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TOP STORY

EDITOR'S PICK

Groundwater replenishment left hanging by Arizona's new 'ag to urban' law

Tony Davis

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A newly signed bill giving developers the ability to buy and retire farmland in favor of subdivisions has been hailed by supporters as the single biggest improvement in state water law since the landmark Arizona Groundwater Management Act passed 45 years ago.

It's been promoted as a ticket to water savings, since homes typically use significantly less water than cotton fields.

It's also seen as a path to more affordable housing in the Phoenix area and Pinal County, where the law would have an impact. There, homebuilders say existing state restrictions on building new homes using groundwater have reduced housing supplies and triggered a spike in home prices. What's more, the new law went through the Legislature with overwhelming bipartisan support.

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But what's called the Ag to Urban law comes with a big question mark that centers on the often downplayed concept of groundwater replenishment. The law will significantly increase the amount of water that must be recharged into the aquifer to compensate for groundwater pumped by new homes that are built on retired farmland.

As of now, it's not clear where that extra water will come from. Several possibilities exist, but many are expensive, controversial or both. The question looms particularly large now because of the strong possibility if not certainty that Arizona will have less

Colorado River water after 2026, when the seven Colorado River Basin states hope to approve a new plan to manage the river and reduce its chronic supply-demand deficit. The Ag to Urban law will allow up to hundreds of thousands of new homes to be built over the coming decades — homes that will use farms' former groundwater. The water could be used on the former farmland or on other lands within a mile of that land.

But under the existing state groundwater law, every drop that is pumped to serve those homes must be replenished by putting into the aquifer renewable water supplies such as Central Arizona Project water from the Colorado River.



A newly signed bill gives developers the ability to buy and retire farmland in favor of subdivisions, but critics worry it leaves big questions about groundwater replenishment.

Josh Galemore, Arizona Daily Star, 2019

The agency that must do the recharge is the Central Arizona Groundwater Replenishment District, a three-county water agency that buys and recharges CAP and other renewable supplies in the Tucson, Phoenix and Pinal County areas. The

district is part of the Central Arizona Water Conservation District, which operates the CAP's canal system that pumps water uphill from the Colorado River 336 miles to Tucson.

The district's estimate is that the new law gives it a legal obligation to find and replenish another 15,000 to 20,000 acre-feet of renewable water supplies by 2044, to replace the groundwater that will be pumped for the new subdivisions allowed.

That's 22% to 29% of the amount the agency already has said it will need to replenish by 2044 to serve development already planned across all three counties.

The district supported the Ag to Urban bill in the Legislature, with its officials saying they successfully requested language in the bill to help mitigate, and help them deal with, the impacts of the projected increased replenishment obligation.

One change inserted in the bill, for instance, puts the state on record as supporting the district's goals to get renewable water from other sources. Those include buying Colorado River supplies owned by farmers operating along the river; and persuading Congress to spend up to \$1 billion to elevate Bartlett Dam along the Verde River so it can store more water for delivery into Phoenix.

"We believe the bill helps set the stage for continued bipartisan work on water issues," the replenishment district said in a statement to the Star.

Critics worry obligations can't be met

But none of the changes in the bill achieved by the district actually guarantee provision of new water supplies in the near future.

Critics of the bill say it could eventually saddle the district with obligations to recharge water that it can't meet. If that were to happen, the district could no longer get its 20-year operating plans approved by the state, and housing development in those areas that rely on groundwater would have to stop.

Worse, from the critics' standpoint, the district's new obligation comes as its long-term plans have been challenged by the state because some of the supplies it has previously counted on evaporated.

The district was told earlier this year by the Arizona Department of Water Resources that it could **no longer count on receiving** a certain class of CAP water for recharge known as "NIA" water. That's short for non-Indian agricultural water, which used to go to farmers but was long ago transferred to urban areas and tribes.

The district had proposed in its draft plan of operations to get more than half of the 68,000 acre-feet of replenishment supplies it needs by 2044 from the NIA water.



A canal ferrying Central Arizona Project water from the Colorado River makes a bend around an agricultural field in Pinal County. A new Arizona law will significantly increase the amount of water that must be recharged into the aquifer to compensate for groundwater pumped by new homes built on retired farmland. But it's not clear where that extra water will come from, especially because Arizona is expected to have less Colorado River water.

Mike Christy, Arizona Daily Star 2018

But last February, the district was ordered by ADWR Director Tom Buschatzke to remove NIA water from that draft plan, which will cover the period from 2025 to 2044. ADWR has already said for some time that with Colorado River supplies dwindling, it doesn't expect to get much if any NIA water in the near to foreseeable future.

