

WEEKLY WAVE



COLLEGE OF AGRICULTURE & LIFE SCIENCES
COOPERATIVE EXTENSION

**WATER RESOURCES
RESEARCH CENTER**



February 24, 2023 / Volume 11, Issue 8

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: Reflections, Seminar Recap, Hassayampa River Study, APW, ADWR



Sweetwater Wetlands. Photo: Sharon B. Megdal

Reflections: A Cloudy Day at Sweetwater Wetlands

Graduate students in my “Water Policy in Arizona and Semi-arid Regions” class visited the Sweetwater Wetlands on Saturday, February 11, 2023. We were joined there by Professor David Quanrud and students from his “Wildland Water Quality” class. A visit to the

wetlands is always a helpful addition to classroom discussions and readings. There we can see how treated wastewater is recharged and reclaimed for reuse and benefits the environment. Open to the public, it is a hidden gem and worth a visit. We visited the Wetlands on a cloudy, somewhat gloomy morning. Clouds often contribute to interesting photos, and the reflections of the clouds in the water led me to write this essay.

[Science Friday Interview](#)
[Read More](#)

EVENTS

NVIS Seminar Series: Food Sovereignty for the Mandan, Hidatsa, and Arikara People

Date: Wednesday, March 1, 2023
Time: 12:00 pm – 1:00 pm Arizona Time
Location: [Webinar Only](#)

Speaker:
Ruth Plenty Sweetgrass-She Kills



Dr. Ruth Plenty Sweetgrass-She Kills is an enrolled citizen of the Three Affiliated Tribes of the Fort Berthold Indian Reservation. She is also descended from the Fort Peck Sioux and Assiniboine. She earned an associate degree in Environmental Science; a bachelor's degree in Elementary Education; a master's degree in Organismal Biology and Ecology; and a PhD in Forest and Conservation Sciences. She has gardened and gathered traditional foods and medicines with her family her entire life. Currently, she serves as the Food Sovereignty Director at Nueta Hidatsa Sahnish College and is senior research personnel for the University of Montana on a project to develop and test a model for better supporting the professional success and satisfaction of Native faculty in STEM. Other projects she also works on include digitizing her tribal college's special collections, developing the college's traditional seed cache, and developing a consortium of Indigenous-led research along the Missouri River Watershed.

[Join the Zoom](#)
[More Info](#)

Upcoming Events

Mar 16 at 12:00 pm: [WRRRC Seminar Series: Water in Cochise County: Challenges and Solutions](#)

Mar 29 at 12:00 pm: [WRRRC Seminar Series: Geophysical Imaging as a Tool for Groundwater Management](#)

Mar 30 at 12:00 pm: WRRRC Seminar Series: UN Water Conference Takeaways, WRRC Director Sharon B. Megdal – Save the Date!

Apr 5 at 12:00 pm: [NVIS Seminar Series: Tribal Hoop House Project in Northern NV](#)

May 3 at 12:00 pm: [NVIS Seminar Series: Indigeponics: Indigenizing Controlled Environment Agriculture and Off-Grid CEA Greenhouse for Food Production](#)

MARK YOUR CALENDARS!



CALL FOR SOLUTIONS

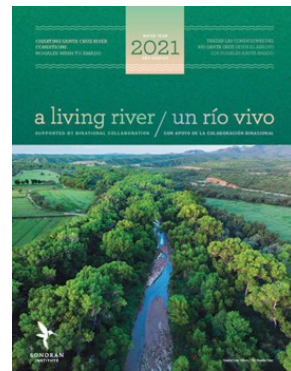
Submission deadline extended to **March 7**



NEWS

Sonoran Institute Panelists Present on Santa Cruz River Report

On Wednesday, February 15, three panelists from the Sonoran Institute gave a WRRC Seminar Series presentation on “A Living River – The Santa Cruz River from Mexico to Marana.” Santa Cruz River Program Director Luke Cole, Program Manager Madeleine Oliver, and Ecologist Claire Zugmeyer shared highlights from their annual *Living River* reports on Santa Cruz River conditions and data. They discussed the revitalized ecosystems in the flowing portions of the river, maintained by effluent releases near Nogales and Tucson, reporting increasing biodiversity but also pointing to ongoing issues with *E. coli* contamination and accumulation of trash. The long-term monitoring of the river and communication of findings through the *Living River* reports are crucial components of the Sonoran Institute’s work on the Santa Cruz River Program. The data they collect are used to inform management decisions and serve as a source of information for community members to learn about their local river. The Sonoran Institute makes its reports available on its website, and the most recent *Living River* reports are available in both English and Spanish.



