



**AMERICAN FISHERIES
SOCIETY**

MARCH 2013 NEWSLETTER

INSIDE THIS ISSUE[President's Message](#)[Secretary-Treasurer's
Report](#)[Awards Committee](#)[Environmental Concerns
Committee](#)[NCSU Student Subunit](#)[North Carolina's
Imperiled fish Fauna](#)[News from around North
Carolina](#)[Spotlight on Students
and Young Professionals](#)[Education and Outreach
Committee](#)[NCAFS 2013 Annual
Meeting](#)[Meetings of Interest](#)[Valuable Links](#)**President's Message**

By all accounts, everyone had an enjoyable, productive, and information-rich annual Chapter Meeting. Our 2013 meeting in Burlington, which was held jointly with the North Carolina Freshwater Mollusk Workgroup, ranked among the most well-attended annual meetings in NC AFS history with 97 participants! The interaction with the participants from the mollusk group certainly added to the excellent technical and scientific discussions of our fish and mollusk aquatic resources. The meeting location and facilities served us very well and the staff at the Best Western Plus were accommodating to our every need and a true pleasure to work with.

A very special thanks to all who were involved in planning and organization of the meeting, including Program Committee member Brena Jones for her work on assembling the Program and Abstracts (including the artwork!), Judy Ratcliffe and Sarah McRae for organizing the mollusk workgroup session and member involvement, Chris Wood (President), Mike Abney (Past-President), Julie Harris (Secretary-Treasurer), Kim Sparks for her web site and online registration assistance, and Jessica Baumann for organizing the highly successful Conservation Genetics Continuing Education Workshop, which had 53 participants! The NC State Student Sub-Unit organized another fabulous raffle and auction and Chapter members stepped up to help raise funds to support their many high-impact activities and programs.

Thanks also to all 24 presenters and special congratulations go to Bryn Tracy (Best Professional Presentation), Rachael Hoch (Best Student Presentation),

President's Message (continued)

Kim Baker (Distinguished Service Award), and Tim Gestwicki (Fred A. Harris Fisheries Conservation Award). A large measure of our Chapter's ability to organize and present these awards is due to the tireless effort and dedication of John Crutchfield, Awards Committee Chair, and the many members who agree to serve as presentation judges.

Lastly, I sincerely appreciate the opportunity to serve as your President for the coming year. It is truly an honor and I look forward to working with Brena Jones (President-elect), Todd Ewing (Secretary-Treasurer, who graciously agreed to step in and fill the remaining term of Julie Harris who headed westward for a new job opportunity), and Chris Wood (Past-President) over the next year. Feel free to call me at 919-515-5296 or e-mail greg_cope@ncsu.edu anytime to discuss Chapter business. I'm always excited to hear from Chapter members and urge each one of you to become more involved in Chapter activities and Committees. Speaking of which, we have an immediate opportunity and need for someone to step up and serve as the Chair of the Environmental Concerns Committee (see the brief article and description of duties in this newsletter).

Thanks again and have a safe and productive Spring and early Summer field season.

Greg Cope

Secretary-Treasurer's Report

[2013 Annual Business Meeting Minutes](#)

[March 2013 Treasury Report](#)

Submitted by Julie Harris, Secretary-Treasurer

Awards Committee

Awards presentations are one of the highlights of our annual Chapter meetings. Several awards were presented during the annual NCAFS meeting in Burlington, N.C. on February 26-27, 2013. The meeting was well attended with over 100 participants and the host facility and program were outstanding. During the Chapter's annual business meeting, awards were presented to chapter and non-chapter members for their contributions to the chapter and fisheries and environmental conservation in North Carolina.

Student papers were judged for the Richard L. Noble Best Student Paper Award and the professional papers were judged for the W. Don Baker Memorial Best Professional

Paper Award. There were nine presentations by students and fourteen presentations by professionals. Student papers were judged by Jason Brown, Dave Coughlan, Jeremy McCargo, and Bryn Tracy. The professional papers were judged by Michael Abney, John Crutchfield, Todd Ewing, and Kevin Hining. Thanks to all who presented papers and the volunteer judges!

The 2013 **Richard L. Noble Best Student Paper Award** was awarded to Rachael A. Hoch for the paper entitled “Beaver and Mill Dams Alter Freshwater Mussel Habitat, Growth and Survival In North Carolina Piedmont Streams”. The paper was coauthored by Megan A. McCormick, Chris B. Eads, Michael D. Madritch, and Michael M. Gangloff. Rachael will receive a monetary award of up to \$600 from the Chapter’s Ichthus fund for travel to present the paper at the 2013 parent society meeting in Little Rock, Arkansas.



Chapter President Chris Wood and Dr. Richard Noble presenting the 2013 Richard L. Noble Best Student Paper Award to Rachael Hoch.



