



South Carolina State Water Plan Symposium

Bringing together the People, the Science and the Best Practices For Sustainable Water Planning

Presented by South Carolina Rivers Forever in collaboration with the Department of Natural Resources, Department of Health and Environmental Control and Clemson University

May 30 and 31, 2018

The River Center at Saluda Shoals Park – Columbia, South Carolina



**Jeff Allen, Ph.D.
Executive Director
SC Water Resources Center –
Clemson University**

Jeffery Allen, Ph.D. is the executive director of the South Carolina Water Resources Center at Clemson University. His work with the Center involves coordinating water research with a national network of water institutes and identifying and pursuing critical water research needs for South Carolina. He is responsible for all aspects of the research center including; research programs, research laboratories, graduate education programs and public service activities. Dr. Allen has served as the principle investigator on multiple grants from federal, state and local government agencies as well as private foundations. He has served on numerous regional and state committees and advisory councils, most recently on the Carolinas Integrated Sciences and Assessments Advisory Board, the Duke Energy Water Fund Board, the South Carolina Sea Grant Consortium Program Advisory Board, and the Savannah River Clean Water Fund Science

Advisory Council. He has organized and sponsored several state-wide meetings on GIS mapping and water resources and is currently the Chairman of the South Carolina Water Resources Conference. He is a past-president of the National Institutes for Water Resources and served for three years on the NIWR Executive Board. He is currently overseeing the Water Center's efforts on statewide water planning and has initiated a program for international water sustainability with Linnaeus University in Sweden. Dr. Allen received his B.S. degree in Wildlife Biology and Natural Resources from Michigan State University and his M.S. degree in Geography from the University of South Carolina. He received a Ph.D. in Policy Studies from Clemson University with an emphasis in natural resources policy. Prior to coming to the Water Center, he worked at the Strom Thurmond Institute, Clemson University's Regional Resources Development Institute and the South Carolina Wildlife and Marine Resources Department in Columbia, SC.



Didi Caldwell
Founding Principal
Global Location Strategies

With 20 years as a site selection, project finance, and negotiations expert, Didi has conducted projects around the world and for an array of industries to include mining, metals, oil & gas, chemicals, pulp & paper, automotive, and consumer products. Didi led the site selection consulting engagement for SunCoke Energy in Ohio and Kentucky, which incorporated an interconnection study of 75-100 MW of excess capacity to be sold directly to the power grid. Additionally, Didi served as the project lead for site selection and incentive negotiations to supply body-in-white aluminum sheet to the automotive industry through a joint venture with Constellium and UACJ Corporation. Both Didi and Woody worked side by side managing the site selection of merchant combined cycle gas-fired power plants for

TransAlta throughout various regions of the United States. She is a trusted advisor in the industry as she sits on the board of the Site Selectors Guild and regularly speaks at industrial real estate and economic development organization events.



Micah Caskey
South Carolina House District
89, Lexington County

Micah Caskey calls Springdale, South Carolina, home. He grew up in the small town and, today, proudly serves in the state legislature.

Micah attended Lexington School District 2 schools: Springdale Elementary School, R.H. Fulmer Middle School, and Airport High School. Micah grew up in McGregor Presbyterian Church, played sports all over town, and completed his Eagle Scout project in Harbison State Forest.

The son of a small business owner, Micah started working long before he had a driver's license. Working in his father's locksmith shop taught Micah that nothing in life is free — everything worth having has to be earned. Hard work matters. That work ethic helped him earn a full scholarship to the University of Florida. After college, Micah spent the next several years as a combat engineer on active duty in the Marine Corps — rising to the rank of Captain. Micah commanded both company and platoon-sized units during his two combat tours of duty in Al Anbar Province, Iraq. Later, in 2009, Micah left law school for a year to continue his service to the country; during that year that he commanded a small team of specialized Marines in Helmand Province, Afghanistan.



Micah returned from Afghanistan and completed his law degree at the University of South Carolina. He also earned a Master's degree in International Business Administration in the #1-ranked International M.B.A. program at the University of South Carolina's Darla Moore School of Business. While in graduate school Micah learned to speak Spanish while studying abroad in Mexico and Costa Rica.

Micah then joined an international firm as a management consultant. Micah worked in the firm's Oil & Gas division in northern Alaska, partnering with Fortune 100 clients to improve safety and profitability.

In 2014, Micah joined the 11th Judicial Circuit's Solicitor's office. As a prosecutor he prosecuted hundreds of cases, including several high-profile trials that resulted in convictions. Micah prosecuted all kinds of felony crimes; ranging from drug trafficking to child homicide, from sexual assaults on children to murder. In November 2016, Micah opened a private law practice in November 2016 - Caskey Law Firm, P.A.

Micah was elected to the South Carolina House of Representatives on November 8, 2016. Rep. Caskey was elected by his peers to chair the Freshman Caucus and Speaker Jay Lucas appointed Caskey to the House Judiciary Committee.



M. Steve Cavanaugh, Jr.
President
Cavanaugh and Associates

A creative visionary with an unshakeable dedication to Stewardship through Innovation, Steve Cavanaugh's vast engineering experience encompasses a wide range of both US and international solutions – Recently his firm won back to back National engineering awards – the most recent in 2014 for the Training of 100 Water Utilities in Georgia on Non-Revenue Water Practices. For more than two decades, Steve has worked with public and private sector clients to develop intelligent environmental solutions to some of today's most challenging issues. In addition to his agricultural expertise on waste-to-energy and biomass facilities, Steve is known in the industry as an expert in the field of Water Loss and Revenue Recovery.

His dedication to improve and protect the world's water resources through teaching Utilities how to discover and embrace efficient business practices has been noted as refreshing to an industry plagued by a quick fix mentality.



Chris Goudreau
Hydropower and Special Projects
Coordinator
North Carolina Wildlife Resources
Commission

Chris Goudreau has been with North Carolina Wildlife Resources Commission for 32 years, as a fisheries biologist, hydropower coordinator, and special projects coordinator. He has been involved with instream flow science since graduate school. He is very active in the Instream Flow Council, including stints as Secretary-Treasurer and President.



Barry Gullet
Director (Retired)
Charlotte Water
Co-founder and former Chair of
Catawba Wateree Water
Management Group

Barry Gullet's 40 + years of experience demonstrate his leadership and creative problem solving abilities. While serving as Deputy Utilities Director and subsequently as Director of Charlotte Water, Barry has successfully led reorganizations and performance improvement initiatives. He represented Charlotte in regional partnerships, regulatory negotiations, and other important initiatives. He led an employee team's preparation of a winning competitive proposal that gained national attention for substantially changing how Charlotte's treatment plants are operated and managed.

Barry is widely known and respected for leadership in the industry and for building regional partnerships. Barry was a leader in the 2007 creation of the Catawba-Wateree Water Management Group, a non-profit corporation made up of 18 public water supply utilities and Duke Energy and served as Chair of that

organization from 2007 through 2017. He also chaired the Catawba River Advisory Commission which was formed by the General Assemblies of North and South Carolina. He has served as a Trustee and as Chair of the NC AWWA-WEA and as North Carolina's delegate to the Water Environment Federation (WEF).



Barry is analytical and has a reputation for asking questions that often lead to new ideas and better solutions. He has been published in state and national journals and has presented about technical, organizational, and management topics at many local, state, and national events. Barry joined Charlotte Mecklenburg Utility Department (now Charlotte Water) November 15, 1978, and retired on January 1, 2018.



Laila Johnston
Winyah Bay Coordinator
American Rivers

Laila works to engage local communities to protect and improve river health by reconnecting them to the Waccamaw River through the blue trail and through a regional source water protection initiative to further the protection of critical lands along the river corridors. Laila joined American Rivers in 2014. Prior to that she worked for the South Carolina Water Resources Center focusing on freshwater planning and policy at Clemson University while pursuing her PhD. Before moving to South Carolina for graduate school, Laila was a planner with the Texas Water Development Board heavily involved in state water planning efforts and worked with the Texas Water Conservation Advisory Council.



Eric Kruger
The Nature Conservancy,
South Carolina
Director of Science and
Stewardship

Eric Krueger is the Director of Science and Stewardship for The Nature Conservancy's South Carolina Chapter, and has 22 years of experience in river, wetland and forest management and restoration. He currently manages Chapter programs in freshwater, forest, and marine conservation, and climate change adaptation and mitigation. Eric's personal project experience includes 14 years working with major hydropower producers to produce environmentally compatible flows, and targeting land conservation to protect water quality and stream function.

Eric received a Master's degree in Geosciences from the University of Wisconsin in 1996. His research studied the relationships of groundwater to wetland vegetation patterns. While completing his degree, Eric was employed for two years by the US Forest Service in Michigan analyzing stream habitat quality. After graduation, Eric worked for the Coeur d'Alene Tribe of Idaho as a



hydrologist, and later as the Water Resource Program Manager. Eric also worked three years in for the Idaho Transportation Department implementing wetland mitigation and protection activities. Eric joined the South Carolina Chapter in September, 2002.



Raven Lawson
Watershed Protection Manager
Central Arkansas Water

and are charged with ensuring that over 450,000 Arkansans have clean, safe drinking water, and that the plants, animals, and people of the Lake Maumelle and Lake Winona watersheds have a thriving place to call home.

Raven Lawson is the Watershed Protection Manager at Central Arkansas Water, the state's largest drinking water utility, serving 1 in every 7 Arkansans.

Ms. Lawson earned her Bachelor's Degree in Biology from Arkansas State University, and attended graduate school at Clemson University where she studied Wildlife and Fisheries Ecology. She is currently working toward her PSM in Natural Resources Management from Texas Tech. For nearly 15 years, Raven has worked in many aspects of ecology and natural resources management, ranging from studying upland plants, aquatic organisms, and their systems, to working in public education and water quality advocacy. In her current position, she and her team are responsible for the protection and management of over 13,000+ acres of watershed lands owned by the utility,



Jeff Lineberger
Director of Hydro Strategy and
Licensing
Duke Energy

Jeff has been with Duke Energy for 28 years and is currently Director of Water Strategy & Hydro Licensing, providing leadership for licensing and compliance at 33 hydropower stations in the Carolinas and Midwest, and drought response coordination and long range water supply planning for 44 reservoirs in the Carolinas.

He has led negotiations settling several hydropower relicensing efforts including a 70-party agreement for the Catawba-Wateree Hydro Project which fostered settlement of a US Supreme Court case (SC v. NC, No. 138, Original), a 17-party relicensing agreement for the Keowee-Toxaway Hydro Project and a new operating agreement coordinating operation of the Keowee-Toxaway and Bad Creek hydro projects with three hydro projects located downstream in the Savannah River



Basin which are operated by the US Army Corps of Engineers.

Since its incorporation in 2007, Jeff has been a director of the Catawba-Wateree Water Management Group, a 501c (3) non-profit composed of Duke Energy and 18 public water utilities sharing a common water supply. He is also on the Catawba/Wateree River Basin Advisory Commission and represents Duke Energy on the Yadkin-Pee Dee Water Management Group.

Jeff has a BS in civil engineering from NC State and is a licensed Professional Engineer in both Carolinas. He is a Navy veteran including three years as a commissioned officer aboard a Cold War submarine. Jeff is a graduate of NC State's Natural Resources Leadership Institute and the Strategic Leadership Program at UNC-Chapel Hill.