- [View Recording](#)
- [Living River Reports](#)
- [Seminar Info](#)

The Hassayampa River Study - Assessing Low Impact Development for Stormwater Management

The WRRC is pleased to feature the following article, prepared by Deborah Tosline RG/PMP, Hydrologist/Program Manager, US Bureau of Reclamation.

The use of nature-based practices may potentially be used to augment community water supplies.



In 2020, the Bureau of Reclamation (Reclamation) and the City of Buckeye, Arizona (Buckeye) partnered on the Hassayampa River Study (Study). The Study investigates the

impacts of theoretical use of green stormwater infrastructure (GSI) and conventional stormwater infrastructure (CSI) to manage stormwater in a regional watershed and hypothetical development within Buckeye, on an alluvial fan on the west side of the White Tank Mountains. The Study models the use of theoretical GSI and CSI to assess stormwater management, assesses GSI operations and maintenance (O&M) practices and costs, completes an economic analysis of GSI and CSI, and develops a City of Buckeye Low Impact Design Manual and a high-level conceptual water budget. Buckeye is one of the fastest growing municipalities in Arizona, and in the entire United States. Buckeye's General Plan – Imagine Buckeye 2040 – supports an innovative, healthy, and resilient community while being good stewards of natural resources, open spaces, and overall quality of life. Use of GSI for stormwater management in the arid southwest is a burgeoning practice. Buckeye, like other communities, is interested in identifying, understanding, and potentially implementing nature-based stormwater management solutions.

Image: Chloe Killian, USBR Resource Assistant Intern, Hassayampa River desert region

- [Buckeye General Plan](#)
- [Reclamation Studies in AZ](#)
- [August 2021 Stakeholder Presentation PDF](#)
- [January 2023 Stakeholder Presentation PDF](#)



Making Discoveries with Nature Journaling

Arizona Project WET is excited to be running a new program for middle & high schoolers in the Tucson area. In the Discovery Journey program, students learn about and connect to the urban water cycle through nature journaling. Students learn about the history of the Santa Cruz River, the reclaimed water system, and the ways in which Tucson is using recycled water to bring life back to riparian ecosystems that used to flourish naturally in the area. Students will practice their skills of observation, inquiry, descriptive language, estimation, and documentation, and combine all their knowledge and skills for a field trip to either the Sweetwater Wetlands or the Southeast Houghton Area Recharge Project. Teachers interested in doing the Discovery Journey program with their students can contact APW here: <https://tucson.projectwet.arizona.edu/scheduling>



Image: Clayton Lyon

Outreach Scheduling

Winter Precipitation Impact on Drought

The Arizona Department of Water Resources (ADWR) published an article on February 16 featuring a recent interview with Arizona State Climatologist Erinanne Saffell, wherein ADWR Water News asked her about how this year's unusually wet winter will impact moisture conditions in Arizona. Saffell reported that "At the end of January, precipitation for the water year was above average for most counties in the state," observing that the



Verde River and Salt River basins are both doing well in terms of snowpack. She also noted that “The goal is to add snow and not rain on the higher elevation basins at least through the end of February.” Saffell referred to a three-month outlook provided by the National Weather Service Climate Prediction Center for official seasonal temperature and precipitation forecasts. She noted that it indicates the likelihood of below-average precipitation later this spring, and expressed hope that this spring will not be as dry as Spring 2022. Saffell concluded by stating that “While the water year still has much more to go, it’s a good start!” ADWR has also recently published an interview with National Weather Service Lead Forecaster Mark O’Malley, offering his perspective on the impacts of winter storms on the Colorado River system. Both articles are free to read on the ADWR website.

Image: Annette Coffey, WRRRC 2022 Photo Contest

- [Read the Saffell Article](#)
- [Read the O’Malley Article](#)
- [Three-Month Outlook](#)



WRRRC 104 GRANTS

Water Scarcity and Availability • Water-Related Hazards and Climate Variability • Water Quality Water Policy, Planning, and Socioeconomics Ecosystem and Drainage Basin Functions • Water Technology and Innovation • Workforce Development and Water Literacy.