The district revised its plan of operations in the spring to remove the NIA water from its supplies. But in his letter, Buschatzke cautioned that if an ag-to-urban bill passed while this plan is under review by ADWR, the plan "may require additional revisions" to deal with the bill's new replenishment obligations.

Given the uncertainties about the district's supplies even now, state Rep. Chris Mathis, a Tucson Democrat, said in opposing the bill that it "relies heavily on a groundwater accounting system that I believe is already fully subscribed, if not oversubscribed, and, thus, easily structurally compromised."

He cast one of 20 "no" House votes on the bill, compared to 35 "yes" votes. The Senate voted 26-4 in favor.

'Everybody is competing' for groundwater

"The idea we can keep adding to replenishment obligations in a world where the Colorado is drying up and everybody is competing for existing groundwater supplies is nuts," said Kathleen Ferris, a former ADWR director and an Arizona State University water researcher who has co-authored two highly critical reports on the replenishment district.

Both of those reports, the latest of which came out in May, questioned the replenishment district's ability to support future growth with replenishment supplies for the long term, in part because of the likelihood of continued diminishing Colorado River supplies. The reports came from ASU's Kyl Center for Water Policy.

“We are past the point where we can keep growing on groundwater with the assumption that we will replenish that groundwater through CAGRDR,” said Ferris, using an acronym for the district. “There aren’t going to be the water supplies. Our report demonstrates this. Their plan of operations demonstrates this.”

In its statement to the Star, however, the district noted that for two decades, it “has successfully met its mission to replenish groundwater for its Maricopa, Pima and Pinal County members, and the legislation passed last week will allow that to continue.

“CAGRDR is continually looking for new supplies for its portfolio. This includes a potential water acquisition partnership with the Gila River Indian Community (GRIC) to assist with the increased replenishment obligation,” the district said.

In a recent joint news release, the district and Gila tribal leaders said they’re negotiating towards an agreement in which the Gilas would provide the district with additional water to meet its replenishment obligation. The news release didn’t say whether the district would buy or lease water rights from the Gilas or how much water would be made available.

Other sources, however, said the district may get 7,500 acre-feet from the Gilas, or about one-third to one-half its replenishment need. The Gilas cut a water-leasing deal with the district in 2019 to help with the efforts to draw up a drought management plan for the Lower Colorado River Basin, which includes Arizona.

“This time we are working to help address replenishment concerns related to Ag to Urban by negotiating to deploy our water resources in a manner that helps all of Arizona,” said the Gila Community’s governor, Stephen Roe Lewis, in the news release. He said he’s been authorized to negotiate an agreement with the district “that will provide a significant supply of new water to help offset the replenishment needs of this Ag to Urban program.”

During the legislative debates on the bill, even some Democrats who voted for it acknowledged the replenishment issue remained unresolved.

Tucson Democratic Rep. Stephanie Stahl-Hamilton, in voting for the bill, said “it is amazing what we are going to get in groundwater savings. But I have a little bit of heartburn dealing with replenishment. We need to pay attention to water going back into the aquifer.

“How grateful I am that the Gila River Indian Community is stepping up to help us with the replenishment issue but we are not there yet,” she said.

New water supplies difficult to get

The district’s proposed plan of operations lays out a number of new supplies that it says are “potentially available” for it to acquire for replenishment over the next 20 to 100 years. The district is required to guarantee replenishment supplies only for the next 20 years, but must provide information in its plan showing potential supplies for 100 years.

Besides raising the Bartlett Dam and acquiring on-river supplies, other supplies the replenishment district plans to pursue are acquiring treated sewage effluent that’s now being discharged into rivers and streams, desalinated water and long-term storage credits.

The credits represent water supplies that the district and other parties have already artificially recharged into the aquifer for storage. When the district draws upon those credits, its replenishment obligation is reduced by the amount of credits it uses up. That recharged water thereby never leaves the aquifer where it was placed.

Unused Central Arizona Project supplies and groundwater imported to Phoenix and Tucson from several rural basins west of Phoenix represent other potential supplies, the district’s proposed operating plan says.

In its request to the Legislature to express support for its efforts to buy or lease these supplies, the district said, “Placing additional obligation on CAGRDR will increase competition on the acquisition of renewable water supplies, which are already

becoming increasingly scarce. This will ultimately place additional pressure on acquiring new supplies.”

Since the district will have to take on the additional replenishment obligations under the ag to urban program, it will need state support “to acquire supplies that may be increasingly expensive and/or controversial,” the district said.

Ferris, a former ADWR director during the 1980s, is openly skeptical, if not disdainful, of the notion that these supplies can help the district at least in the short term.

Acquiring any of these new supplies faces substantial obstacles, she and other Kyl Center researchers wrote in their May paper on the replenishment district.

