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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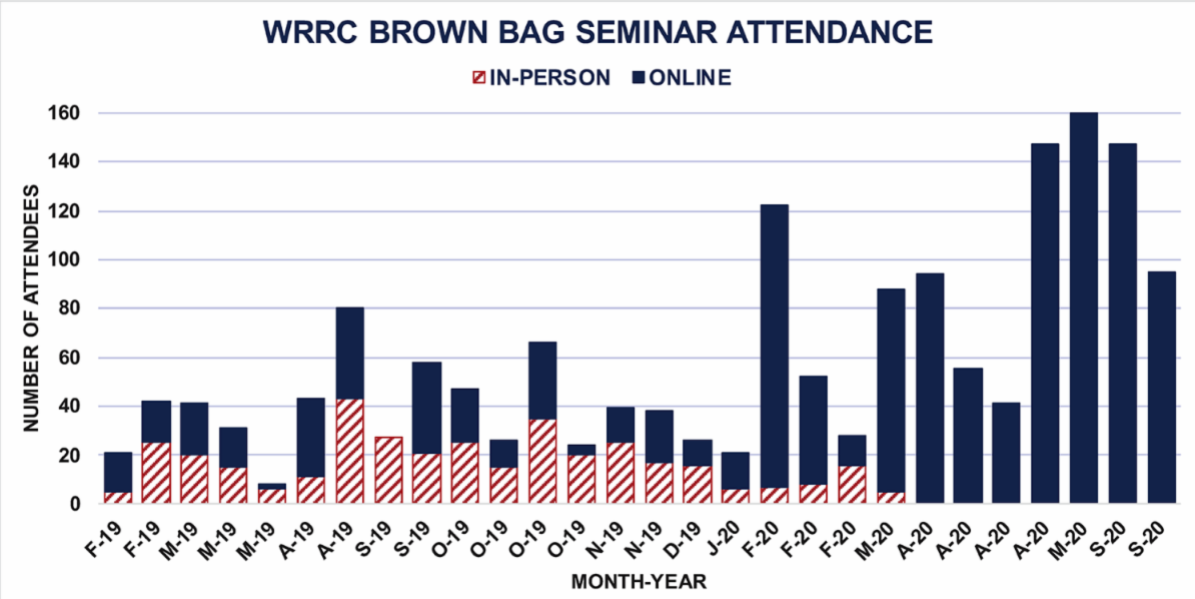
IN THIS ISSUE: WRRC-TAAP Meeting, SE Arizona Citizens' Forum, APW-Historical Journey, 2020 NIWR/USGS Grants, William Martin



WRRC Webinars Have Flourished During the COVID-19 Pandemic

Attendance at WRRC Brown Bag seminars - webcast live on Zoom since the beginning of the COVID-19 pandemic - has more than doubled (see figure). Brown Bag seminars, which have covered a wide range of important water-related topics over the years, saw

their average attendance increase by 50% from 2006 to 2019. The transition to a fully virtual platform in April 2020 was fairly easy because the WRRC has been webcasting its seminars since 2013.

In 2020, before the Brown Bag Seminars were moved to online, 60% of the in-person attendees were affiliated with the UArizona. Post-COVID-19 participation statistics show that more non-UArizona people are attending (80%). Going fully virtual has allowed the WRRC to extend its reach to a more diverse public, while maintaining a robust UArizona audience. Now speakers and attendees can join from anywhere!

To date, 277 Brown Bags have been organized by the WRRC since the series was created in 2002. More are planned for the remainder of 2020 and into 2021. Visit our website to see a list of our upcoming webinars, including "Water for Nature," a presentation from Kristen Wolfe, coordinator for the Sustainable Water Network.

