

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



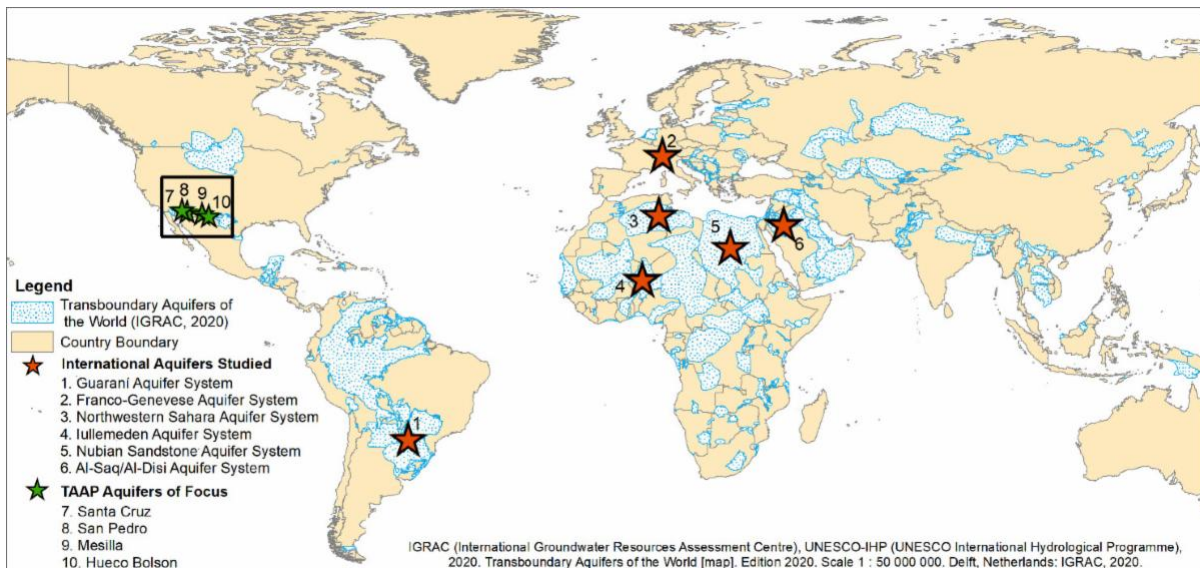
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The Water Resources Research Center - a research unit of the [College of Agriculture and Life Sciences](#) and an Extension unit in [UA Cooperative Extension](#) within the Division of Agriculture, Life & Veterinary Sciences & Cooperative Extension.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

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IN THIS ISSUE: TAAP, Honors College, RAPIDS, APW, Laura Norman, Environmental Poll



TAAP as a Model for Shared Aquifer Agreements

Through the Transboundary Aquifer Assessment Program (TAAP), collaborators study shared aquifers along the US-Mexico border. Recent UArizona graduate Dr. Elia M. Tapia-Villaseñor and WRRC Director Dr. Sharon B. Megdal recently published “The U.S.-Mexico Transboundary Aquifer Assessment Program as a Model for Transborder Groundwater Collaboration” in a Special Issue of the journal *Water*. In this work, the authors analyzed the TAAP Cooperative Framework as a model for scientific assessment by exploring 17

elements of collaboration within the Framework and examining six other transboundary aquifer agreements. Their results show that successes within the TAAP Cooperative Framework for assessment are consistent with existing aquifer agreements, suggesting the TAAP approach may serve as a model for others pursuing transboundary aquifer assessments worldwide. This paper appears in the Special Issue *Advances in Transboundary Aquifer Assessment*, for which Megdal and Dr. Anne-Marie Matherne from USGS are guest editors. They invite researchers focusing on aquifers, groundwater availability and quality, and water use to submit their manuscripts by April 1, 2021.

- [Read the Article](#)
- [Special Issue of Water](#)
- [WRRRC TAAP Page](#)

WRRRC EVENTS

Brown Bag: Arizona's Groundwater Management: Past, Present and Future

Date: Monday, Mar 8, 2021

Time: 12:00-1:15 pm MST

Location: [Webinar Only](#)

Speakers:

Susanna Eden, PhD, *Research Program Officer, Water Resources Research Center, UArizona*

Brian McGreal, *MS Student, Department of Agricultural and Resource Economics, UArizona*

Arizona's landmark Groundwater Management Act turned 40 last year and the WRRRC marked the occasion by focusing the 2020 annual conference on the legacy of the Act, current groundwater challenges, and potential future pathways.

Building on this foundation, the authors of the 2021 *Arroyo* developed a comprehensive overview of groundwater management in Arizona that looks back over 40 years and ahead toward 2060 and beyond. The presentation will highlight key sections of the *Arroyo* as reference points for discussion.

