

## Details Matter



by Sharon B. Megdal

The two big water stories of the western United States and perhaps the nation are California's water crisis and the potential for a shortage declaration on the Colorado River. Both are manifestations of drought conditions, as California has experienced a multi-year drought in its critical watersheds and the Colorado River Basin is in its 15<sup>th</sup> year of drought. The implications for the two states are different thus far. While California is experiencing a widespread water crisis, Arizona is not. California has only recently enacted groundwater management legislation. Arizona has managed groundwater in designated Active Management Areas (AMAs) since 1980. The Arizona Water Banking Authority has been storing water underground for almost 20 years in preparation for potential shortages. California does not have such extensive groundwater storage.

Many point to Arizona's groundwater management and water storage as evidence of sound water management and good planning. As I respond to inquiries about Arizona water management practices, I try to include details that are important to understanding both the strengths and the limitations of Arizona practices. I would like to use this column to discuss just a few of the details I think are necessary to developing a complete picture of the state's water situation.

My first example is the Arizona Assured Water Supply (AWS) Rules for the AMAs, a foundational element of groundwater management. The AWS Rules, which require demonstration of a 100-year water supply for new subdivisions, are complex and vary across Arizona's five AMAs. A detail not often mentioned is that, per the AWS Rules, the demonstration of 100-year physical availability of water may depend on water pumping to a depth of 1,000 feet below land surface. The Arizona Department of Water Resources (ADWR) examines carefully the hydrological studies related to physical water availability and performs very strict accounting of groundwater use, recharge, and replenishment. Yet some potential for localized aquifer draw-down remains. Though this matter is well-recognized by the water community and has been the subject of discussion and policy proposals, it is as yet not fully resolved.

My second example refers to another complex component of the AWS Rules, namely provisions related to meeting the rules' requirement that water use be consistent with the AMA management goal through membership in the Central Arizona Groundwater Replenishment District (CAGRDR). Pursuant to 1993 state legislation, the CAGRDR operates in Maricopa, Pinal, and Pima counties and is governed by the Central Arizona Project (CAP) Board, on which I sit as an elected member representing Pima County.

The CAGRDR is required to replenish for its members what is reported as excess groundwater pumping under the AWS Rules. CAGRDR membership is voluntary; many have availed themselves of the opportunity to join in order to develop. The CAGRDR is statutorily required to develop a Plan of Operation every 10 years. The plan submitted to ADWR in December 2014 is awaiting approval. The details I want to mention here relate to CAGRDR membership and costs. The CAGRDR must accept members that qualify pursuant to statute, regardless of the gap between water supplies secured by the CAGRDR and projected replenishment obligations. The Plan of Operation identifies water supplies that are potentially available for meeting the projected replenishment obligation. These supplies may turn out to be very expensive. CAGRDR plans and activities are not commonly on the radar screen of the water customer affected by the costs of replenishment. For some customers, CAGRDR charges show up only annually as an assessment on the property owner's property tax bill. All involved need to receive detailed information on what the framework for membership, operations, and assessment of charges means for current and future CAGRDR members and customers.

My third example of the importance of details relates to the pertinent date for an official declaration of shortage conditions for the Colorado River. Guidelines adopted by the U.S. Secretary of Interior specify the first curtailment to Colorado Water deliveries when Lake Mead's water level is projected to be "at or below elevation 1,075 feet and at or above 1,050". For CAP, the associated cutback will be 320,000 acre feet (an acre foot is 325,851 gallons of water). This amounts to just over 20 percent of CAP's annual entitlement of 1.5 million acre feet. Per the priorities established for CAP water deliveries, a cutback this significant will have impacts, particularly to central Arizona agriculture, CAGRDR replenishment, and water storage by the Arizona Water Banking Authority. Communications regarding shortage typically mention these impacts, along with reporting that deliveries to Municipal & Industrial Priority or Indian subcontractors will not be affected. The relative security of water deliveries to these customers is extremely important to communicate. In addition, I would like to note this important detail: there will be an impact on cost for those who do receive CAP water as CAP's fixed costs are spread over fewer units of water sold. The exact impact to the residential water customer will depend on the utility serving that customer. The good news for the short-term is that, even though Lake Mead's water level fell below 1,075 this June, precipitation in the Colorado watershed during May makes it very unlikely that a shortage will be declared for 2016. Another detail: the declaration depends on the water level projected for January 1, 2016 by the U.S. Bureau of Reclamation in August, 2015. A similar schedule for shortage determination pertains to future years. While it does seem that we can breathe a sigh of relief in the very short-term, a shortage declaration remains probable in the next few years.

More information about these important matters can be found on many web sites, most specifically those of ADWR, CAP, and the U.S. Bureau of Reclamation. 