

# Drought

Sherry Sass, 1/31/06

It's green down by the river. Water pennyroyal, monkeyflower, veronica and watercress softly carpet the banks, and the new leaves of Mexican elder brighten the middle canopy. But on most of our watershed, the dirt has dried to powder, and no hopeful rosettes of wildflower seedlings can be found. It will be a grim spring.

As most residents are painfully aware, our winter rains have failed to appear. Even without considering the complications of global climate change, we're in a "semi-arid" location where "average" rainfall numbers paint a false picture: entire decades with "below-normal" annual rainfall are still within past patterns.

Add to this great variability in rainfall the fact that our drinking water aquifer—the saturated sediments that underlie and flank the river—doesn't store great quantities of groundwater. The situation changes as you go north: Tucson's aquifer is hundreds of feet deep and very broad. Ours is only deeper than one hundred feet near the north end of Santa Cruz County, and usually less than a half mile wide. So unlike Tucson, we in the upper Santa Cruz River valley don't have a lot of stored water to use in times of drought.

The Arizona statute that created the Santa Cruz Active Management Area, or SCAMA (from the border up to about the county line), assumed our water supply was in "safe yield" when it established the goal of maintaining that condition for the SCAMA. "Safe yield" means that on average (that misleading word again!), the amount of water used in the SCAMA region is equal to or less than the amount coming into this area, from rainfall and flows across the border.

Most AMAs are managed to slow the draining of aquifers that don't fill up nearly as fast as they are pumped out. SCAMA is the only one designed to maintain our "safe yield" equilibrium.

However, given the huge swings of rainfall we get from year to year, and the fact that pumping out of our aquifer goes on regardless—so the demand's the same, while the supply fluctuates wildly—are we really in "safe yield"?

If we're not, what happens if and when we seriously draw down our drinking water supplies? For one thing, it would kill the beautiful riparian trees that provide natural (free) flood control and natural (free) water purification services while also supporting the vast majority of our wildlife. For another, effluent (treated wastewater) discharged into the river at Rio Rico, not to mention the suspect flows from the Nogales Wash that reach the river, could get sucked into a depleted aquifer and endanger the purity of our drinking water. And finally, we might just run out. Can you imagine turning on the tap and getting...nothing?

Fortunately, agriculture makes up a lot of our current water use, and can theoretically cut back in times of drought. Unfortunately, given the building explosions in Rio Rico and Tubac, there's a good possibility that most of our water use in the future will be for residential/municipal needs, which can't be easily reduced when supplies are low.

Perhaps it's time to reassess our assumptions, and plan for keeping our watershed "in balance" with a more realistic idea of what true water sustainability will require. We may be jeopardizing not only our future, but even our present, by using more than we have.