

Column: Water more precious than diamonds

By STEVE WILLING, Special to Prescott Newspapers

Originally Published: July 14, 2016 5:57 a.m.

Much of the world is facing an unprecedented water crisis. To understand the magnitude of our own water challenges ahead, it's necessary to see them in a global context.

While close to 70 percent of the earth's surface is covered with water, only 2.5 percent of the world's water is freshwater, and of that amount only about 1 percent is accessible. Demand for that limited supply has vastly increased and continues to grow.

Since the turn of the 20th century, fossil fuels have enabled large-scale pumping of groundwater, which in turn has driven agricultural output and allowed the global population to more than quadruple (from 1.65 billion to 7.4 billion).

Economists have long used the "diamond-water paradox" to illustrate the relative "value" of things. While water is essential to life and diamonds are comparatively less useful, water has often been valued far less because its supply has seemed to be almost unlimited. That era is now coming to an end.

Many major rivers, including the Nile, Indus, Rio Grande, and Colorado, are completely utilized and no longer reach the sea. Around the world, groundwater is being depleted at an alarming rate, including aquifers that support some of the world's most critical agricultural regions such as the Punjab in India and the Great Plains and California's Central Valley in the U.S.

As water supplies become more uncertain for the future, water rights are being rapidly bought up. In rural Arizona, for example, agribusinesses from California and as far away as Saudi Arabia are already purchasing land and pumping groundwater to grow crops for export, thereby turning arid Arizona into an exporter of "virtual water."

In Phoenix, Nestle announced plans in May to open a plant that will bottle millions of gallons from the aquifer.

The American Southwest is in a precarious situation, with over 30 million people depending on the over-extended Colorado River. The Colorado River Compact of 1922 allocated the water based on streamflow records from an unusually wet period that suggested an annual flow far greater than has turned out to actually be the case. Making matters worse, the region is currently in the 17th year of a serious drought.

Lakes Powell and Mead are at historic lows, and there is a significant chance that Arizona's share of Colorado River water may be cut back within the next few years.

The prognosis for the future is not encouraging, as a warming climate is already causing reduced snowpack and earlier melt in the river's watershed, resulting in less runoff to the reservoirs. There may be some difficult legal battles ahead as the affected states defend their water allocations in the face of diminishing supply and an ever-growing population.

In Arizona, the situation is even more challenging for those areas (including Yavapai County) that have no access to Colorado River water and must rely on groundwater. The Arizona Groundwater Management Act of 1980 attempted to address the problem of groundwater overdraft by designating Active Management Areas (AMAs) in which certain restrictions apply to agricultural irrigation and new development. Only 13 percent of the state is covered by an AMA, however, and in non-AMA areas there is no regulatory authority that can deter out-of-state or foreign interests from moving in to take their groundwater.

Much of the Prescott area is covered by an AMA, which aims for "safe yield" by 2025. At present, however, the aquifer is being drawn down more rapidly than it is being replenished, and even within the AMA it will not be easy to achieve safe yield by the target date. Moreover, the goal is made even more difficult by the lack of regulation just outside of the AMA. If a developer cannot show an assured water supply for a new subdivision in Prescott or Prescott Valley, for example, it is a simple matter to skirt the rules and build just outside the AMA boundaries. This situation will have to be addressed if we are to have a sustainable water supply for the future.

None of the water augmentation projects that have been proposed (importation, desalination, etc.) will be simple or cheap, and conservation will be key to any solution. It turns out that water is indeed more precious than diamonds, and one day we will surely regret what we fail to protect now.

The Citizens Water Advocacy Group (CWAG) will host a candidate forum on water issues Aug. 6 from 9:30 a.m. to noon. Details and list of participating candidates are at www.cwagaz.org.

Steve Willing has a degree in environmental studies and is a member of the CWAG Writing Team.