



2014

Alabama Water Resources Conference & Symposium

September 3-5, 2014

**Perdido Beach Resort
Orange Beach, Alabama**

aaes.auburn.edu/water/

Alabama Section of the American Water Resources Association Symposium Program

Wednesday, September 3, 2014

Theme: Water and Energy Relationships

10:00 a.m.		Registration Open – (Lobby)
1:00 p.m. - 1:05 p.m.		Introduction & Welcome – (Salons E-H) Todd Boatman, President, AWRA Alabama Section
1:05 p.m. - 1:10 p.m.		Symposium Introduction – (Salons E-H) Sam Fowler, President Elect, AWRA Alabama Section
1:10 p.m. - 1:40 p.m.		<i>Water Use for Energy in Alabama</i> , Tom Littlepage, ADECA Office of Water Resources
1:40 p.m. - 2:10 p.m.	Registration	<i>Alabama Power Reservoir Operations—Present and Future</i> , Herbie Johnson, Alabama Power Company
2:10 p.m. - 2:40 p.m.		<i>TVA's 2015 IRP: More Than A Least Cost Energy Plan</i> , Gary Brinkworth, P.E., Sr. Program Manager, 2015 IRP
2:40 p.m. – 3:00 p.m.		Break (Ballroom Foyer)
3:00 p.m. - 3:30 p.m.		<i>Modeling Power Plant Water Use in Alabama</i> , Tim Diehl, Hydrologist, USGS Mississippi-Tennessee Water Science Center
3:30 p.m. - 4:00 p.m.		<i>Water Use Related to Oil and Gas Production in Alabama</i> , Dennis Lathem, Executive Director Coalbed Methane Association of Alabama
4:00 p.m. - 4:30 p.m.		<i>Energy Management at Columbus Water Works</i> , John Peebles, Senior Vice President of Columbus Water Resource Operations
4:30 p.m. - 4:45 p.m.		Q & A Session for all Presenters
5:30 p.m. - Until		Social and Dinner (Flora-Bama) (Casual/Beach Attire)

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Program Overview

Thursday, September 4, 2014

7:30 a.m.	Registration Open (Lobby) and Continental Breakfast (Ballroom Foyer)		
8:00 a.m. - 8:40 a.m.	Welcome - Charles Stover, Chairman, Conference Organizing Committee (Salons E-H) Introduction of Keynote – Marlon Cook, GSA and Conference Planning Committee Keynote Address, The Water Energy Nexus ; Mike Hightower, Water for Energy Project Lead for Sandia National Laboratories in Albuquerque, NM		
8:40 a.m. - 9:10 a.m.	The NOAA National Water Center in Tuscaloosa (Salons E-H) Sam Contorno, Physical Scientist, NWS/National Water Center, Tuscaloosa, and Edward Clark, Hydrologist, NWS National Flash Flood Services Leader, Silver Spring, MD		
9:10 a.m. - 9:20 a.m.	Break (Ballroom Foyer)		
	Salon E	Salons F-H	Sand Castle I
9:20 a.m. - 10:30 a.m.	Concurrent Session One		
	Water Quality I	Water Availability/Use	Water/Energy Issues
10:30 a.m. - 12:00 p.m.	Concurrent Session Two		
	North River Watershed Mgmt	Drought Assessment	Water Policy/Law
12:00 p.m. - 1:30 p.m.	Lunch (Grand Point)		
1:30 p.m. - 3:00 p.m.	Concurrent Session Three		
	Wetlands/Waters of the US	Groundwater Availability	Water Resource Education and Stewardship I
3:00 p.m. - 3:15 p.m.	Break (Ballroom Foyer)		
3:15 p.m. - 5:00 p.m.	Concurrent Session Four		
	Reservoir/Shoreline Management	Water Quality II	Aquatic Biology/Ecology
5:00 p.m. - 5:30 p.m.	AWRA State Section Business Meeting (Salons E-H)		
5:30 p.m. - 7:00 p.m.	Social Hour and Poster Presentations (Salons E-H) Refreshments are courtesy of corporate sponsors.		

