



Board of Supervisors Memorandum

January 10, 2023

**Resolution To Protect County Water Resources For Current And Future Generations
Through Identifying And Implementing Initiatives Needed To Achieve Sustainable Aquifer
Yield And To Maintain Water Quality**

Noting exacerbating pressures on both water demand and supplies, my [March 2022 communication](#) outlined water resources status and general regulatory and advisory authorities available to Pima County. In August, I established a County staff [Water Working Group](#) to provide policy and procedural recommendations for Board of Supervisors consideration.

In October 2022, I communicated to you an analysis shaped by the Water Working Group entitled [State of Pima County Water Resources and Policy Context](#). This review provided 2050 water demand and supply projections and suggested policy approaches to protect county-wide water resources.

While counties in Arizona are not authorized to function as water providers, they are provided with other statutory authorities, one of which was exercised by the Board of Supervisors in 1975 to join the Central Arizona Water Conservation District, a multi-county water district that currently provides more than half of all water consumed within Pima County, conveyed through the Central Arizona Project. This action has likely comprised the most impactful protection of the Tucson Active Management Area (TAMA) aquifer. However, now that Colorado River water supplies are dwindling, there is a need to coordinate the reassessment of future demand and supply context so that water is managed in a sustainable manner to ensure quality and availability are not reduced or compromised for future generations.

Process to Achieve Sustainable Aquifer Yield

Key to protecting our aquifer is defining what may constitute sustainable aquifer yield within Pima County prior to evaluating demand and supply parameters. However, this task and the entire process associated with bringing the aquifer into equilibrium requires a broad swath of stakeholders to include municipalities, Native nations, contiguous counties, water providers, commercial, agricultural and mining interests, and state and federal partners. The County, through direction to the Water Working Group, can fill the current coordination vacuum where no single entity or regulatory agency has oversight or interests in achieving county-wide sustainable yield to protect all of its current and future residents.

The Honorable Chair and Members, Pima County Board of Supervisors
Re: Resolution To Protect County Water Resources For Current And Future Generations Through Identifying And Implementing Initiatives Needed To Achieve Sustainable Aquifer Yield And To Maintain Water Quality
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Once sustainable yield is defined, we will need to evaluate existing groundwater models to determine if any adjustments are warranted based on known changes in rainfall and infiltration; determine whether it makes sense to model areas outside the current Arizona Department of Water Resources TAMA and Tucson Water models; and identify county areas most at risk to start running out of water.

An inventory of groundwater rights, permits and credits can then be assembled to project future aquifer impacts based on updated groundwater modelling and evaluating social equity, environmental and economic vitality impacts associated with implementation of all existing rights and credits. This analysis will provide context to weigh magnitude of aquifer pumping reductions to be met through either demand reduction, augmentation or more likely, a combination thereof.

Working with partners, staff can explore new authorities for augmentation, such as large-scale storm water collections and identify both demand reduction strategies and augmentation projects needed to achieve sustainable aquifer yield based on the desires of the community.

It should be noted that this exercise is not unlike balancing a fiscal budget. One can think of sustainable yield as a budget where expenditures (water demand) need to be offset by revenues (water supply). The more demand is reduced, the less supply is needed. However, with large reductions expected in Colorado River water deliveries, a structurally balanced water budget will likely require a combination of significant demand reduction and supply augmentation. The key to achieving a structurally balanced water budget, however, is understanding sustainable yield within the County, without which we could not measure the impact of isolated demand reduction or supply augmentation initiatives on the goal of achieving long-term water sustainability.

Initiatives to achieve sustainable yield proposed by the Water Working Group in concert with our partners will be vetted with the community prior to submission for Board of Supervisors consideration.

The Honorable Chair and Members, Pima County Board of Supervisors
**Re: Resolution To Protect County Water Resources For Current And Future Generations
Through Identifying And Implementing Initiatives Needed To Achieve Sustainable Aquifer
Yield And To Maintain Water Quality**

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Recommendation

I recommend the Board of Supervisors approve Resolution 2023- to protect county water resources for current and future generations though identifying and implementing initiatives needed to achieve sustainable aquifer yield and to maintain water quality.

Sincerely,

A handwritten signature in black ink, appearing to read "Jan Leshner", with a stylized, cursive script.

