



# “The Value of Water”

Arkansas Water Resources Center Annual Water Conference  
Fayetteville Town Center, Fayetteville, AR  
July 23-24, 2018

## Monday July 23

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Check-in, Coffee, Juice, Pastries  
7:00 – 8:30

Session 1: What is the Value of Water?  
8:30 – 9:55

- 8:30 Conference Welcome and Introduction  
**Brian Haggard**, Arkansas Water Resources Center, University of Arkansas Department of Biological and Agricultural Engineering
- 8:40 The Value of Industry to the Community and Water Systems  
**Heath Ward**, Springdale Water Utilities
- 9:05 Raising the World’s Expectations for How Much Good Food Can Do  
**Jamie Burr**, Tyson Foods
- 9:30 TBA  
**Debbie Moreland**, Arkansas Association of Conservation Districts

Networking Break  
9:55 – 10:25

Session 2: Microbial Response to Water Quality  
10:25 – 11:40

- 10:25 Satellite Remote Sensing of Algal Blooms in the Southcentral USA  
**Abubakarr Mansaray**, Oklahoma State University Department of Environmental Science
- 10:40 The Role of Morphometry and Hydrology in Promoting Eutrophication and Harmful Algal Blooms in Reservoirs  
**Reed Green**, US Geological Survey Lower Mississippi-Gulf Water Science Center
- 10:55 Interaction between Lead and Biofilm in Drinking Water Distribution Systems  
**Kaleb Belcher**, University of Arkansas Department of Civil Engineering
- 11:10 How the Long-Term Concentrated Poultry Feeding Operations Influence the Microbial Community at the Bottom Sediments in the Constructed Wetland?  
**Changyoon Jeong**, Louisiana State University Ag Center
- 11:25 Impacts and Implications of Wildlife on Water Quality Management  
**Kevin Wagner**, Oklahoma Water Resources Center

## Lunch (provided) and Poster Session

11:45 – 1:45

## Session 3: Ecosystem Services

1:45 – 2:45

- 1:45 Restoring America's Greatest River: Collaborative Conservation on the Lower Mississippi  
**Angeline J. Rodgers**, US Fish & Wildlife Service/Lower Mississippi River Conservation Committee
- 2:00 Proposed Nutrient Trading Regulations for Arkansas: Innovation in the Marketplace or Creating Loopholes for Polluters?  
**Teresa Turk**, National Oceanic and Atmospheric Administration, retired
- 2:15 Landuse Effects on Surface Infiltration in the Lower Mississippi River Valley  
**Rebecca Anderson**, University of Arkansas Department of Geosciences
- 2:30 The Stormwater Benefits of High-Performance Urban Trees  
**Matthew Werle**, GreenBlue Urban

## Networking Break

2:45 – 3:15

## Session 4: Water Quality in the Buffalo River Watershed Part I

3:15 – 4:30

- 3:15 Preliminary Study Update: A Comparison of Nutrient Water Quality in the Buffalo River Upstream and Downstream of Big Creek  
**Billy Justus**, US Geological Survey Lower Mississippi-Gulf Water Science Center
- 3:30 Stable Isotope and Geochemical Characterization of Nutrient Sources in the Big Creek Watershed of Northwest Arkansas  
**Kelly Sokolosky**, University of Arkansas Department of Geosciences
- 3:45 The Buffalo River, Karst, and CAFOs  
**Chuck Bitting**, National Park Service
- 4:00 What's in the water? Results from *E. coli* investigations at sampling sites in close proximity to C&H Hog operation, Newton Co Arkansas  
**Carol Bitting**, Karst Hydrogeology of the Buffalo National River
- 4:15 Overview of Buffalo National River's Continuous Dissolved Oxygen Monitoring Program  
**Ashley Rodman**, National Park Service
- 7:00 Evening Social at Marley's Pizzeria

## **Tuesday July 24**

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Check-in, Coffee, Juice, Pastries

