

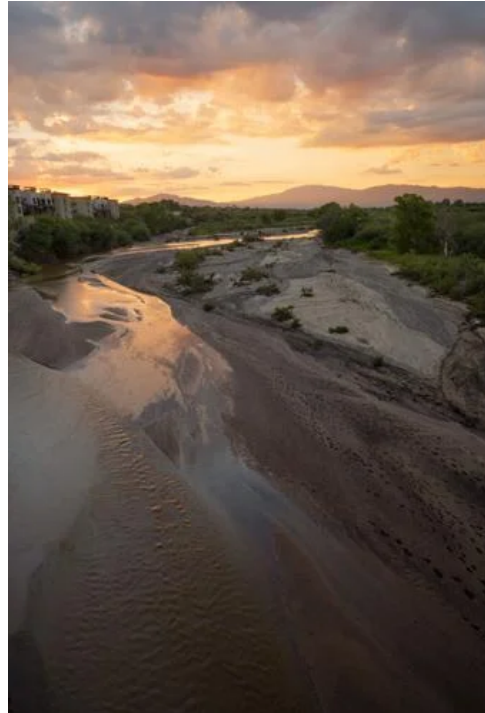
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ALERT TOP STORY TOPICAL

New Tucson plans lack measures to bring back vanished river flows, critics say

Tony Davis

Nov 5, 2023



Tanque Verde Creek looking upstream of Craycroft Road bridge. Today, stretches of Sabino, Cienega and Tanque Verde creeks carry natural flows at least part of the year. But many other rivers and streams typically carry water only after major storms due to more than a century of overpumping the region's aquifer.

Watershed Management Group

Tony Davis

As classical piano music offers a backdrop, and a half-dozen horses and their riders walk down middle Tanque Verde Creek, **Tucson Water Director John Kmiec says on video:**

“Water is the foundation of our existence. It is the very essence of what makes life possible, sustaining everything however big or small, especially here in the beautiful Sonoran Desert.

“While two-thirds of the planet is covered by water, only about 1% is available to drink or as food. We must take steps to care for it, not just for us but for future generations as well.”

The video, nearly six minutes long, explains and promotes the utility’s **One Water 2100 Plan**. Adopted Oct. 17 by the Tucson City Council, **the plan aims to set a course for how Tucson will manage its limited water supplies over the next 77 years.**

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The video opens and closes with scenes of riparian areas carrying flowing water and contains at least a half-dozen such scenes total. One of five guiding principles in the 88-page plan calls on the community to “enhance quality of life by preserving and restoring riparian areas, increasing urban tree canopy and supporting economic growth.”

But the plan contains no details about how to preserve or restore riparian areas. It deals mainly with protecting existing drinking water supplies from contamination, how to get more supplies, and how to curb water demand to create a “Sustainable Oasis.”

To the activist Watershed Management Group, which for more than a decade has advocated and worked on the ground to restore the Tucson area’s long-diminished riparian areas, the new plan contains a clear inconsistency between stated goals and actual measures.

Its officials say the health of riparian areas is integral to the health of the city’s water supply. The group proposes a complex blueprint of water conservation and strategic use of stormwater runoff and treated effluent to bring the region’s parched streams and creeks back to life.

“The (city) plan pays lip service to the ecosystem benefits of their projects, like the Santa Cruz Heritage Project (which recharges effluent into the Santa Cruz River), without any actions in the plan to enhance riparian ecosystem health,” group director Lisa Shipek said in a written public comment.

Tucson Water’s Kmiec, however, said the plan’s main goal has always been to deal with water supply and demands.

“The One Water 2100 plan — the two major drivers for that are insuring our stakeholders, the people who participated in developing the plan, that there is enough water supply and water demands to meet needs of customers today and in the future,” Kmiec said. “We will always look for future riparian opportunities where we can do our water management strategies and have public benefits at the same time. Some of those would create riparian habitat.”

The video scenes of running streams are related to promoting what Kmiec calls “in channel recharge,” in which the city artificially recharges effluent or other water supplies into an aquifer for future use — and riparian vegetation also appears, he said.

He cited the Heritage Project, the Sweetwater Wetlands and the Southeast Houghton Area Recharge Project as examples of projects where the city has recharged effluent while creating natural benefits, including a flowing Santa Cruz and a birding hotspot at Sweetwater.

