



MWRRI Newsletter

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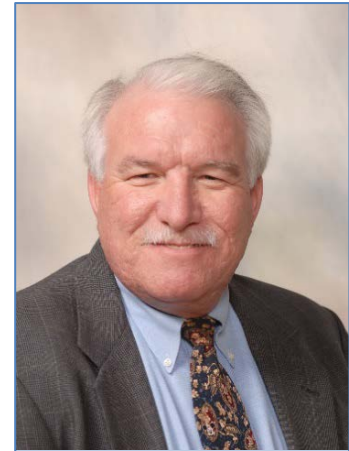
Fall 2016

From the Director's Desk ...

It's hard to believe that we are fast approaching the end of the semester and calendar year! It's certainly been a very active year at MWRRI, and I have plenty of recent news to share with you. More details on each of these can be found in this newsletter.

We have undertaken a national search for a permanent Director, and hope to have someone in place by late spring 2017. Our search committee is already working to support this effort.

In mid-November, our Advisory Board met to discuss and develop funding recommendations for our 2017 104b water research grant program. We received a total of 11 very deserving proposals, and we plan to fund a total of four.



We are pleased to announce that we have received notices of funding from three sources. Our Catalpa Creek Watershed Restoration and Protection Project is being supported by a 319 Nonpoint Source Program grant from MDEQ and EPA Region 4. The award and MSU's in-kind cost-share represents a \$400,000 investment in this very worthy project.

We also received notice from EPA headquarters of \$194,100 in funding for development of social indicators and civic engagement measures in support of the Mississippi River/Gulf of Mexico Watershed Nutrient (Hypoxia) Task Force which is comprised of 12 states and 6 federal agencies. Additionally, we received funding from the Gulf of Mexico Alliance that allows us to expand this project across the Gulf coast. For the project, we partnered with the Social Science Research Center here at MSU.

We are also hard at work in the planning phase for two spring conferences. *The Future of Water: Regional Collaboration on Shared Climate, Coastlines, and Watersheds* is supported by the SEC Academic Conference and will be hosted by MSU on March 27-28. MWRRI will be facilitating afternoon breakout workshops that will focus on establishing a southeast regional WRI forum to address regional and multi-state water resources issues. The 2017 Mississippi Water Resources Conference is scheduled for the Jackson Hilton on April 11-12. We are very excited about some of the opportunities and program sessions that are being discussed. Included with this newsletter are a *Call for Abstracts* and a *Sponsor and Exhibitor Reply Form*. Your support is essential for a successful conference.

Together, let's make a difference!

Bill Herndon

MWRRI Permanent Director Announcement

**Director, Mississippi Water Resources Research Institute (MWRRI)
Mississippi State University, Starkville, MS**

JOB SUMMARY

The Mississippi Water Resources Research Institute (MWRRI), administered through Mississippi State University (MSU) and cooperative with all Mississippi research institutions, was created to promote and coordinate research programs dealing with water and related resources. It is one of the State Institutes authorized by Section 104 of The Water Resources Research Act of 1984. Its activities are developed in close consultation and collaboration between the Institute and leading water resource officials within the State.

The purpose of MWRRI is to provide a coordinated research/extension/outreach and development program that contributes to the solution of water and water-related land use problems in Mississippi, the region, the nation, and internationally.

The position of MWRRI director is a 12-month administrative position and a 100% appointment, while departmental affiliation with tenure will be considered based on the candidate's background and experience. The position reports equally and directly to the Vice President of Research and Economic Development and the Vice President of Agriculture, Forestry, and Veterinary Medicine. The incumbent is expected to collaborate with administrators, faculty, staff and students throughout MSU, as well as other universities and State and Federal agencies in Mississippi.

