



## Public Policy Review

by Sharon Megdal

### Beachside, Columnist Ponders Arizona's Water Resources' Horizon

*Major accomplishments don't always get their just public due*



Every summer I spend about two weeks enjoying the cool air, beaches and newspapers of Southern California. My beachside newspaper reading included coverage of speeches of Gov. Schwarzenegger explaining his new \$5.9 billion spending program for California's water system. The call to action was attributed to the confluence of three challenges: climate change, growth and drought.

Reading the articles prompted me to reflect on the status of Arizona's dialogue on water resources management. Fundamentally, our state faces the same challenges as California. How do we ensure that current and future populations have safe and adequate water supplies in the face of rapid growth, drought, and climate change? What investments are needed? What will it mean to Arizona communities when shortages on the Colorado River require cutbacks in water deliveries through the Central Arizona Project? To what extent will municipalities use water currently allocated to agriculture? How big a role does conservation play in meeting future water demands? What will be the source of the next bucket of water? Explaining the soundness of our Active Management Area systems despite various unknowns is often difficult.

Many of us devote considerable time explaining the accomplishments, as well as challenges, of Arizona's water management system. I still refer my students and others to the 2001 Final Report of Governor Hull's Water Management Commission. Although the numbers may be dated, the basic findings still pertain. I also mention the report prepared for the 2004 Arizona Town Hall on water along with many other papers and presentations.

Yet some of our major accomplishments are our best kept secrets, unknown at least to the public. Consider the following: our AMAs have assured water supply rules with more stringent demonstration of water availability for residential growth than anywhere in the country. Consider also that to address the prospects of shortage declaration on the Colorado River, the source of 2.8 million acre feet of Arizona's water supplies, the Arizona Water Banking Authority has stored millions of acre feet of Colorado River water. It might as well be a secret to most residents that we've had this legislatively created body in place for over 10 years. Further, how many people know that our state's water leadership has worked tirelessly to mitigate the impacts on Arizona of its junior priority of the Central Arizona Project? State water officials have vigorously urged the proposal that declarations of shortage will not necessarily mean cutbacks in water to the cities. Even if cutbacks are required, farsighted planning has resulted in water being stored over the last ten years that could be used to mitigate the impact.

The Statewide Water Advisory Group recently focused on wa-

ter management challenges for the non-AMA areas of the state. Its labors paid off when some of its key recommendations became law last legislative session. Non-AMA portions of the state are beginning to stock their community toolboxes with water management tools.

In many ways, we, the people of Arizona, are in this together. As the state grows into its allocation of Colorado River water and water use increases, identifying the water policies and investments to shore up our water future is critical. We need to seriously consider the use of effluent for more than turf irrigation. With improvements to treatment technologies, we will better understand cost and quality implications of alternative approaches to treating various source waters. Many people are greatly interested in the potential of seawater desalinization to expand Arizona water supplies, but at what cost and over what time horizon?

According to foremost experts, climate models agree that the Southwest is going to be on average drier and warmer. Much of the research being done on the implications of global warming cites the need for adaptive management. But what is adaptive management? According to Wikipedia, "adaptive management (AM), also known as adaptive resource management (ARM), is a structured, iterative process of optimal decision-making in the face of uncertainty, with an aim to reducing uncertainty over time via system monitoring. In this way, decision-making simultaneously maximizes one or more resource objectives and, either passively or actively, accrues information needed to improve future management. AM is often characterized as 'learning by doing.'"

A key word here is "uncertainty." Decision making under uncertainty is not new, but the types of uncertainty and the ways they affect decision making may be. For example, information on the length and severity of historical droughts, acquired through tree ring studies, provides input for modeling the Colorado River and scenario building. Improved decision support tools, often crafted in collaboration with university researchers, can help water managers and policy makers understand the options available and the implications of following one path versus another. Development of improved treatment technologies also results from partnerships among the academic, public and private sectors.

We are in this together in the broadest sense — the decision makers, the researchers, the technical and water professionals, and the public. We need to work diligently to develop an understanding of solutions to our water management challenges. We need to be ever-vigilant in implementing our water policies and in monitoring. Inside and outside AMAs, we need to work to identify the assured water supplies to accommodate growth. We ought to watch the responses of California to critical issues like climate change. It is essential that the dialogue on Arizona's water management be broad and deep. 🏠