“If we can help create natural amenities ... if it works, it works,” he said. “We like riparian habitat.”

“Restore our heritage of flowing rivers”

Today, stretches of Sabino, Cienega and Tanque Verde creeks carry natural flows at least part of the year.

But many other rivers and streams, including the Rillito River, Pantano and Cañada del Oro washes and much of Tanque Verde Creek typically carry water only after major storms. That’s due to more than a century of overpumping the region’s aquifer that allowed the Tucson area to grow and to serve water to homes and businesses.

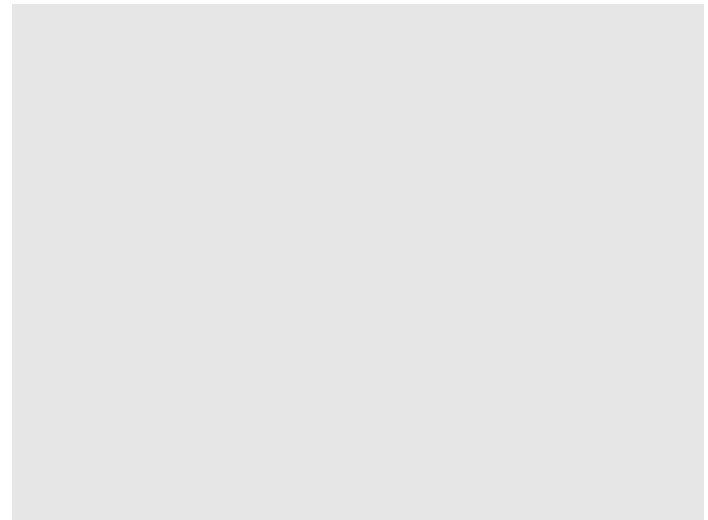
Stretches of the otherwise dry Santa Cruz River lying south of downtown and on the city’s northwest side run year-round, but only because of the discharge of treated sewage effluent into them.

The watershed group’s officials spent time rounding up and organizing supporters to write public comments on an earlier draft of the One Water plan, urging that it pay more attention to riparian areas. Close to 25 people responded with written comments, or close to one-third of the more than 80 people who wrote comments on the plan.

The group engaged people through its River Run Network, which in Watershed Management’s words “honors the heritage of our arroyos, creeks, and rivers and the value that water holds for the peoples of Southern Arizona.” Network members participate in creek walks, family education events, river clean-ups, restoration workshops and advocacy events “to help restore our heritage of flowing rivers,” Watershed Management said.

“What you’re seeing are results of an engaged community who cares about rivers,” Shipek said. “We over the summer organized an informational session and letter-writing party. We gave a presentation on the One Water plan, shared what we thought about the plan and encouraged people to send in their own comments.”

The group noted in written comments that the city plan wrote in some detail about the disappearance of water from the Santa Cruz due to groundwater pumping. For instance, the plan said, “The Tucson region is located along the Santa Cruz River and its tributaries. Prior to 1880, this was the primary water source for Tucson. With increasing development, groundwater use increased, leading to declining groundwater levels, resulting in the disappearance of natural perennial surface-water flows.”



Confluence of Sabino and Tanque Verde creeks in spring of 2023. The activist Watershed Management Group says the health of riparian areas is integral to the health of Tucson’s water supply. The group proposes a complex blueprint of water conservation and strategic use of stormwater runoff and treated effluent to bring the region’s parched streams and creeks back to life.

Julius Schlosburg

The group also noted that the One Water plan wrote positively about Santa Cruz River restoration in describing the Heritage Project. It said, “The added water brings perennial flow to this portion of the river after 80 years of no surface flow and fosters abundant native vegetation and wildlife along with recreational and economic opportunities.” But the plan fails to mention that other riparian areas still exist, the group wrote.

In its response to the group’s comments, Tucson Water said the plan’s broad strategies and implementation measures were based on feedback that utility staff received from interest groups and average citizens who attended numerous workshops from 2020 through 2022, plus a public town hall in August 2022. In addition, it conducted surveys to seek public sentiment on what should go into the plan.

While the workshops also discussed the intricate relationship between water use and energy use and on environmental impacts in general, water supply and demand became the “two overarching issues, the primary drivers” for the actual plan, Kmiec said. The “stakeholder” comments were more influential because they came before the plan was written, whereas the written public comments came after a draft plan was released, he said.

