

Shepherding Water in Colorado for Colorado River Compact Security

**Workshop - November 14, 2017
Summit County Library, County Commons, Frisco, Colorado**

**Sponsored by Colorado Water Institute and
Getches-Wilkinson Center**

Workshop Report

A workshop on shepherding water within the State of Colorado for the purpose of providing security under the Colorado River Compact was hosted by the Colorado Water Institute and the Getches-Wilkinson Center for Natural Resources, Energy and the Environment on Nov. 14, 2017 in Summit County. The purpose of the workshop was to obtain perspectives from the participants about shepherding and the larger context of Compact security that it is part of. Attendees included individuals associated with state and local government, water providers and users, municipalities, industry, conservation and conservancy districts, and environmental groups.

Reagan Waskom welcomed the participants to the workshop on behalf of the Colorado Water Institute and the Getches-Wilkinson Center. He emphasized the goal of the workshop to obtain perspectives about shepherding conserved water in Colorado for the purpose of creating better security for meeting the Colorado River Compact. He encouraged all the participants to speak in their personal capacities and not as representatives of their agencies or organizations, and the participants agreed to that structure. All of the participants introduced themselves.

Anne Castle provided an introduction, expanding on the goals of the workshop to include discussion about: the need for conserving water to improve Colorado River Compact security; the challenges of shepherding conserved water; what's necessary to make shepherding happen; and whether additional discussion or action is appropriate. "Compact security" is a term being applied to water voluntarily made available for proactively addressing the risk of involuntary curtailment in the Upper Basin of the Colorado River. Compact security differs from compact compliance in that it is intended to insure against a potential Colorado River Compact call, whereas compact compliance deals with administration of a Compact call. Anne emphasized that shepherding is just one component of a larger discussion about Compact security, but that the workshop would focus on shepherding, assuming that at some point it will be necessary in Colorado. She also said that the discussions would assume that the conserved water to be shepherded be made available voluntarily and not through involuntary curtailment.

Anne's powerpoint slides, together with the slides of all the other speakers are available at <http://www.cwi.colostate.edu/>.

PRESENTATIONS

Eric Kuhn discussed the risks faced by state water users as a result of the prolonged drought in the Colorado River Basin. He explained the importance of maintaining Lake Powell above elevation 3490 feet, the level of the hydropower turbine intakes, and the need to preserve a level above that in order to insure against rapid drawdown. He presented analyses done by Hydros Consulting showing how quickly Lake Powell could reach critically low levels, suggesting the prudence of proactively storing water in Lake Powell to reduce the risk of reaching those levels. Eric also explained how the inability to shepherd conserved water reduces the amount of water that gets to the state line, showing further analyses done by Hydros revealing the difficulty of shepherding water to Powell during below average hydrologic conditions. He concluded with the need to begin proactively working out the details around shepherding and other arrangements to keep Lake Powell above the minimum power pool.

Next **Larry MacDonnell** discussed some of the legal issues under Colorado law associated with shepherding water from its existing place of storage or use to the state line and beyond. These issues are more fully discussed in the *TECHNICAL APPENDIX, Legal Analysis, Shepherding Appropriated Water in Colorado For Colorado River Compact Security*, authored by Larry and Anne Castle, available at <https://www.colorado.edu/law/research/gwc>. This paper deals with water made available voluntarily on a temporary basis, only the amounts historically consumptively used, and only for the purpose of Compact security.

Larry described the potential need for a change of use process to allow use of water decreed for other purposes to be used for Compact security. Any such change of use process needs to be timely, efficient, and able to ensure other water users that they will not be injured. The Water Court process may be too expensive, time-consuming, and risky to work for this purpose. Water right holders potentially interested in participating in making water available for Compact security need assurance that such participation will not jeopardize their future uses of the water right.

Compact security use of water must be determined to be "beneficial." This use of water is intended to reduce the risk that water users in Colorado would be involuntarily curtailed and would benefit those users and the state, but it would be a different kind of use from those historically approved in Colorado. The Division One Water Court has approved the use of groundwater in the Republican River for compact compliance uses, a helpful precedent. But the use for proactive Compact security raises questions that need to be resolved if shepherding is to be successful.

