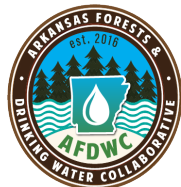


# Arkansas Agriculture, Forests, and Water Conference

## July 22 - 24, 2025

Building Resilience through Sound Science and Practice



*We have lined up an array of experts to share their research, perspectives, and experiences regarding agriculture, forests, and water issues and challenges across Arkansas.*

## AGENDA

### Tuesday, July 22

**8:25 a.m.** Welcome and Conference Kick Off, Brian Haggard, AWRC

**AWRC Sponsored 104(b) Research on Emerging Water Issues**

**Contaminants of Emerging Concern, Moderator, Erin Grantz, AWRC**

**8:30 a.m.** How Low Can We Go? Towards PFAS Quantitation at the EPA Health Advisory Levels with Diffusive Gradients in Thin-Films Passive Samplers, Julian Fairey, University of Arkansas

**8:48 a.m.** Development of On-Site Fluorescence PFAS Sensors, Lei Guo, University of Arkansas

**9:06 a.m.** Monitoring Per- and Polyfluoroalkyl Substances in Central Arkansas Surface Water, Gunnar Boysen, University of Arkansas Medical Sciences

**9:24 a.m.** Extracellular Antimicrobial Resistance Genes, an Emerging Contaminant in Surface Water Bodies in Northern Arkansas, Nathaniel Elliot, University of Arkansas

**9:42 a.m.** 3-D Printed Electrochemical Devices for Accessible Point-of-use Heavy Metal Detection in Drinking Water, Mostafa Mahmoudi, University of Arkansas

**10:00 a.m.** BREAK

**10:20 a.m.** HABs Occurrence and Treatment Technologies, Moderator, Felicia Osburn, ADEQ

**10:20 a.m.** Harmful Algal Blooms in Arkansas: From Monitoring to Advisories, Felicia Osburn, Division of Environmental Quality, Arkansas Department of Energy and Environment

**10:38 a.m.** Synergistic Effect of Electrocoagulation and Antifouling Nanofiltration Membranes for Microcystin Removal, Chidambaram Thamaraiselvan, University of Arkansas

**10:56 a.m.** Evaluating Combinations of Cyanobacteria Remediation Solutions and their Impact on Zooplankton Species, Sarah Webb, Arkansas State University

**11:14 a.m.** Identifying Genetic Markers for Microcystin-Producing Algal Blooms, Wafa Youssfi, University of Arkansas

**11:32 a.m.** Advances on Toxins and Harmful Algal Bloom Research by the US Geological Survey, Keith Loftin, USGS

**11:50 a.m.** LUNCH (let students, poster presenters get food first)

**12:30 p.m.** Water Research Poster Session

- 1:30 p.m. Lake Frances Bottomland Forests, Wetlands and Vision, Moderator Steve Patterson, BXD**
- 1:30 p.m. From the Olentangy River Wetlands to Lake Frances: Lessons Learned and Opportunities for Wetland Research and Education, Robert Nairn, University of Oklahoma
- 1:48 p.m. Weaving Rivercane Restoration at Lake Frances: Ecosystem and Educational Benefits of Restoring Culturally Important Vegetation, Hailey Blackwell, University of Oklahoma
- 2:06 p.m. Unraveling Phosphorus Storage and Mobility in the Lake Frances Legacy Sediment Floodplain, Cheyenne Morgan, University of Oklahoma
- 2:24 p.m. Sediment Phosphorus Release in Lake Frances in Relation to Illinois River Total Phosphorus Changes, Brian Haggard, AWRC
- 2:42 p.m. Building Ecological Literacy - The Illinois River Watershed Atlas and the Nature Center at Lake Frances, Ken McCown, University of Arkansas
- 3:00 p.m. BREAK**
- 3:20 p.m. Climate, Hydrologic, and Watershed Drivers of Water Quality, Moderator, Brian Haggard, AWRC**
- 3:20 p.m. Intermittent Insights: Stream Drying Drives Divergent Patterns in Nutrient Loss, Shannon Speir, University of Arkansas
- 3:38 p.m. Seasonal Nitrate Drawdown Transitions Lake Ecosystems from Phosphorus to Nitrogen Deficiency in Annual Cycles, Thad Scott, Baylor University
- 3:56 p.m. Wildfire and Water Quality: Identifying Risk-Predictive Analytes through Laboratory and Computational Simulations, William Johnson, University of Colorado-Boulder
- 4:14 p.m. Urbanization Impacts on Aquatic Ecosystems: Assessing Phosphorus Transport, Biological Health, and Endocrine Disruptors, Kira Burnett, Arkansas School for Mathematics, Sciences, and the Arts
- 4:32 p.m. Volunteer Monitoring Program Pilot in the Illinois River Watershed, Suzanne Murphy, IRWP
- 4:50 p.m. WRAP UP**
- 6:00 p.m. SOCIAL, Marley's Pizzeria**

### Wednesday, July 23

- 8:30 a.m. Welcome and Updates from Arkansas Department of Agriculture's Natural Resources Division, Moderator – Tate Wentz**
- 8:30 a.m. Arkansas Water Plan Update: Planning for the Future of Arkansas's Water Resources, Tate Wentz, Natural Resources Division
- 8:50 a.m. Arkansas Nonpoint Source Pollution Management Program Update for 2026, Blake Forrest– NPS Management, Natural Resources Division
- 9:10 a.m. Country Roads, Take Me Home: Arkansas Unpaved Roads Program Update, Kevin McGaughey, Natural Resources Division
- 9:30 a.m. Enhancing Drainage in the Arkansas Delta: Two-Stage Ditches and the Cache River Drainage Roadmap, Blake Caldarera, TNC
- 10:00 a.m. BREAK**
- 10:20 a.m. Groundwater, Droughts, and Agriculture, Moderator Canton Ford, Arkansas NRCS**
- 10:20 a.m. We're not California, But We Coulda' Been!, Robert Reynolds, Union County Water Conservation Board
- 10:38 a.m. Arkansas Drought Mapping and Monitoring Project, Hamdi Zurqani, University of Arkansas, Monticello

