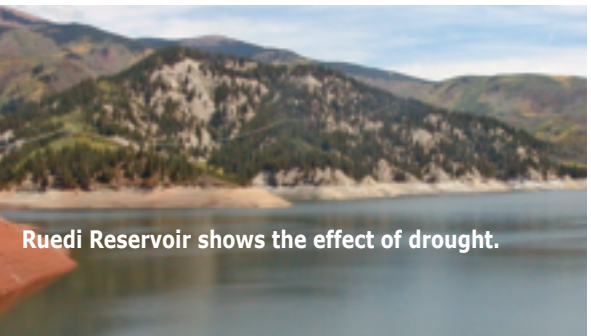


The “Big River” Issues

Five years of sustained drought in the Colorado River Basin have pushed the Colorado River to its limits. Despite 80 years of reservoir construction that engineered considerable reliability into the Colorado River’s capacity to deliver water, the river is still not immune from drought.

The lasting image coming from this most recent drought period is the increasingly shallow Lake Powell, with its “bathtub ring” exposed, reemerging slot canyons and ever-lengthening boat ramps chasing after water. However, Lake Powell is fulfilling its primary function as a storage vessel to meet the water delivery requirements to the Lower Basin states of California, Nevada and Arizona as dictated by the Colorado River Compact.

The current drought has resurrected a number of questions that lay fallow during the previous two wet decades. What will happen if Lake Powell cannot provide the Upper Basin’s water obligations to downstream states? What conditions will prompt the U.S. Department of the Interior to declare a shortage on the Colorado River? How and when will we resolve numerous other details about the Law of the River that remain in dispute?



Ruedi Reservoir shows the effect of drought.

The tremendous watershed of Colorado’s mountains appears in dramatic contrast to the arid features of the landscape near the confluence of the Colorado and Green rivers.



The potential implications of these “Big River” issues are troubling for Coloradans, and the Colorado River District is focusing a great deal of attention on these interstate water questions. In 1937, the Colorado General Assembly charged the Colorado River District in its enabling legislation to “safeguard for Colorado, all waters to which the state of Colorado is equitably entitled under the Colorado river compact.” Colorado River District staff, in particular General Manager Eric Kuhn, have been touring the state of Colorado, and other basin states as well, to highlight the need for settling disputed interstate river management issues cooperatively. Colorado and other basin states require greater certainty and equity to deal with looming water shortages should drought conditions persist. Texts of these presentations are available on the Colorado River District’s website at www.crwcd.org.

The Issues:

Quantity When the Colorado River Compact was hammered-out in 1922, the negotiators estimated the average flow of the Colorado River at Lee Ferry was 17.3 million acre-feet (MAF) of water. The Compact allocated 16 MAF to the seven states along the Colorado River. However, since the Compact was signed, we have come to recognize that the river’s average annual production is in the range of 13.5 to 15 MAF, as much as 4 MAF less than expected.

Mexico The Compact anticipated that Mexico would have interests in the Colorado River, yet left the matter to the federal government to work out an acceptable treaty. Figuring on at least 1.5

MAF of surplus flow after the seven U.S. states had their fill, the Compact allocates Mexico’s share to come from this surplus. Any shortage to Mexico remaining after use of the “surplus” would be split by the Upper and Lower Basin segments in the U.S. In 1944, the U.S. and Mexico negotiated an annual delivery of 1.5 MAF, with exception for surplus years and severe drought. Numerous questions remain about where Mexico’s share comes from. The role of Lower Basin tributary rivers, such as the Gila, in fulfilling the Mexican treaty requirements, is still in dispute. Lake Powell has been operated to release 0.75 MAF for Mexico even when Lower Basin states have taken advantage of surplus water deliveries. The Mexican treaty remains a loose end in need of being tied-up.

Article III(a) vs. III(d) An inherent conflict lies within the Colorado River Compact. Article III(a) provides an allocation from the Colorado River of 7.5 MAF each to the Upper (Colorado, Utah, New Mexico, Wyoming) and Lower Basins (California, Nevada, Arizona). Article III(d) requires the Upper Basin to not deplete the flow of the river to less than 75 MAF over consecutive 10-year periods. The question arises, which factor is controlling? Is the Upper Basin guaranteed an equal share of the river or does the delivery of a set amount of water to the Lower Basin control?

Gila River The vast majority of the flow of the Colorado River is produced in the headwater areas of the Upper Basin. However, there are significant tributaries on the lower half of the river, notably the Gila and Verde Rivers in Arizona. The Compact entitles the Lower Basin to an extra 1

MAF of water from Lower Basin tributary rivers. But, Arizona has been using over 2 MAF from the Gila River alone. Should the Gila River and other lower basin tributaries be used to meet the 1.5 MAF obligation to Mexico?

How much water does Colorado get? It depends upon assumptions. In a perfect world, Colorado should receive 51.25% of the Upper Basin’s 7.5 MAF allocation, or just over 3.8 MAF. Given that the Colorado River’s long-term average flow is closer to 13.5MAF, Colorado may only have less than 3.1 MAF available for development. Colorado has been depleting 2.5-2.8 MAF per year from the Colorado River system, leaving us less than 500,000 acre-feet for future development if past hydrologic trends persist.

Will the past predict our future? Climate change is a hot button issue at the moment, but

looking back over the centuries, it appears that recent modern times (the past 100 years) have been anomalously wet. Our current drought period may very well be a return to the long-term, drier norm. If this is the case, we’ve built a house of cards based upon assumptions that this abnormally wet period will continue, and it may come falling down in the face of a drier reality. Colorado could already be at its theoretical limit for development of Colorado River water, if one subscribes to a drier forecast for our future.

Significant negotiations will be needed to resolve these pressing questions. The Colorado River District will provide counsel to the State of Colorado in its discussions with the other Basin states and federal agencies to come to a fair settlement of these important issues.



Drought Stricken Area Alexander Hogue c1934