The ultimate destination of the water is Lake Powell in Utah, raising the question whether the state statute governing export of Colorado water for use in another state might apply. Arguably, the export statute would not apply because the use of the water is in fact in Colorado as it would benefit Colorado water users who would otherwise be required to curtail their uses. Clarification that the export statute does not apply to Compact security water would be desirable.

These legal uncertainties, together with the significant policy matters at stake, led Larry and Anne to suggest that legislative attention may be needed at some point.

Kevin Rein then discussed authorities of the State Engineer that might apply to the shepherding of water for Compact security. The State Engineer's Office is charged with administering the use of water rights on the basis of their priorities, including administration as required to ensure that Colorado meets its compact obligations. There are different categories or "colors" of water in a stream that follow different rules. Water added to a stream by transmountain diversion or from nontributary groundwater is administered separately from natural flow water rights and protected against diversions by those rights. Water stored in an upstream reservoir for use downstream also requires administration past intervening natural flow rights. These are all categories of water that are legislatively recognized and that, when added to a stream, must flow by the headgates of natural flow users without interference to reach their legally authorized place of use.

Similarly, when the change of use of an existing water right involves the movement of the water to a different place of use, the transferred portion of the water right must be able to move undiminished to the new place of use. Likewise, approved exchanges of water are administered to carry out their purposes, as are plans for augmentation. These are all situations in which specifically-tagged water physically available in a stream is administered to pass other headgates unconsumed. Kevin stated that within the reach in which the water is shepherded, it can be exchanged upon or used as a substitute supply, so long as the amount of water reaches its downstream destination.

Kevin also pointed out that on smaller tributaries it may be possible to work out voluntary agreements with other diverters not to consume water that a water right holder has decided not to divert for the purpose of enhancing stream flows.

The State Engineer is statutorily-authorized to make rules as necessary to ensure that Colorado meets its compact obligations. Such rules can affect the uses of existing water rights if necessary for this purpose. Whether this authority could be used to shepherd Compact security water to the state line and beyond is a question that will require further discussion. It may be that the State Engineer's compact rule authority could be used for this purpose, but Kevin declined to express an opinion on the matter. In response to a question about this, a participant expressed the view that the

promulgation of rules dealing with Compact security water could be more vulnerable to challenge than rules adopted to deal with Compact compliance.

In response to a question about the Republican River, it was pointed out that the decision to authorize a change of use enabling delivery of groundwater to the river just above the state line was made in response to a U.S. Supreme Court decision resulting from a compact enforcement action filed by Kansas against Colorado and Nebraska. It was part of a package of responses determined to be necessary to avoid the immediate curtailment of many groundwater uses to comply with the compact.

Similarly, in the Rio Grande Basin uses in Colorado are administered annually as necessary to ensure compliance with the Rio Grande Compact. This administration is the result of a compact enforcement action, state litigation, and state legislation. Uses are regulated only as necessary to ensure that Colorado meets its annual flow obligations under the Compact.

Kevin also suggested that clarifying legislation could be very helpful to the State Engineer's Office if they were to undertake promulgation of rules for shepherding for Compact security.

Don Ostler prefaced his remarks by stating that the Upper Colorado River Commission (UCRC) has no official position on shepherding and that his remarks represent the opinions of the staff. He noted that Colorado is leading the discussion on shepherding and complimented the state for its proactive thinking. He then provided some background about the UCRC, created by the 1948 Upper Colorado River Basin Compact. It is an interstate water administrative agency. The Commissioners are appointed by the governors of CO, NM, UT, and WY plus one Commissioner appointed by the President.

Don believes that the Upper Basin's obligation in the Colorado River Compact is a proactive one, but noted that the idea of proactive Compact security is outside the box of historical thinking about Compact compliance. He recognized that we're living in outside the box times in terms of hydrology. Noting that the Commission has only supported the study of demand management to this point and has not adopted demand management as part of its Drought Contingency Plan, he listed some of the issues: Are there willing participants? How much water do we need and how much will it cost? Can we voluntarily conserve enough water to make a difference? Can we get the conserved water to Lake Powell? How do the 2007 Interim Guidelines apply? Will water banking be required to make it work over time? Is conserved water entirely voluntary or will there be state quotas? Does the benefit inure to the conserving state or the Upper Basin? How do we account for the conserved and banked water? What are the transit and evaporation losses?

