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

WRRC Office Update

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IN THIS ISSUE: Colorado River Basin-Israel, BOR-Basin Study Series, Brown Bag Recap, APW, GWAICC

Photos: Effluent recharge basins adjacent to IKEA, Rishon L'Tzion, Israel. Source: Sharon B. Megdal

Bridging the Colorado River Basin and Israel

In November, WRRC Director Sharon B. Megdal had two opportunities to bridge the Colorado River Basin and Israel through invited lectures. On November 20, she delivered a guest lecture on “Water and Agriculture in Israel” to students in ASU’s Water

Management Certificate Program, a course led by Mr. Bill Plummer. Megdal highlighted how increased residential and industrial use of desalinated seawater has reduced the salinity of soils and crops due to the Israeli agricultural sector's significant reliance on reclaimed water. Israel relies on soil aquifer treatment as a final treatment for effluent produced by the Shafdan regional wastewater treatment plant. Basins there look very much like the recharge basins of Arizona! On November 30, Megdal reversed the direction of information sharing by speaking on "Wicked Water Problems of the Colorado River Basin" at the weekly seminar of the Porter School at Tel Aviv University. This lecture focused on four wicked water problems: the imbalance of Colorado River supply and demand, groundwater overdraft and invisibility, lack of attention to water for nature, and lack of water and water infrastructure. She spoke of the problems and also the processes for addressing them. Both lectures were designed to underscore commonalities and differences as these two water-scarce regions strive to achieve water resiliency under challenging conditions.

- **Porter School Recording**
- **Porter School Presentation**
- **Middle East Water**

WRRC EVENTS

Brown Bag Webinar: *Balancing Environmental, Municipal, and Agricultural Needs in the Edwards Aquifer: A Farmer's Perspective*

Date: Wednesday, December 9, 2020
Time: 12:00 - 1:15 p.m.
Location: Webinar

Speaker:
Adam Yablonski, *President, Comanche Creek Farms*

Adam Yablonski will provide a brief description of the Edwards Aquifer, including the demographics of the region, and give an overview of the political history that led to the permitting of water rights. The presentation will also cover a few of the special rules and considerations for agriculture in the region, programs that came out of a broad stakeholder process, and provide some thoughts on the future.

Register for the Webinar

Upcoming Webinars

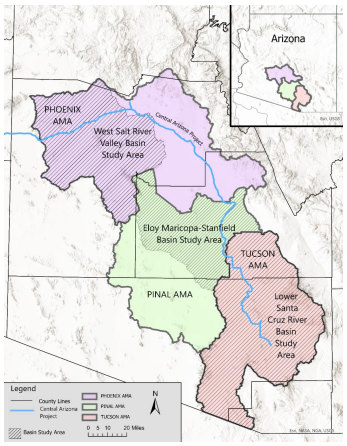
Jan. 14, 2021 – *Transferring Water in Arizona*
Patrick J. Cunningham, *Public Affairs Consultant and General Counsel, HighGround*
Michael J. Pearce, *Partner, Gammage & Burnham*

Jan. 20, 2021 – *Collaborative Capacity Building and Sovereign Science with NA*
Amber Jean McCullum, PhD, *Applied Scientist, BAERI/NASA Ames Research Center*

Nikki Tulley, *PhD Student, Department of Environmental Science, University of Arizona*

NEWS

BOR Article Series, Part 1: The West Salt River Valley Basin Study

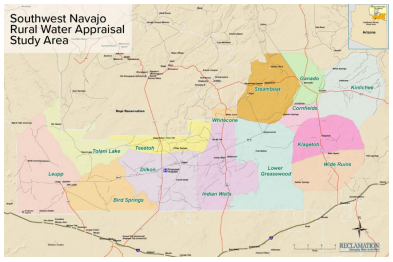


The following starts a four-part article series from our valued colleagues at the US Bureau of Reclamation (Reclamation). The series will cover the three Basin Studies currently underway in Arizona. John Rasmussen, Eve Halper, and Valerie Swick, Water Resource Planners at Reclamation, authored the series. Part two will be published in the December 11 issue of the Weekly Wave.

The US Bureau of Reclamation (Reclamation) funds all kinds of programs to benefit water managers across the West. Some of these programs apply broadly to watersheds. The Basin Study Program is one example. The Basin Study Program is authorized by the SECURE Water Act and is part of Reclamation's WaterSMART (Sustain and Manage America's Resources for Tomorrow) Program. These collaborative studies are cost-shared with non-federal partners with the goal of ensuring reliable water supplies for the future at the basin scale. Each Basin Study evaluates current and future water supply and demand scenarios, including the impacts of climate change, drought, population growth, and any other stressors present in the basin; analyzes how existing water and power infrastructure and operations will perform given current and future water supply and demand imbalances; and identifies strategies to address these imbalances.