[Register Here](#)

[More Info](#)



Special Event: Perspectives on Regional Water Sustainability

Date: Wednesday, Mar 17, 2021

Time: 4:00-5:30 pm MST

Location: [Webinar Only](#)

Join AIR, the Udall Center, and the WRRRC for the first episode in the *Water Solutions for Our Warmer World* series, *Perspectives on Regional Water Sustainability* on March 17 at 4 PM!



Explore questions of water sustainability with us: How should we define water sustainability in an era of climate change and shifts in socio-economic conditions and community priorities? What does water sustainability look like in the Colorado River basin? What are the paths forward to more inclusive solutions?

Photo: Adriana Greisman (WRRRC 2020 Photo contest)

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

Special World Water Day Event — Managing Aquifer Recharge: A Showcase for Resilience and Sustainability



Date: Monday, March 22, 2021
Time: 3:30 - 5:00 PM Arizona Time / 6:30 - 8:00 PM US Eastern Time
Location: [Webinar Only](#)

Celebrate World Water Day on Monday afternoon, March 22, when the Water Resources Research Center hosts an informative panel discussion on the forthcoming UNESCO volume, “*Managing Aquifer Recharge: A Showcase for Resilience and Sustainability*.” This UNESCO publication provides valuable resources for stakeholders and water managers considering managed aquifer recharge (MAR) as a mechanism to bolster climate resilience in the context of environmental, social, and economic project goals. Book editors Yan Zheng and Peter Dillon, along with authors of the five North American case studies included in the volume, will participate in a panel moderated by WRRRC Director Sharon B. Megdal.

More about the panelists: Yan Zheng, *Chair Professor, Southern University of Science and Technology*; Peter Dillon, *Honorary Fellow, CSIRO Land and Water and the National Centre for Groundwater Research and Training*; Adam Hutchinson, *Recharge Planning Manager, Orange County Water District*; Adriana Palma Nava, *Member of the Faculty, National Autonomous University of Mexico*; Crystal A. Powers, *Research and Extension Communication Specialist, University of Nebraska Water Center*; David Pyne, *President, ASR Systems LLC, Gainesville, Florida*; and Ken Seasholes, *Manager of Resource Planning and Analysis, Central Arizona Project*.

Photo: Superstition Mountains Recharge Project, Courtesy of Central Arizona Project

[Register Here](#)
[Event Flier](#)

Upcoming Webinars

Mar 11: Community Service and Environmental Justice as an Essential Best Practice for Clean Water Utilities of the Future

Andrew Kricun, *Managing Director, Moonshot Missions and Senior Fellow, US Water Alliance*

Mar 31: The Internet of Water: Modern Water Data Infrastructure for 21st Century Water Management

Peter Colohan, *Executive Director, Internet of Water Project, Duke University*



Apr 8: Binational Study of Water Desalination Opportunities in the Sea of Cortez

Chuck Cullom, *Colorado River Programs Manager, Central Arizona Project*
Lela Perkins, *Senior Water Resources Engineer, Jacobs Engineering Group*

Apr 14: Update from Tucson Water on Reuse Projects

John Kmiec, *Interim Director, Tucson Water*

OTHER EVENTS

23rd Annual Law of the Colorado River Conference: Preparing for Renewed River Management Plans

The 23rd Annual Law of the Colorado River Conference has a new virtual format! A diverse faculty will discuss many important topics on the conservation and management of the Colorado River during the two-day virtual conference, March 11-12, 2021.

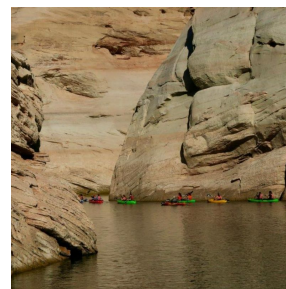


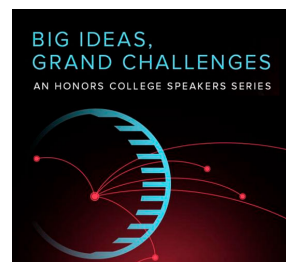
Photo: Canoes on Lake Powell, Gilles Boyer, 2019

[More Info](#)

NEWS

Dr. Megdal joins Honors College Big Ideas, Grand Challenges Sustainability Event

The WRRC is pleased to feature the following article, prepared by UArizona Honors College Assistant Dean for Student Engagement, Karna Walter.