Friday, September 5, 2014

7:30 a.m.	Continental Breakfast (Ballroom Foyer)		
8:00 a.m. - 8:50 a.m.	Welcome and Announcements – Charles Stover Chairman, Conference Organizing Committee (Salons E-H) Keynote Presentation Introduction by Stan Cook, DCNR and Conference Planning Committee Member Keynote Address: The Deepwater Horizon Oil Spill – An Update , N. Gunter Guy, Alabama DCNR Commissioner Student poster presentation competition awards – Amanda Fleming (Salons E-H)		
	Salon E	Salons F-H	Sand Castle I
9:00 a.m. - 10:30 a.m.	Concurrent Session Five		
	Water Management	Restoration/Remediation	Ecological Flows
10:30 a.m. - 10:45 a.m.	Break (Ballroom Foyer)		
10:45 a.m. - 12:00 p.m.	Concurrent Session Six		
	Floodplain Management	Water Resource Education and Stewardship II	Water Resource Management Tools and Techniques
12:00 p.m.	Conference Adjourns		

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Session Topics and Presenters

Concurrent Session One	Thursday, 9:20 a.m. – 10:30 a.m.	Salon E	Session One (A): Water Quality I <i>Session Chair: Shannon Weaver, USDA, Natural Resources Conservation Service</i>
			<p><i>The City of Auburn, Alabama's Outfall Reconnaissance Inventory Program - A Low Cost and Effective MS4 Best Management Practice (Program Update)</i>, Daniel Ballard, City of Auburn</p> <p><i>Stormwater Performance Monitoring of a Hydrodynamic Device and a Infiltrating Dry Pond at an Industrial Site</i>, Vijay Kumar Eppakayala, University of Alabama</p> <p><i>Status of recent US Geological Survey NAWQA Cycle 3 Activities in Alabama</i>, Amy Gill, U.S. Geological Survey, Alabama Water Science Center</p> <p><i>Comparison of two host-specific Bacteroidales assays for tracking cattle fecal contamination in water</i>, Jia Xue, Auburn University</p>
		Salons F-H	Session One (B): Water Availability/Use <i>Session Chair: Athena Clark, U.S. Geological Survey, Alabama Water Science Center</i>
			<p><i>Climate Variability Impacts on Surface and Ground Water Interactions in the Apalachicola-Chattahoochee-Flint River Basin</i>, Sarmistha Singh, Auburn University</p> <p><i>Use of statewide hydrologic models for assessment of water quantity in major river basins in Alabama</i>, Alexandria Hunt and Ana Maria Garcia, U.S. Geological Survey, North Carolina Water Science Center</p> <p><i>Water Use in Alabama - An Update</i>, Michael Harper, Alabama Office of Water Resources</p> <p><i>Surface-Water Availability - An Approach for a Statewide Assessment</i>, Brian Atkins, Alabama Office of Water Resources</p>
		Sand Castle I	Session One (C): Water/Energy Issues <i>Session Chair: Marlon Cook, Geological Survey of Alabama</i>
			<p><i>Energy Savings through Pipe Selection</i>, Maury D. Gaston, American Cast Iron Pipe and Carson Smith, Huntsville Utilities</p> <p><i>Energy Modeling of HVAC Heat Recovery System and Chilled Water Storage System for Energy and Water Conservation in Educational Buildings at the University of Alabama at Birmingham</i>, Zhuo Li, University of Alabama at Birmingham</p> <p><i>Water/Energy Panel Discussion</i></p>

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Session Topics and Presenters

