



2020 Meeting of the North Carolina Chapter of the American Fisheries Society

Tuesday, February 4th – Thursday, February 6th, 2020



New Bern Riverfront Convention Center
203 South Front Street
New Bern, NC 28560

We would like to thank the sponsors of our
31st annual meeting of the North Carolina
Chapter of the American Fisheries Society



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President Elect: Ben Ricks
Secretary/Treasurer: Kelsey Lincoln Roberts
Past President: Tyler Black

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Chair: Kelsey Lincoln Roberts

Members: Lawrence Dorsey and Joe Hightower

Nominations

Chair: Tyler Black

2020 Annual Meeting

Chair: Ben Ricks

Members: Corey Oakley and Bryn Tracy

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Program at a glance	
Tuesday 4 February	
1830 – 2200	Shrimp Boil and Social (Bern Room at Bridge Pointe Hotel)
Wednesday 5 February	
0800 – 1130	NCAFS Workshop – An Introduction to R for Fisheries Professionals
1130 – 1245	Lunch (on your own)
1300 – 1315	Opening comments
1300 – 1800	NCAFS Meeting Registration
1315 – 1530	Contributed papers
1530 – 1550	Afternoon Break
1550 – 1730	Contributed papers
1900 – 2200	Dinner, raffle, and poster session (Berne Room at Bridge Pointe Hotel)
Thursday 6 February	
0800 – 0925	Contributed papers
0925 – 0945	Morning Break
0945 – 1120	Contributed papers
1130 – 1300	Lunch (on your own)
1300 – 1430	NCAFS Business Meeting

Tuesday 4 February	
TIME	Bridgepointe Hotel & Marina
1830 – 2200	Social, Bern Room
Wednesday 5 February	
TIME	New Bern River Front Convention Center - Berne Room (upstairs)
0800 – 1130	An Introduction to R for Fisheries Professionals Instructors: Dr. Jason Doll (Francis Marion University), Powell Wheeler (NCWRC), Seth Mycko (NCWRC), and Kyle Rachels (NCWRC)
1130 – 1300	Lunch (on your own)
1300 – 1315	Opening remarks – Jake Rash, NCAFS President
	Session 1: North Carolina's Own 2020 Catfish Symposium Moderator: Mike Abney (Duke Energy)
1315 – 1335	North Carolina's Catfish Management Plan: Managing Catfish and People in an Everchanging Invasive Catfish World Corey Oakley (NCWRC)
1335 – 1355	Exploring Legacy Datasets to Infer Spatial and Temporal Trends in the Cape Fear River Ictalurid Community Kyle Rachels (NCWRC)
1355 – 1400	Population Characteristics of Invasive Catfish in the Pee Dee River Casey Greishaber (NCWRC)*, Troy Thompson (NCWRC), and Lawrence Dorsey (NCWRC)
1400 – 1420	Ventures in the Blackwater: A Broadtail Madtom Survey Update Katharine L. DeVilbiss (NCWRC)*, Brena K. Jones (NCWRC), and Fred C. Rohde (NOAA)
1420 – 1425	Propagation Efforts of the Carolina Madtom Michael Fisk (NCWRC)
	Session 2: Imperiled Species, Part 1: Survival & Restoration of Mountain Mussel and Fish Species Moderator: Scott Loftis (NCWRC)
1425 – 1445	Effects of Interstitial Fine Sediments on Appalachian Elktoe Survival and Growth Michael Thompson (ASU)*, Rachael Hoch (NCWRC), and Michael Gangloff (ASU)
1445 – 1505	Restoration of Wavy-rayed Lampmussel, <i>Lampsilis fasciola</i> , Spike, <i>Eurynia dilatata</i> , and Rainbow Mussel, <i>Villosa iris</i> to their Native Range in the Oconaluftee River Basin of Cherokee, North Carolina Sierra Benfield (WCU)*, Thomas Martin (WCU), Michael LaVoie (EBOC), Karen Kandl (WCU), Rachael Hoch (WCU), and Luke Etchison (NCWRC)
1505 - 1510	Hanging in There: Appalachian Elktoe in the Little Tennessee River Dylan Owensby (NCWRC)
1510 – 1530	Population Estimate of the State and Federally Threatened Spottfin Chub, <i>Erimonax monachus</i> , Using Underwater Observations Luke Etchison (NCWRC)*, Jason C. Doll (FMU), and Dylan Owensby (NCWRC)

