

Talk of the Town

Officials muddle water importation debate

By JOHN ZAMBRANO
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In 2006, American Rivers designated the Verde River as one of the nation's 10 most endangered rivers.

The endangered portion is the upper 22-mile stretch from the river's confluence with Granite Creek to Perkinsville.

The Upper Verde is a natural riparian area, serving as home to abundant wildlife and a recreation area for humans. The threat is the potential loss of base flow, the flow that comes from groundwater. A river without base flow is ephemeral, a dry wash except during precipitation. Thus, the very existence of the Upper Verde River and its wondrous habitat is under threat.

Officials have muddled discussion of the endangered Verde by referring to high base flows in the middle portion or the high flows that occur during storms. Those flows are not at issue.

This past spring, a U.S. Geological Survey report determined recent sources of base flow to the Upper Verde River as follows: 80 percent to 86 percent from the Big Chino aquifer; 14 percent from the Little Chino aquifer and zero to 6 percent from an aquifer to the north of the river near Big Black Mesa. It is obvious the Upper Verde depends almost entirely on

groundwater from the Big and Little Chino aquifers.

The Little Chino aquifer serves the growing communities in the Prescott area. Its water table is decreasing. Although the area has a goal to achieve safe yield and stop the decline, that goal allows the decline to continue until all natural outflow ceases. It is easy to see that the Little Chino will stop contributing groundwater to the Upper Verde and relatively soon.

The Big Chino aquifer serves primarily agricultural uses today, but residential development is increasing and becoming significant. Just as important, the communities in the Prescott area have a legal right to import groundwater from the Big Chino.

The outflow of groundwater from the Big Chino is only to the Verde River. As such, any removal of groundwater will result in an equal reduction of flow in the river. Three independent government investigations evaluated the natural or pre-development contribution of the Big Chino as approximately 24,000 acre-feet per year (AFY). Withdraw this amount and the Big Chino no longer would contribute groundwater to the river.

The Prescott area legally can import water from the Big Chino under two provisions. First, the City of

Prescott has a special provision that allows importation of 8,717 AFY (acre feet per year). It will share this water with Prescott Valley and the two municipalities are designing a pipeline to bring in that quantity and more.

The second provision allows any municipality in the Prescott Active Management Area (AMA) to obtain water from certain historically irrigated acres (HIA) in the Big Chino. The Department of Water Resources has identified the qualifying acreage, and the amount of water that Prescott may import is 9,923 AFY. Together, the two provisions allow exporting 18,640 AFY from the Big Chino aquifer and thus from the Verde River.

If the municipalities import the allowed quantity, the remaining flow to the river from the Big Chino would be about 5,400 AFY. Current agricultural and other uses in the Big Chino already exceed this value. Agricultural use may diminish either by itself or as municipalities retire agricultural land to acquire HIA rights.

However, residential development alone soon will exceed 5,400 AFY. The effect would be no contribution from the two sub-basins to the river. Flow in the Upper Verde would consist only of

the contribution from the aquifer near Big Black Mesa, which the USGS estimates to be about zero to 1,080 AFY. The Upper Verde River would be ephemeral.

Will the municipalities import all 18,640 AFY? The purchase of Big Chino Water Ranch by Prescott with Prescott Valley allows about 12,600 AFY because of the special Prescott exemption and the ranch's HIA right. Other communities in our area will import water, and most public officials have expressed a desire to continue rapid growth.

Can we mitigate the effects of importation? The mitigation option most often mentioned is the cessation of irrigation in the Big Chino, but as you have seen, the analysis above assumes that all irrigation ceases. Other mitigation options appear problematic.

Officials talk about preserving the Verde. The public needs to demand clear plans that limit importation and mitigate for the amount imported.

These plans should begin with an environmental impact statement for any importation project.

(John Zambrano is a retired environmental engineer and vice president of the Citizens Water Advocacy Group.)