Watch Our Previous Webinars
Register for the Oct. 22 Webinar "Water for Nature"

WRRC EVENTS

Brown Bag Webinar: Water for Nature

Date: Thursday, October 22, 2020
Time: 12:00 - 1:15 p.m.
Location: **Webinar Only**

Speaker: Kristen Wolfe, *Coordinator, Sustainable Water Network*

Kristen Wolfe will be presenting Water for Nature, a talk focusing on environmental water, the forgotten/ignored stakeholder in water policy, management, and law. Leaving water for nature out of water laws and management has had dire consequences for our rivers, streams, and springs. Climate change and unsustainable growth are accelerating river depletion. It is time to find ways to allow for water for nature. Human uses depend on healthy, flowing rivers.

Register for the Webinar

Upcoming Webinars

Nov. 13 – Coronavirus Response at the Central Arizona Project
Ted Cooke, *General Manager, Central Arizona Project*

Nov. 18 – Bureau of Reclamation Programs Supporting Arizona Tribes
Kevin Black, *Program Manager, US Bureau of Reclamation*

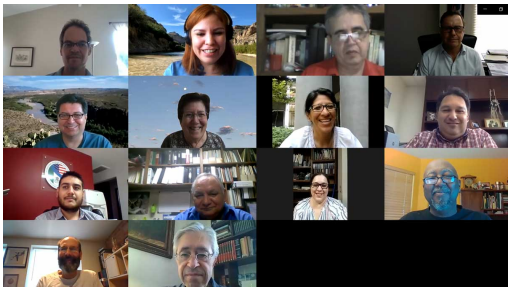
Dec. 2 – Balancing Water for People and Nature: The Upper San Pedro River
Scott Deeny, *Arizona Water Program Lead, The Nature Conservancy*
Holly Richter, *Arizona Water Projects Director, The Nature Conservancy*

Jan. 14, 2021 – Transferring Water in Arizona

Patrick J. Cunningham, *Public Affairs Consultant and General Counsel, HighGround*
Michael J. Pearce, *Partner, Gammage & Burnham*

NEWS

Updates on Transboundary Activities



The WRRC recently held a Zoom meeting to discuss issues related to water use and climate uncertainties in the Transboundary Santa Cruz Aquifer. The meeting, held on September 17, 2020, was organized by the WRRC as part of the Transboundary Aquifer Assessment Program (TAAP). The TAAP is a joint effort between the United States and Mexico to evaluate shared aquifers. Sharon B. Megdal, WRRC Director and Principal Investigator on this project, welcomed the audience, which included members of the Mexican and U.S. Sections of the International Boundary and Water Commission, the Mexican National Water Commission (CONAGUA), the Sonora State Water Commission, the Mexican Geological Service, and the US Geological Survey. Elia M. Tapia (Research Professor, Universidad de Sonora) and Eylon Shamir (Hydrologist, Hydrologic Research Center), both WRRC-TAAP collaborators, discussed past, current, and future efforts in the Transboundary Santa Cruz Aquifer, which include a hydrologic impact assessment that considers climate uncertainties and different groundwater management schemes for the Mexican portion of the aquifer. Participants provided input that will be useful to further binational TAAP efforts.

Also on the transboundary waterfront, on September 29, 2020, WRRC Director Sharon B. Megdal participated in a lively “coffee break” panel addressing US-Mexico Transboundary Groundwater: Withdrawals and Binational Implications. The discussion was hosted by the Permanent Forum of Binational Waters.