Concurrent Session Two	Thursday, 10:30 a.m. – 12:00 p.m.	Salon E	Session Two (A): North River Watershed Management <i>Session Chair: Mary Wallace Pitts</i>
			<i>From the Headwaters Down and Kindergarten Up – Every Partner in the Watershed Counts</i> - Mary Wallace Pitts <i>An Evaluation of the North River SHU to Determine the Sedimentation Risk posed to Streams on Selected Unpaved and Paved Road Crossings</i> – Anne Wynn <i>Sediment Pollution Control Provided by Best Management Practices Installation</i> - Abner Patton <i>The Role Played by Local Government – A Case Study from the North River Watershed</i> - Scott Sanderford <i>The City of Tuscaloosa Stormwater Management Program – A Partnering Case Study from the North River Watershed</i> - Josh Yates <i>Evaluating Educational Effectiveness of North River Watershed Festivals 2012 to 2014</i> – Amanda Espy-Brown and Allie Sorlie <i>Beyond Your Normal Comfort Zone - A Forester's Take on Partners in the North River Watershed</i> – Jim Jeter
		Salons F-H	Session Two (B): Drought Assessment <i>Session Chair: Charles Stover, Alabama Power Company</i>
			<i>Using GIS to Assess Drought Conditions on Alabama's Public Water Systems</i> , Henry Moore, Alabama Office of Water Resources <i>Evaluation Systems-Based Strategies for Drought Planning and Response</i> , Lian Zhu, University of Alabama <i>Southeast US Drought: What needs to be done?</i> , Glenn Tootle, University of Alabama <i>Drought Management in Alabama and the 2014 Drought Planning and Response Act</i> , Tom Littlepage, Alabama Office of Water Resources
		Sand Castle I	Session Two (C): Water Policy/Law <i>Session Chair: Barbara Gibson, Choctawhatchee, Pea and Yellow Rivers Watershed Management Authority</i>
			<i>Water Policy and Law Update: An Overview of Interbasin Transfer Laws in Alabama and the Southeastern United States</i> , Bennett Bearden, University of Alabama <i>Why Instream Flows Matter: Progress of Instream Flow Work in Alabama</i> , Patrick O'Neil, Geological Survey of Alabama and Stan Cook, Department of Conservation and Natural Resources <i>Using the Best of the Best: Merging Ideals for a working Instream Flow Policy</i> , Mitch Reid, Alabama Rivers Alliance <i>Alabama Groundwater Sustainability: A Strong Scientific Foundation for Water Resource Management and Policy to Secure Alabama's Water Future</i> , Marlon Cook, Geological Survey of Alabama

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Session Topics and Presenters

