

2013

Arkansas Water Resources Center Annual Report



ELECTRONIC NEWSLETTER

In 2013, the AWRC introduced a monthly electronic newsletter to share information about current projects, events, faculty and students.

“We created the electronic newsletter as an outlet to share information with our stakeholders,” said Tara Johnson, graduate assistant at the Arkansas Water Resources Center. “We have a lot going on at the AWRC and needed a way to disseminate that information in a concise, easy to read format.”

If you'd like more information, or if you'd like to receive the e-newsletter, please contact our graduate assistant, Tara Johnson, at tjohnso@email.uark.edu.



A YEAR IN REVIEW

In 2013, five projects were funded by the Arkansas Water Resources Center. These projects supported the research of six faculty and also one post-doctoral researcher while providing research experience for numerous graduate and undergraduate students.

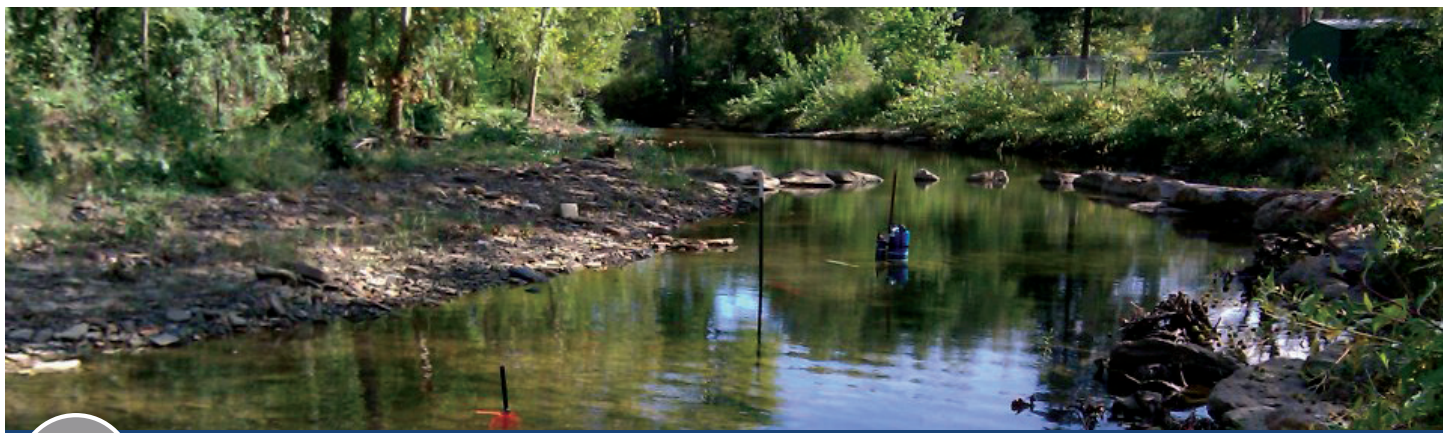
“At the end of every year we like to look back and see what we have accomplished,” said Brian Haggard, director of the Arkansas Water Resources Center.

Current projects focus on: the sources of nitrosamine precursors in drinking water treatment, how climate change may influence algal

biomass and total organic carbon in water supply reservoirs, and also how quenching sediment oxygen demand may improve water quality, among others.

“We look forward to continuing to fund research that addresses our state's water resource issues and enhances our understanding in 2014,” said Haggard.

In addition to funding the 104B projects, the AWRC also sponsored symposiums, held a conference, held a three-day Ecological Design Workshop and Charette, and hired two new staff members.



2013 104B FUNDED PROJECTS

The Arkansas Water Resources Center funded five projects selected through external peer review by the Technical Advisory Committee in 2013, including:

Fecal Source Characterization in Select 303(d) listed Streams in the Illinois River Watershed with Elevated Levels of Escherichia coli, Dr. Kristen Gibson, Food Science Department, University of Arkansas

Economics of On-farm Reservoirs across the Arkansas Delta Region: A Conjunctive Management Approach to preserving Groundwater and Water Quality, Dr. Kent Kovacs, Agricultural Economics and Agribusiness Department, University of Arkansas

Assessing Sources of Nitrosamine Precursors in Drinking Water Treatment Plants, Drs. Wen Zhang and Julian Fairey, Civil Engineering Department, University of Arkansas

The Effect of Global Climate Change on Algal Biomass and Total Organic Carbon in Beaver Lake, Drs. Byron Winston and Thad Scott, Crop, Soil and Environmental Sciences Department, University of Arkansas

Improving Surface Water Quality by Reducing Sediment Oxygen Demand and Removing Nutrients, Dr. Scott Osborn, Agricultural and Biological Engineering Department, University of Arkansas

The funded research addresses our congressional authorized mission, as well as promotes the national mission and objectives of the U.S. Geological Survey focused on providing water quality and quantity information, understanding water availability, addressing the influence of climate on water resources, and responding to water-related emerging needs.