1530 - 1550	BREAK
	Session 3: Technological Advances for Managing Our Fisheries
	Moderator: Cara Kowalchuk (NCSU)
1550 – 1610	Linking Acoustic Telemetry and Population Genetics to Investigate Stock Structure of Atlantic Cobia Riley M. Gallagher (CMSAT)*, Jacob R. Krause (CMAST), Jacqueline Allen (SCDNR), Tonya L. Darden (SCDNR), and Jeffrey A. Buckel (CMAST)
1610 - 1630	Assemblage Structure of Reef Fishes in the Southeast U.S. Atlantic Ocean Samantha M. Binion-Rock (NOAA)*, J. Kevin Craig (NOAA), Nathan M. Bacheler (NOAA), and G. Todd Kellison (NOAA)
1630 - 1635	Estimating Run Size of River Herring Using DIDSON Technology Jeremy McCargo (NCWRC)*, Katy Potoka (NCWRC), and Chris Smith (NCWRC)
1635 - 1640	Phenology in a Changing Environment: Ecological Forecasts of Striped Bass on the Roanoke River Quentin Nichols (ECU)*, Rebecca G. Asch (ECU), and Roger Rulifson (ECU)
1640 - 1645	Utilizing MoveVis Package in R to Visualize Largemouth Bass Movement in a Coastal Lake Kevin Dockendorf (NCWRC)
	Session 4: Managing Our Trout Fisheries Through Genetics and Flow Augmentation and the Impact of Beaver Ponds
	Moderator: Andrea Leslie (NCWRC)
1645 – 1705	Evolution of the Brook Trout Genetic Baseline in North Carolina Jake Rash (NCWRC)*, David C. Kazyak (USGS), and Barb A. Lubinski (USGS)
1705 – 1725	Managing a Brown Trout Tailrace Fishery in North Carolina Chris Wood (NCWRC)
1725 – 1730	Active Beaver Ponds Improve Freshwater Oligochaete Habitat Samuel F. Fritz (ASU)*, Jacob Rash (NCWRC), and Michael M. Gangloff (ASU)
1730 –	Closing Comments, Jake Rash, NC AFS President
TIME	Bridge Pointe Hotel & Marina – Berne Room
1900 – 2200	Poster Session
	Causes and Solutions to Barotrauma in Marine Reef Fishes Brendan Runde (CMAST)
	Determining River Herring eDNA Shedding and Decay Rates to Develop a Methodology for Quantification Seth M. Gibbons (ECU)*, Sara Roozbehi (ECU), Michael Brewer (ECU), Roger Rulifson (ECU), and Erin Field (ECU)
1900 – 2200	Dinner, Raffle, and Poster Session

Thursday 6 February	
TIME	New Bern River Front Convention Center - Berne Room (upstairs)
	Session 4: Habitat Modeling, Alterations, and Manipulations
	Moderator: Madie Polera (NCSU)
0800 – 0820	The Suitability of Habitat Suitability Models for Imperiled Stream Fishes Tom Kwak (NCSU)
0820 – 0840	Mesohabitat Modeling for Atlantic Pigtoe and Notched Rainbow in the Upper Neuse River Basin Gordon Marsh (RK&K)* and Tamara Pandolfo (NCSU)
0840 – 0845	Assessing the Response of Freshwater Mussel Populations Following Dam Removals Vincent Santini (ASU)* and Michael Gangloff (ASU)
0845 – 0905	Effects of Beavers on Montane Stream Fish Communities Samuel F. Fritz (ASU)* and Michael M. Gangloff (ASU)
0905 – 0925	Fishery, Angler, and Agency Responses to Declines in Hydrilla in Shearon Harris Reservoir Clint Morgeson (NCWRC)* and Mark Fowlkes (NCWRC)
0925 - 0945	BREAK
	Session 5: An Ecological Cornucopia of Aquatic Topics
	Moderator: Ryan Heise (Duke Energy)
0945 – 1005	Summary of Duke Energy's Lake Norman Monitoring Over the Past Six Decades Nick Wahl (Duke Energy)
1005 - 1010	Characterizing Brain Morphology of Caribbean and Indo-Pacific Reef-Associated Fishes Using XRAY Microtomography (Micro-CT) April Lamb (NCSU)
1010 – 1030	Phylogeographic Patterns Among the Lanceolate <i>Elliptio</i> Species Complex Hans R. Lohmeyer (ASU)*, Nathan A. Johnson (USGS), Jonathan D. Wells (ASU), and Michael M Gangloff (ASU)
1030 – 1035	NCFishes.com : A Website Devoted to North Carolina's Freshwater and Saltwater Fishes Scott A. Smith (NCDMF)*, Fred C. Rohde (NOAA), and Bryn H. Tracy (Retired)
	Session 6: Imperiled Species, Part 2: Restoration, Assessment, and Protection
	Moderator: Judy Ratcliffe (NC NHP)
1035 - 1055	A Thing Worth Doing: Successes in a Rare Fish Stocking Program Brena K. Jones (NCWRC)
1055 – 1100	Population Status of the North Carolina Endemic Pamlico Crayfish, <i>Procambarus medialis</i> , in the Neuse and Tar-Pamlico basin Andrew R. Glen (NCWRC)

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1100 - 1120	Monitoring the Federally Endangered Humpback Chub, <i>Gila cypha</i> , and Other Fishes in the Lower Colorado River, AZ - A Volunteer Opportunity of a Lifetime Bryn H. Tracy (Retired)*, Michael J. Pillow (U.S. F&WS), Ryan Green(U.S. F&WS), and Taylor Greene (NNHP)
1120	Closing Comments, Jake Rash, NC AFS President
1130 – 1300	LUNCH – on your own
1300 – 1430	NCAFS Business Meeting, Berne Room
1430	Closing Comments and Adjournment, Ben Ricks, 2020 NC AFS President

Continuing Education Workshop

An Introduction to R for Fisheries Professionals

Instructors: Dr. Jason Doll (Francis Marion University) and Powell Wheeler, Seth Mycko, and Kyle Rachels (NCWRC)

The R Programming Language was developed by statisticians to manipulate, summarize, analyze, and visualize data and has become extremely popular in data-driven fields, such as Fisheries Science. R's popularity surge is due to its open-source nature. Similar to other open-source projects, R is available for anyone to use and redistribute without cost and license restrictions. In addition, R has attracted a community of developers that have created thousands of free add-on packages and a community of users that help beginners learn the language. For these and many other reasons, R has displaced traditional data analysis programs such as SAS and Microsoft Excel in many fields.

Because R is a programming language, learning it is more similar to learning a foreign language than a GUI-based point-and-click program. Although the learning curve is often described as 'long and steep', fluency with the basic commands is worth the effort and unlocks R's strength. The goal of this workshop is to accelerate the learning process for those interested in R. Participants will receive a basic overview of the origin of R, its uses, and the language. However, the primary focus will be hands-on coding as participants walk through a typical fisheries population analysis with real fisheries data. In addition, the workshop will direct participants towards internet resources for learning and provide a cheat-sheet to many basic language commands. Finally, the workshop will conclude with sage advice for the journey to R fluency!