

## **Talk of the Town: Advanced water purification — our future?**

By GARY BEVERLY, Special to the The Daily Courier

Can a water treatment system both improve our water quality and reduce demand on our aquifer?

Public concern about the safety of our drinking water peaked with the announcement that PFAS were found in groundwater pumped by wells serving Prescott, Prescott Valley, Chino Valley and private water systems. PFAS is a term for hundreds of polyfluorinated chemicals that do not readily degrade, and so are known as “forever chemicals.”

PFAS are used in firefighting foam and thousands of consumer products. They are now found in rainwater and the blood of most citizens. The U.S. Environmental Protection Agency (EPA) has found human health impacts at the astonishingly low parts-per-trillion level, and has recently issued regulatory drinking water standards that municipal utilities must achieve. This will be expensive for many public water supplies.

How did this happen? There are no definitive answers yet, but we have some very strong indications. We use treated wastewater to recharge our aquifers, and tests show that even after treatment to the highest standard (A+), it contains levels of PFAS above the standards.

One alternative is for cities to spend millions to filter out the PFAS at the wellhead. Chino Valley and Prescott Valley have applied for grants. Prescott is currently in compliance with EPA’s PFAS rule, but will be hiring an engineering consultant to assist in determining the best way forward.

Recharging wastewater helps maintain aquifer water levels, but is problematic if it contaminates the aquifer. Currently, some cities employ Indirect Potable Reuse, where treated wastewater floods into ponds and soaks through soils to eventually reach the aquifer. On the way down, some contaminant reduction occurs. The treated wastewater joins the groundwater, which then serves as our water supply.

Advanced Water Purification (AWP), formerly known as Direct Potable Reuse, uses treated wastewater to produce potable water that is so pure that minerals must be added so it tastes right. AWP is an engineered combination of ultra-filtration, reverse osmosis and oxidation. This degree of treatment would allow blending of wastewater with the water supply. Costs have come down, and AWP is now being used successfully in Scottsdale, Texas and California.

The Citizens Water Advocacy Group (CWAG) believes AWP should be studied and evaluated for use in the Prescott Active Management Area. AWP could remove arsenic, PFAS and other emerging chemicals from drinking water, stop further contamination of our aquifer, reduce groundwater pumping, reduce impact on Verde River flow and save the upcoming costs of PFAS removal. It might be a great solution, but water providers must first begin to cooperate, along with looking for new solutions.

To learn more about AWP, attend CWAG's program in person or via Zoom on Saturday, Aug. 10 from 10 a.m. to noon. Frederick Tack, National Wastewater Technical Practice Leader for Consor Engineering, will present a non-technical description of AWP, the costs, where it's being used and more. See [cwagaz.org](http://cwagaz.org) for more info, to register if attending online, or to study lots of info on drinking water contaminants in the FAQ section.

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