Concurrent Session Three	Thursday, 1:30 p.m. – 3:00 p.m.	Session Three (A): Wetlands/Waters of the US <i>Session Chair: Sam Fowler, Auburn University Water Resources Center</i>	
		Salon E	Identification of Alabama's Geographically Isolated Wetlands , Michael Barbour, Auburn University Natural Heritage Program Identification of Geographically Isolated Wetlands in Alabama Using Geographic Object Based Image Analysis (GeOBIA) , Tyler Jones, Auburn University Clean Water Act Jurisdiction in a Ditched, Drained, Levee'd, Pasture on the Mississippi River Delta , Jane Rowan, Normandeau Associates, Inc. Development of risk-based nitrate TMDL for restored agricultural wetland near Chesapeake Bay: a case study , Rasika Ramesh, Auburn University
		Salons F-H	Session Three (B): Groundwater Availability <i>Session Chair: Todd Boatman, U.S. Army Corps of Engineers, Mobile District</i>
			Alabama Aquifers: The GSA Groundwater Assessment Program Website and Hydrograph Decline Curve Analysis , Amye Hinson, Geological Survey of Alabama Effects of Pumpage for Irrigation on groundwater resources during Drought Events in the Lower Apalachicola-Chattahoochee-Flint River Basin , Subhasis Mitra, Auburn University Improved Estimates of the Population Using Private Drinking Water Wells: Alabama and Mississippi , Phillip Grammer, University of Alabama Proposed Waste Water Recharge/Reuse Plans for Blue Collar Country, Foley, Alabama , Conrad Gazzier, CAG & Associates
		Sand Castle I	Session Three (C): Water Resource Education and Stewardship I <i>Session Chair: Allison Jenkins, Alabama Clean Water Partnership</i>
			Discovering Alabama-Alabama's Coastal Paradise: A Region Rich in Natural Diversity, History, and Educational and Recreational Resources , Dr. Doug Phillips, Discovering Alabama Gulf of Mexico Ecosystem Restoration: A Risk-Based Integrated Environmental, Economic, and Social Resource Management Decision , Dr Michael Stovall, President, Ninth Generation Consulting Alabama Low Impact Development Handbook , Eve Brantley, AL Cooperative Extension System Real-Time Flood Forecasting and Inundation Mapping for Nashville Tributaries , Bradley Heilwagen, AMEC Environment & Infrastructure, Inc.
Concurrent Session Four	Thursday, 3:15 p.m. – 5:00 p.m.	Salon E	Session Four (A): Reservoir/Shoreline Management <i>Session Chair: Brian Atkins, Alabama Office of Water Resources</i>
			Living Shorelines - A Guide for Alabama Property Owners , Tom Herder, Mobile Bay NEP Strengthening Coastal Resilience Through Natural and Engineered Infrastructure Enhancements: Howard Beach, New York City , Paul Robinson, CH2M HILL Developing an evaluative tool for prioritizing removal or repurposing of derelict vessels to improve watershed habitats , Caitlin Wessel, University of South Alabama Sources of Escherichia coli in Lake Martin, Alabama: The Potential Role of Geese , Brian Burnes, University of West Alabama Weiss Lake Environmental Concerns: The Weiss Lake R.V. Holding Tank Ordinance Regulatory Program , Lem Burell, Alabama Department of Public Health
		Salons F-H	Session Four (B): Water Quality II <i>Session Chair: Roy McAuley, Alabama Pulp and Paper Council</i>
			Influence of geomorphologic spatial arrangement to in-stream nitrogen retention , Laurence Lin, Jennifer W. Edmonds and Sagy Cohen, University of Alabama Identifying Failing Septic Systems in the Eight Mile Creek Watershed , Christian Miller, Auburn University Marine Research and Extension Center Numerical simulation of flow dynamics and density current in a river-reservoir system under various upstream hydrologic conditions , Gang Chen, Auburn University Effectiveness of selected Erosion control covers with and without vegetation establishment on roadside slopes under simulated rainfall , Ramandeep Sidhu, Auburn University Impacts of dissolved organic nitrogen loading by submarine groundwater discharge in a coastal Alabama lagoon , Jennifer Anders, University of Alabama and the Dauphin Island Sea Lab

			Thursday-Concurrent Session Four continued
		Sand Castle I	<p align="center">Session Four (C): Aquatic Biology/Ecology</p> <p align="center"><i>Session Chair: Stan Cook, Alabama Department of Conservation and Natural Resources</i></p>
			<p>State-of-the Science Review of Behavioral Guidance Technologies for Improving Fish Protection at Hydropower Dams and Power Plants in Alabama, Christopher Gurshin, Normandeau Associates, Inc.</p> <p>Traditional and new survey methods being implemented in the Bear Creek Watershed, Jeff Powell, US Fish and Wildlife Service</p> <p>Biological Sampling Tool Using Data retrieval, WRTDS, and Other R Packages, Alexander Maestre, University of Alabama</p> <p>Sample Size and Worth of Data in Hydraulic Habitat Modeling, Thomas Payne, Normandeau Associates, Inc.</p> <p>Smith Hydroelectric Plant Minimum Flow System: An Overview of the Installation and Operation, Kenneth Odom, Alabama Power Company</p>