Watch the Recorded Panel

Upcoming Meeting to Address Plan for Future Border Wastewater Discharges

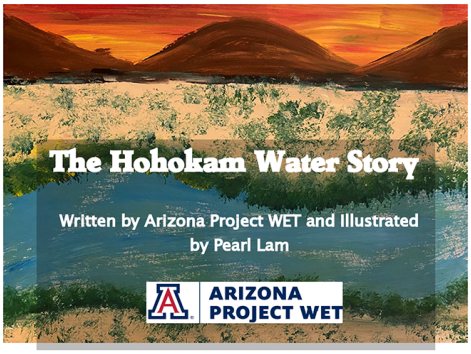
On October 8, 4:00-6:00 pm MST, the US Section of the International Boundary and Water Commission (USIBWC) will hold a public meeting of the Southeast Arizona Citizens’ Forum. The Citizens’ Forum was established by the USIBWC to facilitate sharing information with the public about its activities in the US-Mexico border region. The October 8th meeting will present a comprehensive plan USIBWC and Arizona Department of Environmental Quality developed to mitigate discharges of untreated wastewater into Nogales Wash and the Santa Cruz River. Weekly Wave readers may remember our coverage of the historic plan in the July 24 Summer Wave.

- **Meeting Description and Agenda**
- **Meeting Link**

- [Summer Wave Story]

ARIZONA PROJECT WET

A Historical Journey into Tucson's Water



Fourth grade students in Arizona will have the opportunity to explore the history of Arizona's water through our new Hohokam Water Story, now a part of the Arizona Water Festival Curriculum Unit. We hope the story brings the culture of the Hohokam people and their connection to our state's water into the teaching of Arizona's 4th grade classes. Readers take a journey to see how the Santa Cruz River and peoples living near it have changed over time. After reading this story, students will gain a deeper understanding of the profound connections between people, rivers, and groundwater.

Our telling of Arizona's water history begins with the settlement of people along the Southwestern river valleys in the beginnings of the modern era. Readers first learn about how the Hohokam people used science and engineering, notably through the engineering of large, sophisticated irrigation systems to cultivate land, to have the largest population in the prehistoric Southwest. Next, readers discover how the modern population grew from the influx of European, and later, American settlers, and how the practice of groundwater pumping began to impact the water table, ultimately causing the Santa Cruz River to disappear. High quality recycled water from Tucson's wastewater treatment plant is now released into the river to flow through the downtown area. The story ends with a hope for the restoration of a fully flowing river. Our Hohokam Water Story is available on our new Arizona Water Festival website: **http://awf.projectwet.arizona.edu/storybook**

APW

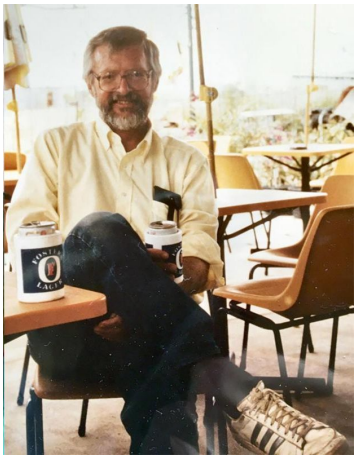
UArizona Researcher Awarded 2020 NIWR/USGS 104(g) National Competitive Grant

Congratulations to **David Quanrud** for his winning proposal, "In-Stream Contaminant Attenuation by Sunlight: Benefits for Water Reuse." Quanrud is an associate research scientist in the School of Natural Resources and the Environment whose research focuses on water reclamation and conservation.

In accordance with the Water Resources Research Act, Section 104(g), the US Geological Survey in cooperation with the National Institutes for Water Resources issues an annual call for research proposals.

Of the 70 proposals received for FY2020, 6 projects were recommended for funding.

