

ISSUE A     THE 1980 GROUNDWATER MANAGEMENT ACT AND SAFE-YIELD

The 1980 Groundwater Management Act

Responding to the hazards associated with groundwater overdraft or mining, that is, withdrawing more groundwater than is recharged or replenished, and to federal policy linking continued funding of the Central Arizona Project (CAP) to effective and comprehensive groundwater regulation, the Arizona State Legislature enacted the 1980 Groundwater Management Act (GMA).

The GMA's declaration of policy states that, "The Legislature finds that...withdrawal of groundwater is greatly in excess of the safe annual yield and that this...is threatening to do substantial injury to the general economy and welfare of this state and its citizens....It is, therefore, declared to be the public policy of this state that...it is necessary to provide a framework for the comprehensive management and regulation of...groundwater in this state." (§ 45-401)

The framework for the comprehensive management and regulation of groundwater is found in a set of five groundwater management plans. "The plans shall include a continuing mandatory conservation program...designed to achieve reductions in withdrawals of groundwater." (§ 45-563)

These sections of the GMA encompass the basic objectives of AMWUA's municipal groundwater management philosophy---the achievement of safe-yield and an end to groundwater mining in the Phoenix Active Management Area (AMA).

Safe-Yield

The management goal of the Phoenix, Prescott and Tucson AMAs is safe-yield by January 1, 2025 which provides a long-term balance between the amount of groundwater mined and the amount of water artificially, naturally and incidentally recharged or replenished. Under safe-yield conditions, groundwater users in the Phoenix AMA can normally depend upon withdrawing only that amount of groundwater which has been or will be recharged or replenished. Groundwater in excess of that which has been recharged or replenished may be mined when renewable supplies are not sufficient to meet existing levels of demand, for example, during a drought. To employ a banking metaphor, safe-yield means that Phoenix AMA's capital (groundwater) is saved for emergencies (drought) and only the interest earned (amount of groundwater recharged or replenished) may be routinely spent. The achievement of safe-yield means that future growth and development in the Phoenix AMA cannot rely on groundwater mined in the Phoenix AMA. Groundwater can be used, but only to the extent it is or will be recharged or replenished.

## Ending Groundwater Mining

Groundwater mining must be ended to achieve safe-yield and halt the overdraft. The physical and economic impacts of groundwater mining are serious: the ground can sink or subside; large cracks or fissures can form in the land surface; water quality problems can arise; and as groundwater levels decline, pumping costs increase. And, finally, since mined groundwater is essentially a non-renewable resource, groundwater mining today leaves less groundwater available to meet future needs and emergencies.

Groundwater mining in the Phoenix AMA can be ended in a number of ways: implementing conservation programs, substituting other kinds of water, such as effluent, for mined groundwater, restoring the groundwater aquifer through artificial recharge, augmenting existing supplies, developing renewable supplies, such as CAP water, and purchasing existing groundwater mining rights and retiring them from use.

It is incumbent that Phoenix AMA water resource management efforts move forward in all of these areas so that groundwater mining will be halted and safe-yield achieved.

Although the GMA was nationally recognized as an effective progressive model for water management when it was passed in 1980, it could not contemplate all possible water management scenarios. Amendments would be necessary over time. However, any amendments to the GMA must address the following issues:

1. What might the proposed change do in terms of groundwater mining? Will it increase? Decrease? Or will it have little or no impact?
2. What might the proposed change mean for the achievement of safe-yield? Will it be more difficult? Easier? Or will it have little or no impact?
3. If groundwater mining will be increased and the achievement of safe-yield made more difficult by the proposed change, why is that justified?
4. Will other persons or water users be affected by the proposed change? If so, how?