Dean Moss
General Manager (Retired)
Beaufort-Jasper Water and Sewer
Authority

Dean Moss is the former General Manager of the Beaufort Jasper Water and Sewer Authority and held that position from 1986 to 2011. Prior to that he had over ten years of experience in water and wastewater planning and management at the state, regional and local levels in Florida, Arizona and North Carolina. Mr. Moss has a BA in Geography from the University of Denver and a Masters in Regional Planning from the University of North Carolina at Chapel Hill. He is the Governor's appointee and Chairman of the Savannah River Maritime Commission and was awarded the Order of the Palmetto by Governor Haley. He currently serves as the volunteer executive director of the Friends of the Spanish Moss Trail, a member of the board of the Savannah River Clean Water Fund and, as Chairman of the Board of Trustees of the Port Royal Sound Foundation. He is currently a member of the State Water Plan Advisory Committee.



Marzieh Motallebi
Assistant Professor
Clemson University

Marzieh is very interested in valuing ecosystem services in different ecosystems, investigating the economic and behavioral aspects of environmental issues, and studying the direct and indirect impacts of environmental policies on social welfare. She is an Environmental Economist working with an interdisciplinary group of colleagues in Clemson University. Her research encompasses a broad spectrum of topics including: water quality trading programs, carbon market, value of storm water



management practices, value of ecosystem services from land conservation, and business of sustainable farming.



Eric Nagid
Past President
Instream Flow Council

Eric Nagid is a Fisheries Research Administrator with the Florida Fish and Wildlife Conservation Commission (FWC). He earned a Bachelor of Science in Wildlife Ecology and Conservation and a Master of Science in Fisheries and Aquatic Sciences at the University of Florida. His research emphasis focuses on fish community and sportfish interactions with stream flows and levels, which has been used to inform water management decisions and influence flows and levels standards throughout Florida. He has been a member of several challenging and diverse committees during his tenure with the agency that include Aquatic Habitat Restoration and Enhancement, Regulation Review, and the Minimum Flows and Levels. He represents his agency in the Instream Flow Council (IFC) where he was

the President, and has been an active participant in IFC endeavors and initiatives. He also represents his agency on Water Subcommittee of the Association of Fish and Wildlife Agencies.



Ken Rentiers
Deputy Director for Land, Water,
and Conservation
South Carolina Dept. of Natural
Resources

Ken Rentiers is DNR's Deputy Director for Land, Water and Conservation and leads the Land, Water and Conservation Division of the S.C. Department of Natural Resources. In this position Ken oversees, develops and implements policies and programs that study, manage and conserve the state's land and water resources. He also serves on the Heritage Trust Advisory Board and is Chairman of the S.C. Drought Response Committee and Vice Chairman of the Environmental Certification Board.

Prior to joining the DNR, Ken was the State Executive Director for the USDA's Farm Service Agency and Confidential Assistant to President George W. Bush from 2001-2009. From 1990 through 2001, Ken served on the United State Senate staff of Senator Strom Thurmond in several capacities, including Legislative Director, Director of Constituent Services, Senate



Armed Services Committee staff and Counsel to the President Pro Tempore of the Senate. He is also a veteran of the United States Navy, serving on active duty from 1981 to 1987. Ken retired from Federal service in January 2009.

Ken earned a Bachelor's Degree in Political Science from the College of Charleston and his Juris Doctor degree from the University of South Carolina School of Law.



Matt Smith
Professor and Director
Pee Dee Research and Education
Center - Clemson University

Dr. Matt C. Smith is the Director of Clemson University's Pee Dee Research & Education Center in Florence, SC. He assumed his current role in October of 2013. Prior to coming to Clemson, he was a National Program Leader (NPL) for Sustainable Agricultural Systems in the USDA's Agricultural Research Service (ARS) Office of National Programs (ONP). He served as the lead NPL for ARS research in sustainable agricultural systems as well as being the agency's point of contact for organic production, sustainability, and local food systems. He joined ARS in 2004 as Research Leader of the Environmental Management and Byproduct Utilization Laboratory in Beltsville, Maryland where he oversaw a federal research laboratory with 12 Ph.D. research scientists and a budget exceeding \$6 million. From 1987 to 2004, he was on the faculty of the University of Georgia's Biological and Agricultural

Engineering Department where he taught and researched issues relating to surface and ground water hydrology, water use and water quality. Dr. Smith is a Registered Professional Engineer in Georgia.



Victoria Taylor
Facilitator
Innovation Institute at McColl
Center for Art & Innovation

Vicki has served as the Executive Coordinator for the Catawba-Wateree Relicensing Coalition since 2000, an organization that won a national award for "inspired collaboration". She has also been the program director for the Catawba-Wateree Initiative since 2016, working to illuminate the connection between land and water resources.

A non practicing lawyer, Vicki has owned and operated a small international consulting business since 1990 maintaining offices in Troutman, NC and London, England. Vicki works with business, non-profit and community leaders in communication and presentation skills, project and priority management, strategic



planning, leadership, innovation and creativity. She also provides facilitation services in a broad number of areas and is lead program designer and facilitator for the Innovation Institute at McColl Center for Art & Innovation.

She serves on the board of directors of the Low Impact Hydropower Institute, the Advisory Committee of the Catawba-Wateree Water Management Group and the Advisory Committee for Lake Norman State Park.



Mullen Taylor
Water Law Attorney
Mullen Taylor LLC

A native of Greenville, South Carolina, Mullen earned a B.A. in art studio from the University of South Carolina in 1989. Although her art work was shown in juried exhibitions at the University of South Carolina and the Florence Museum, she soon took the advice of her parents to explore more practical career paths. In 1990, she joined the administration of Governor Carroll Campbell as an ombudsman helping individuals and businesses navigate through state government red tape and investigating abuse and neglect of vulnerable adults. In 1995, she joined Richland County government, rising to the position of Assistant to the County Administrator; she was charged with supervising research staff and overseeing special projects primarily involving land use and economic development. Rather than shrinking from public policy conflicts that she observed and managed during her

tenure at Richland County, Mullen discovered a passion for conflict resolution, obtaining a Master of Arts degree in this field from Columbia College in 1999. She founded the Community Mediation Center of Columbia, a non-profit organization dedicated to providing mediation services for disputes ranging from interpersonal conflict, small business disputes and neighborhood controversies.

At Richland County, Mullen worked closely with many lawyers who urged her to earn a J.D. and join their ranks in the legal profession. After much thought, she resigned her position at Richland County to enter the University of South Carolina School of Law in 2001. As a law student, Ms. Taylor clerked for Governor Jim Hodges' administration, supporting the Governor's legal counsel in challenging the federal government's decision to transport plutonium to the Savannah River Site. She also served as a law clerk for the South Carolina Department of Natural Resources where she assisted Governor Sanford's Water Law Committee in recommending new state water resource policy. In addition, Mullen was Associate Editor of the Southeastern Environmental Law Journal.

From 2005 to 2011, she served on the Board of Directors of the League of Women Voters of the Columbia Area, followed by the South Carolina League of Women Voters. From August 2009 until July 2014, Mullen served as chairperson of Congaree Riverkeeper; she remains on the organization's Board of Directors.



Julie Carl Ureta
Ph.D Candidate
Clemson University

Julie Carl Ureta is a student in Clemson University taking up Ph.D. in Forest Resources. His research interest is in designing a Payments for Ecosystem Services (PES) scheme and natural resource's spatial analysis and valuation. Designing PES entails estimation of willingness-to-pay of potential beneficiaries and willingness-to-accept of potential providers for a continuous ecosystem service provision and sustainable livelihood options. Furthermore, the PES scheme design is done on a landscape approach, hence a spatial valuation method is conducted.

Prior to his current role, he has been involved in Environmental Economics research and project implementations in the Philippines. His experiences include: protected area sustainable financing management planning,

corporate ecosystem services valuation of Geothermal plant, design and implementation of PES, conduct socio-economic assessment, cost-benefit analysis, conduct environmental impact analysis, spatial analysis of estimated damage cost from flood and storm surge, geospatial analysis, and ecosystem services accounting.

He has obtained his Master of Science in Environmental Science from the School of Environmental Science and Management, University of the Philippines and Bachelor of Science in Economics with specialization on Natural Resource Economics from the Department of Economics, College of Economics and Management, University of the Philippines.