Tucson Resilient Together, a separate city climate action plan that the City Council adopted in March, contains several strategies that support the One Water Plan’s guiding principle that advocated for protecting riparian habitat, the utility said in responding to Shipek’s comments.

“It’s not (accurate). I’m sorry, it’s not,” Shipek said of city officials’ comments to that effect.

The climate plan contains only a one-sentence policy on riparian habitat, saying, “Restore existing riparian areas and create new, context-appropriate and climate-resilient riparian areas,” she said.

“That doesn’t tell us anything, about who, what, when, where, why will be done,” Shipek said. “That’s just a blanket statement.”

Before the climate plan was created, the watershed group said in public discussions that it wanted the plan to dive into issues such as enhancing shallow groundwater, improving riparian health and river flows in general, Shipek said.

“They said the water stuff would be addressed in the One Water Plan,” Shipek said of city officials. But, “once we got back responses to our comments on the One Water Plan, they said it’s addressed in Tucson Resilient Together. They’re pointing fingers at one another.”

Seeking funding opportunities

In April, the City Council adopted a highly detailed, 10-page set of implementation measures to carry out the climate plan during its first full year, in fiscal 2023-24. The City Manager’s Office memo outlining the measures called for city spending of about \$60 million for carrying out close to 20 measures, along with about \$20 million of state and federal money.

Riparian preservation and restoration measures weren’t included in that memo.

Items that were included were the city's Green Stormwater Infrastructure program that channels rainwater to flood control projects, small-scale public parks and large scale stormwater capture projects, improving sidewalks and bicycle routes, a feasibility study of possibly creating a city-owned electric utility, road safety, improved parks and a host of other measures.

Right now, the city is "actively working" on advancing actions that can either achieve the largest reductions in greenhouse gas emissions or have "federal funding opportunities," said Fatima Luna, the city's chief climate resilience officer.

Saying "all actions in the plan are important," Luna added Tucson needs to take advantage of unprecedented funding opportunities available now. Those include funds from the 2021 Bipartisan Infrastructure Act and the 2022 Inflation Reduction Act.

"We are proactively seeking funding opportunities, and if we identify any that align with riparian restoration, we will explore pursuing them," Luna said.

What riparian areas need

Asked by the Star how the new plans should handle riparian issues, Watershed Management Group suggested:

Outlining priorities for restoration, including shallow groundwater areas at Lower Sabino Creek, middle Tanque Verde Creek, Rincon Creek, Cienega Creek, Upper Rillito Creek, and stretches of the Santa Cruz.

Setting specific targets for restoring groundwater levels so they can again support seasonal and perennial water flows and riparian forests.

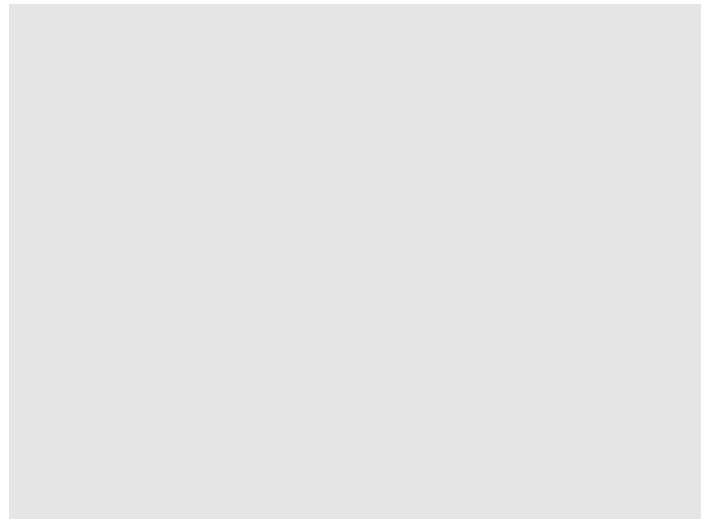
Focusing city green stormwater infrastructure projects in these areas to collect rainwater and increase local recharge.

Creating targeted water conservation incentives for people living in shallow groundwater areas and use wells, or small utilities lacking water conservation incentives.

Prioritize recharging recycled wastewater into shallow groundwater areas.

Protect and restore floodplains, especially in shallow groundwater areas, to ensure river function, increase recharge and support riparian forests.

Besides providing potential water supplies, improving riparian areas with their attendant cottonwood and willow trees would be "so important to cooling our city," the group said.



