

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**

October 11, 2019 / Volume 7, Issue 24

The Water Resource 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

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**The March 27, 2020 WRRRC Annual Conference
Looks to the Future**

How are our water resources changing? What pressures will our water-use sectors face in the future? How can we best achieve long-term resilience? These are just a few of the questions that will be addressed at the WRRC's March 27, 2020 Annual Conference, Water at the Crossroads: The Next 40 Years. During the morning, we will highlight critical topics such as groundwater/surface water connections, water quality, and desalination, all of which directly affect the quantity of water available to us in the future. We are also planning an exciting session called Reading the Road Signs, which will feature talks on water for natural systems, rural and urban water, management on a watershed scale, and agriculture, to help us better understand how diverse water-use sectors are planning ahead. The afternoon will include two moderated discussion sessions, including one called Choosing a Route, in which decision-makers from around the state will offer first-hand knowledge about water management decisions in their areas. Save Friday, March 27, 2020, for the WRRC Conference! Join us at the Black Canyon Conference Center, 9440 N 25th Ave, Phoenix, AZ, for an engaging day of thinking and talking about water throughout Arizona.

WRRC EVENTS

WRRC Brown Bag - Lessons Learned from the 2018 E. coli Outbreak Investigation and the Future of Food Safety

October 16, 2019

Speakers:

Channah Rock, Professor and Water Quality Specialist, Department Environmental Science, University of Arizona



Time/Location: 12:00 p.m. - 1:15 p.m., WRRC Sol Resnick Conference Rm., 350 N. Campbell Ave., Tucson.

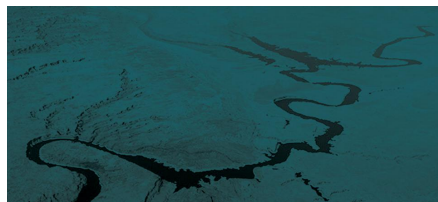
The University of Arizona is researching the Spring 2018 E. coli contamination of Yuma-grown romaine lettuce to help determine environmental influences on bacterial persistence and distribution in the Yuma agricultural region. The goal of the work, which is being conducted in partnership with the U.S. Food and Drug Administration, state agriculture officials, and local growers, is to improve growing and harvesting practices, to reduce contamination risks, and ultimately to enhance produce safety. This lecture will help explain the methods, lessons learned, and initial outcomes of this landmark multi-year investigation.

[Register for Brown Bag Webinar](#)

WRRC Brown Bag -You've Got it All Wrong About Water

October 23, 2019

Speaker: Itzchak Kornfeld, Ph.D., The Hebrew University of Jerusalem



Time/Location: 12:00 p.m. - 1:15 p.m., WRRC Sol Resnick Conference Rm., 350 N. Campbell Ave., Tucson.

Scarcity of water, high population density, power imbalances, and climatic stressors are the main factors that push countries towards either cooperation (technical or political) or disputes in transboundary river basins. This presentation will focus on how the United States Supreme Court addressed three-decades-long disputes between states over shared rivers. In these cases, the Court utilized the legal doctrine of equitable allocation to resolve these conflicts. It has been almost one hundred years since the original terms of the Colorado River Compact were negotiated in 1922, nevertheless, its basic framework has not changed. Going forward, water scholars and other scientists will have a much bigger role to play in resolving disputes. They must communicate their scientific findings to those who can use them to shape equitable long-term solutions for the river.

[Register for Brown Bag Webinar](#)

Upcoming Brown Bags

- **October 28**, Eran Feitelson, Professor, Hebrew University of Jerusalem "Will Desalination Resolve the Israeli-Arab Water Conflicts? And if not, why?" (*Special Time/Location*)
- **November 8**, Haley Paul, Policy Manager, Audubon Arizona, "The Economic Impact of Arizona's Rivers, Lakes, and Streams"
- **November 19**, Betsy Wilkening, Ladd Keith, Nicole Iroz-Elardo, UA/APW, and CAPLA, "Heat Mapping"
- **December 4**, Laura Condon, Assistant Professor, UA/HAS, "Effects of Groundwater Pumping"

OTHER EVENTS

Arizona Runs on Water - Water 101

October 17, 2019

Time/Location: 6:00 p.m. - 7:30 p.m., Maricopa County Cooperative Extension, 4341 E. Broadway Rd., Phoenix, AZ 85040 (Palo Verde Room)

- Where does your water come from and how is it used?
- How is it managed?
- What about agriculture and landscaping - what is their water story?



Learn about and discuss these issues at the Arizona Runs on Water Cooperative Extension Education Series.

Water 101 is the first in the series, which also includes separate evening sessions on Water for Agriculture and Water for Turf/Landscape. Light refreshments will be served and youth education activities with Arizona Project WET will be available in the adjacent room (6 or older, please.) Seating is limited; reserve your spot today.

[Event Flyer](#)

HAS-LAW Colloquium Series - Wicked Legal Issues and Uncertain Scientific Knowledge

October 17, 2019

Speaker: Judge Susan Ward Harris, Special Master for the Gila River and Little Colorado River General Stream Adjudications in Arizona

Time/Location: 3:30 p.m. catering from Seis Kitchen 4:00 p.m. - 5:00 p.m., Haury Lector Hall, Rm. S107, ENR2, 1064 E. Lowell St., Tucson.



This discussion will focus on the intersection of the legal system and science in the development of water law, as well as on the actions that lawyers and scientific experts can take to meet legal thresholds for admissible scientific evidence and more effectively present scientific research in the courtroom.