7:45

### Session 5: Water Quality in the Buffalo River Watershed Part II

8:30 – 9:30

- 8:30 Preliminary Study Update: An Evaluation of Continuous Dissolved-Oxygen Variability for Boston Mountain Streams  
**Luke Driver**, US Geological Survey Lower Mississippi-Gulf Water Science Center
- 8:45 Preliminary Study Update: Mill Creek (Newton Co.) Microbial Source Tracking Study  
**Billy Justus**, US Geological Survey Lower Mississippi-Gulf Water Science Center
- 9:00 The Role of Karst Groundwater in Big Creek Basin, a Major Tributary of the Buffalo National River, and it's Relation to Tourism  
**Van Brahana**, University of Arkansas Department of Geosciences, retired
- 9:15 History of Filamentous Algae in the Buffalo River  
**Nathan Wentz**, Arkansas Department of Environmental Quality

Break

9:30 – 9:45

### Session 6: Water Needs in Agriculture

9:45 – 10:45

- 9:45 Reducing Uncertainty in Estimates of Irrigation Water-Use  
**Drew Westerman**, US Geological Survey Lower Mississippi-Gulf Water Science Center
- 10:00 Tailwater Recovery Systems in the Cache River Critical Groundwater Area: Preliminary Data Set on Herbicide Concentrations  
**Cammy D. Willett**, University of Arkansas Department of Crop, Soil, and Environmental Sciences
- 10:15 Factors Influencing the Adoption of Irrigation Measurement Tools in the Arkansas Delta  
**Robert Rosene**, University of Arkansas Department of Agricultural Economics and Agribusiness
- 10:30 Field measurements of wave-induced erosion of irrigation reservoir levees  
**Daniel G. Wren**, US Department of Agriculture – Agricultural Research Service

Break

10:45-11:00

### Session 7: Aquifer Water Quality and Quantity

11:00 – 12:00

- 11:00 Are Regional Groundwater-Flow Models Useful at Local Scales? An Example from the Ozark Plateaus Regional Aquifer Study  
**Brian R. Clark**, US Geological Survey Lower Mississippi-Gulf Water Science Center
- 11:15 Evaluating the hydrogeologic framework of the Mississippi Alluvial Plain using geophysical methods  
**Drew Westerman**, US Geological Survey Lower Mississippi-Gulf Water Science Center

11:30 Machine-learning models to map specific conductance and chloride in the Mississippi Embayment regional aquifer system  
**Katherine J. Knierim**, US Geological Survey Lower Mississippi-Gulf Water Science Center

11:45 TBA  
TBA, TBA

Lunch (provided)  
12:00 – 1:15

Symposium for the Arkansas Chapter of the  
American Water Resources Association

Session 8: Value of Citizen Science Programs in Watershed Water-Quality  
Management Part I

1:15 – 2:40

1:15 Special Session Introduction  
**Reed Green**, US Geological Survey Lower Mississippi-Gulf Water Science Center

1:20 Beaver Secchi Day  
**Matthew Rich**, Beaver Water District

1:40 LakeSmart and StreamSmart Programs  
**Angela Danovi**, Ozarks Water Watch

2:00 Arkansas Master Naturalists – Statewide Volunteer Monitoring Efforts  
**Ken Leonard**, Arkansas Master Naturalist

2:20 CyanoHAB Monitoring Techniques  
**Brie Olsen**, Arkansas Department of Environmental Quality

Networking Break  
2:40 – 3:00

Session 9: Value of Citizen Science Programs in Watershed Water-Quality  
Management Part II

3:00 – 4:05

3:00 National Scale -- North American Lake Management Society's Secchi Dip-In & GLEON's Lake Observer App  
**Reed Green**, US Geological Survey Lower Mississippi-Gulf Water Science Center

3:20 Source Water Collaborative Tool Box  
**Darcia Routh**, Arkansas Department of Environmental Quality

3:40 Forestry and Drinking Water  
**Bob Morgan**, Arkansas Forests and Drinking Water

4:00 Final Words  
**Reed Green**, US Geological Survey Lower Mississippi-Gulf Water Science Center

Conference Adjourns, AR-AWRA Business Meeting  
4:05