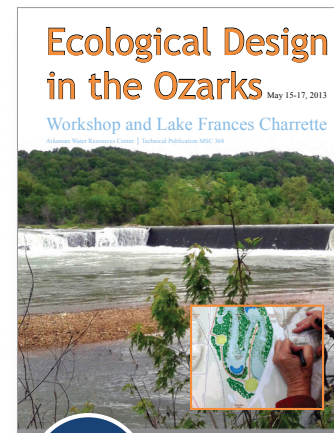


CURRENT AWRC PROJECTS

The Arkansas Water Resources Center managed the following five research projects in 2013 with the assistance of other faculty and graduate students:

1. **Water Quality Monitoring and Trends in Northwest Arkansas Streams**
2. **Effect of Natural Gas Activity on Water Resources in the Gulf Mountain Wildlife Management Area and the South Fork of the Little Red River**

3. **Water Quality Monitoring and Modeling to Establish Subwatershed Priorities**
4. **Statistical and Database Support for Nutrient Criteria Development**
5. **Reservoir Modeling and Sediment Phosphorus Interactions**

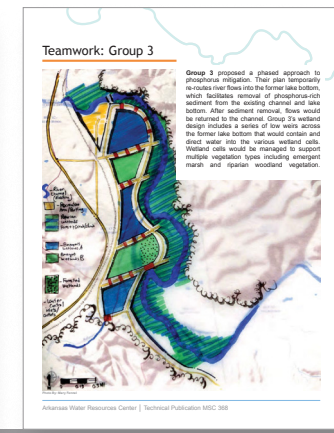
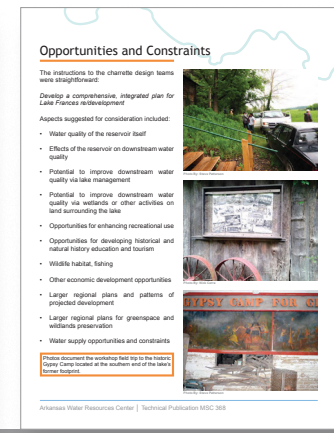
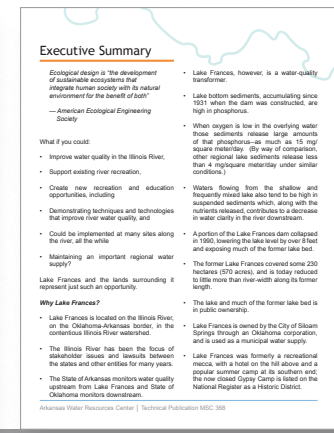


ECOLOGICAL DESIGN WORKSHOP

The best ecological designs are usually the product of collaborative, multidisciplinary teams. Engineers, landscape architects, other designers and planners, ecologists, and other scientists each make important contributions, but draw on different perspectives, speak different languages, and evaluate success by different criteria.

Students, landscape architects, engineers, water quality specialists, ecologists, and other interested individuals spent three days learning, brainstorming and designing together May 15-17, 2013 at the Ecological Design in the Ozarks workshop and charrette.

A charrette is a short-term, intensive design process. Typically, a charrette will involve collaborative design work by small multidisciplinary groups, who then present their work to the full group to generate further discussion and innovation. They focused on a multipurpose future for Lake Frances, exploring solutions to improve water quality, supply, and use. Lake Frances is located on the Illinois



2013 ANNUAL CONFERENCE

The Arkansas Water Resources Center's 2013 Annual Watershed and Research Conference was held May 14 and 15 in Fayetteville, Ark.

The conference included several research project presentations, a student poster competition and three sessions based on ecological design in industry.

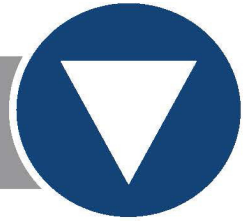
"The participation in our conference this year was outstanding," said Brian Haggard, director of the Arkansas Water Resources Center.

Approximately 120 researchers, students and stakeholders attended the conference. More than 25 posters and projects were presented during three sessions.

"We look forward to this conference each year and can't wait for 2014's conference," said Haggard.

The 2014 conference theme is Watersheds, Water Words and Wicked Problems.

NEW STAFF



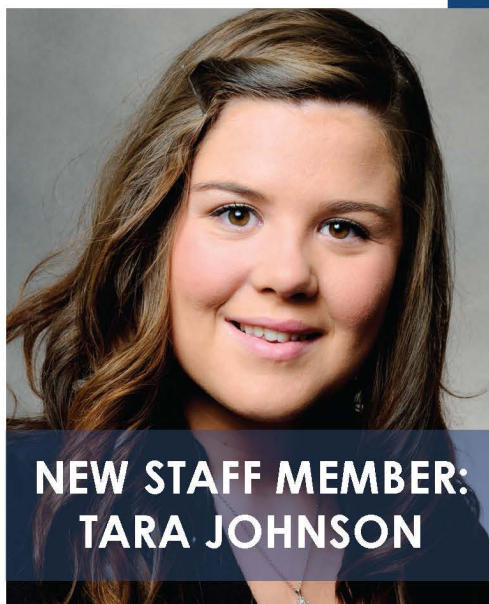
**NEW STAFF MEMBER:
ERIN SCOTT**

The Arkansas Water Resources Center has hired a new project manager, Erin Scott, to oversee current projects with governmental and non-governmental organizations.

"I couldn't be more excited about this opportunity. I love exploring water resource issues and the position puts me right in the middle of it," said Erin Scott.

Scott's primary responsibility will be to manage every aspect of the Arkansas Water Resources Center's current projects from database organization to report preparation.

"The project manager is an integral part of the Arkansas Water Resources Center team. Erin's role keeps us organized, on-task and informed about all of our projects. We are excited to welcome her into this position," said Brian Haggard, director of the Arkansas Water Resources Center.



**NEW STAFF MEMBER:
TARA JOHNSON**

The Arkansas Water Resources Center has started a partnership with the University of Arkansas' Department of Agricultural Education, Communications and Technology (AECT) to assess and improve communications initiatives. Leslie Edgar, an associate professor in the AECT department and a graduate student, Tara Johnson, are working on the project.

"I couldn't be more excited to be working with the Arkansas Water Resources Center to assess and improve their communications plan," said Tara Johnson.

The AWRC and the Cooperative Extension Service have funded a year-long assistantship for Johnson during which she will be conducting research for her master's thesis and providing communications expertise.

"This opportunity could not have come at a more perfect time in my graduate career! I am so thankful for the opportunity to be funded and doing research that excites me and challenges me," said Johnson.