[MORE INFO](#)

WATER JOBS

WRRRC Student Communications and Outreach Assistant (Hourly)

The UArizona Water Resources Research Center is seeking a student employee with interest and experience in writing about water and/or environmental topics to assist with outreach communication. Applicants are encouraged to visit the WRRRC website for more information on WRRRC programs and activities. Accepting applications until the position is filled. [More Info](#)

- AMWUA [Water Policy Advisor](#)
- City of Tempe [Sustainability & Resilience Programs Coordinator](#)
- Town of Prescott Valley [Deputy Director – Water Resources](#)
- Tucson Audubon Society [Director of Urban Conservation + Sustainability](#)

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

ANNOUNCEMENTS

- **Feb 24:** [2023 Land and Water Summit – Registration Deadline](#)
- **Feb 25:** [Sonoran Institute Santa Cruz River Cleanup & Fundraiser](#)
- **Feb 26:** [2023 WaterReuse Symposium – Advance Registration Deadline](#)
- **Feb 27:** [Sustainable Cities Network Climate & Resilience Workgroup Meeting](#)

- **Feb 28:** [Sustainable Cities Network Green Infrastructure & Low Impact Development Workgroup Meeting](#)
- **Feb 28:** [Arizona Project Wet – Littleton Water Festival](#)
- **Feb 28:** [Late Medieval and Reformations Studies' 36th Annual Town and Gown Lecture – Waterworlds: An Alternative History of Brandenburg-Prussia in the Seventeenth Century](#)
- **Mar 1:** [ALVSCE Research Awards – Nomination Deadline](#)
- **Mar 1:** [NVIS Seminar Series: Food Sovereignty for the Mandan, Hidatsa, and Arikara People](#)
- **Mar 1:** [104\(g\) Grant Program – Proposal Submission Deadline](#)
- **Mar 1:** [Babbitt Center Dissertation Fellowship Program – Application Deadline](#)
- **Mar 1:** [UArizona ALVSCE Research Awards – Call for Nominations](#)
- **Mar 1:** [Land and Water Summit: "Acequias – The Legacy Lives On" Film Screening and Discussion](#)
- **Mar 1:** [Arizona Water Reuse Symposium – Call for Abstracts Deadline](#)
- **Mar 1-3:** [2023 Land and Water Summit](#)
- **Mar 2:** [CAP Public Policy Committee & Board Meetings](#)
- **Mar 2-4:** [2023 Native Women in Agriculture & Natural Resources Symposium](#)
- **Mar 4:** [SRP Water Conservation Expo](#)
- **Mar 4-7:** [2023 American Indian Higher Consortium Conference](#)
- **Mar 5-8:** [2023 WaterReuse Symposium](#)
- **Mar 6:** [2023 AHS Symposium – Call for Abstracts Deadline](#)
- **Mar 6-7:** [Arizona Viticulture Strategic Planning Summit](#)
- **Mar 6-8:** [Growing Water Smart: Integrated Water and Land Use Planning Workshop](#)
- **Mar 7:** [WRRRC 2023 Annual Conference: What Can We Do? Solutions to Arizona's Water Challenges – Solutions Proposal – **Extended Deadline**](#)
- **Mar 8:** [From the Ground Up: Agricultural Technologies to Enhance Soil Health Workshop – Phoenix](#)
- **Mar 9:** [From the Ground Up: Agricultural Technologies to Enhance Soil Health Workshop – Flagstaff](#)
- **Mar 9-10:** [Sustainable Water Investment Summit](#)
- **Mar 10:** [From the Ground Up: Agricultural Technologies to Enhance Soil Health Workshop – Tucson](#)
- **Mar 11:** [Sustainable Landscapes Expo](#)
- **Mar 13:** [From the Ground Up: Agricultural Technologies to Enhance Soil Health Workshop – Safford](#)
- **Mar 13-17:** [UC Davis Soil & Water Assessment Tool \(SWAT\) Model Training Course](#)
- **Mar 15:** [Project CENTRL Application Deadline](#)
- **Mar 16:** [WRRRC Seminar Series: Water in Cochise County: Challenges and Solutions](#)
- **Mar 18:** [SAGE Seminars Presents: Ollas and More: Irrigation Options in the Desert](#)
- **Mar 21:** [AWRA 2023 Annual Water Resources Conference – Topical Session Proposal Deadline](#)
- **Mar 22:** [CAP University Online Course](#)
- **Mar 22-24:** [2023 Annual Native FEWS Gathering](#)
- **Mar 28:** [Bureau of Reclamation FY 2023 Environmental Water Resources Projects Grant – Application Deadline](#)
- **Mar 29:** [Santa Cruz Watershed Collaborative \(SCWC\) Spring 2023 Forum – Field Day](#)
- **Mar 29:** [WRRRC Seminar Series: Geophysical Imaging as a Tool for Groundwater Management](#)
- **Mar 30:** [WRRRC Seminar Series: UN Water Conference Takeaways, WRRRC Director Sharon B. Megdal – Save the Date!](#)
- **Mar 31:** [Tucson AHS Chapter 2023 Halpenny Intern Scholarship – Application Deadline](#)
- **Apr 1:** [ADWR Water Awareness Month 2023 Kick-off Festival](#)
- **Apr 3:** [CEC Youth Innovation Challenge: Water Solutions for Sustainable Development – Submission Deadline](#)

