



MEMORANDUM

October 4, 2011

TO: BOARD OF DIRECTORS, CRWCD

FROM: ERIC KUHN

SUBJECT: *COLORADO RIVER ISSUES/COLORADO RIVER WATER AVAILABILITY STUDY*

On September 14th, the River District Board met with the CWCB. One of the discussion topics was the future of the second phase of the Colorado River Water Availability Study (CRWAS). The future of Phase II is up in the air and the CWCB is seeking input on what direction to take.

It might be helpful to review the history of CRWAS. When we met with the CWCB, Jennifer Gimbel made reference to the study history. At the beginning of the Roundtable process, several CWCB members wanted to continue the Statewide Water Supply Investigation (SWSI) by focusing the next phase of the study on three or four large transmountain diversion projects. Representative Kathleen Curry, who was then the chair of the House Agriculture Committee, refused to support funds for the study.

At one of the early IBCC meetings in Lakewood, the West Slope members suggested that the CWCB conduct a study on how much water might be available for development before leaping into a study of a new transmountain diversion.

At that meeting, I remember making the point that the study would never be able to provide a range based on different compact, hydrologic and climate assumptions. In 2007, the CWCB construction fund bill including funding for the study.

The CWCB staff scoped the study in two phases. The first phase examined water availability under three basic sets of hydrology; the gage record (1950-2007); paleohydrology; and, climate change. The study assumed existing projects and existing demand levels. For irrigation demands, the amount of acreage under cultivation was fixed, but under the climate change scenario, crop irrigation requirements were allowed to increase based on temperature increases. Phase II was intended to update the Phase I hydrologic results by operating existing projects at full demands, include reasonably foreseeable projects and study "what ifs."

The study consultant issued the public draft report in March 2010. Rather than proceed immediately with Phase II, the CWCB instead decided to conduct a very thorough public review of Phase I and correct some technical issues associated with the climate change 2070 modeling effort.

It is also very clear that the CWCB (and its staff) is concerned with the politics of the study. The study results showed a range of results to the basic question of how much Colorado River water is available for development. Under climate change hydrology, the amount of additional water left could be as low as zero. There are many in the Colorado water community who simply do not want to accept or deal with this potential reality. The CWCB has now released the comments and responses to the Phase I report. Most of the comments from the Front Range were critical of even showing a range of water availability.

The CWCB plans to have its consultant finalize the Phase I report later this year. The report will make some technical improvements for the 2070 hydrology, but the bottom line is not going to change. Additionally, I think that it is probable that the CWCB will remove the table showing the ranges for compact water availability. The CWCB and Attorney General's staff believe that it may be more appropriate to put this table in the Compact Compliance Study. However, this study may not be a public document.

This issue may not be resolved. CWCB director John McClow noted that taking the table out only makes matters worse; "everyone who cares about this issue already has a copy of the draft report and no changes have been, or will be made to the report that will update or change the ranges."

The question that the CWCB put to the River District Board in September was "what do we do with Phase II?" Given the politics of Phase I, this is not an easy question. There are a couple of points to consider:

1. A primary policy motivation for the study was to give the West Slope Roundtables a better understanding of whether or not water is available for a new transmountain diversion. Without addressing this fundamental question, how can we ever expect to reach an agreement between the East Slope and West Slope?
2. Not addressing existing projects at full demands and reasonably foreseeable projects is a very serious problem. For example, under the 1950-2007 gage hydrology scenario, the range of available water is 200,000 to 600,000 af. The difference is the legal uncertainty associated with the Mexican Treaty delivery. If the assumption is that the Upper Basin's obligation at Lee Ferry is 82.5 maf/10years (includes 7.5 maf/10 years for Mexico), then the available water is 200,000 af.

Existing projects and foreseeable projects such as full use of Denver's Dillon Reservoir/Roberts Tunnel system, Windy Gap, Moffat expansion, Animas-LaPlata, etc., could easily consume that 200,000 af. Again, this is based on post-1950 gage hydrology, NOT climate change.

3. Addressing climate change is both technically and politically challenging, but are those sufficient reasons to avoid the issue? Developing hydrology scenarios based on climate change raises numerous uncertainties and the science will

probably always be under revision. The real question is how do we do water planning given the uncertainties? The issue really can't be avoided. Reclamations' Colorado River Basin Study will be examining the Colorado River under climate change conditions. Terry Fulp showed some of the early results at the River District's seminar. These results are somewhat surprising. The mean annual natural flow at Lee Ferry for 2050-2060 is expected to be about the same (a little bit more) than the mean natural flow for 1988-2007 (13.8 vs. 13.6 maf). The big surprise is likely to be the increase in demands caused by existing irrigation due to future temperature increases.

4. One option might be to accept the basic results of the Phase I study. There is significant uncertainty as to how much Colorado River water remains to be developed. The answer could be as little as zero. The focus of the Phase II study could then be on how to proceed with further development given the uncertainty. At the last IBCC meeting there was general consensus that we need to spend more time addressing Colorado River risk management strategies.

REK/ldp