Read More

Southwestern Navajo Rural Water Highlighted in WRRC Brown Bag

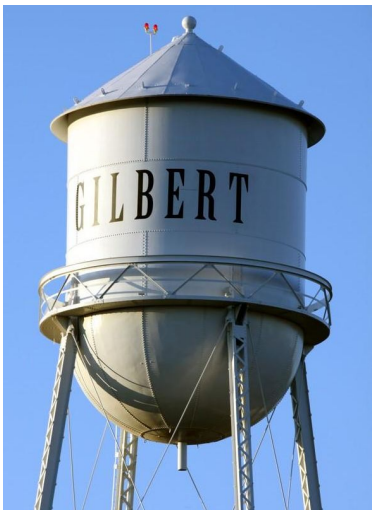


On November 18, Kevin Black, Sr., Planning Program Manager with the US Bureau of Reclamation (Reclamation), presented "Southwestern Navajo Rural Water Appraisal Study," a talk on the evaluation of alternatives to develop water resources to meet domestic and commercial demands of the Navajo Nation. The study was completed in cooperation with the Navajo Department of Water Resources. A technical advisory group made up of stakeholder groups was created to address their immediate, mid-term, and long-term rural water needs. According to 2010 Census data, 30% of the population in the study area did not have access to drinking water and basic sanitation in their homes. The feasibility study compared different development scenarios to address the needs of the communities. The technical advisory group ranked each of the alternatives based on their likelihood to meet a list of criteria in addition to identifying viable water resources. These included positive effects on public health, environmental benefits, capital costs and maintenance, among others. Results indicated the need for development of additional groundwater resources and infrastructure to connect the Leupp and the Dilkon communities of the Navajo Nation.

Watch the Recording

ARIZONA PROJECT WET

Every Drop Counts!



One student who participated in APW's "Every Drop Counts" presentation said, *"I learned that every drop of water counts and to fix any drops of water leaking."* Another summarized: *"A small leak can make a huge loss of water, we should be more careful with our water, [and] be water wise."* Over 300 fourth graders from the EduPrize Elementary School in Gilbert, Arizona are the first to participate in this virtual conservation program. The program is sponsored by the Town of Gilbert's Water Conservation office and is delivered by Sky Reed, an AmeriCorps member working with Arizona Project WET. The 55-minute presentation and in-classroom experiment assists teachers in delivering relevant STEM education. Students measure a simulated leak for one minute and then calculate how much water would be wasted if each of the 80,000 homes in Gilbert had a similar leak for an entire day. The Gilbert water tower provides an iconic landmark for students to envision the large amount of water potentially wasted. They can see that the 50,000-gallon tank could be filled up three to five times with water saved if residents fixed those leaks.

APW

Keeping Up with Arizona Water Updates

Last Tuesday, the Governor's Water Augmentation, Innovation and Conservation Council (GWAICC) held its quarterly meeting to receive updates from its committees and to discuss other water topics. The GWAICC is a forum for water discussion created in 2019 by executive order, replacing the former Governor's Water Augmentation Council. The Council is tasked with identifying and recommending opportunities for water augmentation, innovation, and conservation. The Post-2025 AMAs Committee updated the Council on improving groundwater management by ensuring Central Arizona Groundwater Relinquishment District and Assured Water Supply rules are sustainable and will continue to serve the state. The Long Term Water Augmentation Committee described selecting potential water storage sites in six groundwater basins and AMAs. The Non-AMA Groundwater Committee shared an update on groundwater storage outside AMAs. In addition, ADWR staff detailed the application process and presented the recipients of Groundwater Conservation Grants, provided an update on Arizona drought conditions, and announced the publication of the 2020 Arizona Drought Preparedness Annual Report. These quarterly meetings are an opportunity for the public to engage in Arizona water policy. Agendas are posted at least 24 hours in advance on the ADWR website.