He stated that shepherding is just one of many issues involved in demand management, but if there is a demand management program, shepherding will be very important. A

water bank mechanism may be necessary to make demand management viable in the Upper Basin. The questions about shepherding will vary by state. Shepherding will require buy in from the states (especially the regulators) and the UCRC Commissioners. Don also raised the question of whether it may be more cost-effective (in both money and water) to respond to an actual Compact call than to craft and implement an anticipatory solution.

Next **Edalin Koziol** discussed whether collaborative action of the Upper Division states through the UCRC can help overcome the shepherding challenge. She stated that The Nature Conservancy is committed to supporting efforts to move toward sustainability in the Colorado Basin and has been working to support the System Conservation Pilot Program. TNC supports proactive efforts to avoid curtailment of water uses in the Upper Basin.

She suggested an approach under which the UCRC authorities might be used to facilitate shepherding in the Upper Division states. For example, the states could agree to have UCRC make findings on the quantity of water used in the Upper Basin and the deliveries at Lee Ferry (UCR Compact Art. VIII(d)(6)-(7)). Those findings would help the states determine and coordinate on how voluntarily forgone water consumption will proactively contribute to Compact security. Once the states reach agreement on the amounts of water each would contribute, the UCRC would make findings that: all such voluntary savings can be shepherded within/across states and stored in and released from Upper Basin reservoirs for the common benefit of the Upper Division states to avoid compact curtailment, and delivery of these savings across state lines should not be considered to be an export of water because the savings are for the common benefit of all Upper Division states. (Art. IX, V, VIII(d)).

She acknowledged the need for sideboards. All such UCRC findings would be developed and implemented by consensus. They would also be narrowly tailored to apply only to proactive, voluntary compact security, not involuntary curtailment. Water stored for the common benefit of the Upper Division states would be controlled by those states and released to the Lower Basin based on findings by the UCRC, coordinated with the U.S. Bureau of Reclamation.

The benefits of working through the UCRC include the fact that it would be a collaborative effort, initiated by agreement of the Upper Basin states and the feds. Each state would work within its existing state authority, e.g., promulgation of compact rules by the Colorado State Engineer providing for a voluntary, proactive program for Compact security. Such compact rules could provide for streamlined transfers of forgone consumption and for its shepherding and beneficial use for Colorado. In addition, this is an opportunity based on existing law with no legislation needed to test it. Trying this out could identify gaps or uncertainties that would warrant targeted, agreed upon legislation.

John McClow provided the perspective of the Upper Gunnison Basin. He strongly supports talking about shepherding and related issues now because of the complexity, the multiple parties, and the varied interests. He agrees it is important to get the UCRC involved in these discussions since this provides a link to all the Upper Basin states. The UCRC works by consensus, meaning that all the states will need to be in agreement.

John underscored the need for drought contingency planning to avoid the possibility that water uses in Colorado and other Upper Basin states are curtailed. His concern is that water will have to be taken from existing uses on the West Slope to offset the effects of reduced hydrology. He expressed fear that Front Range municipalities would purchase ranches on the West Slope and make their irrigation water available for Compact security to protect the more junior municipal water rights. Full protection will require large amounts of water to be shepherded to Lake Powell. People in the Upper Gunnison and elsewhere on the West Slope are concerned that, if rules are put in place to enable appropriated water to leave Colorado for Lake Powell, it will lead to the dry up of much of the existing irrigated agriculture on the West Slope. Nor is he comforted by the idea that water would only be taken temporarily. Ranchers in the Upper Gunnison believe that when they were unable to irrigate their meadows in 2002 because of the drought it required several years of re-irrigation before the meadows returned to their previous productivity.

In John's view, we need to have a well-defined program that identifies how much water is needed and where it will come from before we start putting in place procedures to facilitate the shepherding of water to offset possible threats of future shortages. But it is important to get this discussion started because there are so many issues to resolve.

A participant added another West Slope agricultural perspective: that attention is being focused on row crop agriculture as the source of temporary water from foregone consumption but that there may not be enough of this kind of agriculture on the West Slope to supply the amounts of water required. There is a related concern that if only some row crop irrigators forego diversions, ordinary return flows will not be available for other irrigators who continue irrigating.

DISCUSSION

With the presentations concluded, four groups were formed for discussion of specific questions about Compact security and shepherding. Following these discussions, the full group reassembled and one person from each group provided a short summary of their group's discussion. Each question is set out in bold type below and a summary of the reported discussion follows.

- 1. This workshop has focused on shepherding “Compact security” water, that is, Colorado water rights that are voluntarily not used and instead the consumptive use is made available in Lake Powell. The purpose of this water is**

to proactively reduce the risk of a future curtailment to meet the requirements of the Colorado River Compact and to protect hydropower generation at Lake Powell.

- a. **What are your views on whether Colorado should work toward creating and storing Compact security water?**
- b. **Are there other arrangements that would need to be in place for you to support the creation of Compact security water and having it shepherded to Lake Powell? For example, decisions about how a Compact call would be administered within Colorado, agreement with other Upper Basin states on sharing the burden of Compact security, agreement on accounting for such water, better hydrological modeling and risk assessment, appropriate triggers for and limits on demand management.**

All four reporters stated that their groups generally believed that Colorado should move forward on creating and storing Compact security water. But each group expressed reservations. There seemed to be general agreement that we should seek to avoid curtailment of existing uses if possible, partly because of the concern that curtailment would be very harmful to the state, partly because it would likely trigger litigation, and partly because we don't yet know how any such curtailment would in fact be implemented. There is widespread concern that there is insufficient understanding of the problem statewide, that there is considerable uncertainty associated with developing and implementing a program that would effectively lower the risk of curtailment, and that in the absence of clarity about what such a program will actually entail there is likely to be resistance to taking any action in the short term. The sentiment seemed to be that further conversation is warranted, but that there is much more to be done before any significant action should be taken. If a considerable amount of Compact security water is needed to reduce risk to an acceptable level, people need to be assured that the effort is worth the cost and the impact of making the required water available.

Among the concerns raised under question 1 b. was the absence of information about the manner in which a Colorado River Compact curtailment would be administered in Colorado, whether in fact curtailment might be cheaper and easier, whether a Compact security program would simply enable new depletions of West Slope water on the Front Range, what the other Upper Division states will do, how accounting would work, how the water will be managed in Lake Powell and whether it would simply benefit the Lower Basin, whether the Lower Basin would support using storage in Lake Powell for this purpose and, if so, under what conditions, what would happen to the water if we had a series of wet years and water could not be maintained in Lake Powell and other CRSPA reservoirs, how much water would be lost to evaporation while in storage, and whether this would lead toward or avoid federalization of the river in the Upper Basin. Questions were raised about whether we could realistically obtain sufficient Compact

security water to acceptably reduce risks and the secondary impacts of West Slope dry-up or rotational leases.

2. Do you think we can create and shepherd Compact security water to the state line under existing Colorado law and water rights? What are the challenges and opportunities?

Only one of the four groups expressed support for addressing shepherding legal issues with legislation now. Another group strongly opposed development of legislation, except as a last resort. The general sentiment seemed to be that there needed to be more work done to provide a clear picture of how a program providing Compact security water might be developed and implemented before deciding more specific concerns about whether legal changes are needed. Some envisioned a package legislative deal that would address not only shepherding but would include other issues connected with Compact security. The view was expressed that legislation was preferable to leaving the question to the courts.

3. What entity or group is best suited to lead this conversation? For example, CWCB, Colorado River District, State Engineer's Office, other?

As to who should lead the conversation, all agreed that more discussion is needed. Most believed the CWCB was the best-placed entity to lead this discussion, since the board has representatives from all areas of the state and serves as the state's primary forum for water policy discussions. The CWCB was meeting directly following the workshop and was to be given a report of the discussions. There was also support for engaging the IBCC as a group with statewide representation. This group is reconvening November 30 and the topic of how best for Colorado to address the possibility of curtailment to meet obligations of the Colorado River Compact was to be included among the issues that the group might work on in the future. The possibility of a subgroup of the IBCC was raised to take up this matter. One group suggested assigning the responsibility for moving the conversation forward to Colorado's UCRC commissioner.

