

# WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES  
COOPERATIVE EXTENSION

**WATER RESOURCES  
RESEARCH CENTER**



**May 5, 2023 / Volume 11, Issue 18**

The Water Resources Research Center - a research unit of the [College of Agriculture and Life Sciences](#) and an Extension unit in [UA Cooperative Extension](#) within the Division of Agriculture, Life & Veterinary Sciences & Cooperative Extension. [Land Acknowledgement](#).

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**IN THIS ISSUE:** Seminar Recap, Water Talk Podcast, Value of Water Index, APW, Restoring Watersheds, Saudi Well Drilling



## WRRC Seminar Explains Arizona Water Banking Authority System

On Tuesday, May 2, the WRRC hosted a seminar featuring Dr. Rebecca Bernat, water resources specialist and technical administrator for the Arizona Water Banking Authority (AWBA), who discussed how AWBA distributes water from the Colorado River. Bernat began by explaining the relationships between AWBA, the Arizona Department of Water Resources, and the Central Arizona Water Conservation District, all of which work together to manage and distribute available water resources. Bernat used a live map of long-term storage credits to demonstrate where water is stored and how the credit system

works. She also outlined how other states have different terms of agreement with AWBA and explained how this affects water replenishment accreditation, though only Nevada currently stores Colorado River water using the AWBA system. With university graduations rapidly approaching, Bernat, who is a former WRRC Graduate Research Assistant, concluded her presentation by sharing current job opportunities for students with bachelor's and master's degrees in the fields of Hydrology, Water Resource Specialization, and Application Development. The presentation was followed by a brief Q&A.

*Image: Brian F. O'Neill, Colorado River*

[View the Recording](#)  
[Long-Term Storage Credits Map](#)

## EVENTS

### WRRC Seminar Series: Green Infrastructure in Tucson, AZ

**Date:** Wednesday, May 17, 2023  
**Times:** 12:00 pm – 1:15 pm Arizona Time  
**Location:** [Webinar Only](#)

**Speakers:**

Adriana Zuniga, Assistant Professor, University of Arizona  
Blue Baldwin, Storm to Shade Program Manager, Tucson Water

In this WRRC seminar, Adriana Zuniga will describe a brief history of water management in Tucson and how this desert city became a leader in green infrastructure in the country. Blue Baldwin will then present an overview of the modern evolution of green stormwater infrastructure in Tucson over the past decades, from grassroots, "pre-legal" actions to current policy and ultimate institutionalization with the advent of the Storm to Shade Program at Tucson Water. The Storm to Shade program's goals, project prioritization framework, maintenance program, key partnerships, challenges, and long-term vision for the S2S will be covered.

[Register Here](#)  
[More Info](#)



### CLE International's Law of the Colorado River 23<sup>rd</sup> Annual Conference: The Next Century of River Policy

**Dates:** May 18–19, 2023  
**Location:** [Hilton Scottsdale](#)

The 23<sup>rd</sup> Annual Law of the Colorado River Conference: *The Next Century of River Policy* will be delivered live in



Scottsdale, Arizona. Reconnect with colleagues and hear from an outstanding group of nationally-recognized experts representing all points of view. Earn up to 12 hours MCLE credit, including one hour of ethics.

[Register Here](#)  
[More Info](#)

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## Upcoming WRRC Events

Jun 1 at 12:00 pm: [WRRC Seminar Series: Homeowners Associations – An Overlooked Water Sustainability Opportunity in the Desert: 2023 Update](#)

Jul 11–12: [WRRC 2023 Annual Conference: What Can We Do? Solutions to Arizona's Water Challenges](#)



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## External Events

Aug 3-4: [31<sup>st</sup> Annual Arizona Water Law Conference](#)