- **Apr 3:** [Rodney Blaine Lewis Scholars Award – Application Deadline](#)
- **Apr 5:** [NVIS Seminar Series: Tribal Hoop House Project in northern NV – Reginald Premo](#)
- **Apr 6:** [Santa Cruz Watershed Collaborative \(SCWC\) Spring 2023 Forum – Conference Day](#)
- **Apr 17-20:** [90th Annual Western Snow Conference](#)
- **Apr 20-21:** [Santa Cruz River Research Days](#)
- **Apr 23-25:** [American Society of Irrigation Consultants 2023 National Conference](#)
- **Apr 24-25:** [NGWA Conference: Managed Aquifer Recharge: Unleashing Resiliency, Protecting Groundwater Quality Conference](#)
- **May 3:** [NVIS Seminar Series: Indigeponics: Indigenizing Controlled Environment Agriculture and Off-Grid CEA Greenhouse for Food Production](#)
- **May 5:** [32nd Desert Horticulture Conference](#)
- **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 9-10:** [2023 Corridors, Connectivity, and Crossings Conference](#)
- **May 9-11:** [96th Annual AZ Water Conference & Exhibition](#)
- **May 18-19:** [CLE International's Law of the Colorado River 23rd Annual Conference: The Next Century of River Policy](#)
- **May 19:** [NAMWUA Water Utility Leadership Forum \(WULF\)](#)
- **Jun 13-15:** [UCOWR/NIWR 2023 Annual Water Resources Conference](#)
- **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](#)
- **Nov 6-8:** [AWRA 2023 Annual Water Resources Conference](#)

PUBLICATIONS & MEDIA

Free Issue of Water Resources IMPACT Magazine

As the American West responds to a 20-year megadrought, this first issue of a *Water Resources IMPACT* two-part series diagnoses water scarcity issues confronting the western US and explains how these impact a variety of ecological, community, and economic sectors. The second of the series, to be released as the March-April issue, moves from diagnosis to prescription. In that issue, authors will consider options for addressing water scarcity and its complex ramifications. [Read the full digital issue.](#)

Opinion on Saving the Colorado River

UArizona Professor of Environmental Science, Katherine Jacobs, wrote an opinion piece in Newsweek titled “We Must Save the Drought-Stricken Colorado River—Here's How.” [View Article](#)

OTHER NOTICES

Youth Innovation Challenge – Water Solutions for Sustainable Development

The 2023 Youth Innovation Challenge, hosted by the Commission for Environmental Cooperation, invites North American youth, ages 18 to 30, to propose innovative solutions that address and respond to critical issues related to water. North American youth are

invited to submit their solutions and compete for up to \$15,000 per country in seed funding, a chance to present their solutions to North America's top environmental officials, and access to mentorship and networking opportunities. The deadline to submit is April 3, 2023. [More Info](#)

Applications Open for Project CENTRL

Project CENTRL is a twelve-month, competitively selected and tuition-free leadership development program for 16 individuals connected to rural Arizona. Over the course of 9 seminars across Arizona, Washington, DC and Sonora, Mexico they build personal leadership skills, educate on the issues facing rural Arizona and connect leaders and experts. The deadline to apply is Wednesday, March 15, 2023. [More Info](#)

Request for Comments for Rio de Flag Flood Control Project DSEA

The US Army Corps of Engineers, Los Angeles District announces the availability of and is requesting comments on the Draft Supplemental Environmental Assessment (DSEA) and Draft Clean Water Act Section 404(b)(1) analysis for the Rio de Flag (RDF) Flood Control Project, located in Flagstaff, AZ. Comments may be submitted through March 14, 2023. Please submit comments or questions regarding the Draft SEA to Kirk.C.Brus@usace.army.mil with subject heading "Rio de Flag Flood Control Project Draft SEA Review Comments." Electronic versions of the Draft SEA and Appendices are available [here](#).

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

[Contact us here](#)