Raising Bartlett Dam will take congressional approval and probably a decade or more for planning and construction, the report said. Any transfers of water from the river to urban areas will require the Interior secretary’s approval, Ferris said. So far, most efforts to transfer on-river supplies to Central Arizona have been stymied by opposition from riverfront residents who say such action will drain life from their local economies.

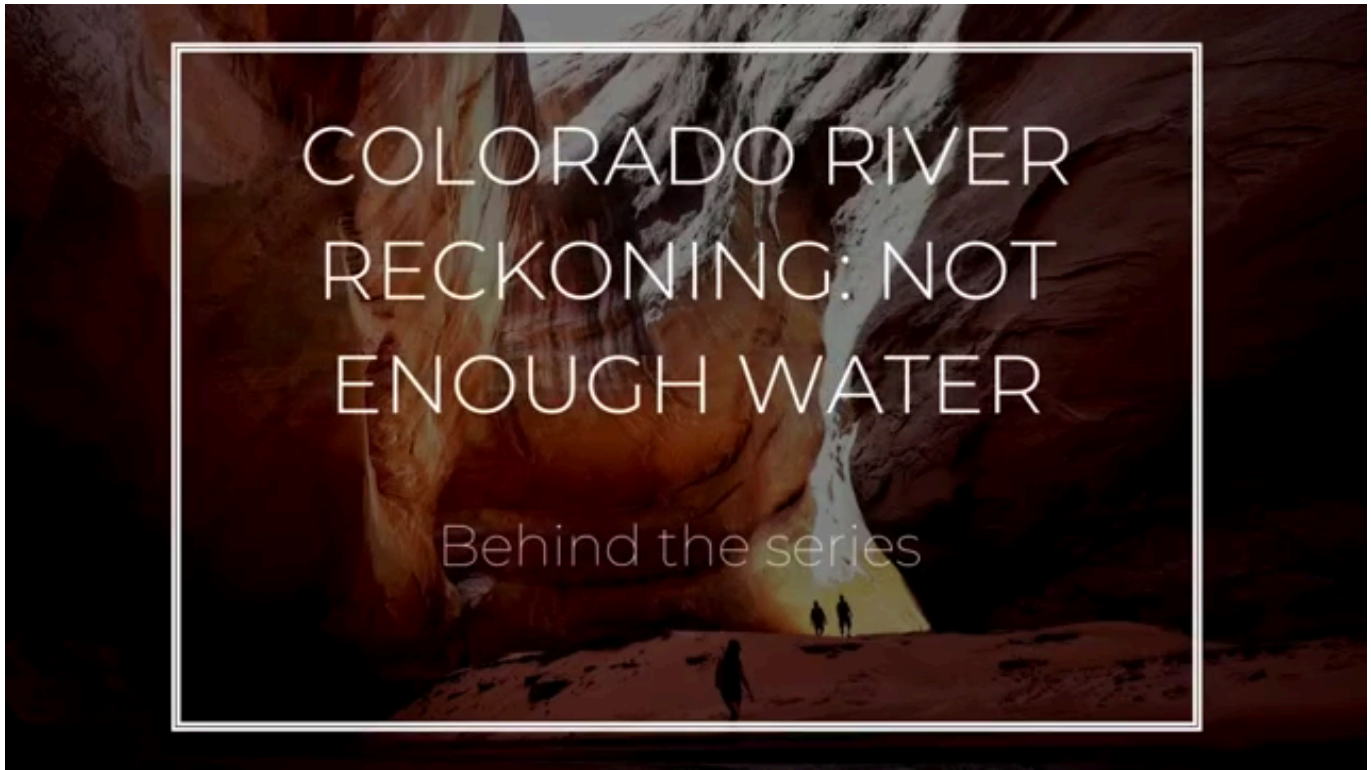
The report also noted that while three Phoenix suburbs have already purchased groundwater supplies from rural basins, the ADWR hasn’t yet approved transferring any of that water, and the costs of treating and transporting it to urban areas will be high.

In 2022, the Kyl Center report noted a governor’s advisory committee acknowledged the “quantity and accessibility” of renewable supplies in the future are as uncertain for the replenishment district as for other users.

Fewer available water supplies will likely lead to increased competition involving the district, industrial users and private and municipal water utilities, the 2022 governor’s committee report said.

As for buying water from farmers along the Colorado, the governor's committee said opposition from water users along the river and increasing costs could prove problematic for the district.

"That warning is even more relevant today," the Kyl Center report said.



Longtime Arizona Daily Star reporter Tony Davis talks about the viability of seawater desalination and wastewater treatment as alternatives to reliance on the Colorado River.

Jesse Tellez

Contact Tony Davis at 520-349-0350 or tdavis@tucson.com. Follow Davis on [Twitter@tonydavis987](https://twitter.com/tonydavis987).

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