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We would appreciate your comments on this electronic version of the NC Chapter Newsletter. Please send all responses to Jerry Finke (jerry.finke@ncwildlife.org).

President's Message

Let me start by saying "thank you" to our members for their continued participation and hard work to make the North Carolina Chapter one of the most successful in the US. It's not common for chapters to have such involved professional and student members, not to mention our strong financial standing. I ask that each of you continue to participate at the multiple levels within The American Fisheries Society.

The 2012 North Carolina AFS meeting in Raleigh February 28-29, is coming together nicely thanks to Chris Wood and volunteer support. See Chris's notes later in the newsletter and please consider presenting at the meeting. It's always good to see what our chapter members are doing to improve North Carolina's fisheries! Also, continue to think about prizes and donations for the student raffle. You can contact NCSU student officers Katie Pierson or Jake Hughes with ideas and questions.

More information is becoming available on the 2012 Southern Division AFS meeting in Biloxi, MS, January 26-29 (<http://www.sdafs.org/meetings/2012/default.htm>). It is being held at the Imperial Palace, a 4-diamond resort/casino. As mentioned on the meeting website, and in the September newsletter, the Mississippi Gulf Coast has a lot to offer including warmer weather!

Thank you again for allowing me to serve as your 2011 president. It has been a truly gratifying experience. On behalf of your Executive Committee (myself, Kevin Dockendorf, Chris Wood, and Kevin Hining) thanks for your continued support! See you in late February if not sooner,

Mike

Secretary-Treasurer's Report

[December Treasurer's Report](#)

Submitted by Kevin Hining, Secretary-Treasurer

Awards Committee

Call for Chapter Award Nominations

The Chapter presents two awards on an as-warranted basis to recognize outstanding contributions by both chapter members and others. The **Distinguished Service Award** recognizes Chapter members who have distinguished themselves by service to the Chapter, the American Fisheries Society, or the fisheries profession. The **Fred A. Harris Fisheries Conservation Award** recognizes non-Chapter members who have distinguished themselves by service or commitment to the Chapter or the fisheries and aquatic resources of North Carolina.

The Awards Committee is soliciting nominations from the membership for both of these awards for 2011. If you are aware of a deserving individual or organization, please nominate them! Nomination letters should be no more than two pages long and provide specific information on the accomplishments of the candidates and why they qualify the candidate for the award. Qualifications for the Distinguished Service Award should extend beyond simply doing an outstanding job on regular chapter duties (e.g., officer or committee member responsibilities) and be based primarily on extraordinary efforts or new initiatives.

Please submit nominations to John Crutchfield at john.crutchfield@pgnmail.com, Progress Energy, 410 South Wilmington Street, PEB7, Raleigh, NC, 27601-1551. **Nominations will be accepted until Tuesday, January 31, 2012.** Any questions, call John at 919-546-2019.

Submitted by John Crutchfield, Awards Committee Chair

Education and Outreach Committee

“This is Crappie”

NCAFS Education and Outreach committee members recently assisted an 8th grade McDowell Co. science teacher, Mrs. Melanie Shaver, in writing a Toyota Tapestry grant titled “This is Crappie”. We are happy to announce the proposal was accepted and the funds were awarded in spring, 2011. NCAFS acquired a laptop through this grant for Chapter members to skype directly with students. “This is Crappie” emphasizes fishery related education such as aquatic ecology, environmental concerns in reservoir fisheries, fish population dynamics, and field and lab methodologies. In September, 2011, Committee members visited Mrs. Shaver’s class to present methods for crappie stock assessments, and described how data are used for managing reservoir populations. We then had a technician from McDowell Co. Schools participate in a routine NCWRC field sample on Lake James to assist with skyping. Biologists

demonstrated sampling techniques with trap-nets, how to collect environmental data with YSI devices, and the importance of quality data collection. All of this was done while talking live with the class! This interactive approach was very exciting and the students asked an array of wonderful questions.



NCWRC District 8 Fisheries Biologist, Chris Wood, skyping with students while collecting environmental data on Lake James.

After the sample, students took a field trip to the NCWRC District 8 lab in Marion, NC, to learn about data collection. Biologists demonstrated a variety of sampling gear, how to pull and read otoliths, how to use OTC to determine percent contribution of stocked fish, and how these data are used to determine management actions. Additionally, each student is developing their own research project using crappie data from various Catawba reservoirs. For example, students are comparing numbers/sizes of crappie among reservoirs, investigating impacts of environmental variables on catch rates (e.g., temp, DO), etc. Committee members plan to participate in a science fair to help determine the best research project. This has been a very successful endeavor and we look forward to continuing our relationship with McDowell Co. Schools.



Students observing NCWRC Fisheries staff, Nick Shaver, David Goodfred, and Jim Hollifield, pulling otoliths and recording data at the District 8 lab in Marion, NC.

Submitted by Chris Wood

NCSU Student Subunit Report

Since our last update we have wrapped yet another outstanding year and have begun prepping for 2012. Richen Brame from Coastal Conservation Association (CCA) graciously accepted our invitation to be our guest speaker at our November meeting. Mr. Brame did an excellent job addressing the federal, state, and NGO's role in fishery management. It was a great talk and generated plenty of discussion. We have had excellent attendance at bi-weekly discussion groups in which SFS members choose a fisheries-related article to discuss.

To continue tradition, we held our end of the year meeting at The Alley in Raleigh, for some friendly bowling competition. As usual, we had great attendance to celebrate another year well done. The Fisheries Ecology and Aquatic Sciences Lab (FEAS) claimed the annual bowl-a-thon title from the FW Co-op Unit, with a narrow 11-pin victory.



The FEAS lab clinches the win with an 11 point victory over the Co-op team.

In previous years, thanks to donations and the hard work of SFS members throughout the year, we have raised enough money to help support SFS members in their careers and research, by offering travel awards to help with costs associated with presenting at scientific meetings. This year's group was no different and we again offered several awards. All applicants were very deserving and extremely qualified.

- Women and Minority Graduate Student Travel Award - Unfortunately, we did not receive applications for our travel award established by the generous donation by Tom Kwak, this fund was scheduled to run out after next year. With no applicants in 2011, the award will be available through 2013!
- Undergraduate Student Travel Award - To help undergraduates get involved and excited about a career in fisheries, we offered a travel award that would pay for all undergraduate applicants in SFS to attend the NC AFS Annual meeting in Raleigh. The award covers entrance fees, NC AFS membership, as well as a 2011 one-year membership to the AFS parent society. This year's awardees are Gretchen Stokes, Albert Lewis, and Matthew Stillwell. We hope this award expands student's understanding of the value of AFS, sparks interests for future research, and helps their networking ability to find jobs within the fisheries field.
- Graduate Student Travel Award - In response to a request from last year, we created a graduate student award, open to all graduate students in SFS. This \$275.00 award is to be used help fund the student's travel to present their research at a scientific meeting. Robert Dunn, studying oyster restoration on artificial reefs in North Carolina, is this year's recipient.

Congratulations to all recipients, well done!



Robert Dunn, the first Graduate Travel Award participant.

We appreciate the work all our members put forth during the year. Many of our activities and awards are not possible without dedicating valuable time and effort to SFS. Although all our members contribute invaluable services to the society, we choose a member that has gone above and beyond the call of duty to help make SFS such a great organization every year. This year's recipient of the "SFS Service Award" is Josh Raabe!! It goes without saying that Josh's presence and efforts have helped build SFS into the Nation's Most Outstanding Student Subunit. Thank you Josh for your hard work and dedication to the Student Fisheries Society!



Katie awarding the SFS service award to Josh Raabe (The reverse of last year).

Gearing up for 2012 has already began! We will again be running our annual fundraising raffle and auction at the 2012 NC AFS meeting in Raleigh and we have already been given notice that Pete Kornegay will again be donating a custom-made fishing rod! We will also be co-hosting a wild game supper with NCSU's Leopold Club in early February. Stay tuned for further information about both items!

It has truly been an honor serving as Co-Presidents for the NC State Student Fisheries Society. We are blessed to have such dedicated members and support from NC AFS and the community. As Co-Presidents we would like to thank our out-going executive committee (Tamara Pandolfo, Jennifer Archambault, Jared Flowers and Matt Stillwell) for their 2011 efforts and on behalf of the executive committee, we would like to thank everyone involved in SFS for their hard work and contributions. On that note, we would like to introduce you to the 2012 SFS executive committee.

- Co-Presidents: Patrick Cooney and Gus Augustine
- Undergraduate Vice President: Gretchen Stokes
- Secretary: Kelsey Lincoln
- Treasurer & Webmaster: Dan Brown

Please stay tuned for future updates regarding meeting dates/times and raffle information. For future meetings we invite you to stop by if you are in the Raleigh area, or check us out in our Elluminate session and watch the meeting online. We also invite y'all to join our new SFS Facebook Group that serves as a forum for pictures, updates, discussion, and to network with alumni and professional. To learn more and keep up to date with SFS, please join this group, visit our NCSU website (<http://clubs.ncsu.edu/sfs/>) and also join our e-mail listserv (instructions on website or e-mail one of us). If you are out in the field, or away from Raleigh, we hope to see you on Elluminate, otherwise, we hope to see you soon!

Happy Holidays!

Submitted by Jake Hughes (jbhughe3@ncsu.edu) and Katie Pierson (kjpierso@ncsu.edu), SFS co-presidents

Nominations Committee and Ballot

The Nominations Committee is pleased to present the 2012 NCAFS ballot for President-Elect and Secretary-Treasurer. Chapter members running for President-Elect are Jessica Baumann (NCWRC) and Greg Cope (NC State) and for Secretary-Treasurer are Julie Harris (NC State) and Todd Ewing (NCWRC). Please take a moment to peruse the candidate sketches with their excellent fisheries background and cast your vote on the electronic ballot.

[CLICK HERE TO ACCESS THE 2012 NCAFS BALLOT](#)

For those chapter members who vote, your name will be entered in a drawing for a 2012 AFS Parent Society membership (a value of \$80!).

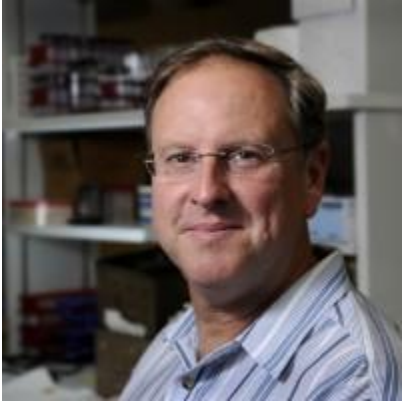
Election results (and parent membership drawing winner) will be announced at the 2012 Annual Business Meeting.

Submitted by Kevin Dockendorf, Lawrence Dorsey and Jeff DeBerardinis, Nominations Committee

Jessica Baumann, Candidate, President-Elect-

Jessica Baumann is a fisheries biologist for the NC Wildlife Resources Commission. She received her B.S. in Biology from Augusta State University in 2002 and her M.S. in Fisheries and Wildlife Sciences from North Carolina State University in 2007. Jessica currently studies sport fish populations in the piedmont region of NC, but prior to working for the NCWRC, Jessica studied flathead catfish in the Cape Fear River and conducted IBI's for GA DNR's stream team. Jessica first became active with AFS in 2005 and has presented multiple papers at the state, division, and national level since that time. In 2006, she was elected co-president of the NCSU student subunit and mentored a Hutton student. More recently, Jessica has been a highly active member of the Education and Outreach committee and served as chairman of the A/V committee for the 2010 annual AFS Southern Division meeting. Jessica is also the recipient of the John E. Skinner Memorial Fund Award, the Jimmie Pigg Memorial Outstanding Student Achievement Award, and the NCAFS student travel award.





Greg Cope, Candidate, President-Elect-

Greg Cope is a Professor and Extension Leader in the Department of Environmental and Molecular Toxicology at NC State University. He also holds faculty appointments in the Biology Department and the Fisheries, Wildlife, and Conservation Biology Program and is a member of the NC State University Water Resources Graduate Faculty. He received a B.S. in Environmental Sciences in 1983 from Lenoir-Rhyne University in Hickory, NC, a M.S. degree in Biology with emphasis in aquatic sciences from the University of Wisconsin-La Crosse in 1988, and a Ph.D. with a double major in Fisheries Biology and Toxicology from Iowa State University in 1991. Greg's experience prior to coming to NC State in 1997 includes work in the fisheries section with Duke Power Company Environmental Laboratories in Huntersville, NC (1981-1984) and as a Research Fishery Biologist with the U.S. Fish and Wildlife Service National Fisheries Research Center in La Crosse, Wisconsin (1991-1997). His interests and expertise are in the effects of anthropogenic stresses on aquatic organisms, with emphasis on fish and native freshwater mussels, the bioavailability, fate and transport of pollutants in aquatic ecosystems, and public outreach and education. He's been an AFS member since 1985 and has been active in two divisions and three state chapters. He has served the AFS as Associate Editor of the *Transactions*, member of the Publication Awards Committee and Resource Policy Committee, and the NC Chapter as Chair/Co-Chair of the Education and Outreach and Student Awards Committees. He is also active in the Freshwater Mollusk Conservation Society, most recently as President (2009-2011), and the Society of Environmental Toxicology and Chemistry.

Julie Harris, Candidate, Secretary-Treasurer – Julie is a post doctoral associate at North Carolina State University. She received a B.S. in Biology from Tufts University, an M.S. in Fisheries and Aquatic Sciences from the University of Florida, and a Ph.D. in Fisheries and Wildlife Sciences from North Carolina State University. Julie's research at NCSU focuses on habitat use, migration, and population dynamics of anadromous fishes. Julie first became involved in AFS when she joined the parent society and the Florida Chapter in 2001. Since 2001, she participated in numerous AFS meetings and has been a member of two AFS State Chapters and three AFS Sections. She has been involved in the NC Chapter of AFS and its student subunit since she moved to North Carolina to attend school in 2005. While in graduate school, Julie served as the treasurer of the student fisheries group at UF and the vice president of the student fisheries group at NCSU. She is currently the Southern Division Representative to the AFS Education Section.





Todd Ewing, Candidate, Secretary-Treasurer – Todd Ewing supervises the Aquatic Wildlife Diversity Program for the North Carolina Wildlife Resources Commission's Division of Inland Fisheries. A native of North Carolina, Todd received his BA in Biology from UNC-Charlotte in 1991 and his MS in Biology from Appalachian State in 2002. Todd has been with the Wildlife Commission since 1996 and in his current position since 2008. Prior to his current position, Todd served as the Eastern Hydropower Coordinator helping to negotiate settlement agreements for the new Yadkin (Alcoa) and Yadkin-Pee Dee (Progress Energy) hydroelectric licenses and also assisted the Watershed Enhancement group. Todd has been a member of the American Fisheries Society and North Carolina chapter since 1998. Todd resides in Valdese (Burke County) with his wife and five children. In his free time, Todd serves as a leader for the both the local Boy Scout Troop and Cub Scout Pack.

News from the NC Division of Water Quality

2011 Basinwide Monitoring and Use Attainability Studies (submitted by Bryn H. Tracy)

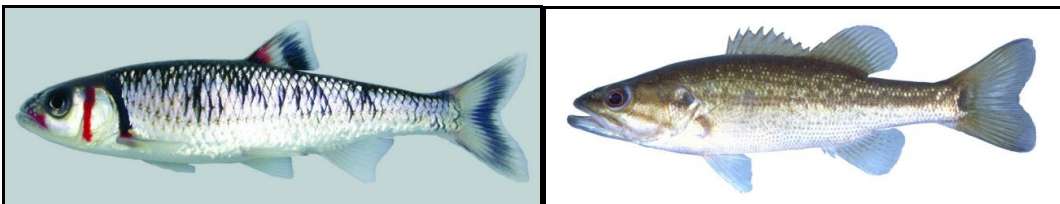
Fish community monitoring activities in spring and summer 2011 focused on the Yadkin-Pee Dee River drainage (63 long-term, non-randomly chosen streams) and two special studies in the Broad and the Neuse River basins. Some of these 63 streams have now been sampled four times -- once every five years beginning in 1996. In 2011, the sampling was conducted over 24 days with assistance from 19 DWQ staff, two summer interns, and one NCSU graduate. Flows and water clarity were extreme at times – ranging from no flow and dried-up channels to high flows with “butterscotch” turbidity. Specific conductance measurements ranged from 30 $\mu\text{S}/\text{cm}$ in streams draining forested watersheds to > 400 $\mu\text{S}/\text{cm}$ downstream from permitted wastewater treatment plants. The number of species per site ranged from 5 to 26; and the number of fish per site ranged from 48 to 1,620. Preliminary results revealed that two-thirds of the stream rated Excellent or Good and 13% of the streams rated Fair or Poor. Some sites in the lower part of the basin, especially in some of the smaller streams draining the Carolina Slate Belt ecoregion, show lingering effects from the seemingly recurring droughts.

The complete data, ratings, analyses, and report for the Yadkin-Pee Dee drainage will be available in 2012 at: <http://portal.ncdenr.org/web/wq/ess/reports> and <http://portal.ncdenr.org/web/wq/ess/bau>. Biological Assessment Unit reports for data collected in 2009 were completed in 2011 for the Savannah, Little Tennessee, White Oak, and Roanoke River basins. These reports are also available at: <http://portal.ncdenr.org/web/wq/ess/reports>.

Use Attainability Studies (the reclassification of a waterbody to Outstanding Resource Waters, High Quality Waters, or Trout waters) were conducted in 2009 and 2010 in the Little Tennessee, New, Watauga, Broad, and Yadkin River basins. Memoranda were completed in 2011 and are available upon request for the New River basin (8 streams), Little Tennessee River basin (Tessentee Creek watershed), and Broad River basin (Brier Creek in Rutherford and Cleveland counties and Britten Creek in Polk County). Memoranda, to be completed in 2012, will summarize data collected from the upper Yadkin River and Buffalo Creek watersheds (Caldwell County, Yadkin River basin), the Tuskegee Creek watershed (Graham County, Little Tennessee River basin), and 20 tributary sites to the Little Tennessee River between Cowee Creek (Macon County) and Sawmill Creek (Swain County).

New DWQ Distributional Records for 2011 (i.e., those not shown in Menhinick (1991) and collected for the first time by DWQ staff from a particular county in the Yadkin-Pee Dee River drainage)) **(submitted by Bryn H. Tracy)**

- ❖ *Camptostoma anomalum*, Central Stoneroller, non-indigenous; Little Yadkin River, Stokes County; becoming more wide-spread in the upper part of the drainage from Watauga County eastward to Surry County
- ❖ *Carassius auratus*, Goldfish, non-indigenous; Mitchell River, Surry County
- ❖ *Luxilus coccogenis*, Warpaint Shiner, non-indigenous; Beaver Creek, Wilkes County
- ❖ *Notemigonus crysoleucas*, Golden Shiner; Beaver Creek, Wilkes County
- ❖ *Lepomis marginatus*, Dollar Sunfish; Mill Creek, Anson County
- ❖ *Micropterus punctulatus*, Spotted Bass, non-indigenous; North Little Hunting Creek, Iredell County, Little Yadkin River, Stokes County, South Deep Creek, Yadkin County, South Fork Muddy and Muddy creeks, Forsyth County



Warpaint Shiner

Spotted Bass

(Photographs courtesy of Southeastern Fishes Council
(<http://ichthyology.usm.edu/sfc/fishes/>))

Richland Creek Re-Introduction Project (Haywood County, French Broad River Basin) (submitted by Bryn H. Tracy)

As mentioned in the December 2010 newsletter, the Richland Creek Re-introduction Project is an innovative project to restore the biological integrity of the fish community and ultimately remove Richland Creek from DWQ's §303 (d) list. The multi-partner project with participation by staff from DWQ, NC Wildlife Resources Commission, NC Natural Heritage Program, US Fish & Wildlife Service, Haywood Waterways Association, Haywood Community College, and the University of Tennessee-Knoxville, begun in April 2010 and continued in April and September 2011. The low-cost restoration project involves the collection, transport and release of fish of several species twice a year for three years or until the species establish permanent, reproducing populations. The project is patterned after the successful and on-going bi-state Pigeon River Recovery Project (<http://fwf.ag.utk.edu/Sites/Pigeon/Webpages/fieldtech.asp>) led by UT-Knoxville, TN DHEC, TNWRA, and NCWRC.



Saffron Shiner

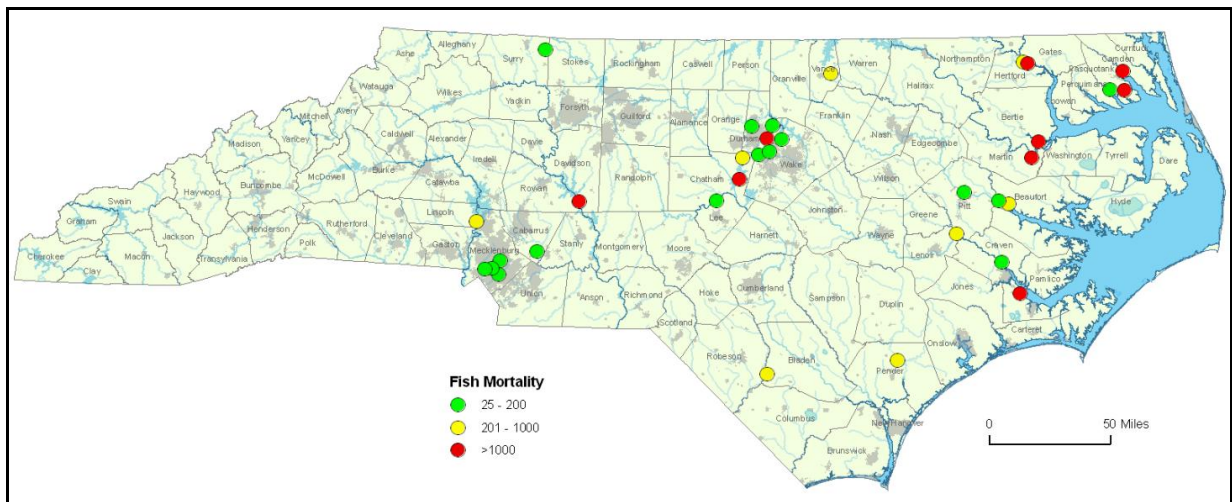
Mottled Sculpin

**(Photographs courtesy of Southeastern Fishes Council
(<http://ichthyology.usm.edu/sfc/fishes/>))**

In 2011, almost 4,000 fish representing nine species (Warpaint Shiner, River Chub, Mirror Shiner, Saffron Shiner, Mottled Sculpin, Rock Bass, Fantail Darter, Greenfin Darter, and Tuckasegee Darter) were released at five access sites upstream from Lake Junaluska. To date, more than 9,500 fish have been re-located. This year we discovered that some of the species are dispersing upstream and downstream on their own accord, for example River Chubs and Tuckasegee Darter were found down at the Howell Mill Road access even though they were released upstream at Vance Street Park. Unscientifically and in layman's terms, colonial nest associates (Warpaint Shiner, Saffron Shiner, and River Chub) seem to be doing well; Mirror Shiner were an accidental introduction, but seem to be doing OK; Rock Bass may need more numbers or more time to find one another; Mottled Sculpin, Greenfin Darter, and Fantail Darter seem to be hanging in there (the adults were recaptured), but need to find some young-of-year; and for Tuckasegee Darter, we think we found Age 1 fish from the 2010 spawn. As a whole, after two years, the team's consensus is that we believe things are doing very well and we are very pleased with the volunteer efforts by everyone. The key to the project's success will be for the partners to keep preaching clean water and storm water runoff management so that water quality and biological integrity continue to improve throughout the Richland Creek watershed.

2011 Fish Kills (submitted by Mark Hale)

ESS staff record fish kill events when at least 25 fish are affected and the event is confirmed by trained investigators from regional offices and cooperating agencies. As of November 1, 2011, investigators have reported 33 fish kill events statewide for 2011. Kill events were documented in coastal and inland waters across the state as far west as Mecklenburg County. Kill activity was documented in 9 of the state's 17 major river basins and nearly all events were reported from freshwaters. The most significant events reported from inland waters included large kills of Striped Bass on Jordan Reservoir, Tuckertown Reservoir, and Lake Norman. Investigators observed nearly 6,000 dead Striped Bass among these three waterbodies.



Fish kills and their size reported in North Carolina during 2011.

Aside from the Striped Bass kills, fish kill investigators reported sporadic fish mortality throughout the state prior to Hurricane Irene. As expected, an increase in fish kills and significant fish mortality was reported in the wake of the storm. According to DWQ investigations, the total statewide mortality for the year was approximately 135,000 fish. Investigators acknowledge, however, that fish mortalities in the aftermath of Hurricane Irene were considerably higher than numbers documented. Mortality totals for individual events in 2011 ranged from 25 to around 50,000. Additional information on all of the fish kills reported in North Carolina from 1997 to the present may be found at: <http://portal.ncdenr.org/web/wq/ess/fishkillsmain> and <http://portal.ncdenr.org/web/wq/ess/fishkills>. For more information on DWQ's fish kill-related activities, please contact Mark Hale (mark.hale@ncdenr.gov).

2011 Fish Tissue Contaminant Studies (submitted by Jeff DeBerardinis)

2011 turned out to be an eventful year for DWQ's fish tissue monitoring program, with the majority of effort focusing on North Carolina's piedmont reservoirs. DWQ completed its fourth season of a ten year commitment to monitor statewide mercury levels in fish, in partnership with the NC Division of Air Quality (DAQ). In the summer of 2011, over 300 fish samples from 13 lakes and rivers were tested in association with DAQ's mandate to document mercury emission reductions from the state's 14 major coal-fired power

plants. The goal of the fish-mercury component of the study is to establish potential trends among Largemouth Bass as new technologies are implemented at power plants across NC. A second DAQ report to the NC Environmental Management Commission is due in July of 2012 and will include a component that summarizes DWQ's fish tissue monitoring efforts through 2011, and any potential fish-mercury trends to date.

In 2010, elevated levels of PCBs were found in Channel Catfish collected from Mountain Island Lake, resulting in a fish consumption advisory for that species. With a large funding contribution from Mecklenburg County, PCB monitoring efforts were expanded in 2011 within the Catawba River basin to include additional samples from Mountain Island Lake, Lake Norman, and the North Carolina portion of Lake Wylie. In total, over 30 composite fillet samples were contracted for 209 PCB congeners, mercury, arsenic, and selenium in five common fish species including Black Crappie, White Perch, Blue Catfish, Channel Catfish, and Largemouth Bass. Initial results show some elevated levels of PCBs among Blue Catfish collected from Mountain Island Lake, but more data are needed for risk assessment. Accordingly, DWQ and Mecklenburg County have plans to return to Mountain Island Lake in 2012 for additional Blue Catfish PCB analyses.

Concerns about human exposures to PCB contamination in fish tissues were also addressed in the Yadkin River basin during the summer of 2011. Three sites on High Rock Lake and three sites on Lake Tillery were sampled, targeting all trophic levels for 209 PCB congener analyses. The collected species included Bluegill, Redear Sunfish, White Perch, Black Crappie, White Crappie, Largemouth Bass, White Bass, Channel Catfish, White Catfish, and Flat Bullhead. In total, approximately 90 samples were collected, processed, and sent to the USEPA Region IV Analytical Laboratory in Athens, Georgia for PCB congener analysis. Results of this study are pending.

Plans for a collaborative effort with the USEPA, NC Department of Health and Human Services, and the NC Division of Marine Fisheries are currently underway to assess the levels of PAHs and PCBs in finfish and shellfish populations near the Kerr McGee superfund site in Nevassa, North Carolina near Wilmington. Samples will be processed at the Environmental Sciences Section Laboratory in Raleigh, NC and evaluated for ecological and human risk assessment at the USEPA Region IV Analytical Laboratory in Athens, Georgia.

All of DWQ's fish tissue data collected from 1990 to 2010 can be found on the web at: <http://portal.ncdenr.org/web/wq/ess/bau/fish-tissue-data>. For more information on DWQ's fish tissue monitoring program activities, please contact Jeff DeBerardinis (jeff.deberardinis@ncdenr.gov).

News from Around North Carolina

NC AFS 2012 Annual Meeting Announcement

Submitted by Chris Wood, President Elect

The 2012 NC Chapter of the American Fisheries Society annual meeting will be held in Raleigh, NC, at the Doubletree Brownstone Hotel and Conference Center from February 28 – February 29, 2012. Tuesday, February 28, will begin with a continuing education workshop in the morning followed by a technical session after lunch and an evening social with the student raffle. We will continue presentations Wednesday morning and finish up with the annual business meeting. Stay tuned to the NCAFS Chapter website for updates and meeting registration options.

Lodging Information –

Room rates are \$65.90 and \$105.90 a night plus tax for single and double occupancy, respectively. To receive the special group rate, please reserve your room by Monday, February 6, 2012. For on-line reservations and details on the Doubletree Brownstone Hotel and Conference Center go to: www.brownstonehotel.com

Second Call for Papers –

Students and professionals are highly encouraged to contribute oral presentations for the annual meeting. Topics may include completed projects, works in progress, and case histories. All presentations will be scheduled for 20 minutes, including a 5-minute period for questions. Please send all abstracts electronically to Chris Wood at chris.wood@ncwildlife.org by January 21, 2012. Abstracts should include presentation title, author names, and addresses (including phone and e-mail if available). Please limit text to 250 words or less. It is assumed that the first author listed will be the presenter unless otherwise noted. If you are a student presenter, please make note of that on the abstract. For additional information feel free to contact Chris by e-mail or by telephone (828-659-3324 ext. 222).

Continuing Education Workshop –

This year's continuing education workshop will be held from 8:00 - 12:00 on Tuesday, February 28 at the NC WRC Headquarters Building in Raleigh. Kim Sparks from NC WRC and Joe Hightower from NC State University will lead a hands-on workshop that will include a review of ArcMap basics, incorporating on-line data and web services into your mapping projects, and ways to share your geographic data with others. The workshop will also provide an overview of some of the new features in ArcGIS 10. For additional information, please feel free to contact Kim (kim.sparks@ncwildlife.org) or Joe (jhightower@ncsu.edu).

**Julie Harris Receives First Professional Travel Award
Submitted by Joe Hightower**

Dr. Julie Harris, a post-doctoral researcher at North Carolina State University, received the 2011 Young Professional Travel Award from the Education Section of the American Fisheries Society. This award was established in 2011, so Julie is the first recipient! The award provided support for Julie's travel to Seattle for the 2011 AFS meeting, as well as a one-year membership to AFS. Criteria for the award include publications, presentations, honors/awards, work in continuing education and outreach, and service to the Society. Anyone within three years of graduation is eligible to apply.



Julie presented a talk at the Seattle AFS meeting about how stocking can be used to learn about population dynamics. She used several examples from the American shad restoration program on the Roanoke River and co-authors included NC Wildlife Resources Commission colleagues Kevin Dockendorf and Bennett Wynne. Julie's post-doctoral research at NCSU is a large-scale tagging study of Roanoke River striped bass, using PIT tags, internal anchor tags, and transmitters. Among the project goals are to estimate natural mortality and mortality associated with catch-and-release fishing.

Congratulations, Julie!

North Carolina's Imperiled Fish Fauna, Part VI
Submitted by Bryn H. Tracy and Wayne C. Starnes
on behalf of the NCWRC's Scientific Council of Fishes

As mentioned in the Chapter's 2010 and 2011 newsletters, there are approximately 215 indigenous, described and undescribed species of freshwater fish in North Carolina. Of these, 26% are considered imperiled as either state or federally listed Endangered (17), Threatened (17), or Special Concern (22) (Harris et al. 2010). It is the responsibility of the 15 member Scientific Council on Freshwater Fishes to submit its recommendations to the Nongame Advisory Committee of the North Carolina Wildlife Resources Commission (NCWRC) if changes in imperilment classifications for any species are warranted. To communicate our findings with the chapter membership, this is the 6th of 16 planned articles on the species that the Council believes have become more imperiled since the last listing in 2006. Thus acquainted, it is hoped that chapter members can serve as additional "eyes and ears" to expand our vigilance for these rare or highly localized fishes.

Mountain Madtom, *Noturus eleutherus* Jordan 1877
Current Status: Special Concern, Proposed Status: Endangered



Mountain Madtom, proposed State Endangered.
Photograph courtesy of Virginia Tech (<http://www.cnr.vt.edu/efish/>).

Type Specimen and Type Locality

The Mountain Madtom was described by Jordan (1877) as a new species based upon a single specimen, about four inches long, that he and C. H. Gilbert had taken, alive, from the jaws of a Northern Water Snake (*Nerodia sipedon*). Jordan (1877) noted that it was similar to a young Flathead Catfish in form, coloration, and general appearance. The holotype specimen is at the National Museum of Natural History (i.e., the Smithsonian Institution, USNM Catalog No. 29678). The type locality is the (Big) Pigeon River, a rather clear tributary to the French Broad River at the Town of Newport (formerly known as Clifton), Cocke County, TN (Jordan and Brayton 1878).

Description The Mountain Madtom is a small, weakly mottled catfish attaining a standard length (SL) of approximately 75 mm. In Tennessee, maximum size of the species is 85 mm total length. The body is short and stocky; the adipose fin, with its wide pale margin, is nearly free posteriorly, the dark pigment in the fin forms a horizontal bar along its base; and a midcaudal crescent-shaped blotch is lacking from the caudal fin. There are usually 43 to 49 caudal fin rays, 6 to 8 long recurved serrae on the

posterior edge of the pectoral spine, and faint dorsal saddles. More detailed descriptions may be found in Taylor (1969); Etnier and Starnes (1993); and Jenkins and Burkhead (1994).

Range The Mountain Madtom occurs in the Ohio River basin from western Pennsylvania through Ohio and Kentucky to the Wabash River drainage of Indiana and Illinois and the Cumberland River drainage, Tennessee. It is also found in the Tennessee River drainage of Tennessee, Virginia, North Carolina, and Georgia and in the lower Mississippi River basin, including the Mississippi River mainstem, and the Red, Ouachita, White, and St. Francis River drainages of Oklahoma, Arkansas, and Missouri (Taylor 1969; Rohde 1980). In Tennessee, the Mountain Madtom is locally common in free flowing rivers of the Ridge and Valley and Highland Rim (Etnier and Starnes 1993).

Until 2007, the lone North Carolina record (one young specimen) was from Spring Creek at the Town of Hot Springs in Madison County collected in 1888 (Jordan 1889). Like the holotype, the specimen was also vouchered at the National Museum of Natural History (USNM No. 40405) and subsequently studied by Taylor (1969). In 1977, a Mountain Madtom was taken from the French Broad River near Bridgeport, TN more than 20 miles below the North Carolina state line (Harned 1979). In 2007, an individual was collected (by NCWRC staff -- S. J. Fraley, P. E. Pittman, W. T. Russ, J. C. Younce, and D. L. Yow) from the French Broad River at the Town of Hot Springs and vouchered with the North Carolina State Museum of Natural Sciences (NCSM No. 52482). Previous to that, the species was believed to be extirpated from North Carolina (Menhinick 1986; Menhinick and Braswell 1997; Rohde, et al. 1998). In 2009, 4 juveniles and 1 adult of the species were collected by the authors from three localities in Madison County -- the French Broad River near the mouth of Shut-in Creek, the French Broad River near the mouth of Grass Creek, and Spring Creek at the Town of Hot Springs (NCSM Nos. 55219, 55221, and 55210, respectively). In 2010 and 2011, the species appears to have become relatively more numerous in the French Broad River downstream from the US 25/70 bridge at Hot Springs to the state line (pers. com. S. J. Fraley and W. T. Russ; personal observations B. H. Tracy).

Habitat The Mountain Madtom occurs frequently in, above, and below clean-swept riffles and shoals of clear, large, swift streams and rivers over a cobble, pebble, and gravel bottom (Figure 1). Young-of-year are often found in shallow riffles. In big rivers such as the Ohio and Mississippi, it also occurs in swift water around debris piles. In the French Broad River, it appears to be associated with swift riffles and shoals, a substrate of cobble, boulder, and bedrock, and the aquatic macrophytes *Podostemum ceratophyllum* (Hornleaf riverweed) and *Elodea canadensis* (Canadian waterweed), especially during low flow periods in the Fall.



Figure 1. Habitats of the Mountain Madtom: French Broad River at Hot Springs, Madison County, NC. Photograph on the left is courtesy of www.ashevilleguidebook.com.

Life History and Ecology A life history study of the Mountain Madtom, conducted in the Little and Nolichucky rivers, TN, revealed that the species lives a maximum of 4 years; growth of males and females is similar; males live longer than females; and males attain greater lengths (Starnes and Starnes 1985). The sex ratio is about 1:1 and spawning apparently occurs in June and July. Starnes and Starnes (1985) found one nest on 2 July in water 24°C in a shaded pool 0.7 m deep under an elliptical rock. The nest contained 70 embryos (eggs) guarded by a 66 mm SL male. The number of mature oocytes ranged from 55 to 115 in 21 females ranging from 41 to 59 mm SL. This species feeds most intensely after sunset on a variety of aquatic insects; feeding occurs chiefly in riffles.

Rationale for Designation

Menhinick and Braswell (1997) speculated that, with improved water quality of the French Broad River, the Mountain Madtom could return to North Carolina. Because the species is found downstream in Tennessee, reintroductions would not be warranted as long as recruitment from downstream reaches was possible. It seems that this may be the case with this species as water quality has improved in the river compared to what it was years ago. However, the presence of a very small localized population in the French Broad River and Spring Creek at the Town of Hot Springs in Madison County warrants a designation of State Endangered. The Spring Creek watershed was recently afforded supplemental water quality classification by the Division of Water Quality as Outstanding Resource Waters which should aid in the recovery of this species.

Recommendations Field survey efforts should concentrate on appropriate habitat in the lower French Broad River and its tributaries to ascertain the present status of this species in North Carolina waters.

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Meetings of Interest

2011 NCSU Student Fisheries Society– First Wednesday of each month, Raleigh, NC.
<http://clubs.ncsu.edu/sfs/>

2012 NC Chapter of the American Fisheries Society–February 28-29,2012, Raleigh, NC

142nd Annual Meeting of the American Fisheries Society– August 19-23, 2012, St. Paul, MN.

143rd Annual Meeting of the American Fisheries Society– September 9-12, 2013, Little Rock, AR.

Valuable Links –

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