Complex Water Management Issues Require Thorough and Ongoing Dialogues

By Sharon B. Megdal

We in Arizona justifiably speak of our water management accomplishments. The Groundwater Management Act, the completion of the Central Arizona Project, the storage by the Arizona Water Banking Authority, and our recharge statutes have put the most populous parts of our state on a strong footing. We have prepared for anticipated Colorado River shortages by negotiating with the other Colorado River Basin states for shortage declaration criteria that would result in more frequent shortages but more limited cutbacks to Municipal & Industrial (M&I) and Indian deliveries. The Water Banking Authority has stored millions of acre-feet of water for times when shortage would be deep enough to affect M&I and Indian CAP water subcontractors. However, challenges remain. The 2012 Bureau of Reclamation *Colorado River Basin Water Supply and Demand Study* was termed a "call to action". More recent information on the condition of the Colorado River and the probability of a shortage declaration has been referred to as a "wake-up call".

Notably, the term "structural deficit" was used in association with Colorado River allocations in a recent Central Arizona Project white paper, entitled "The State of the Colorado River". The paper states: "The continued decline in Lake Mead is due in large measure to the structural deficit that exists in the Lower Basin. Simply put, the Lower Basin uses about 1.2 million acre-feet more each year than it receives from Lake Powell and from side inflows. If steps are not taken in the next few years to correct the structural deficit, there is increased likelihood of conflict among the Basin States, the United States and Mexico." This is a most sobering acknowledgement. The briefing paper can be found at http://www.cap-az.com/documents/meetings/05-01-2014/9.%20Colorado%20River%20Report%20May%201%20Board.pdf.

The text continues: "It is the responsibility of all Lower Basin states and water users and the United States to take action to close the structural deficit. Augmentation may be an effective long-term solution, but immediate action is needed to avoid critical reservoir elevations. The only available near-term options are those that reduce system losses and reduce consumptive use in the Lower Basin."

Regarding the state of our water resources and addressing Arizona's water challenges, Kathleen Ferris, Executive Director of the Arizona Municipal Water Users Association, recently wrote in her blog: "We are desert dwellers who hope for the best and plan for the worst. Keeping the big picture in mind and having the foresight to make the bold choices and investments needed in these challenging times will ensure that we maintain our resilient water supplies." CAP Board President Pam Pickard wrote in the *Arizona Daily Star*: "If the drought continues unabated, the previously agreed-upon shortage sharing measures may not be sufficient to compensate for the Lower Basin (Arizona, Nevada and California) continuing to use more water than it receives each year. Ultimately, the extended drought on the Colorado River can only be addressed by reducing demand, curbing system losses and adding new supplies." Elsewhere in this newsletter, you can read additional perspectives on closing the gap between water supply and demand.

I often include a slide, shown here, in my many presentations that I formerly called my "Issues and Challenges" slide. More recently I have changed its title, adding the word "solutions". While not exhaustive, this list gives a flavor of our solution options and sources of uncertainty. In these presentations, I also point out that many are working diligently to identify solutions for both the near term and the longer term.

Complex Water Management Issues, Challenges, and Solutions

- Growth and the need for additional supplies (competition)
- Drought/climate variability
- Water-energy nexus
- Water quantity assessments
- Water quality
- Desalination
- Use of recycled water for potable and other water needs
- Access to and utilization of renewable supplies
- Transboundary water issues
- The surface water/groundwater interface
- Riparian areas and other environmental considerations
- Water rights settlements
- Conservation programs
- Water storage and recovery (water banking)
- Groundwater replenishment
- Water cost/pricing
- Water planning

Uncertainty!

Let me say very clearly that we are not in a water crisis, but also clearly state that we face some very serious challenges. This is the time for attention and participation of *all* stakeholders, not only the water community. We need to work with the Arizona Department of Water Resources as it engages in the dialogue envisioned when it released its "Strategic Vision for Water Supply Sustainability". We need active and continuing education and dialogue on these matters in order to foster better understanding of these challenges. Only if we understand them, can we develop and implement the necessary multi-faceted solutions, which are unlikely to come cheaply or quickly. We must work together. It is time for all to engage.