4. Do you see a role for the Upper Colorado River Commission in facilitating the shepherding of water to Lake Powell by the Upper Division states? If so, what role should the UCRC play?

There was general recognition that the UCRC needs to be involved. The question is the timing of UCRC engagement. This was described multiple times as a chicken and egg problem. Should Colorado get its ideas in order before trying to bring in the UCRC or should discussions occur simultaneously in Colorado and at the UCRC. The UCRC provides a convenient vehicle for engaging all four states, but there may be concern by some about expanding its historic role.

5. What do you think should be the next steps in this process?

There was interest in knowing whether the State of Colorado has any position on the best approach to addressing possible compact curtailment or whether there are any plans to establish such a position. Concern was expressed about the views of Front Range water providers and how to engage them in this discussion. Again, the need for active engagement of the full array of stakeholders was expressed. In addition to bringing the issues of Compact security and shepherding to the attention of the CWCB board and the IBCC, interest was expressed in having presentations to the basin roundtables. In addition, there was interest in having this matter raised at the UCRC. A need for leadership was expressed, someone to be able to put the pieces together and ensure stakeholder engagement. Attention needs to be focused on the decision makers, the leaders in the water community. There was a suggestion for the establishment of a working group to engage various parts of the water community and to address the various aspects of this issue. The CWCB, Division of Water Resources, IBCC, Colorado River District, and Southwestern Water Conservation District all need to be involved in future discussions. The completion of the Risk Study now being jointly managed by the CRWCD and CWCB could address several big picture issues.

The full group agreed that it would be helpful to list areas of agreement, areas of disagreement or where there are multiple ideas about how to proceed, and areas in which further information or additional discussion is needed. Those categories are provided below.

Areas of Agreement

1. We need to be discussing Compact security and shepherding water right now.
2. This workshop is a good first step, but we need broader participation in these discussions.
3. We need to recognize that shepherding is part of a larger problem and that Compact security as a whole must be addressed.
4. We have insufficient stakeholder awareness of Colorado River Compact risk and agreement on the urgency of the problem.
5. The Upper Colorado River Commission should be involved in this discussion.
6. Legislation, if needed, should be part of a larger package addressing Compact security overall.

Areas of Disagreement or Varying Ideas

1. Is it better to wait and allow curtailment to occur or to take proactive steps soon to avoid curtailment?
2. How soon and in what manner do we need to act to avoid loss of power production from Glen Canyon Dam and the likelihood of curtailment of Colorado water uses?
3. Will legislation be required at some point to implement a Compact security program including providing for the shepherding of water?

4. The appropriate leaders for the discussions on Compact security and shepherding within Colorado and in the Upper Basin.
5. When do other states get involved?

Areas Where More Information or Additional Discussion Is Needed

1. What is the risk of a compact curtailment/loss of hydropower production? It should be noted that the sentiment was expressed that we currently have all the information on this issue that we are reasonably able to develop at this time. Others noted that this issue is still being addressed in the Risk Study, now jointly managed by the Colorado River Water Conservation District and the Colorado Water Conservation Board, and elsewhere.
2. How much risk is acceptable?
3. How much water is needed in Lake Powell to avoid compact curtailment or the loss of hydropower production?
4. How would Compact curtailment be implemented? What would be the impacts? What could be done to minimize those impacts?
5. What would a proactive Compact security program look like?
6. Do we need a water bank in Lake Powell to manage this water? If so, how would this bank be operated? Would having a credit/ debit account in Powell to account for evaporation, separate from system water, be feasible? Could Colorado have a credit account if other Upper Basin states don't participate?
7. Is the accumulation of wet water in Lake Powell an effective approach or could a virtual water bank that relies on water lease options be sufficient? What amount of such leases would have to be under option and at what cost? Are there sufficient sources of Compact security water to make a difference?
8. Where would Compact security water come from and what are the primary and secondary impacts associated with making this water available?
9. Where would the funding come from?
10. How do we account for this water and who does the accounting?
11. How should new depletions be treated to avoid undermining the effect of conservation?