



2011 ANNUAL WATERSHED AND RESEARCH CONFERENCE

JULY 6-7, 2011 • FAYETTEVILLE, ARKANSAS

**THE ILLINOIS RIVER AND THE STATEMENT
OF JOINT PRINCIPLES AND ACTIONS—
WHAT'S NEXT?**



**UofA UNIVERSITY OF ARKANSAS
DIVISION OF AGRICULTURE**

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THE WATER RESOURCES RESEARCH ACT



US Congress passed the Water Resources Research Act, in 1964 establishing fifty-four water resources research institutions like Arkansas Water Resources Center at land grant universities throughout the

United States. The State Water Resources Research Institutes were charged with arranging for competent research that addresses water problems and enhances our understanding, aiding the entry of new research scientists into water resources fields, helping to train future water scientists and engineers, and transferring results of sponsored research to water managers and the public.

Each fall, the AWRC accepts applications for projects funded through the 104b program. This year, the Arkansas Water Resources Center funded three projects including:

- Continued Investigation of Land Use and Best Management Practices on the Strawberry River Watershed, Jennifer Bouldin, Arkansas State University, \$14,000.
- Evaluation of Septic Absorption Products with Differing Architectures in a Profile-Limited Soil, Kristofor Brye, University of Arkansas, \$15,389.
- Assessment of the Microbial Population in Beaver Lake Swim Beach Regions to Determine Origin of Fecal Pollution, Kristen Gibson, University of Arkansas, \$21,003.
- Increasing Awareness for Water Quality Protection: Stream Restoration through Temporary and Permanent Animal Access Restrictions, Dirk Philipp, University of Arkansas, \$10,634.

For more information about the National Institutes for Water Resources visit niwr.net.

AWRC ANNUAL CONFERENCE PROGRAM AT A GLANCE

WEDNESDAY JULY 6, 2011

- 7:45-8:15** Coffee, Juice, Pastries
8:15- 9:50 **Session 1:** State of Water Quality
9:50-10:05 Refreshment Break
10:05-11:40 **Session 2:** EPA TMDL Development and Modeling
11:40-12:40 Lunch Break
12:40-1:40 Poster Session and Student Poster Competition
1:40-2:35 **Session 3:** OWRB Scenic Rivers TP Criteria Review
2:35-3:00 Refreshment Break
3:00-4:40 **Session 4:** Emerging Research in the Illinois River Watershed
- 7:00-9:00** Evening Social at Farrell's Lounge

THURSDAY JULY 7, 2011

- 7:45- 8:15** Coffee, Juice, Pastries
8:15- 10:15 **Session 5:** What's Happening in the Illinois River Watershed I
10:15-10:30 Coffee Break
10:30-11:40 **Session 6:** What's Happening in the Illinois River Watershed II
11:40-1:00 Lunch (On Your Own)

WEDNESDAY JULY 6, 2011

PASTRIES, COFFEE AND JUICE FROM RICK'S BAKERY

7:45-8:15 in the Foyer

Sponsored by Simmons Foods



ORAL SESSION SCHEDULE

SESSION 1: STATE OF WATER QUALITY

MODERATOR: MARK COCHRAN, UA DIVISION OF AGRICULTURE

- 8:15** Welcome and Introduction, Mark Cochran, Vice-President for Agriculture, UA Division of Agriculture
8:20 State of Water Quality in the Illinois River Watershed—Phosphorus Concentrations, Loads and Trends, Brian Haggard, Arkansas Water Resources Center
8:50 Blue Waters, Green Pastures, and the Elephant in the Room, Andrew Sharpley, UA Division of Agriculture
9:20 A Legal Perspective—Agriculture and Water Quality, Harrison Pittman, National Agricultural Law Center
- 9:50** Refreshment Break

SESSION 2: EPA TMDL DEVELOPMENT AND MODELING

MODERATOR: ANDREW SHARPLEY, UA DIVISION OF AGRICULTURE

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- 10:05** EPA Update on the TMDL Process, Quang Nguyen, USEPA Region VI , *Key Note Speaker*
10:20 HSPF Watershed Modeling of the Illinois River Watershed—Technical Update, Tony Donigian, AQUA TERRA Consultants, *Key Note Speaker*
11:00 EFDC Reservoir Modeling of Lake Tenkiller—Technical Update, Andy Stoddard, Dynamic Solutions LLC, *Key Note Speaker*
- 11:40** Lunch and Poster Session