Jan Leshner
County Administrator

JKL/vm – 12/13/2022

Attachment

c: Carmine DeBonis, Jr., Deputy County Administrator
Francisco García, MD, MPH, Deputy County Administrator & Chief Medical Officer
Steve Holmes, Deputy County Administrator

RESOLUTION 2023 –

**RESOLUTION OF THE PIMA COUNTY BOARD OF SUPERVISORS
TO PROTECT COUNTY WATER RESOURCES FOR CURRENT AND
FUTURE GENERATIONS THROUGH IDENTIFYING AND
IMPLEMENTING INITIATIVES NEEDED TO ACHIEVE SUSTAINABLE
AQUIFER YIELD AND TO MAINTAIN WATER QUALITY**

The Board of Supervisors of Pima County, Arizona finds:

1. Arizona Department of Water Resources (ADWR) reports that in 2019, more than 50 percent of the 304,509 acre-feet water supply to the Tucson Active Management Area (TAMA) comprised imported Colorado River water; and
2. University of Arizona Water Resources Research Center reports that 87 percent of the water consumed in Pima County is derived from groundwater and recovered Colorado River water; and
3. Since 2000, Colorado River volume as measured at Lees Ferry is 51.5 percent less than the 1922 volume used to determine original allocations; and
4. Climate change in the southwest United States has affected Colorado River flows, which is expected to result in a significant reduction in Pima County deliveries; and
5. Climate change in Pima County has resulted in: hotter temperatures resulting in more evapotranspiration, drier soils and less natural aquifer infiltration; reduced rainfall from more frequent La Niña events; fewer and larger rainfall events resulting in more runoff on dry soils; reduced stream flows; and
6. Hydrological disconnects between where groundwater is withdrawn and where renewable supplies are recharged have resulted in non-uniform aquifer impact leading to: exposing deficit areas to greater risk of drying riparian areas, decrease in water quality, built environment impacts, and loss of access to groundwater; and
7. Water is the most important commodity necessary to sustain life and protect economic vitality, and so needs to be managed in a sustainable manner to ensure quality and availability are not reduced or compromised for future generations.

NOW, THEREFORE, BE IT RESOLVED that the Pima County Board of Supervisors directs the County Administrator to identify and prioritize strategies needed to maintain water

quality and sustainable aquifer yield by working collaboratively with regional, state, federal and research institution partners, including Native nations, contiguous counties, water providers, commercial, agricultural and mining interests, to achieve water security and sustainable yield through:

- a. Evaluating and defining what comprises sustainable aquifer yield in Pima County.
- b. Comparing the TAMA groundwater model currently used by ADWR to the Tucson Water model and recent studies such as the Bureau of Reclamation *Lower Santa Cruz River Basin Study* to evaluate:
 - i. How changes in recharge and withdrawal rates may affect the model
 - ii. Working with regional, county, state and federal partners to validate or revise ADWR groundwater model
 - iii. Determine when areas most at risk might start running out of water
- c. Determining if groundwater modeling within Pima County is warranted outside the TAMA.
- d. Evaluating all groundwater withdrawal rights, permits and credits to project future aquifer impacts.
- e. Evaluating social equity, environmental issues and sustainable yield associated with full implementation of groundwater withdrawal rights, permits and credits.
- f. Identifying authorities for new water augmentation sources.
- g. Identifying potable and irrigation supply augmentation projects capturing rain, storm, and floodwaters.
- h. Identifying reclaimed water projects to maximize beneficial use within the county and to minimize treatment and delivery cost and energy impact.
- i. Identifying potential demand-reduction strategies through incentives, regulation and county projects.
- j. Identifying potential legislative changes necessary to achieve County objectives.
- k. Identifying potential revenue sources to achieve County sustainable aquifer yield.

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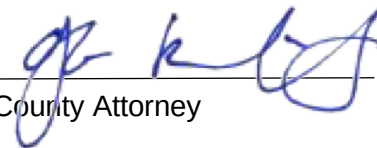
Passed, adopted and approved, this ____ day of _____, 2023.

Sharon Bronson, Chair
Pima County Board of Supervisors

ATTEST:

Melissa Manriquez, Clerk of the Board

APPROVED AS TO FORM:



County Attorney