JOB RESPONSIBILITIES

Responsibilities include providing leadership in accomplishing the mission and goals of the MWRRI: <http://www.wrri.msstate.edu/about.asp>

The candidate will have a demonstrated experience in:

- conducting and publishing peer-reviewed work in water related research;
- Extension or outreach program development and/or delivery;
- stakeholder engagement processes in a water related discipline;
- a successful record of securing extramural funding in support of water related research projects;
- previous experience in leadership and management;
- demonstrated effectiveness in interdisciplinary settings and engagement with diverse audiences and stakeholders (including landowners, water resource managers, state and federal agencies, commodity groups, elected officials, and non-governmental organizations including industry);

- demonstrated research, extension/outreach and teaching excellence with interdisciplinary interests and from diverse background;
- knowledge of leadership theory, development, practices, and skills utilized in the context of water resources;
- excellent interpersonal communication skills, and evidence of a commitment to diversity are required.

The successful candidate must meet eligibility requirements for work in the United States at the time the appointment is scheduled to begin and continue working legally for the term of employment.

REQUIRED/PREFERRED EDUCATION

Required Education: The position requires an earned Ph.D. from an accredited institution and 10 years of relevant post-doctoral experience; selected candidate must meet eligibility requirements for work in the United States at the time the appointment is scheduled to begin and continue working legally for the term of employment.

Preferred Education: Preference will be given to candidates with an earned Ph.D. from an accredited institution in a water-related science, engineering, natural resource economics, environmental policy, or a closely related field and a reputation as a recognized expert in a relevant water resource related field. Desired qualifications include the ability to develop and execute an innovative vision for growing the MWRRI, including facilitating and increasing an interdisciplinary water-related program, have the ability to obtain rank and tenure as Professor at MSU.

APPLICATION DEADLINE

Deadlines: Review of applications will begin December 1, 2016 and continue until the position is filled. The anticipated position start date is March 1, 2017.

Application Instructions: Applicants should apply online at: <http://www.hrm.msstate.edu/> (PARF # 493949). An application should contain: 1) a letter of interest for the position, 2) a current resume or curriculum vitae, 3) a statement of leadership and vision of the multi-disciplinary research/outreach Institute, and 4) contact information for three references.

Address inquiries to Search Committee Chair:
Dr. Teresa Gammill, Assistant Vice President for Research
P.O. Box 6343
Mississippi State, MS 39762
tgammill@research.msstate.edu
(662)325-3570

MSU is an Equal Opportunity/Affirmative Action/Veterans/Disability Employer



2017 104b Water Research Project Recommendations

MWRRI's Advisory Board met on November 16, 2016 to discuss proposals received in response to MWRRI's 2017 RFP. In response to this discussion, MWRRI will recommend the following projects for funding through USGS' 2017 104b Water Resources Research Program:

Assessing the Effectiveness of Community-based Research Strategies to Analyze Risk of Lead Contamination in Public Water Supplies in the Mississippi Delta – Dr. Kristi Willett, Department of Biomolecular Sciences, School of Pharmacy, University of Mississippi; Stephanie Otts, J.D., SeaGrant Legal Program, University of Mississippi; Dr. John Green, Center for Population Studies, University of Mississippi

Study of Sediments and Nutrients in Pelahatchie Bay and Upland Mill-Pelahatchie Creek Watershed – Dr. Xiaobo Chao, Dr. Yaoxin Zhang, National Center for Computational Hydroscience and Engineering, University of Mississippi; Dr. Ron Bingner, Dr. Lindsey Yasarer, Watershed Physical Processes Research Unit, Agricultural Research Service, National Sedimentation Laboratory

Assessing and Predicting In-Stream Processes in the Catalpa Creek Watershed – Dr. John Ramirez-Avila, Ms. Sandra Ortega-Achury, Department of Civil and Environmental Engineering, Mississippi State University

Applied Use of Unmanned Aerial Vehicles in Surface Water Quality Protection – Dr. Joby Czarnecki, Geosystems Research Institute, Mississippi State University, Dr. John Ramirez-Avila, Department of Civil and Environmental Engineering, Mississippi State University

2017 MWRRI Conference

The 2017 Mississippi Water Resources Conference is scheduled for the Jackson Hilton on April 11-12. We are very excited about some of the opportunities and program sessions that are being discussed. Included with this newsletter are a *Call for Abstracts* and a *Sponsor and Exhibitor Reply Form*. Your support is essential for a successful conference.