## NEWS

### Water Talk Podcast Discusses Comparative Water Politics

On April 28, *Water Talk*, a podcast produced by the University of California's Division of Agriculture and Natural Resources, released an episode on the topic of Comparative Water Politics featuring WRRC Director Sharon B. Megdal as a guest. After brief introductions, they discussed the Central Arizona Project (CAP), beginning around 10:10 in the podcast. Dr. Megdal explained the purpose, oversight structure, and challenges facing CAP, particularly in light of ongoing Colorado River shortages. Commenting on her service on the CAP board, Megdal noted how the service was "a great opportunity to learn, to keep up to date, to get additional insights into some of the challenges." The conversation moved on to groundwater replenishment and the Central Arizona Groundwater Replenishment District (around 16:10), particularly the unresolved issues around how and where to replenish pumped groundwater. One of the





hosts, Dr. Mallika Nocco, observed that California could potentially learn from Arizona’s groundwater replenishment strategies. When Nocco admitted to some confusion about the similar and overlapping terminology (24:23), Megdal discussed the difference between “wet water” and “paper water,” acknowledging the disconnect between recharge and pumping, and mentioned the Arizona Water Banking Authority (27:30). Conversation then moved on to Megdal’s international work (31:19), including US-Mexico transboundary aquifer assessment, the Israeli-Palestinian region, and science diplomacy. Megdal emphasized the importance of building connections and relationships. The podcast concluded with final thoughts on supporting each other’s work and the need for additional resources to facilitate collaboration. Dr. Megdal was also recently interviewed for episode 3 of the new Colorado NPR podcast, *Parched*. Both podcasts are available to listen to for free online.

- [Water Talk Podcast \(Apple Podcasts\)](#)
- [Water Talk Podcast \(Spotify\)](#)
- [Parched Podcast](#)

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## Value of Water Campaign Publishes 2023 Index

The Value of Water Campaign puts out an annual poll to American voters “to better understand their opinions about the state of our nation’s water infrastructure and what they view as priorities for action and potential solutions.” The survey, conducted between March 22 and March 29, 2023, polled over 1000 voters about the 2021 Bipartisan Infrastructure Law and how they would prioritize water relative to other issue areas for the federal government to address this year. Findings showed that the top issues were ensuring a reliable water supply, strengthening the economy, reducing inflation, and addressing drinking water contamination. They also found that “While awareness of the Bipartisan Infrastructure Law hasn’t grown, once voters were informed, approval of the law continues to be broad and strong.” While still relatively high, perception of local and national water infrastructure has decreased over the eight years of the poll. A majority of respondents also supported paying modestly increased rates for water services to ensure everyone in their community has basic water and sewer service, to reduce pollution in local waterways, and to make drinking water safer and healthier.



### [Value of Water Index Factsheet](#) [More Info](#)



## High School Teams Tackle Climate Change at AZ Envirothon Competition

Arizona high schoolers demonstrated their mastery of environmental principles and problem-solving at the 2023 Arizona Envirothon competition, an annual event that APW helps organize. A team from Centennial High School in Peoria took the top honors. Trivium Prep Academy (Goodyear) and Arizona Agribusiness and Equine Center - Paradise Valley captured silver and bronze. Fourteen Arizona high school teams met in the pines at



Prescott's Highlands Center for Natural History on Friday, April 20, to test their field skills in aquatic ecology, water quality, forestry and wildlife management, soil science, land use, and agriculture. Teams then applied their expertise to address a real-world challenge for this year's theme: *Adapting to Climate Change*. The Centennial High School champions will now go to Mount Allison University in New Brunswick, Canada, in July to represent Arizona at the international *NCF Envirothon*, competing for scholarships and prizes. The Canada-bound team includes captain Katherine Miskimen, Jack Nitschke, Brooke Ojeda, Sophie Nguyen, Tayla Martin, and coaches Shelly Petersen and Jeff Jacobs.



## Water Restoration Group Tackles Erosion Control at Buenos Aires National Refuge

A recent erosion control and restoration workshop organized by the Altar Valley Conservation Alliance brought together about 30 volunteers to improve conditions for local wildlife and livestock in the Buenos Aires National Wildlife Refuge. According to a recent article in the [Arizona Daily Star](#), volunteers worked at two sites on the Arroyo Hondo and Puertocito Wash. Conservation and science director for the Altar Valley Conservation Alliance, Julia Guglielmo, said they chose the Arroyo Hondo site because it provided habitat for the endangered masked bobwhite quail and there were preexisting stone structures that volunteers could reinforce with rocks, dirt, and brush for erosion control. Brad Lancaster, an expert in the field of rainwater harvesting and water management, said “[The workshop] is a great model for how to work in rural settings and our more urban-built environments, such as within and beside the arroyos you find in Tucson. We’re focusing on waterways and adjacent floodplains, which you encounter in our city.” These conservation efforts do more than repair the land; they foster relationships between people and the land they live on.