3. A Preliminary Study of the Effects of Absorption Field Product Architecture Type on Effluent Dispersion in Septic Systems, Nina Prater*, Amanda Mathis and Kristofor Brye, University of Arkansas, Department of Crop, Soil and Environmental Sciences, *Student Poster Presenter*
4. The Interacting Effects of Crayfish Grazing and Sedimentation on Algal Biomass. Katheryn H. Rose*, Michelle Evans-White, and Sally Entrekin. University of Arkansas, Department of Biological Science, *Student Poster Presenter*
5. Impacts of Natural Gas Recovery and Land Use on Primary Production and Community Respiration in North Central Arkansas Streams. Brad Austin*, Michelle Evans-White, Sally Entrekin, and Kara Brick, University of Arkansas, Department of Biological Science, *Student Poster Presenter*
6. Water Quality Trends for 319 Priority Watersheds in Northwest Arkansas, 1997-2010, Bryan Bailey*, Brian Haggard, Leslie Massey and Wade Cash, University of Arkansas, Department of Biological Engineering, *Student Poster Presenter*
7. Effects of Land Use on Water Quality And Macroinvertebrate Communities of Spring-fed Streams In Northwest Arkansas, Shrijeeta S Ganguly*, Ayla Smartt* and Michelle Evans-White, University of Arkansas, Department of Biological Science, *Student Poster Presenter*
8. Phosphorus Trends Resulting from Watershed Management Changes in Arkansas, Brian Haggard, Arkansas Water Resources Center
9. What Changes are Happening Downstream in Oklahoma? Thad Scott, Brian Haggard*, Andrew Sharpley, and Joshua Romeis, University of Arkansas
10. Effective Riparian Management Education in the Illinois River Watershed, John Pennington, Washington County Cooperative Extension Service
11. Selection of Best Management Practices under Environmental and Economic Uncertainty Program, Hector German Rodriguez*, Jennie Popp, Edward Gbur, and Indrajeet Chaubey, University of Arkansas Department of Agricultural Economics and Agribusiness

12. The Illinois River Watershed: Stakeholders Make a Difference, Illinois River Watershed Partnership and USGS Arkansas Water Science Center

ORAL SESSION SCHEDULE

SESSION 3: OWRB SCENIC RIVERS TP CRITERIA REVIEW

MODERATOR: HARRISON PITTMAN, NATIONAL AGRICULTURAL LAW CENTER

- 1:40** Reviewing the Scenic River TP Criteria—How Close is the Illinois River? Thad Scott, UA Division of Agriculture
- 1:55** Reviewing the Scenic Rivers TP Criteria—Process and Timeline, Derek Smithee, Oklahoma Water Resources Board
- 2:15** Reviewing the Scenic River TP Criteria—Establishing the Best Scientific Information Available, Phil Moershel, Oklahoma Water Resources Board
- 2:35** Refreshment Break

SESSION 4: EMERGING RESEARCH IN THE ILLINOIS RIVER WATERSHED

MODERATOR: LESLIE ELMORE, OSU-DASNR WATER RESEARCH AND EXTENSION CENTER

- 3:00** Influence of Scale on Quantifying Phosphorus Leaching in Ozark Floodplains, Derek Heeren, Oklahoma State University
- 3:20** Water Quality Assessment of Spring and Osage Creeks—Phosphorus and Biotic Relations, Eric Cummings, University of Arkansas
- 3:40** Removing Dissolved Phosphorus in Runoff with Water Quality Improvement Structure, Chad Penn, Oklahoma State University
- 4:00** Variation in Phosphorus Index Associated with Differing Methods for Estimating Slope and Transport Parameters, Cara Hastings, University of Arkansas-Monticello
- 4:20** Surface Runoff Transport of Escherichia coli after Poultry Litter Application on Pastureland, Josh Payne, Oklahoma State University

SOCIAL AT FARRELL'S LOUNGE

Wednesday, July 6 from 7:00-9:00 PM
Sponsored by Hach Environmental

Farrell's Lounge is located at 311 West Dickson Street

Farrell's is located across the street from Bordino's, approximately a 10 minute walk from the Cosmopolitan. Please note that all of Fayetteville's downtown parking is now pay parking at a rate of \$1 per hour.



HACH Hydromet manufactures Hydrolab water quality instruments and OTT water level/discharge instruments. Contact Dave Procyk, Factory Direct Manager, at 512-288-5831 or check them out at www.hachhydromet.com.



THURSDAY JULY 7, 2011

PASTRIES, COFFEE AND JUICE FROM RICK'S BAKERY

7:45-8:15 in the Foyer
Sponsored by Georges, Inc.



ORAL SESSION SCHEDULE

SESSION 5: WHAT'S HAPPENING IN THE ILLINOIS RIVER WATERSHED I
MODERATOR: SARAH LEWIS, FAYETTEVILLE, ARKANSAS CITY COUNCIL MEMBER

- 8:15** 319 Program Activities in the Illinois River Drainage Area, Arkansas, Tony Ramick, Arkansas Natural Resources Commission
- 8:45** 319 Program Activities in the Illinois River Drainage Area, Oklahoma, Shanon Phillips, Oklahoma Conservation Commission
- 9:15** Wastewater Treatment Plant Progress toward Established P Limits, David Cameron, City of Siloam Springs
- 9:45** Refreshment Break

SESSION 6: WHAT'S HAPPENING IN THE ILLINOIS RIVER WATERSHED II
MODERATOR: ED FITE, OKLAHOMA SCENIC RIVERS

- 10:30** USGS Activities in the Illinois River Drainage Area, Arkansas and Oklahoma, Dave Freiwald, USGS Arkansas Water Science Center
- 10:50** NRCS Activities in the Illinois River Drainage Area, Arkansas and Oklahoma, Nancy Young, USDA-Arkansas NRCS
- 11:10** Moving Poultry Litter from Hauling to Best Management Practices, Sheri Herron, BMPs Inc.
- 11:30** What's next for the Illinois River Watershed?, Ed Fite, Oklahoma Scenic Rivers Commission
- 11:40** Lunch Break (On Your Own)

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