2017 Mississippi Water Resources Conference

April 11-12, 2017 | Hilton Jackson | Jackson, MS

CALL FOR SESSION ORGANIZERS & ABSTRACTS

The Mississippi Water Resources Research Institute (MWRRI) is pleased to issue a call for session organizers and abstracts (presentations and posters) for the 2017 Mississippi Water Resources Conference. The event will be held in Jackson, MS on April 11-12, 2017 at the Jackson Hilton. This well-attended annual conference is the premiere water resources event in Mississippi and regularly features a wide range of session topics of statewide, regional, and national interest.

Abstracts are now being accepted from individuals/teams that desire to organize and moderate special sessions on water resources topics of their choice as well as persons that wish to perform oral and/or poster presentations. We again will feature a student competition for oral and poster presentations and monetary awards for 1st, 2nd, and 3rd place in each category.

Abstracts should be submitted to Jessie Schmidt (jessie.schmidt@msstate.edu) by Friday, January 20, 2017. Session organizers will be expected to develop and submit a session abstract, solicit session presenters, and moderate the session during the conference. Individual presenters will be required to submit abstracts for their oral presentations and/or posters. All session organizers and presenters whose abstracts are accepted are required to register for the conference and pay their registration fee which will cover all conference activities for the dates they register. The full conference registration fee is \$225 (\$275 for late registration after March 1, 2017) for professionals and \$50 for full-time students (\$100 for late registration). A one-day registration for Tuesday is available for \$150 (professionals) or \$30 (students). Cancellations after March 1, 2017 will be responsible for payment of their registration fee.

Papers and posters presented at the conference will be published in the Proceedings which is usually released near the end of the conference year. Authors will be expected to adhere to guidelines and deadlines established for submission of their manuscripts. Manuscripts will be the sole responsibility of the authors and presenters as MWRRI does not edit manuscripts for the Proceedings.

All submissions must include the following information:

- Title
- Type of Presentation (oral, poster, both)
- Presenter's Name, Title and Affiliation
- Presenter's Address (business preferred, if applicable), Phone, Fax and Email
- Any Co-authors and Affiliation
- Whether a Student (and, if so, name of major advisor)
- Abstract

Abstracts for session topics, oral presentations, and posters may address any water-related topic and should contain 200-400 words. Examples of potential session topics include, but are not limited to, the following:

- Climate – precipitation trends and forecasts; innovative water capture applications
- Coastal Issues – Harmful algal blooms and other pathogens; hypoxia; fresh water inputs; ecosystem restoration
- Drinking Water and Wastewater – Lead corrosion; Infrastructure longevity; capacity assurance and development
- Economics of Water – Value of drinking water and wastewater; energy optimization
- Ecosystem Health – Case studies; nutrient concentrations and responses; stream restoration
- Emerging and Innovative Technologies – Nutrient reduction; model development; unmanned aerial vehicles
- Groundwater – Aquifer characterization and recharge; water budgets; management challenges and approaches
- Policy and Planning – Policy impacts; planning approaches; case studies
- Surface Water – Quality and quantity (various topics); BMP effectiveness; nutrient concentrations and responses
- Water Management–Social Science Nexus – Social indicators; civic engagement measures
- Water Use Efficiency and Reuse – Water reclamation and reuse; water use and irrigation efficiency
- Watershed Management – Case studies; innovative management and modeling approaches

Abstracts due by January 20, 2017 to Jessie Schmidt at

jessie.schmidt@msstate.edu

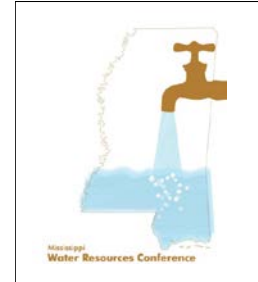
Sponsored by: Mississippi Department of Environmental Quality, Mississippi Water Resources Research Institute, and the U.S. Geological Survey

2017 Annual Mississippi Water Resources Conference

Hilton Jackson, Jackson, MS

April 11-12, 2017

Sponsor & Exhibitor Reply Form



Yes _____ I would like to sponsor a conference event

Name: _____

Title: _____

Company/Organization: _____

Address: _____

City/State/Zip: _____

Phone: _____ **Fax:** _____ **Email:** _____

There are multiple opportunities to become a sponsor or co-sponsor. Please indicate your preference below. In order to be included in the program book, all payments must be received no later than Tuesday, February 28, 2017.

