Arkansas Water Conservancy District website: **http://www.lavwcd.com/**
- Water Education Colorado. Citizen's Guide to Colorado's Interstate Water Compacts, Third Edition. Denver, June 30, 2021. **https://www.watereducationcolorado.org/publications-and-radio/citizen-guides/citizens-guide-to-colorados-interstate-compacts/**

Arkansas Basin Timeline

- 1880s: Arkansas Basin fully appropriated.
- 1948-9: Arkansas Basin Compact completed and ratified, following decades of litigation. John Martin Reservoir is a crucial element.
- 1950 – 1996: Well pumping changes flow regime, reducing water availability to Kansas.
- 1985: Kansas alleges well-pumping is depleting the river.
- 1995: US Supreme Court rules that Colorado is at fault for allowing well-pumping to deplete the river.
- 1996: Colorado's Division 2 Water Court orders pumpers to replace surface depletions in Colorado and at the state line; Colorado pays Kansas $34.5 million in damages for prior river depletions.
- 2011: Efficiency rules established, which allow various options for repaying depletions that result from efficiency improvements.