

How to think about Risk Management on water supply development

Bill Trampe, a member of the Gunnison Roundtable and the IBCC, will be presenting this paper to the Gunnison Roundtable concerning steps and triggers related to the risk management of Colorado River system water development and the need to forestall a compact call.

It would be a companion document to their portfolio tool submissions and it informs the hoped-for thinking and scoping going into Phase II of the Colorado River Water Availability Study.

The Gunnison Basin Roundtable submission of Portfolio Tool Scenarios are accompanied by this outline of the basic concepts of our ideas concerning procedures or a process to employ risk management in order to avoid a Colorado River Compact Curtailment. It is our belief that any identified scenario or scenario grouping identified by the IBCC, CWCB or any other entity using the information generated by the HB 1177 process must consider risk assessment and risk management tools in combination with the portfolio tool output in water planning for the future.

We understand that other Roundtables will have different risk assessment concerns and priorities, and they should be considered, but above all for the benefit of the State, Colorado's entitlement under the Law Of The River should never be over developed nor should we leave water in the river that we have a right to develop. The Gunnison Basin Roundtable has participated in this five year water planning effort in order to communicate our concerns for our own basin as well as concerns that all citizens of the State should have. And we have attempted to identify methods to employ that will assure the citizens of Colorado a future lifestyle that is not entirely unlike what we enjoy today. It is with that spirit that we submit these ideas.

Risk Assessment of water development of the Colorado River for the citizens of the State can be managed in two different views as seen in the eyes of the GBRT.

1. How do we deal with a Compact Curtailment under full Compact entitlement development?
2. How do we manage development and use of Colorado River water to prevent a Compact Curtailment, while allowing for full development of Colorado's entitlement?

The GBRT is of the opinion that time, resources, and total commitment be made to accomplish the number two position.

At the November IBCC Meeting the New Supply Sub-Committee presented their report to the IBCC. In that report there is much discussion about risk assessment and risk management. On pages 5,6 and 7 of that report under Next Steps/ Questions is a list of eight questions about methods and process in developing Colorado River water. That list identifies what we think are tools to use in creating a process or procedure to monitor Colorado River water delivery to the State Boundary and to identify a group of trigger points of storage in the CRSPA Units based upon the Law Of The River in the lower basin and in the upper basin. Those trigger points would be used as an early warning system to preventing a Compact Curtailment. It may require a number of such triggers, each indicating a worsening of delivery conditions.

Prioritizations of the tools or methods used to help in meeting the needs created by hitting the respective triggers will be the most difficult part of the process. We also present our ideas of how the junior-junior water right scenario might be applied to this situation. We understand that it is controversial, but for discussion purposes, the GBRT makes the following effort to create an example.

Trigger Level One: First Level Warning.

The State of Colorado has identified newly developed storage in place for this purpose. It does not take a great amount to cover this warning. Approximately (X) combined with a positive hydrology forecast for the next year.

Trigger Level Two: The difference may be poor hydrology forecast. The same storage as above would be used with some level of reduced consumptive water use. Some level of water bank input might alleviate the problem.

Trigger Level Three: The situation continues to worsen because of poor hydrology and Colorado has new water rights consuming Colorado River water. These junior water rights are causing Colorado to consume more than our entitlement on a given year or maybe the last three years. The trigger will be satisfied by using the storage and water bank identified in trigger two plus 25% reduction in consumption by those junior-junior water right holders. The junior-junior water right holders might be front range entities and/or they might be west slope entities. After one or two years of observing this trigger and meeting the requirements, the hydrology improves and deliveries at the State Boundary allow junior-junior rights uses to return to the situation characterized by the trigger level indicated by the deliveries.

Trigger Level Four: The situation has continued to worsen beyond that in level three. This level of problem may force market conditions to start to play a greater role in solving the problem. Lease fallowing on both sides of the mountains above the amount that participated in the water bank might come into play. But, a given set of conditions for meeting the trigger have to be structured. State storage and all water bank participation would be used. Junior-junior consumptive use would be reduced 50%. The GBRT recognizes that there will be market driven actions, that we have not identified, come into play. The GBRT would implore that condemnation or total buy and dry scenarios would not be employed at this level of shortage. Again as hydrology improves, if it does, everything returns to normal.

Trigger Level Five: This condition will be identified for our purposes as the last resort to prevent a Compact Curtailment from occurring. It would most likely require that all junior-junior rights would need to be curtailed and much of the agricultural water would go to domestic uses on a fallowing basis. The ag. water would be leased only on a temporary basis so that as hydrology and adaptation of water use changed water would return to agriculture. It is our belief that at some point in the future that water will be as important for food production as it will be for showers. Preventing a curtailment in this scenario is better than allowing it to occur because the opportunity to return to "normal" is easier than trying to recover from the effects of dealing with Compact Curtailment.

Under some trigger level the market for further Colorado River water development has lost its appeal and other market forces really start to exert pressure on change of uses of existing water rights all over the State, but we think that between will thought out storage scenarios to obtain as much benefit as possible from big hydrology events and using the ten year running average situation of the 1922 compact, and using a risk management

process something like what we have described, that Colorado should be able to develop it's entire Compact Entitlement.

Example 2 of trigger response

Trigger Level one: The State would be responding to a situation of severe drought over a number of years. The State identified storage and water bank participation will satisfy the situation.

Trigger Level two: Some number of junior-junior water rights are now diverting and have been for some number of years. Hydrology may be marginal and the forecast is not good. The junior- junior rights are curtailed some percentage or are administer according to priority. For example one right is for east slope use and one is for west slope use, both rights are curtailed 25%. If that allows the system to get back in balance we can expect to return to normal operations. If there are a large number of junior-junior rights diverting those rights would be curtailed in priority until the system is back in balance. Most likely the first situation would involve large volume diversions and the second situation would involve a larger numbers of small diversions.

Trigger Level three : The situation continues to worsen because of hydrology. Those junior-junior diverters are further restricted to 50%, if the situation involves large diverters. If a large number of small diverters are creating the situation then they will be administer totally out of priority and other of the tools will be used to balance the system. Lease fallowing and strict conservation could temporarily be implemented.

Trigger Level four: The situation reaches a critical point, and we have no choice but to curtail all junior-junior rights, understanding that the market will be creating many other potentially negative factors. But it appears to us that recovery from this situation would be far superior to recovery from a full compact curtailment. In our opinion, recovery from curtailment is nearly impossible for agriculture. We think ag water will all be purchased for municipal protection from curtailment. In that scenario junior –junior appropriation will continue to the very point of curtailment, without control. Because of the ten year running average with normal hydrology to declining hydrology when curtailment occurs those entities depending upon the junior-junior rights will be forced to replace them permanently, thus the buy out or condemnation of large amounts of ag water. It appears to us that a curtailment will be in place for a number of years unless an abnormal hydrologic event would occur. Therefore another reason ag water would be demanded for an extended period of time even if municipal providers were willing to lease water back to agriculture. The longer water is away from ag the less likely agriculture is to maintain a viable infrastructure and economic survival.