



# AWWA DIRECTOR'S REPORT

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## Water Conservation

**W**ATER CONSERVATION CAN BE A POWERFUL TOOL in meeting present and future water needs for the residents and businesses of the State of Arizona; to this end, conservation efforts are important in meeting the water needs of the state.

Conservation (or the lack of it) played a crucial role in the delivery of the Central Arizona Project (CAP) to Arizona. In 1968, President Lyndon Johnson signed the legislation authorizing the CAP. However, during the Carter administration, President Jimmy Carter withheld funding for the project until Arizona agreed to stop overdrafting its groundwater. President Carter's actions led to Arizona's 1980 Groundwater Management Act which established several Active Management Areas (AMA) around the state in locations where overdrafting or the threat of overdrafting was a problem. The Groundwater Management Act requires different things from different AMAs. The Arizona Department of Water Resources has listed the measures for each AMA on its website. Those goals are printed below.

*Phoenix AMA – “The goal of the Phoenix AMA is to achieve safe-yield by the year 2025 through the increased use of renewable water supplies and decreased groundwater withdrawals in conjunction with efficient water use.”*

*Pinal County AMA – “The management goal of the Pinal AMA is to allow development of non-irrigation uses and to preserve existing agricultural economies in the AMA for as long as feasible, consistent with the necessity to preserve future water supplies for non-irrigation uses.”*

*Prescott AMA – “The Prescott AMA has a statutory goal of achieving safe-yield by 2025. Safe-Yield is a groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area. The safe-yield goal is a basin-wide balance. Recharging water in one part of the AMA can offset groundwater level declines in another portion of the AMA.”*

*Santa Cruz AMA – “The management goal of the Santa Cruz AMA is to maintain a safe-yield condition in the active*

*management area and to prevent local water tables from experiencing long term declines.”*

*Tucson AMA – “The Tucson AMA has a statutory goal of achieving safe-yield by 2025. Safe-yield means that the amount of groundwater pumped from the aquifer on an average annual basis must not exceed the amount that is naturally or artificially recharged. The safe-yield goal is a basin-wide balance. This means that water level declines in one portion of the AMA can be offset by recharging water in another part of the AMA.”*

As noted above, safe yield occurs when no more groundwater is pumped from the aquifer than is returned by natural or artificial means. Safe yield is included in four of the five AMA goals. The Pinal County AMA is the only AMA that is not working toward safe yield; instead, Pinal County is



working to sustain an agricultural economy for as long as is possible while preserving water for future non-agricultural uses.

In spite of the safe yield goals, Arizona's population explosion is making safe yield increasingly difficult to achieve. One method of working toward safe yield is the development of a conservation ethic within the state's cities and towns. To this end, many conservation programs have been

developed and implemented by a number of water companies and government jurisdictions. Water conservation can take place in both commercial and residential settings. However, because commercial settings vary widely, this article will focus on residential conservation programs. To promote a conservation ethic among its residents, state and local governments have developed a number of statutes and ordinances that promote conservation and restrict water uses.

Examples include the state's rule that restricts the purchase or import of high-water use residential plumbing fixtures. The state has mandated that bathroom and kitchen faucets and replacement aerators deliver no more than an average of three gallons-per-minute at a pressure of 80 psi. Toilets can use no more than 1.6 gallons of water per flush, and evaporative cooling systems and decorative fountains must be equipped with water recycling or reuse systems.

At the local level, a number of jurisdictions have instituted ordinances that provide incentives to residents to purchase specialized low flow appliances and irrigation systems.

The City of Chandler provides rebates to residents for the installation of an irrigation timer. The city also provides a rebate to residents who convert or install desert vegetation in 50 percent of their yard. (This ordinance is restricted to residents who have more than 1,000 square feet of landscapeable property.)

The City of Tucson has an ordinance that prohibits the flow of water off of private property onto public streets or non-irrigated areas such as parking lots. When Tucson's "Water Cops" learn about commercial property owners (and sometimes residents) whose water use (usually irrigation) results in water flowing into these public areas, they will visit the individual or business. In some cases, fines will be assessed against violators. However, visits to residents normally result in a referral to the city's Zanjero Program. The Zanjeros (City of Tucson conservation experts) visit homeowners and make

recommendations about how to conserve water. The Zanjeros also respond to residents who request a water audit. During these audits, the city's conservation experts make recommendations to homeowners on ways they can save water both indoors and outdoors.

Although four of the AMAs are working toward safe yield, Arizona communities outside of the AMAs also promote residential water conservation. For example, both Flagstaff and Sierra Vista have residential water conservation programs.

Flagstaff offers a \$100 rebate to customers who purchase new water and energy efficient clothes washers and \$100 rebates for customers who purchase dual flush and pressure assist toilets. Sierra Vista offers free technical assistance to homeowners who develop low water use landscaping. Landscape plans are tailored to the specific and unique conditions of residential land parcels.

Although the programs discussed above use tangible services, products or rebates in their conservation efforts, almost all communities in Arizona, have water conservation programs geared toward education and the development of conservation ethic. Water is a precious and important resource, especially in arid states such as Arizona. There are many ways to promote conservation among the state's residents, and water-saving efforts will impact the quality of life for the state's current and future residents.