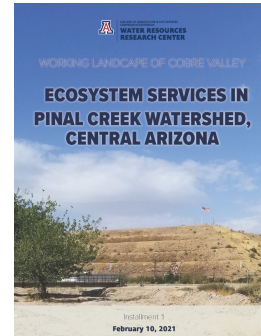


On Wednesday, February 17, the UArizona Honors College sponsored the last of four events that were part of the Big Ideas, Grand Challenges Series. This event, which focused on sustainability, featured a multifaceted panel of experts who think about sustainability from different points of view. Dr. Sharon B. Megdal from WRRC was one of the panelists, alongside Dr. Solomon Dobrowski (Professor and Landscape Ecologist in the Department of Forest Management, University of Montana), John Goldstein (Head of the Sustainable Finance Group at Goldman Sachs), and Dr. Joaquin Ruiz (Vice President of Global Environmental Future, UArizona). Lorraine Rivera (Host and Producer of Arizona 360 for Arizona Public Media) facilitated the dialogue as panelists considered questions on what climate change might look like in the future in Arizona and elsewhere; how students can play a role in advocating for sustainability; ways to productively engage with colleagues across borders to tackle challenges related to sustainability; what can be done at individual and systemic levels; and whether business growth and sustainability can coexist. Dr. Megdal was a welcome addition to this dialogue, bringing her expertise in water management, both locally and globally. The audience of Honors students, staff and faculty, and friends of the Honors College enjoyed a lively and, in the end, hopeful discussion of what we can do to better understand the challenges we face and to mitigate them in the future.

[Panel Recording](#)

WRRC RAPIDS Navigating Watershed Planning in a Virtual World

As we approach the one-year anniversary of working virtually, the WRRC Water RAPIDS team leans into collaborative watershed planning and research with our partners in the Cobre Valley from afar. In November 2020, the team co-convened the Third Annual Cobre Valley Water Forum alongside the Cobre Valley Watershed Partnership (CVWP) and Gila County Cooperative Extension. The forum's virtual format enabled broad participation, bringing together over 60 community members to consider how healthy forests and uplands support the overall health of the watershed. Participant feedback throughout the two-day forum was integrated into a recently released forum summary.



[Read More](#)



Volunteers Build Capacity

According to APW Director Kerry Schwartz, "Volunteers are the driving force to the success of our program." Over the years, thousands of community members have volunteered at community water festival events. With this added capacity, APW has spread the fourth grade standards-based Arizona Water Festival (AWF) program to 26 communities across the state. This school year, the COVID-19 pandemic has APW exploring new ways to engage volunteers. For example, AWF Celebrations of Learning are 50-minute, live streaming events that not only engage students in learning the "magic" of the earth's water cycle, but offer added value. Volunteers and sponsors now offer their own videos on STEM careers, the water delivery system, wastewater treatment, or water management for healthy rivers. Students have the opportunity to ask volunteers questions about the video content. Some volunteers are behind the scenes creating the videos and some assist us in managing technology during the events. The bottom line is that volunteers give their time because they care and their efforts are helping to enrich the experience for these students.



[APW](#)

Summary of Ecosystem Services of Riparian Restoration: A Review of Rock Detention Structures in the Madrean Archipelago Ecoregion

The WRRC is pleased to feature the following article summary prepared by the author, US Geological Survey research scientist (and UArizona Affiliate), Dr. Laura M. Norman.



The US Geological Survey (USGS) Aridlands Water Harvesting Study has been investigating the potential to sculpt landscapes in the Madrean Archipelago Ecoregion and quantifying impacts (on hydrology, vegetation, and sediment) over the past 10 years. This article first introduces the long history of rock detention structures (RDS) locally, as agricultural tools, and then summarizes results of a multi-year research project conducted on RDS being used for restoration. The study area is the Madrean Archipelago Ecoregion, along the US-Mexico border, a biodiversity hotspot of the planet. Ecosystem services of RDS are described with examples from analyses. I argue that global water availability may be one facet of the environment not yet being properly accounted for economically and propose using tradeoffs among ecosystem services to safeguard ephemeral riparian areas (i.e. to offset footprints of groundwater pumping downstream through the investment of RDS installations or to compensate practitioners if RDS can be used to offset greenhouse gas emissions).

[Read More](#)

Survey Reveals Arizonans' Concern for Environmental and Water Issues



A Survey conducted by the Nina Mason Pulliam Charitable Trust and the Morrison Institute for Public Policy at ASU showed that Arizona voters rank the environment in their top three public policy priorities. The survey polled a representative sample of 800 registered voters in 2017 and 2020. According to the poll, water pollution ranks as Arizonans' top environmental concern (91% of voters indicated they are concerned or very concerned), followed by the air quality in cities and large towns (89%), protection of wildlife (86%), and vehicle emission (84%). Seventy-one percent of Arizonans' believe the state is currently in a drought, 54% believe Arizona's drought is the result of climate change, and 64% believe the state will suffer a water shortage at some point in the next 50 years. Between 2017 and 2020, the opinion that the environment should be Arizona's top priority increased among most categories of voters. In fact, 64% of respondents felt that "protecting the environment should be given priority, even at the risk of slowing economic growth." When assuming water for home use to be the number one priority, Arizonans' listed agriculture second and water for the environment third.