The group also advocates setting a citywide target for residents to cut average home water consumption to 40 gallons per person daily, compared to 75 to 80 gallons today.

Rillito River looking just downstream of Craycroft Road bridge along The Loop path. The Rillito typically carries water only after major storms, due to more than a century of overpumping the region's aquifer to support population growth.

Watershed Management Group

Shipek and her husband Catlow Shipek, the group's senior program director, harvest rainwater for their landscaping, fruit trees and vegetable garden. "Even in the hottest months" when rainfall is poor, the couple keeps water use below 40 gallons per person daily, Catlow Shipek said.

Restoring riparian areas and raising shallow groundwater tables would also help with regional water supplies, Catlow Shipek told the Star.

"By enhancing recharge in shallow groundwater areas, reducing pumping pressure, we feed and replenish our general aquifer," Catlow Shipek said. "That's essentially our backup supply. It increases our water supply and reliability in both Colorado River shortages and local drought shortages."

Doesn't necessarily help water supplies

Asked to comment on the group's ideas, Kmiec said the restoring of riparian habitats "should be more of a regional discussion that includes Pima County, Marana, the town of Oro Valley, everybody. It isn't just the city that is pumping the aquifer."

He's skeptical that widespread riparian restoration will benefit the utility's water supplies. The city measures its supplies based on what it has the legal entitlement to use, he said.

"From a human perspective, we love riparian restoration, but having shallow groundwater doesn't necessarily mean it benefits Tucson's water portfolio, because it's not necessarily appropriable" for the city, he said.

Eric Shepp, Pima County's Regional Flood Control Department director, praised some of Watershed Management's proposals but is less enthusiastic about others.

To carry out the idea of targeted conservation incentives, Shepp's office and the watershed group are jointly seeking a \$2.6 million state grant that, when matched with \$1.3 million in county funds, would set up a comprehensive, water conservation program featuring financial incentives and education. It would help conserve water for private well groundwater users living in shallow groundwater areas and near certain kinds of aquifers.

Watershed Management and the county, along with the conservation group Sky Island Alliance, are also seeking a \$250,000 federal "Water Smart" grant aimed at enhancing recharge "to benefit mountain and upland springs, mountain front arroyos, and downstream shallow groundwater-supported riparian areas to address fire, floods, and drought."

Overall, Shepp found the group's proposals "pretty comprehensive to meet the goal of protecting and increasing shallow groundwater areas and supporting the return and increase of watercourses with perennial flows." Using city Green Stormwater Infrastructure money to support shallow groundwater is also an appropriate strategy, he said.

But setting specific targets for groundwater levels may be difficult due to larger uncertainties in future temperatures and rainfall associated with climate change that local people and governments can't control, he said. Importing recycled wastewater into shallow groundwater areas takes energy to bring the water uphill, and "may make it less appropriate than stormwater for these areas," Shepp said.

He called the group "a really great advocate for restoring perennial flows to watercourses; they work alongside us and with us."

The county owns a lot of riparian habitat along the Tanque Verde Creek and the Aqua Caliente Wash, and "we want to make sure it doesn't degrade over time," he said.

Shepp declined to comment specifically on the dispute between Watershed Management Group and Tucson Water over the One Water plan. But Julia Fonseca, the now-retired environmental planning manager for Pima County, said a more explicit statement about Tucson Water's goals and means on riparian areas is needed.

"It's not something Tucson Water can and should pursue everywhere, all at once. Because Tucson Water plays a key role separate from other departments, it would be appropriate for their plan to articulate their participation," Fonseca said.

She also praised the utility's past work on riparian areas, including its purchase of 49ers Country Club years ago that led to getting the 49ers golf course off groundwater. That action plus the city's policy to pump groundwater there as a last resort only has helped restore trees and other habitat along the neighboring Tanque Verde Wash, she said.

Overall, "the health of our rivers is a response to health of our groundwater suppl," ehs aaid. "It's largely a water security. water reliability issue for our community. (A healthy river) supports a riparian forest and provides a cooling corridor in the face of climate change and heat islands."



There are two stretches of the Santa Cruz River in Tucson where you're likely to see water. One is just south of downtown and the other is near Crossroads at Silverbell District Park in Marana. Both flow along stretches of the Loop thanks to the release of reclaimed water, or effluent by Tucson Water last summer.

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