Tuesday, April 5

	<u>Full Sponsor</u>	<u>Co-sponsor</u>
Breakfast - \$750 (full sponsor) or \$375 (co-sponsor)	_____	_____
Morning break - \$700 (full sponsor) or \$350 (co-sponsor)	_____	_____
Luncheon - \$1,000 (full sponsor) or \$500 (co-sponsor)	_____	_____
Afternoon break - \$700 (full sponsor) or \$350 (co-sponsor)	_____	_____
Welcome Reception - \$1,000 (full sponsor) or \$500 (co-sponsor)	_____	_____

Wednesday, April 6

Breakfast - \$750 (full sponsor) or \$375 (co-sponsor)	_____	_____
Morning break - \$700 (full sponsor) or \$350 (co-sponsor)	_____	_____
Luncheon - \$1,000 (full sponsor) or \$500 (co-sponsor)	_____	_____
Poster Session - \$1,000 (full sponsor) or \$500 (co-sponsor)	_____	_____

Exhibitor table/space only - \$500 (please indicate preference below)

Yes _____ I would like an exhibitor table _____ or space (for standup exhibits) _____.

- Sponsorships of \$500 and above will receive one (1) complimentary registration. A second person from the same agency can register for \$150.
- All sponsors and exhibitors will be recognized on the 2017 MWRC poster (company logo), from the podium, at luncheons, and in the program book as well as online conference website.
- Sponsorship Questions: Please contact Jessie Schmidt, jessie.schmidt@msstate.edu

**Please email this form to Jessie Schmidt, jessie.schmidt@msstate.edu
Or mail to MWRRI, Box 9547, Mississippi State, MS 39762**

Recent MWRRI Funding Award Notices

Using Social and Civic Engagement Indicators to Advance Nutrient Reduction Efforts in the Mississippi/Atchafalaya River Basin – Phase 1

MWRRI has recently received a grant award notice from EPA of \$194,100 for this phased project. Grant monies have been made available for Phase 1 which address the development of social indicators in support of the Hypoxia Task Force through SERA-46. This project, developed in collaboration with MSU's Social Science Research Center, will begin implementation during the December 5-7, 2016 meetings of the Hypoxia Task Force (HTF) and Southern Region Extension and Research Activities Committee 46 (SERA-46) in New Orleans.

Abstract. Water quality problems that have accumulated over many decades often take decades to correct. This is the case when considering the complexity, scale, causes, and impacts of Gulf of Mexico hypoxia. The social dimension plays a key role. Every individual, community and culture has a set of beliefs and attitudes that guide decision-making and influence behavior. Because the success of nutrient reduction strategy implementation in state-designated priority watersheds depends upon a large percentage of watershed stakeholders understanding both the water quality impacts of their land use activities and the importance of conservation, an important measure of progress should include confirming that awareness and attitudes are changing and behaviors are being adopted that serve to mitigate the problem. *Social indicators provide consistent measures of social change and can be used by planners and managers at the national, state, and local levels to estimate the impacts of their efforts and resources even while a lag exists for monitored improvements in water and habitat quality.* In addition, social indicators can inform planners and managers of changes needed to their nutrient reduction strategies to increase the effectiveness of their efforts.

The goal of this project is to refine social indicators for agricultural and water management with an emphasis on nutrient reduction, and establish a foundation for an active social indicators users community among policy researchers and regulatory agencies throughout the Mississippi/Atchafalaya River Basin (MARB). One of the tasks of this project includes the expansion of the existing Social Indicators Data Management and Analysis Tool (SIDMA) and the Social Indicators Planning and Evaluation System (SIPES). In addition, improvements to the database of social indicators will be accomplished by directly *engaging Hypoxia Task Force members*, the social science research community, and appropriate stakeholders to gather all available studies on social responses that address water management projects in the MARB, including published and unpublished information. This information includes: reports, surveys, gray (non-published reports) and white (peer-reviewed) literature, and conference presentations.

The rationale for this approach is threefold. First, a large amount of intellectual capital has been invested in the development, refinement, and maintenance of SIDMA and SIPES which

were developed by land grant university faculty and staff working closely with state and federal agencies, and local stakeholders for use with nonpoint source water quality management projects. This project is designed to build upon that successful base of primary research and tools to ensure relevance across MARB states and to extend our body of knowledge. Second, despite the recognized importance of addressing nutrient contributions to the MARB from agriculture, a meta-review of relevant published literature noted, "...environmental awareness and farmer attitudes have been inconsistently used and measured across the literature." Inconsistent measures make it nearly impossible to compare pre - and post-intervention changes in beliefs, attitudes, motivations, and constraints associated with project activities, and makes it equally impossible to make comparisons across regions, states and basins. The third rationale for this particular initiative recognizes the wide variations across the basin in landscapes, agricultural management systems, and institutional structures supporting natural resources and environmental management.

Using Social Indicators and Civic Engagement to Advance Nutrient Reduction Initiatives throughout the Mississippi River/Gulf of Mexico Watershed

MWRRI also recently received a grant award from the Gulf of Mexico Alliance's Gulf Star Program in the amount of \$13,500. This grant award will provide resources for Gulf States that are not members of the Hypoxia Task Force to participate in the effort to develop social indicators and civic engagement measures. This award will allow activities of the EPA award to be leveraged among all Hypoxia Task Force and Gulf of Mexico Alliance member states within the Mississippi River/Gulf of Mexico Watershed, facilitate the development of correlatable metrics across the entire region, and advance cooperation between these two organizations.

Implementation Plan for the Red Bud-Catalpa Creek Watershed – Phase 1

MWRRI has recently received a grant award notice to support the *Implementation Plan for the Red Bud-Catalpa Creek Watershed Phase 1* from the Mississippi Department of Environmental Quality. The \$288,000 award and MSU's in-kind match of \$192,000 represent an investment of \$480,000 in the Catalpa Creek Restoration and Protection Project. The Phase 1 implementation plan builds upon the comprehensive *Water Resources Management Plan for the Red Bud-Catalpa Creek Watershed* developed collaboratively by 18 University units during 2015, and describes specific water quality and habitat restoration activities recommended for the headwaters of the Red Bud-Catalpa Creek Watershed in the proximity of MSU's H.H. Leveck Animal Research Center (South Farm). The comprehensive plan calls for the installation of 23 best management practices (BMPs) in three delineated critical management areas, details an information and education

program, describes a monitoring program to quantify the effectiveness of the installed BMPs, establishes an implementation schedule with measurable milestones and project outcomes, and contains a detailed budget. Phase 1 also lays the groundwork for the development of a Phase 2 implementation plan for the entire watershed.

The plan was developed by numerous contributors from Mississippi State University's Agricultural and Forestry Experiment Station; Department of Animal and Dairy Sciences; Department of Fisheries, Wildlife, and Aquaculture; Department of Civil and Environmental Engineering; Department of Landscape Architecture; Extension Service; Geosystems Research Institute; REACH (Research and Education to Advance Conservation and Habitat) Program; Mississippi Water Resources Research Institute as well as staff from the Mississippi Department of Environmental Quality, Mississippi Soil & Water Conservation Commission, and USDA's Natural Resources Conservation Service.

MSU Set To Host First SEC On-campus Academic Conference in March

By: Allison Matthews (Mississippi State University)

SECU (Twitter: [@TheSECU](#))

STARKVILLE, Miss.—Mississippi State University will be the first Southeastern Conference institution to host a new academic event focused on SEC university research collaboration.

To be held at the Starkville campus March 27-28, the 2017 SEC Academic Conference will focus on “The Future of Water: Regional Collaboration on Shared Climate, Coastlines, and Watersheds.” For complete conference details, visit <http://www.seconference.msstate.edu/>.

“As president of both Mississippi State University and the Southeastern Conference, I’m extremely proud to see MSU take the lead in hosting the first SEC Academic Conference,” said MSU President Mark E. Keenum.

