

ARKANSAS WATER RESOURCES CENTER

Meeting Arkansas's Water Needs Now and Into the Future

JULY 21 & 22, 2015

AWRC Annual Conference

University of Arkansas

Global Campus

WELCOME TO THE 2015 ANNUAL WATERSHED & RESEARCH CONFERENCE

Dr. Brian Haggard, Professor & Director
Erin Scott, Program Manager

2015 TECHNICAL ADVISORY COMMITTEE

Bob Caulk - *Beaver Watershed Alliance*
Sandra Chandler - *Arkansas Geological Survey*
Nathan Wentz - *ADEQ*
Randy Easley - *Central Arkansas Water*
Michelle Evans-White - *University of Arkansas*
Jerry Farris - *Arkansas State University*
Reed Green - *US Geological Survey*
Tim Kresse - *US Geological Survey*
Hal Liechty - *University of Arkansas Monticello*
Bob Morgan - *Beaver Water District*
Tony Ramick - *ANRC*
Michele Reba - *USDA-ARS*
Andrew Sharpley - *UA Division of Agriculture*
Tim Snell - *The Nature Conservancy*
Evan Teague - *Arkansas Farm Bureau*
Billy Ammons - *CH₂M HILL OMI*
Darcia Routh - *ADH*

We appreciate your service!

Tuesday July 21

7:30 am

Check-in, Coffee, Juice, Pastries

9:00 am

Conference Welcome & Introduction

Brian Haggard, *AWRC Director, UA Dept. of Biological and Agricultural Engineering*

9:05 am

Implementing the Updated Water Plan

Edward Swaim, *Arkansas Natural Resources Commission*

Session 1: Animal Manure and the Land-Water Interface - 20 Years Later

9:50 am

Reducing Nutrient Runoff Using Litter Incorporation

Dan Pote, *USDA-ARS*

10:10 am

Long-term Effects of Alum Applications to Poultry Litter on Phosphorus Runoff and Leaching

Philip Moore, *USDA-ARS*

10:30 am

Modeling Phosphorus Runoff to Test the Phosphorus Index

Peter Kleinman, *USDA-ARS*

Session 1 continues on next page

STUDENT POSTER SESSION

Measuring and Modeling Net Photosynthesis of Three Rice Genotypes Based on their Photosynthetic Response to Light, CO₂ and Temperature

Student Daniel Bereznyakov, Univ. of Massachusetts Amherst

Advisor Dr. Kusum Naithani

Relationship Between Ozark Stream Phosphorus Concentration and Macroinvertebrate Taxonomic Composition

Student Isamar Cortes, Montclair State Univ.

Advisor Dr. Michelle Evans-White

High Activity and Rapid Growth of *Regina grahamii* in a Highly Seasonal Environment

Student Jessika Dorcas, Elon Univ.

Advisor Dr. John D. Wilson

Methane Emission Inventory at the University of Arkansas

Students Sierra Matlock and William Woodward, Purdue Univ.

Advisor Mr. Erik Pollock

The Difference in Methane Output in Correlation to Water Quality Over a Conventionally Flooded and Alternative Wetting and Drying Rice Fields

Student Tyler Fletcher, Connors State College

Advisor Dr. Benjamin Runkle

Using Electrodialysis for the Purification of Swine Wastewater used in Growing *Porphyridium cruentum*

Students Emily Gottberg, Clemson Univ. and Jessica Vaden, Univ. of Maryland Baltimore County

Advisor Dr. James Hestekin

Effects of Summer Drought on Smallmouth Bass Relative Weight, Diets and Growth Potential in Ozark Streams

Student Brin Kessinger, Ohio State Univ.

Advisor Dr. Dan Magoulick

Water Column Anaerobic Ammonium Oxidation in a Thermally Stratified Reservoir (Lake Fayetteville)

Student Deanna Mantooth, Univ. of Arkansas

Advisor Dr. Thad Scott

Heterocyte Densities as Proxies for Nitrogen Fixation in Ozark Lakes

Student Sarah Hallett, Univ. of Arkansas

Advisor Dr. Thad Scott

Water Quality Testing and Sampling Along the West Fork of the White River

Student Haley McLaughlin, Univ. of Arkansas

Advisor Dr. Brian Haggard

Effect of Heavy Metals in Karst Systems

Student Asher Sampong, Univ. of Arkansas

Advisor Dr. Steve Boss

Poster session continues on next page

STUDENT POSTER SESSION

Different Sources of Methane Emissions in Conventional and Alternate Wetting and Drying Rice Fields

Student Dustyn Perkins, Univ. of Arkansas

Advisor Dr. Benjamin Runkle

***Acidothermus cellulolyticus* and *Streptomyces* Growth and Enzyme Behavior in the Presence of Lignin**

Student Jasmine Phan, Carroll College

Advisor Dr. Ravi Barabote

Do Herbivorous Fish Densities (*Campostoma* spp.) Relate Positively with Ozark Stream Nutrient Concentrations?

Student Amber Roberts, Westville High School

Advisor Dr. Michelle Evans-White

The Effects of Winter Cover Crops on Tomato Yield and Performance in an Organic High Tunnel Environment

Student Bailey Smith, Univ. of Arkansas

Advisor Dr. Curt Rom

Climate Effect on Resistance to Fire Blight Among Apple Varieties Grown in the Northwest Arkansas Region

Student Khoa Hoang Thai, Univ. of Arkansas

Advisor Dr. Curt Rom and Julia Stover

Crayfish Size in Relation to Substrate Size in the White River Drainage System

Student Bailey Stein, Eckerd College

Advisor Dr. Dan Magoulick

Stream Algal Biomass Across a Gradient of Agricultural and Unconventional Natural Gas Wells

Student Hannah Verkamp, Univ. of Arkansas

Advisor Dr. Michelle Evans-White

Influence of Flow Regime on Algal Growth and Physicochemical Attributes in Forested Ozark Streams

Student Delaney Hall, Univ. of Arkansas

Advisor Dr. Michelle Evans-White

FACULTY POSTER

Cattle Diet Effects on Nutrient Concentrations in Runoff from Fecal Patches

Presenter Dr. Dirk Philipp, Univ. of Arkansas

*Poster Session
sponsored by*



Thank You Moderators!

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If you have any questions regarding the conference sessions, please feel free to contact the session moderators at the email provided.

17th Annual EPA Region 6 Stormwater Conference



What: 17th Annual EPA Region 6
Stormwater Conference

When: October 18-22, 2015

Where: Hot Springs Convention
Center, 134 Convention
Blvd, Hot Springs, AR

Why: To address topics like
managing municipal
stormwater, LID, TMDL's,
BMP's, and new rules and
regulations throughout the
region.

Thank You Speakers!

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Thank You Sponsors!



Water Monitoring Solutions.





Where to Go

UA Global Campus

2 E Center St.
Fayetteville, AR 72701

The Chancellor Hotel and Parking

70 N East Ave.
Fayetteville, AR 72701

Marley's Pizzeria

609 W. Dickson St. #103
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