- **Learn more about the GWAICC**
- **ADWR Public Meetings**
- **2020 Arizona Drought Preparedness Annual Report**

WATER JOBS

GRA Position at WRRC
The WRRC is hiring a half-time graduate research assistant to help our team investigate best practices for expanding the diversity of voices heard in water resource discussions and decisions. See the full position description **here**. Submit a letter of interest, resume, and two references to Michael Seronde at **seronde@arizona.edu.**

- Democratic Staff Policy Advisor, Arizona House Of Representatives
- Water Conservation Specialist, Arizona Water Company

ANNOUNCEMENTS

- **USGS National Water Dashboard (NWD)** real-time water, weather, and flood forecast information - beta version
- **Dec 8-Mar 10:** ADWR 5MP Work Group Meetings - 5MP Agricultural Subgroup Meeting, 5th Management Plans Work Group Meeting, 5MP Agricultural Subgroup Meeting, 5MP Municipal Subgroup Meeting, 5MP Turf Breakout Meeting, 5MP Safe-Yield Technical Subgroup Meeting
- **Dec 6:** The Third International Congress on Desert Economy: *Energy Economics between Deserts and Oceans* (Dakhla, Morocco) - Call for Papers Deadline
- **Dec 8:** WEF SWI Stormwater Summit 2021 - Abstract Deadline (Extended)
- **Dec 8:** AHS Monthly Chapter Meeting
- **Dec 10:** 2021 Ford Foundation Fellowship Programs - **Dissertation** and **Postdoctoral** Application Deadlines
- **Dec 15:** GWAICC Post-2025 AMA Committee Meeting
- **Dec 15:** ADEQ Surface Water Protection Program Meeting
- **Dec 17:** 2021 Ford Foundation Fellowship Programs - **Predoctoral** Application Deadline
- **Dec 31:** International Conference on Water Energy Food and Sustainability (ICoWEFS 2021 – Leiria, Portugal) - Abstract Deadline
- **Dec 31:** Water 2021 Travel Awards – Application Deadline
- **Dec 31:** 2021 Virtual Joint AWRA & National Capital Annual Water Symposium, *Human Dimension to Resilient and Sustainable Water Management: Promoting Integrated Collaboration* – Abstract Deadline
- **Jan 5-9, 2021:** NCSE Drawdown 2021 Conference *Research to Action: Science and Solutions for a Planet Under Pressure*
- **Jan. 12, 2021:** GWAICC Desalination Committee Meeting
- **Jan 15, 2021:** *Resources* 2021 Travel Award - Application Deadline
- **Feb 1, 2021:** AWRA 2021 Summer Conference *Connecting Land and Water for Healthy Communities* (July 19 – 21) Denver, CO - Special Session Submission Deadline
- **Feb 15, 2021:** Arizona Growing Water Smart Workshop - Application Deadline
- **Feb 16-26, 2021:** RiversEdge West 19th Annual Research and Management Conference
- **Feb 23-24, 2021:** GRA Virtual Event: *The Future of Water*
- **Mar 1, 2021:** 2021 Babbitt Dissertation Fellowships – Application Deadline
- **Mar 15-25, 2021:** 36th Annual WateReuse Symposium: *Resilience Redefined: health.economy.environment*

- **Apr 1, 2021:** Special Issue of the Journal *Water* (ISSN 2073-4441, IF 2.544) - *Advances in Transboundary Aquifer Assessment* - Manuscript Submission Deadline
- **Apr 1-Jul 1, 2021:** Women in Water Scholarship - Applications Accepted
- **Apr 6-8, 2021:** AZ Water 2021 Annual Conference
- **May 9-14, 2021:** IWA World Water Congress & Exhibition - *Water for Smart Liveable Cities* (Copenhagen)
- **May 18-20, 2021:** 11th International Conference on Sustainable Water Resources Management: *Effective Approaches for River Basins and Urban Catchments* (Milan, Italy)
- **Jun 8-10, 2021:** UCOWR/NIWR Annual Water Resources Conference
- **Jun 13-16, 2021:** ACE21 - Registration Open
- **Nov 1-3, 2021:** AIWW 2021: *Blue-Green Deals with Integrated Solutions*

PUBLICATIONS

- *Rethinking Groundwater Flow on the South Rim of the Grand Canyon, USA: Characterizing Recharge Sources and Flow Paths with Environmental Tracers*: *Hydrogeology Journal*, 28, 1593–1613.

- *Critical evaluation of Stable Isotope Mixing End-Members for Estimating Groundwater Recharge Sources: Case Study from the South Rim of the Grand Canyon, Arizona, USA*: *Hydrogeology Journal*, 28, 1575–1591.

- *Geochemical Characterization of Groundwater Evolution South of Grand Canyon, Arizona (USA)*: *Hydrogeology Journal*, 28, 1615–1633.

- *Assessing Uranium and Select Trace Elements Associated with Breccia Pipe Uranium Deposits in the Colorado River and Main Tributaries in Grand Canyon, USA*: *PLoS ONE*, 15(11): e0241502.

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