WRRC NEWS

Recharge in the Santa Cruz River

The revival of wildlife and vegetation resulting from the Santa Cruz River Heritage Project has been all over the news lately, but what about the hydrology and the impacts on Tucson's groundwater resources? On October 8th, the WRRC brown bag featured a presentation by Tucson Water hydrologists Maya Teyechea and Dick Thompson about how reclaimed water delivery to the river was achieved how the recharge is increasing stored water, and how credits are being assessed. The presentation began with an overview of permitting, which for the Silverlake outfall is a maximum of 2.8 million gallons per day. At its height, the summer discharge rate can be imagined as the amount of water that it takes to fill up an average swimming pool in about 7 minutes. Once the water hit the river in June 2019, everyone was surprised at the extent of flow, which at times went all the way past Grant Road. More recently, flow rates have been cut back so that the flowing river does not extend beyond Congress Street. This is the extent allowable under current permitting in order to get recharge credits for the water. Tucson Water is already working on revised permits to allow the City to accrue credits with greater flow extents. They are also looking forward to partnering with the U.S. Geological Survey to install flow gauges at all the bridges along the flowing reach so that they can document infiltration rates over time.



Presentation

National Young Farmer's Coalition Workshop

On October 4, WRRC Director Sharon B. Megdal gave a presentation to the National Young Farmer's Coalition at a workshop held in Tucson. Dr. Megdal's presentation, "Water Challenges and Solutions in Arizona and the West", was given during the first part of the workshop addressing water law, management districts, and on-farm conservation practices. The second part of the workshop addressed micro-loans for current or aspiring small business owners in health or food-related businesses.



National Young Farmers Coalition

Welcome Tucson Water Educators to the Arizona Project WET Team



Aspiring University of Arizona biochemists, molecular biologists, economists, public health officials, political scientists, sociologists, and



environmental educators are taking time out from their studies to learn how to effectively educate and engage K-12 students. This team of seven AmeriCorps Water Educators have officially joined Arizona Project WET! Part of the Tucson Education Program, Water Educators deliver in-classroom groundwater lessons and facilitate outdoor field trips to Sweetwater Wetlands. Water Educators also collaborate with teachers and students to learn about and install rainwater harvesting systems in Sunnyside Union School District schools. Staffing public outreach events is another way that our Water Educators give back to the Tucson community, acting on values of volunteerism and civic engagement. These young adults are working hard to make a difference in the lives of Tucson's students, spread the ethic of water stewardship, and provide enjoyable learning experiences. They make us proud!

[More Information About APW](#)

USGS Releases Reports on Big Chino Valley Groundwater



The US Geological Survey has released two reports based on recent studies of the Big Chino aquifer in central Arizona that produced much-needed information on the region's groundwater resources. The researchers employed cutting-edge techniques, including ground-based geophysical imaging and high precision repeat microgravity measurement to expand and refine what is known about the aquifer. One study report, written by Jamie Macy and others, describes the geology and aquifer structure. The second report, by Jeff Kennedy and others, documents the decline in aquifer water levels between 2010 and 2017 and provides new calculations for estimating the effects of future pumping.

[Macey et al. Report](#) [Kennedy et al. Report](#)

University of Arizona Collaborates with Navajo Nation to Address Water Security



The Navajo Nation is the largest US reservation, yet 35% of its residents don't have running water in their homes. To address this public health risk Indigenous Food, Energy and Water Security and Sovereignty (Indige-FEWSS) combined the efforts of twelve UA graduate students with the local expertise of undergraduates from Navajo Nation's Diné College to design a solar-powered water filtration system that can provide 50 gallons of safe, clean water to 30 Navajo families per day. The project combines research internships, teaching, and cultural immersion to enable trainees to tackle critical, real-world food, energy and water problems with an understanding of the culture and sovereignty of indigenous people. The project leader Navajo and UA Associate Professor of Environmental Science, Karletta Chief, stated that the project's vision at UA is "to develop a diverse workforce with intercultural awareness and expertise in sustainable food, energy and water systems."

[Learn More About the Project](#)

ANNOUNCEMENTS

- [ADWR Seeks Water Resources Specialist II - Phoenix](#)
 - [October 11-20 Tucson's TENWEST Impact Festival](#)
 - [October 11 AZ Water 2020 Conference, Uniting Arizona's Water Professionals - Abstracts Deadline Extended](#)
 - [October 18 AWRA Spring Conference: Geospatial Water Technology Conference - Abstract Submissions Due](#)
 - [October 18 NM WRRRI Annual Conference - Abstract Deadline Extended](#)
 - [October 23-25 Science Diplomacy Conference - Agenda Posted](#)
 - [October 24 AZ Water Resources Field Trip: Maricopa Stanfield IDD Tour](#)
 - [October 28-30 State of the Verde Watershed Conference - Registration Open](#)
 - [October 31 Agnese Nelms Haury Fall 2019 Funding Opportunity - Applications Due](#)
 - [November 1 Arizona Water Protection Fund Fiscal Year 2020 Grant Applications - Public Comment Period Ends](#)
 - [November 1 Biennial Symposium on Managed Aquifer Recharge \(BSMAR17\) - Abstracts Due](#)
 - [November 10-13 ASA-CSSA-SSSA International Annual Meeting - San Antonio](#)
 - [December 2 AZ Agribusiness Roundtable - Save the Date](#)
 - [January 3 Multi-State Salinity Coalition 2020 Student Scholarship Program - Applications Due](#)
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