“This represents a significant opportunity for Mississippi State and the City of Starkville to showcase our campus facilities and our community for a large and distinguished group of our colleagues from the other 13 universities around the league. MSU is particularly well-suited to host an academic conference on the topic of The Future of Water – a topic that dovetails with our established university priority of improving global food security and battling world hunger,” Keenum added.

“We are looking forward to working with Mississippi State University on this first SEC Academic Conference,” said Greg Sankey, SEC Commissioner. “Under the leadership of

President Keenum, Provost Judy Bonner, and Vice President for Research and Economic Development David Shaw, we know the faculty and administrators in Starkville will provide a challenging and thoughtful program on the critically important issue of water conservation.”

MSU officials making preparations for the March conference said increased climate variability and water demand are bringing water issues to the forefront. Drought, declines in aquifers used for irrigation, and sea-level rise are among core topics of interest. The conference is designed to stimulate communication and collaboration toward sustainable and resilient water resource management in the Southeast, with overarching themes to include shared inland waters and aquifers, coastlines, climate and regional policy.

The conference aims to identify the dominant economic, community and ecosystem challenges to sustainable water resources in the southeastern U.S.; identify policy and practice paths to maximize the health and vitality of the region through water stewardship; and engage the best and brightest scientists in the SEC with other national and international experts in water resources.

“This conference is going to be a very important opportunity to interact with interdisciplinary colleagues to discuss cutting-edge water resource science and opportunities for collaborative research,” said MSU Vice President for Research and Economic Development David Shaw.

Students from all SEC universities are encouraged to participate and compete in the Campus Water Matters Challenge under the guidance of faculty from their respective universities. Designed to engage students to innovate interdisciplinary water solutions, the challenge also encourages student-faculty collaboration. For guidelines, visit <http://www.seconference.msstate.edu/challenge/>.

“We want to encourage student participation at the SEC Academic Conference and expose students to practical research,” Shaw said.

The SEC Academic Conference represents an expanded slate of programming currently supported by the Southeastern Conference. The on-campus event is expected to showcase conference research in areas of critical importance within the region and around the nation. SECU is the academic initiative of the SEC, and it serves as the primary mechanism through which the collaborative academic endeavors and achievements of SEC universities are supported and advanced.

MWRRI-Facilitated Breakout Workshops

As a component of the SEC conference MWRRI will facilitate a series of four 1-hour breakout workshops that will focus on establishing a southeast regional WRI forum to

address multi-state and regional water resources priorities. Four panels are being organized to address the following foundational issues relevant to this effort:

- Session 1: What should be the objectives/desired outcomes and scope of the forum? What regional partnering opportunities should be explored? What benefits might accrue to individual WRRIs and the region?
- Session 2: What do you see as existing/emerging regional and multi-state water resources research and management issues that impact the southeastern U.S.? Which research and management issues for which regional/multi-state collaboration are needed should receive the highest focus?
- Session 3: Presentations on recognized projects/programs implemented by southeastern WRRIs that could be transferred to other states or across the region
- Session 4: What organizational issues need to be considered for planning and implementation of this regional forum concept? What resource opportunities for WRRIs can be created through this concept? What do you see as next steps (activities and milestones)?

About the Mississippi Water Resources Research Institute (MWRRI)

The institute exists as both a federal and a state research unit. Established in 1964, the MWRRI is one of 54 institutes (one in each state, The District of Columbia, Guam, Puerto Rico, and the Virgin Islands) that form a national network to solve water problems of state, regional, or national significance. In 1983, the Mississippi legislature formally designated the MWRRI as a state research institute. Federal funds designated for the institute are used to consult with state water officials to develop coordinated research, technology transfer and training programs that apply academic expertise to water and related land-use problems. These various activities are funded through an annual grant from the United States Geological Survey (USGS). Mississippi state appropriations provide additional funds for cost share. The institute also assists state agencies in the development of a state water management plan, maintaining a technology transfer program, and serves as a liaison between Mississippi and federal funding agencies.

If you or someone that you know would like to receive this publication please email jessie.schmidt@msstate.edu to be added to the MWRRI listserv.

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