



SAFE YIELD

What is it? Why is it important? How do we achieve it?

What is SAFE YIELD?

In Arizona, safe yield refers to a long-term balance between the water that is naturally and artificially recharged to an aquifer and the groundwater that is pumped out. When more water is removed than is recharged, the aquifer is described as being out of safe yield. When the water level in the aquifer then drops, we are said to be mining groundwater.

The communities in the Prescott area get their water from a common aquifer located in the Prescott Active Management Area (PAMA). As the population of the PAMA grew, so did its demand for water. That increasing demand for water eventually exceeded recharge. The PAMA was officially declared out of safe yield in 1999, and the communities were told to stop mining groundwater and achieve safe yield by the year 2025.

Why is SAFE YIELD important?

Achieving safe yield is important primarily because the continuous reduction in the groundwater level in the aquifer cannot go on forever. The aquifer at some point will not be able to supply water in an economical or even physical sense. Before that occurs, other problems will appear. Existing wells will go dry and have to be drilled deeper at significant installation and operating costs. The drop in the water level will change the soil structure, which may then compress, a phenomenon known as ground subsidence. Ground subsidence can result in significant damage to properties and structures.

One early effect of a drop in groundwater level is the reduction and eventual elimination of groundwater flow to our streams. This reduction is occurring now, and complete elimination of groundwater flow to streams is expected. The groundwater law does not prohibit this from occurring. Such loss of permanent stream flow will adversely affect wildlife and recreational opportunities.

The timing and extent of these problems are beyond the scope of this bulletin. The State of Arizona's requirement that we achieve safe yield relatively soon is sufficient in itself to indicate that we do not want to explore the lower limits of our aquifer.

How do we achieve SAFE YIELD?

Safe yield can be achieved by a combination of methods. Water conservation will reduce demand. Wastewater that is collected in sewers and treated can be recharged to the aquifer in specifically designed facilities. (This is the artificial recharge described earlier.) Water can be imported from sources outside the aquifer. Lastly, demand for water can be limited by limiting the growth in population.

Each of these methods may be considered undesirable in some way. Their analysis is beyond the scope of this bulletin. Our purpose here is to make the reader aware of the issue and hope that he or she will want to learn more and become involved as our communities make decisions that affect our water supply. *Citizen involvement is particularly important for this issue because achieving safe yield is merely a goal and not a requirement.* There are no legal penalties. Citizens' demand for a sustainable water supply is critical.

~ Those interested in learning more about local water issues and how our citizen based group is working with area officials are encouraged to visit our website at www.cwagAZ.org. Please join with us by attending our meeting held on the second Saturday of each month, 10am-Noon at the Granite Peak Unitarian Universalist Congregation, 882 Sunset Ave in Prescott.