Icon of Arizona Water Controversies Dies



Retired University of Arizona professor of agricultural economics William Martin will be remembered as the Central Arizona Project (CAP) contrarian who got it right. Born in Modesto, California, in 1933, Martin spent his youth on a small peach farm. He earned degrees from the University of California Davis and UC Berkeley and began his career at UArizona in 1963. In 1967, during the struggle for congressional authorization and appropriation for CAP, he co-authored a study with fellow agricultural economist Robert Young predicting that Arizona farmers would not be able to afford to take CAP water. Because the rationale for CAP included rescuing groundwater dependent farms threatened by aquifer declines, nearly unanimous agreement on agriculture's participation was essential to sell the project to Congress. Instead, Martin and Young argued generally against the need for CAP. Worse than unpopular, the study, "The Economics of Arizona's Water Problem," was the focus of almost universal rebuke. Allegedly, the Arizona Legislature considered cutting off funding for UArizona if Martin and Young and were not fired and they were denied raises for years after the study was published. Young moved on to Colorado State University, but Martin persevered. In 1982, work by Martin with Helen Ingram and Nancy Laney, which coined the phrase "willingness to play," predicted that Central Arizona farmers would sign up for CAP water, even with its prohibitive price tag, because they believed they could renegotiate the deal when payment came due. As it turned out, Central Arizona irrigation districts faced bankruptcy from the infrastructure investment and other costs associated with CAP contracts, and by 2004 they had relinquished those contracts in exchange for price breaks and debt relief. Martin left UArizona in 1989 and retired in 1992. After his retirement, he returned to farming in Illinois and 20 years later returned to Tucson, where he died on September 18, 2020.

- **Read Tucson.com Article by Tony Davis**
- **Read the Study That Caused the Furor**
- **Read About "Willingness to Play"**

ANNOUNCEMENTS

- **ADWR Statewide Planning Section Manager**
- **ADWR Water Resources Specialist III**
- **Sept 30-Oct. 28:** WaterSmart Innovations - 2020 Webinar Series
- **Oct 3:** Sonoran Institute - Dragonfly Day on the Santa Cruz River
- **Oct 5:** NCSE - Art Contest: Colors of Science
- **Oct 5:** 2021 Flinn Scholarship - Application Deadline
- **Oct 5-9:** BSMAR 17 Symposium - Registration Open
- **Oct 14-15:** 2020 US Mexico Transboundary Groundwater Conference - Registration Open
- **Oct 15:** Guayule Virtual Field Day
- **Oct 16:** RiversEdge West 19th Annual Research and Management Conference - Abstracts Due
- **Oct 20:** US Bureau of Reclamation Guardians of the Reservoir Challenge - Submissions Due
- **Oct 20-21:** SCWC Semi-Annual Virtual Fall Forum: *Connecting Restoration Opportunities Across the Watershed*
- **Oct 23:** Tucson Great Decisions: *Wicked Water Problems: Scarcity, Sharing, and Sustainability*

- **Oct 28-30:** 2020 IWRA Online Conference *Addressing Groundwater Resilience under Climate Change* - Registration Open
- **Nov 2:** AWRA 2021 Summer Conference: *Connecting Land and Water for Healthy Communities* (July 19 – 21) Denver, CO - Special Session Submission Deadline
- **Nov 7:** Research Insights in Semiarid Ecosystems (RISE) Symposium - Registration Open
- **Nov 9-11:** AWRA - 2020 Annual Water Resources Conference
- **Nov 19:** Stewart L. Udall's Environmental Diplomacy Legacy: A Virtual Centennial Birthday Celebration
- **Nov 30:** Hydrology 2021 Travel Awards Applications due
- **Dec 10:** 2021 Ford Foundation Fellowship Programs - Dissertation and Postdoctoral - Applications Due
- **Dec 17:** 2021 Ford Foundation Fellowship Programs - Predoctoral Applications Due
- **Jan 5-9, 2021:** NCSE Drawdown 2021 Conference *Research to Action: Science and Solutions for a Planet Under Pressure* - Save the Date
- **April 1, 2021:** Special Issue of the Journal *Water* (ISSN 2073-4441, IF 2.544) - *Advances in Transboundary Aquifer Assessment* - Manuscript Submissions Due
- **Apr 1-Jul 1:** Women in Water Scholarship - Applications Due
- **May 9-14, 2021:** IWA World Water Congress & Exhibition - *Water for Smart Liveable Cities (Copenhagen)*
- **June 8-10, 2021:** UCOWR/NIWR Annual Water Resources Conference
- **June 13-16, 2021:** ACE21 - Save the Date

Visit our Website