			<p align="center">Session Five (A): Water Management</p> <p align="center"><i>Session Chair: Tom Littlepage, Alabama Office of Water Resources</i></p>
Concurrent Session Five	Friday, 9:00 a.m. – 10:30 a.m.	Salon E	<p>The Choctawhatchee, Pea, and Yellow Rivers Watersheds: A Foundation for the Future Based on Sustainable Water Resources, Barbara Gibson, Choctawhatchee, Pea and Yellow Rivers Watershed Management Authority</p> <p>Apalachicola-Chattahoochee-Flint Stakeholders: Working Together to Share a Common Resource, Brad Moore, Apalachicola-Chattahoochee-Flint Stakeholders</p> <p>Evaluating the effects of land use change on headwater wetlands in Baldwin County, Alabama, Christopher Anderson, Auburn University</p> <p>A Hierarchical Modeling Approach to Simulating the Geomorphic Response of River Systems to Climate Change, Sarah Praskievicz, University of Alabama</p>
			<p align="center">Session Five (B): Restoration/Remediation</p> <p align="center"><i>Session Chair: Sabra Sutton, CH2M HILL</i></p>
			<p>Successful Wetland and Forest Mitigation Design, Amanda Fleming, Kleinschmidt</p> <p>Stream Restoration Effectiveness in Baldwin County: Impacts and Remediation of the Perfect Storm, Marlon Cook, Geological Survey of Alabama</p> <p>Urban Waters Federal Partnership for Proctor Creek, Atlanta GA : An Opportunity for Simultaneous Watershed Improvements and Economic Revitalization, Camilla Warren, US EPA Southeast Region</p> <p>Paint Rock River Projects and Partnerships for water quality improvements and habitat restoration, Paul Freeman, Nature Conservancy</p>
			<p align="center">Session Five (C): Ecological Flows</p> <p align="center"><i>Session Chair: Tom Payne</i></p>
		Salons F-H	
		Sand Castle I	<p>Ecological Flow Approaches in the Southeast – Four Case Studies</p> <p>AL: Stan Cook, Chief of Fisheries, Alabama Department of Conservation and Natural Resources</p> <p>FL: Tom Bartol, Assistant Director, Division of Regulatory, Engineering and Environmental Services, St. Johns River Water Management District, Florida</p> <p>MS: Dennis Riecke, Environmental Coordinator, Mississippi Dept. of Wildlife, Fisheries and Parks</p> <p>GA: Rodney Knight, Research Hydrologist, U.S. Geological Survey, Tennessee Water Science Center</p> <p>Moderated Discussion of four panelists from different states using case studies to illustrate different technical approaches and complexities, and the utility of negotiation in problem resolutions regarding flows</p> <p>Question and Answer Session</p>

Session Topics and Presenters

Concurrent Session Six	Friday, 10:45 a.m. – 12:00 p.m.	Salon E	Session Six (A): Floodplain Management <i>Session Chair: Bennett Bearden, Water Policy and Law Institute, University of Alabama</i>
			Update on Alabama's Coastal Flood Mapping Project , Jason Wilson, AMEC Environment & Infrastructure, Inc. 2-D Modeling for Approximate Complex Areas , Monica Urisko, Atkins FEMA's New Flood Risk Products and Your Community: Practical Uses to Obtain Quantifiable Data and Shape Floodplain Management , Jeff Zanotti, AMEC Environment & Infrastructure, Inc. The Coosa River Flood Study , Clay Campbell, AMEC Environment & Infrastructure, Inc.
			Session Six (B): Water Resource Education and Stewardship II <i>Session Chair: Eric Reutebuch, Auburn University Water Resources Center</i>
		Salons F-H	Meeting MS4 Permit Requirements through the ACWP , Allison Jenkins, AL Clean Water Partnership Community-Based Response to Gulf of Mexico Water Quality Issues , Miriam Guadalupe Ramos Escobedo and Sergio Ruiz-Cordova, Global Water Watch The Center for Forest Sustainability works in Integrated Research and Education and Outreach , Michelle Cole, Auburn University Center for Forest Sustainability An Outreach Program for Training of Proper Handling and Disposal of Pharmaceuticals , Sue Duran, Auburn University College of Veterinary Medicine
			Session Six (C): Water Resource Management Tools and Techniques <i>Session Chair: Sam Fowler, Auburn University Water Resources Center</i>
		Sand Castle I	Managing and Mitigating Energy Development and Risk in Mississippi , Rachael Carter, MSU-Extension Service A Decision Support Tool for Water Distribution Network , Xiaoyin Zhang, University of Alabama Better Water Assessment Tools & Use in Optimizing Water Plants: Comparing Ryznar Stability Index and Langelier Saturation Index and Predicting Water Main Degradation , Glenn Terrell, University of Alabama at Birmingham Econ Geo Wizard: A GIS Based Tool for Estimating Economic Consequences to Disruption in Water Service , Joseph Gutenson, University of Alabama

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