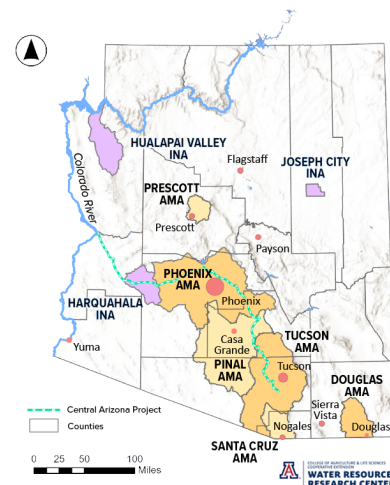


*Image: Altar Valley Conservation Alliance*

[Arizona Daily Star Article](#)  
[Altar Valley Conservation Alliance](#)

## Well Drilling Permits Revoked for Saudi-Owned Farming Company

Recent news reports have highlighted the revocation of drilling permits obtained by a Saudi company for new, deep (more than 1,000 feet), large-capacity (up to 3,000 gallons per minute) groundwater wells in La Paz County, Arizona. Attorney General Kris Mayes initiated the review of the company's permits that led to their revocation on the grounds of inconsistencies in the permit applications. In most of rural Arizona outside the areas designated for active management under the state's Groundwater Management Act, the Arizona Department of Water Resources does not have the authority to deny groundwater well drilling permits to anyone if permit applications meet their requirements. Outside Active Management Areas, no permits are required to pump any quantity of



groundwater from wells drilled with valid permits. Attorney General Mayes and many others would like to see changes to the law that would limit or ban foreign companies from doing what the Saudi company and other foreign entities have been doing for years—using Arizona land and water to grow crops (mostly hay and forage) for export back to their home countries.

[Read the Full AP Story](#)

## WATER JOBS

- Friends of the San Pedro River [Retail Specialist](#)
- Theodore Roosevelt Conservation Partnership [Western Water Policy Associate](#)
- Yavapai County [Flood Control District Engineer - Flood Control \(Prescott\)](#)

Please visit [WRRC's website](#) for a complete listing of water jobs & opportunities.

## ANNOUNCEMENTS

- [May 6: Pima County Master Gardeners Sage Seminar: Low Water Butterfly and Pollinator Workshop](#)
- [May 7–10: National Association of Environmental Professionals \(NAEP\) 2023 Conference](#)
- [May 8–11: Water for Food Global Conference: Cultivating Innovation: Solutions for a Changing World](#)
- [May 8–12: Arizona Water Professionals Appreciation Week](#)
- [May 9: AHS Tucson Chapter Meeting: Arizona's Water Infrastructure Finance Authority](#)
- [May 9: 2023 Western Drought Webinar](#)
- [May 9–10: 2023 Corridors, Connectivity, and Crossings Conference](#)
- [May 9–11: 96<sup>th</sup> Annual AZ Water Conference & Exhibition](#)
- [May 12: AWRA 2023 Annual Water Resources Conference – Abstract Deadline](#)
- [May 15: ASU SCN Climate & Resilience Workgroup Meeting: Local Climate Action – Seize the Day!](#)
- [May 16: Spring 2023 Drought Interagency Coordinating Group Meeting](#)
- [May 16–17: 2023 Tribal Environmental Health Forum: Elevating Traditional Knowledge to Achieve Environmental Health Justice in Indigenous Communities](#)
- [May 17: WRRC Seminar Series: Green Infrastructure in Tucson, AZ](#)
- [May 18–19: CLE International's Law of the Colorado River 23<sup>rd</sup> Annual Conference: The Next Century of River Policy](#)
- [May 18–20: Climate Change Preparedness Conference and Workshop](#)
- [May 19: NAMWUA Water Utility Leadership Forum \(WULF\)](#)
- [May 19: WIFA Water Conservation Grant Fund – Application Deadline](#)
- [May 23–25: Rural Water Association of Arizona 2023 Annual Spring Conference](#)
- [May 24: CAGR 2025 Plan of Operation Obligation Projection Roundtable](#)
- [May 24: AWRA 2023 Webinars: Is the Maternal Wall Causing a Critical Leak in the STEMM Pipeline?](#)
- [May 30: AAWWA Wine, Women & Golf](#)
- [May 31: AAWWA Colorado River Update](#)
- [May 31: US Water Prize 2023 – Nomination Deadline](#)
- [May 31: NWRI Fellowship Program 2023-24 – Application Deadline](#)
- [Jun 1: WRRC Seminar Series: Homeowners Associations – An Overlooked Water Sustainability Opportunity in the Desert: 2023 Update](#)

- **Jun 7:** [Public Meeting on Hualapai Valley Irrigation Non-Expansion Area](#)
- **Jun 10:** [Pima County Master Gardeners Sage Seminar: Planning & Planting Your Xeriscape Garden](#)
- **Jun 13–15:** [UCOWR/NIWR 2023 Annual Water Resources Conference](#)
- **Jun 15:** [WaterReuse Arizona 2023 Scholarship – Application Deadline](#)
- **Jun 15–16:** [2023 Next Generation Water Summit](#)
- **Jul 11–12:** [WRRC 2023 Annual Conference: What Can We Do? Solutions to Arizona's Water Challenges](#)
- **Jul 17–19:** [AWRA 2023 Summer Conference: Connecting Land & Water for Healthy Communities](#)
- **Jul 23–25:** [Arizona Water Reuse 2023 Symposium](#)
- **Aug 3–4:** [31<sup>st</sup> Annual Arizona Water Law Conference](#)
- **Sep 12:** [AWRA 2023 Annual Water Resources Conference – Student Poster Deadline](#)
- **Sep 13–16:** [Arizona Hydrological Society 35<sup>th</sup> Annual Symposium](#)
- **Oct 8:** [Urban Wildlife Conservation Day: Rio Reimagined Salt River Clean-Up](#)
- **Oct 21:** [19<sup>th</sup> Annual Research Insights in Semiarid Ecosystems \(RISE\) Symposium](#)
- **Nov 6–8:** [AWRA 2023 Annual Water Resources Conference](#)

## PUBLICATIONS & MEDIA

### Current Colorado River Conditions Dashboard

Take a look at the most recent data on the Colorado River conditions. [More Info](#)

### JAWRA Early View Article on Riverine Flooding

Cockburn, Charlotte, Jonathan M. Winter, Erich C. Osterberg, and Francis J. Magilligan. “Drivers of future streamflow changes in watersheds across the Northeastern United States.” *Journal of the American Water Resources Association* 00 (2023): 1–19. <https://doi.org/10.1111/1752-1688.13120>.

### Western Water Article: Upper Basin States Seek Added Leverage to Protect Their River Shares

The states of the Lower Colorado River Basin have traditionally played an oversized role in tapping the lifeline that supplies 40 million people in the West. California, Nevada, and Arizona were quicker to build major canals and dams and negotiated a landmark deal that requires the Upper Basin to send predictable flows through the Grand Canyon, even during dry years. But with the federal government threatening unprecedented water cuts amid decades of drought and declining reservoirs, the Upper Basin states of Wyoming, Utah, Colorado, and New Mexico are muscling up to protect their shares of an overallocated river whose average flows have already dropped 20% over the last century.

[More Info](#)

## OTHER NOTICES

### Septic System Owner Questionnaire

ADEQ wants your input as a septic system owner about how you maintain your system and any problems you have had. Your feedback is anonymous and will be used to help improve ADEQ's onsite wastewater treatment program. [More Info](#)

### ADEQ Invites Comments



On April 21, 2023, the comment period begins for the Groundwater Rule Clarification and Citation Cleanup rulemaking. The comment period ends on May 22, 2023. [More Info](#)

Do you have a story idea, water job announcement, or event to share?

[Contact us here](#)