[View the Poll](#)

[Read the Full Report](#)

WATER JOBS

- AMWUA [Program Assistant](#)
- Center for Biological Diversity [Environmental Scientist and Communicator](#)

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

ANNOUNCEMENTS

- **Feb 28:** [Indigenous Food, Energy, and Water Security and Sovereignty \(Indige- FEWSS\) Traineeship Program - Application Deadline](#)

- **Feb 28-Apr 18:** [Re-envisioning the Middle East Ecosystem: Desert Ecology and Environmental Diplomacy](#)
- **Mar 1:** [2021 Babbitt Center Dissertation Fellowships - Application Deadline](#)
- **Mar 1:** [Arizona Growing Water Smart Workshop - Integrating Water and Land Use to Create Resilience - Application Deadline Extended](#)
- **Mar 3:** [Problematic Groundwater Contaminants: More than PFAS Forum - Abstract Deadline](#)
- **Mar 7-13:** [National Groundwater Awareness Week](#)
- **Mar 9:** [RNRF Virtual Round Table: Renegotiating Colorado River Allocations – Hot 20-Year Drought and Soaring Populations](#)
- **Mar 10:** [ADWR 5MP Safe-Yield Technical Subgroup Meeting](#)
- **Mar 11-12:** [23rd Annual Law of the Colorado River Conference](#)
- **Mar 12:** [GRA 4th Annual Western Groundwater Congress – Abstract Deadline](#)
- **Mar 15-25:** [36th Annual WaterReuse Symposium: Resilience Redefined: health.economy.environment](#)
- **Mar 22:** [World Water Day Webinar: Managed Aquifer Recharge – A Showcase for Resilience and Sustainability - Registration Open](#)
- **Mar 24:** [UCOWR Winter 2021 Virtual Roundtable: Addressing Wicked Water Problems](#)
- **Mar 25-26:** [Santa Cruz River Research Days](#)
- **Mar 30-Apr 13:** [2021 AWRA Virtual Young Professional Workshop Series: Navigating Your Path From Student to Working Professional in the Time of COVID-19](#)
- **Apr 1:** [Special Issue of the Journal Water \(ISSN 2073-4441, IF 2.544\) - Advances in Transboundary Aquifer Assessment - Manuscript Submission Deadline](#)
- **Apr 1-Jul 1:** [Women in Water Scholarship - Applications Accepted](#)
- **Apr 5:** [Virtual Kick-Off for the 3rd Annual Arizona Water Professionals Appreciation Week \(Apr 5-11\)](#)
- **Apr 6-8:** [AZ Water 2021 Annual Conference](#)
- **Apr 6-8:** [Virtual 2021 Southwest Adaptation Forum \(SWAF\)](#)
- **Apr 15-16:** [2021 Virtual Joint AWRA & National Capital Annual Water Symposium, Human Dimension to Resilient and Sustainable Water Management: Promoting Integrated Collaboration - Registration Open](#)
- **Apr 30:** [NWRI Fellowship Program 2021 – Application Deadline](#)
- **May 10-12:** [International Conference on Water Energy Food and Sustainability \(ICoWEFS 2021 - Leiria, Portugal\)](#)
- **May 18-19:** [The Third International Congress on Desert Economy: Energy Economics between Deserts and Oceans \(Dakhla, Morocco\)](#)
- **May 18-20:** [11th International Conference on Sustainable Water Resources Management: Effective Approaches for River Basins and Urban Catchments \(Milan, Italy\)](#)
- **May 24-26:** [International Arid Lands Consortium Virtual Conference Addressing the Environmental Challenges of Arid Lands](#)
- **Jun 8-10:** [UCOWR/NIWR Annual Water Resources Conference](#)
- **Jun 13-16:** [ACE21 - Registration Open](#)
- **Jun 22-23:** [WEF SWI Stormwater Summit 2021](#)
- **Jun 22-23:** [Fate of PFAS: From Groundwater to Tap Water](#)
- **Jul 19-21:** [AWRA 2021 Virtual Summer Conference Connecting Land & Water for Healthy Communities - Registration Open](#)
- **Sep 15-17:** [Annual AHS Symposium - Save the Date](#)
- **Nov 1-3:** [AIWW 2021: Blue-Green Deals with Integrated Solutions](#)
- **Sep 2022:** [IWA World Water Congress & Exhibition - Water for Smart Liveable Cities \(Copenhagen\)](#)

PUBLICATIONS

[Norman, L. M. \(2020\). *Ecosystem Services of Riparian Restoration: A Review of Rock Detention Structures in the Madrean Archipelago Ecoregion*. *Air, Soil and Water Research*, 13, 117862212094633.](#)

[Tapia-Villaseñor EM, Megdal SB. *The U.S.-Mexico Transboundary Aquifer Assessment Program as a Model for Transborder Groundwater Collaboration*. *Water*. 2021; 13\(4\):530.](#)

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