- 10:56 a.m. Influence of Drought on Agricultural Land Value in the Arkansas Delta, Kent Kovacs, University of Arkansas Little Rock
- 11:15 a.m. Conservation Delivery Networks, Introduction and Opportunities  
Canton Ford, Arkansas NRCS  
Jeff Powelson, Central Hardwoods Joint Venture, American Bird Conservancy
- 11:50 a.m. LUNCH**
- 12:30 p.m. EcoREU Research Poster Session**
- 1:30 p.m. FIRST AFTERNOON SESSION**

**Forests, Emerging Marshes and Wetlands, Moderator Joy Wasson, ARFDWC**

- 1:30 p.m. Multivariate Evaluation of Soil-Water-Plant Health in Buffer-Strip Systems, Helen Amorim, University of Arkansas
- 1:48 p.m. A Nature-Based Best Management Practice Designed to Treat Urban Stormwater and Enhance Agricultural Use on a Floodplain Property, Jordan Holt, WCRC
- 2:06 p.m. Leveraging Deep Learning for Advanced Classification of Emergent Marshes in the Mississippi Alluvial Valley, Ham di Zurqani, University of Arkansas, Monticello
- 2:24 p.m. Basal Area Growth of Improved Loblolly Pine in Response to Climate Variability in the Western Gulf Coastal Plain, Saud Pradip, University of Arkansas, Monticello
- 2:42 p.m. Understanding How Emerging Agricultural Technologies Impact Cybersecurity and Societal Risks and What to Do About It, Jenn Johnson, IAPP
- 3:00 p.m. BREAK**
- 3:30 p.m. Arkansas Water Young Professionals, Moderator – Alyssa Liddle, BWD**
- 3:30 p.m. Her Experience with the Transition from Graduate School to Industry, Srusti Maddala, Trinity Consultants
- 3:48 p.m. AWWA's Transformative Water Leadership Academy, Meghan Post, BWD
- 4:06 p.m. Developing your Professional Network Early in your Career Sets you Up for a Successful Future, Luis Silva, Garver
- 4:24 p.m. An Update on the Arkansas Water Young Professionals Network, Chene Bailey, Rogers Water Utilities
- 4:45 p.m. WRAP UP**
- 6:00 p.m. AWYP SOCIAL, Fossil Cover Brewery and Food Trucks**

**Thursday, July 24**

- 8:30 a.m. River Conservation Recreation Partnership Planning, Moderator, Darrell Bowman, AGFC**
- 8:30 a.m. Who's Managing our Rivers and How are they Managed?, Darrell Bowman, AGFC
- 8:40 a.m. Recreation Stewardship on the Illinois River – How the Illinois River Watershed Partnership Facilitated the First of its Kind Plan for a River in Arkansas, Leif Kindberg, IRWP
- 9:00 a.m. How and Why Partners Created the First Conservation Recreation Plan for the Upper Saline River Watershed, Kirsten Bartlow, AGFC
- 9:20 a.m. Connecting Cities and Communities through Water and Bike Trails, Recreation, and Conservation along the West Fork of the White River, Sandi Formica, WCRC
- 9:40 a.m. Tennessee Created a Program for Conservation Recreation River Planning – "Tennessee Blueways," Ben West, Risora Consulting
- 10:00 a.m. BREAK**

- 10:20 a.m.      **Restoration Experiences and Lessons Learned Across the Natural State, Moderator, Leif Kindberg, IRWP**
- 10:20 a.m.      Introduction to Topic and Speakers, Leif Kindberg, IRWP
- 10:30 a.m.      Setting Goals and Objectives for Stream Restoration in the Ozark Highlands, Graham Thompson, WCRC
- 10:48 a.m.      Restoration Partnerships in War Eagle Watershed, Daniel Hagood, BWA
- 11:06 a.m.      Leveraging Carbon Financing to Restore Floodplains, Sandi Rose, TN
- 11:24 a.m.      Using Conservation Easements for Protecting Restoration Outcomes, Marson Nance, NWALT
- 11:45 a.m.      **WRAP UP, CONFERENCE END, Water Webinars, Next Year**

### Optional Field Tour (Registration Required)

Field Tour: Thursday, July 24, 1 p.m. – 4 p.m.

Load buses at 11:45 a.m., Lunch at Historic Cane Hill College, Max 100 attendees.

Located near the community of Cane Hill, the Leach Ranch encompasses more than 1,000 acres of prairie and post-oak savannah in different phases of restoration. The tour will include:

- Ecological restoration of historic prairie for Bobwhite Quail and other wildlife habitat on degraded agriculture lands using cereal crops, fire and other management tools.
- Alternative/experimental gully restoration in a karst system utilizing brush structures, ephemeral wetlands, dry dams, mock beaver dams, key line principals, and channel reconstruction to support groundwater recharge, water quality, and flood control.
- Other work including establishing a native seed bank focused on local ecotypes, glade restoration, and discussion of prairie restoration equipment and species selection.

### Watershed Sponsors:



### Stream Sponsors:

