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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

For a group that depends solely on volunteerism, I continue to be amazed at the hard work and dedication of our members. Why do they get involved? It's pretty simple, actually. Participation in AFS is fun, challenging, rewarding and provides an avenue through which to directly impact so many fisheries issues. People usually don't volunteer for something unless they feel like they can make a difference. And our members are definitely making a difference! As 2009 ends and 2010 cranks up, there is little time for a period of reflection. The spirit in the air is one of busy anticipation as we ready for the Southern Division meeting this February in Asheville. A huge THANKS to so many of you who have volunteered valuable time and effort in planning for this meeting. What a tremendous opportunity to not only host this event, but to capitalize on the expertise and knowledge of so many of our country's sharpest minds, right in our own backyard. From the plenary speakers, to the workshops, and continuing through the technical sessions, this meeting is shaping up to be quite an event! I hope that you will plan to be there; let's shoot for a record turnout of NC Chapter members at this meeting. Make sure to note that our Chapter business meeting will be held on Saturday evening, February 27th. If you have items you would like to discuss, please let me know so they can be added to the agenda.

We have a strong Chapter, as evidenced by the tireless efforts of so many during 2009. Are you looking to get plugged in? There is an opportunity awaiting you! Come make a difference with us!

I hope to see you in Asheville,

Chad Thomas, NC AFS President

Secretary-Treasurer's Report

Report

Submitted by Kevin Hining, Secretary-Treasurer

Environmental Concerns Committee

In 2008, the Chapter petitioned the Environmental Management Commission to reclassify to "Tr" waters those streams in the New and Watauga river basins that support wild trout but also do not have the sub-classification. Survey data were provided to support the request. The Environmental Concerns Committee is working on a comparable effort for the Catawba and Yadkin river basins. Accurate classification of these streams may have more relevance today given a November 17, 2009 NC Court of Appeals ruling that the NC Sediment Control Commission wrongly issued a trout buffer variance to the Mountain Air golf course development in Yancey County six years ago. In summary, the court held that the thousands of feet of streams put in culverts and the riparian vegetation removal should not have been considered temporary and minimal impacts under the legislation. The potential implications of the ruling are stricter implementation of the trout buffer requirements and better protection of trout resources in the state.

Submitted by Dave McHenry, Environmental Concerns Committee Chair

Nominations Committee and Ballot

BALLOT

The 2009 Nominations Committee consisted of Christian Waters (Chair), Brian McRae, and Vann Stancil. The Committee sought nominees for the 2010 office of President-Elect and Secretary-Treasurer. Nominees for President-Elect are Michael Abney (Duke Energy) and Derek Aday (North Carolina State University). Kevin Hining has agreed to serve a second two-year term as Secretary-Treasurer and will run unopposed on this year's ballot. Thanks to Kevin for his service to the Chapter for the past two years; his familiarity with this position will be a definite advantage in his second term. Election results will be announced at the 2010 Annual Business Meeting.

As in past years, Chapter members can vote electronically. We encourage all members to cast their vote and one lucky voter will be drawn to receive a Chapter-paid membership to the American Fisheries Society Parent Society. The winner will be drawn at the 2010 Annual Business Meeting.

Submitted by Christian Waters, Nominations Committee Chair

Michael Abney, Candidate, President-Elect – Michael Abney is a fisheries biologist for Duke Energy, based at McGuire Nuclear Station’s Environmental Center on Lake Norman since 2007. He received a B.S. in Biology and Zoology from the University of Georgia in 1992, a M.S. in Marine Biology from the University of Southern Mississippi (Gulf Coast Research Laboratory) in 1998, and a M.S. in Biology from the University of Kentucky in 2001. Beginning in 2001, Mike worked on the Comprehensive Everglades Restoration Plan for the U.S. Fish & Wildlife Service in Vero Beach, FL, and in 2003 became a Fisheries Biologist for Georgia Power Company in Atlanta, GA. He received his AFS-Certified Fisheries Professional certification in 2006 and also served as the Local Chair for the 2007 Reservoir Symposium. Mike first became active in AFS in 1995 and currently serves as the Secretary/Auditor for the Southern Division’s Reservoir Committee and as Fundraising Chair for the 2010 Southern Division Spring Meeting in Asheville.



Derek Aday, Candidate, President-Elect – Derek is a faculty member in Department of Biology and serves as undergraduate fisheries coordinator for the Program in Fisheries and Wildlife Sciences at North Carolina State University. He has a B.S. in Biology (1994), M.S. in Fisheries and Wildlife Sciences (1997), and a PhD in Ecology (2002). After finishing graduate school at the University of Illinois, Derek joined the faculty at Ohio State University and was a member of the Aquatic Ecology Lab at OSU for three years before coming to NCSU in 2005. Derek has been an AFS member since 1993 and has been active in three state chapters, two divisions, and at the parent society level during that time. He currently serves as Associate Editor for Transactions of the American Fisheries Society, chairs the New Initiatives Committee for the Education Section, and is Program Chair for the 2010 Southern Division Spring Meeting in Asheville. Derek’s lab group at NCSU includes undergraduate and graduate students engaged in a research program focused on fish ecology, fisheries management, and ecotoxicology. He also teaches Fisheries Science and Limnology, and coordinates the NCSU Fisheries and Aquatic Health Sciences Program.



Kevin Hining, Candidate, Secretary-Treasurer – Kevin Hining is a fisheries biologist with the North Carolina Wildlife Resources Commission in District 7. His job responsibilities center primarily on game fish management in reservoirs, rivers, and trout streams in northwestern North Carolina and on angler outreach. He has a B.S. in Ecology from the University of North Carolina at Asheville and a M.S. in Biology from Western Carolina University. Before starting work with the Commission, he held previous positions with the Great Smoky Mountains National Park, the Mississippi Department of Environmental Quality, and the Vermont Fish and Wildlife Department. He has been a member of the NCAFS Chapter since 2002 and currently serves as Chapter Secretary-Treasurer and Finance Committee Chair for the 2010 Southern Division Spring Meeting in Asheville.



Awards Committee

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 2009. 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 Friday, January 15, 2010.** Any questions, call John at 919-546-2019.

Submitted by John Crutchfield, Awards Committee Chair

News from Around North Carolina

Updates from NCWRC

Submitted By Chad Thomas, NCWRC

James (Pete) Kornegay, Coastal Supervisor with the NC Wildlife Resources Commission, retired in December after 32 years of service. Pete's career accomplishments centered around successful restoration efforts for striped bass and American shad on the Roanoke River. Pete's expertise and dedication to resource management and conservation were a tremendous benefit to the state's anglers and to his colleagues through the years.



Jim Borawa, Watershed Enhancement Supervisor with the NC Wildlife Resources Commission, retired in June with over 30 years of service. Among his many accomplishments, Jim was instrumental in introducing the delayed-harvest trout program to North Carolina which continues to be one of the state's most popular trout fishing opportunities. Jim's leadership, vision, and commitment to managing and conserving aquatic resources in North Carolina will be sorely missed.

Keith Ashley, District Biologist with the NC Wildlife Resources Commission and long-standing member of the NC Chapter AFS, was recognized as SEAFWA Biologist of the Year in Atlanta this past November. Congratulations Keith!



Bluehead Chub, *Nocomis leptocephalus* (Girard 1856), First Species of Freshwater Fish Scientifically Described From North Carolina

Submitted By Bryn H. Tracy, NC Division of Water Quality

The first 5 of the 204 currently described and indigenous freshwater fish species known from North Carolina were scientifically named in 1758 by Carolus Linnaeus, though generally from locales in the northern United States (i.e., Sea Lamprey, Longnose Gar, White Catfish, Redbreast Sunfish, and Pumpkinseed Sunfish). A flurry of activity in the late 1810s by Constantine Rafinesque ascribed names for 25 more nominal species, again from locales outside North Carolina. But it was not until 1856 when the first species of freshwater fish was described from North Carolina. The species was the Bluehead Chub, *Nocomis leptocephalus*, named by Charles F. Girard, the first ichthyologist at the Smithsonian Institution. His description of *Ceraticichthys leptocephalus*, was very concise: “A species easily to be distinguished from its congener, by its small head which enters four times and a half in the total length. The body itself is proportionally shorter than in *C. amblops* especially. Its scales are likewise larger than in the latter species. The color is of uniform blackish grey above, and grayish white beneath. Specimens were collected at Salem, N. C. by J. Lineback and School, and preserved in the Museum of the Smithsonian Institution” (Girard 1856, page 213). Since then, others have written more detailed descriptions; for example Lachner and Jenkins (1971), Lachner and Wiley (1971), or Jenkins and Burkhead (1993). The specific epithet *leptocephalus* means “small head”. Breeding males develop medium to very large tubercles and swollen nuptial crests on the head (Figure 1), prompting local fishermen to call this fish “knotty-head”, “horny head”, or other colorful and colloquial names.



Figure 1. Breeding male of the Bluehead Chub, *Nocomis leptocephalus*, showing its characteristic swollen bluish head and white breeding tubercles atop its head. Photograph courtesy of Jenkins and Burkhead (1993).

The specimens were collected in the early 1850s (precise date unknown) by J. T. Lineback (correctly spelled Linebach), one of the founding families of the Moravian community of Salem in Forsyth County. Lineback was assisted by students from Salem Academy, a women’s school in Salem which opened in 1772, and Salem College, the oldest women’s college in the nation. Remarkable is the fact that the specimens were collected in the early 1850s by women, during a time when few women were afforded an education. Historically, when a species was first described the author often did not specify a type locality. A type locality is the place where the population occurs from

which the type-specimen (“the name bearer” for the species) was collected. The Bluehead Chub type locality was not precisely specified by Girard, however, Lachner and Wiley (1971) were slightly more specific in listing the type locality as a tributary of the Yadkin River, Pee Dee drainage. I have determined that the only small wadeable stream which would likely have contained Bluehead Chub near the historic Town of Salem and within walking distance, literally “down the hill” from Salem Academy near the South Main Street bridge, would have been Salem Creek near latitude 36.08109 and longitude -80.24046 (Figure 2).

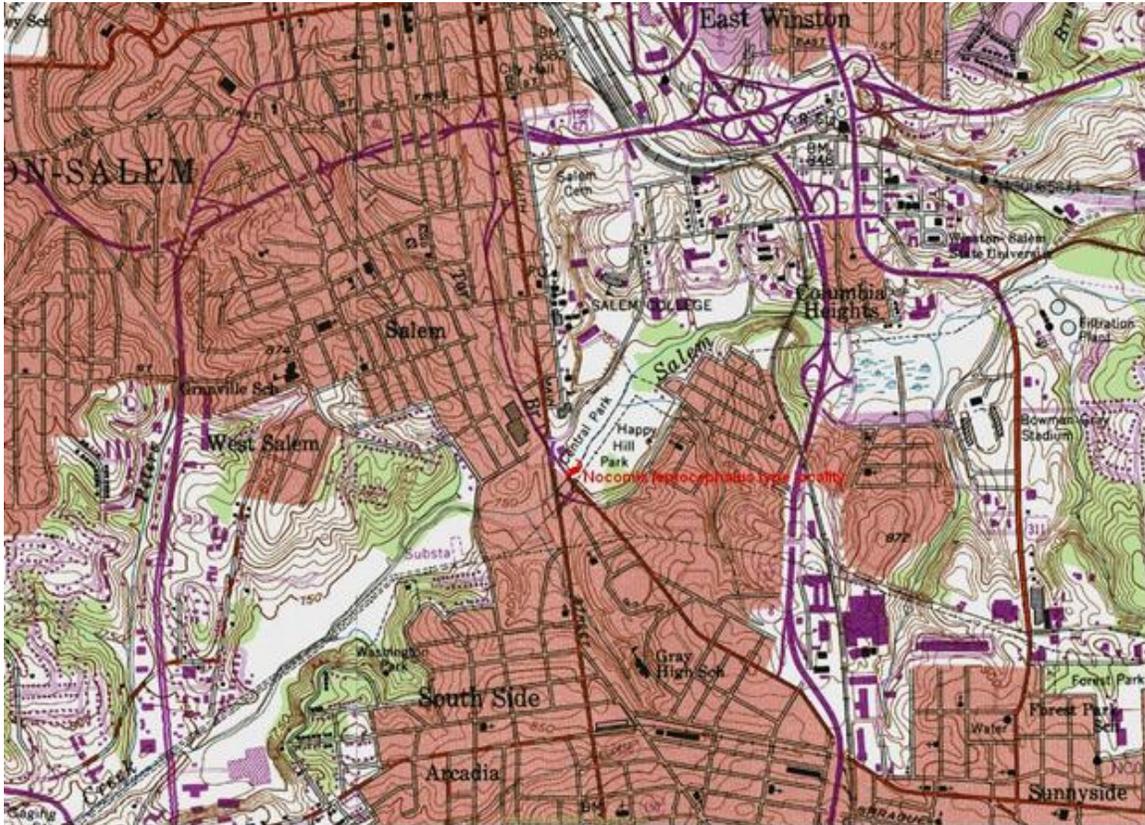


Figure 2. Type locality of the Bluehead Chub, *Nocomis leptocephalus*, Salem Creek, Forsyth County, North Carolina.

The five original specimens are catalogued at the National Museum of Natural History (also known as the Smithsonian Institution) under Catalogue No. USNM 12 (<http://collections.nmnh.si.edu/vzfishes/pages/nmnh/vz/displayfishes.php?irn=5135814&querypage=%2fvzfishes%2fpages%2fnmnh%2fvz%2fdtlqueryfishes.php>). Prepared on December 17, 1856, they represent the 12th lot of specimens ever catalogued at the Smithsonian Institution, which as of December 01, 2009, currently has over 540,000 lots representing more than 4 million specimens of fish. And as of July 10, 2009, the species still inhabited Salem Creek, where they were found in the swift riffles and runs, upstream and downstream from the pedestrian bridge (Figure 3). Unfortunately, the stream is now an urban stream devoid of catostomids and darters, with elevated specific conductance (107 $\mu\text{S}/\text{cm}$), littered with tires and bricks, having banks over grown with Japanese Knotweed, and flowing beneath a graffiti-covered bridge. Nonindigenous species syntopic with the Bluehead Chub at this site were the Red Shiner, *Cyprinella lutrensis*,

Rosefin Shiner, *Lythrurus ardens*, and Flathead Catfish, *Pylodictis olivaris* (including a specimen ~ 850 mm TL).



Figure 3. Salem Creek, looking upstream from the South Main Street bridge, City of Winston-Salem, Forsyth County. Riffle from which specimens of the Bluehead Chub were collected in July 2009 can be seen just downstream from the pedestrian walkway bridge.

The Bluehead Chub is one of the most widely distributed and abundant species of indigenous freshwater fish in North Carolina. Its historical distribution ranges from the Savannah River drainage in the southwest corner to just east of the Fall Line in the Tar River drainage (Menhinick 1991; Figure 4). Outside of North Carolina, it ranges from the Potomac River drainage south on the Atlantic slope to Georgia, and west on the Gulf slope to the lower Mississippi River tributaries in Louisiana and Mississippi; in the Ohio River basin it is moderately widespread in the New River drainage (Jenkins and Burkhead 1993). In North Carolina it is typically found throughout the Piedmont and the Eastern Blue Ridge Foot Hills in headwater streams, creeks, and small rivers. It occupies pools, runs, and swift riffles with highly varied substrates from bedrock to much sand and silt, but with at least moderate sized areas of gravel (Jenkins and Lachner 1980). The lack of gravel in Coastal Plain streams is believed to be one of the reasons for its absence in the eastern part of North Carolina.

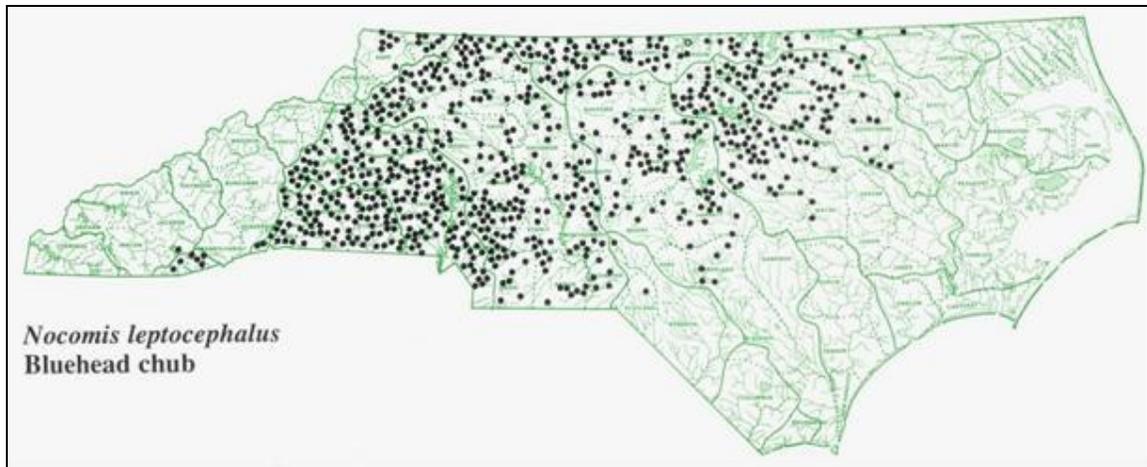


Figure 4. Distribution of the Bluehead Chub, *Nocomis leptocephalus*, in North Carolina (Menhinick 1991). Red star is the approximate location of the type locality.

This stout bodied minnow may approach 275 mm in total length; longevity is up to five years. The diet of the Bluehead Chub includes plant material, particularly algae, and aquatic insects. Streams that receive too much nutrients from runoff often have large populations of Bluehead Chubs. However, the Bluehead Chub is a “keystone” species in our Piedmont and Eastern Foothill streams. During the spring, dominant large males construct and defend gravel-mound nests over which males and females spawn and which are also used by nest associates – other species of daces and shiners. The nest is carefully constructed stone-by-stone with some nests approaching 100 cm in diameter and 30 cm in height. The defending males keeps the gravel clean, thus enhancing the survival of eggs and larvae of all the species. Streams that have suffered from nonpoint source sedimentation, covering the gravel required for nest building, tend to have fewer Bluehead Chub and overall lower fish diversity than streams with a clean gravel substrate.

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2010 River Course Workshop Announcements

Forwarded By Dave Coughlan

RC 101 - Stream Morphology Assessment - April 6-8, Asheville, NC

RC 121 - Total Station Applications for Stream Assessment - June 4, Brevard, NC

RC 151 - Water Quality Monitoring Using Automated Samplers - January 13, Asheville, NC

RC 201 - Natural Channel Design Principles - May 18-20, Asheville, NC

RC 131: Assessment and Identification of Riparian Vegetation - *Coming Soon!*

RC 161: Aquatic Insect Taxonomy and Pollution Ecology - *Coming Soon!*

RC 435: Management of Invasive and Exotic Vegetation in Riparian Areas - *Coming Soon!*

Levels 300-500 to be scheduled soon

SAVE THE DATE: 2010 Southeast Regional Stream Restoration Conference - November 15-18, 2010, Marriott City Center, Raleigh, NC

Stream Restoration in the Southeast: Connecting Communities with Ecosystems

For more information on all these course offerings and to REGISTER ONLINE, please visit our website at:

<http://www.ncsu.edu/srp/>

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Professional Development Hours (PDHs) available for all course offerings for professional engineers and landscape architects.

Sponsored by:

NCSU Stream Restoration Program

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Valuable Links –

The American Fisheries Society Home Page offers a wealth of links to assist you in your fishery endeavors. Information on ordering AFS books, public outreach, annual meetings, chapter links and joining the AFS can be found at <http://www.fisheries.org/>.