Chapter President Chris Wood presenting the 2013 W. Don Baker Memorial Best Professional Paper to Bryn Tracy.

The 2013 **W. Don Baker Memorial Best Professional Award** was awarded to Bryn Tracy for the paper entitled “Removing a Stream from the 303(d) List – The Richland Creek Fish Re-introduction Project”. The paper was coauthored by Ed Williams.

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 2013 award was presented to Mr. Kim Baker who has worked tirelessly for the AFS at the chapter, Southern Division, and national levels over his career.

Kim has been an NCAFS Chapter member for many years, and he served the Chapter as Secretary-Treasurer from 2000 to 2002 and served on the Newsletter Committee since 2009. Kim has been a member of the North Carolina and South Carolina AFS Chapters since their inceptions, and he is a long-standing member of the AFS parent society. Besides serving as Secretary-Treasurer and on the Newsletter Committee of

the NCAFS Chapter, Kim worked tirelessly as an avid procurer of raffle items for recent NCAFS and AFS Southern Division (SDAFS) raffles, including the largely successful one at the 2010 SDAFS Meeting in Asheville, NC. He served as the Raffle Chair of the 1999 National AFS Meeting which was a highly successful meeting.



Chapter President Chris Wood presenting the Distinguished Service Award to Kim Baker.

The **Fred A. Harris Fisheries Conservation Award** recognizes non-Chapter members who have distinguished themselves by service or commitment to the Chapter or to the fisheries resources of North Carolina. The 2013 award was presented to Mr. Tim Gestwicki of the North Carolina Wildlife Federation.

Mr. Gestwicki was recognized for his dedicated work as an advocate for fisheries and wildlife conservation in North Carolina. He has worked diligently to protect clean water and high-quality fisheries and wildlife habitat to benefit current and future generations of North Carolinians. Mr. Gestwicki has demonstrated outstanding leadership and environmental stewardship in his tenure with the North Carolina Wildlife Federation.

The North Carolina Wildlife Federation has been a vital organization that has led the way in conserving and protecting fisheries and wildlife habitat within North Carolina. Throughout his career, Mr. Gestwicki has worked diligently on public policy, resource management, and legislation as they related to fisheries, wildlife, water quality, and the public's access to wildlife resources. He spearheaded conservation efforts with the state "Wildlife Land Property Tax Changes" legislation and the federal Farm Bill in 2008 which helped protect wildlife and wetlands habitat. In addition, he led the Federation's successful efforts to build a coalition opposing the Navy's Outlying Landing Field in Washington and Beaufort counties in 2008. This massive project would have been located near Pocosin Lakes National Wildlife Refuge and would have seriously impacted critical waterfowl and wetlands habitat in eastern North Carolina. Mr. Gestwicki was instrumental in successfully opposing a flawed EIS for the Monroe Bypass during 2012 which would have serious potential impacts on Goose Creek aquatic habitat and the federally endangered Carolina heelsplitter. He led the Federation's efforts in the North Carolina Teaming with Wildlife Coalition which works to prevent wildlife from becoming endangered by securing full state and federal funding for the implementation of the North Carolina Wildlife Action Plan.



Chapter President Chris Wood and Fred Harris presenting the Fred A. Harris Fisheries Conservation Award to Tim Gestwicki.

Finally, the Chapter recognized outgoing president, Chris Wood for his hard work, dedicated efforts, and outstanding leadership to the Chapter. A big thanks to Chris for his outstanding leadership to the Chapter during 2012!



Incoming Chapter President Greg Cope presents the Certificate of Appreciation to outgoing President Chris Wood for a job well done for leading the Chapter in 2012.

Congratulations to all of these award recipients for a job well done!

Submitted by John Crutchfield, NCAFS Awards Committee Chair

Environmental Concerns Committee

Volunteer Needed to Serve as Chair of the Environmental Concerns Committee

The Chair of this committee works in close contact with the Chapter President and Officers to draft letters containing position statements or resolutions concerning fisheries and aquatic resource issues in North Carolina. These issues represent the diverse interests of the Chapter membership. Duties and activities are only conducted on an as needed basis for position statements, letters, and resolutions. Therefore, the time commitment is not great. There are absolutely NO job conflict of interest implications for serving on this committee because anything developed comes from the Chapter—not the Chair's or any member's employer and thus does not represent their employers' position on any issue. Please call Greg Cope at 919-515-5296 or e-mail greg_cope@ncsu.edu to volunteer or to discuss this position further.

Submitted by Greg Cope, NCAFS Chapter President

NCSU Student Subunit Report

For the latest information on the **2013 NCSU Student Fisheries Society Calendar**, please go to <http://clubs.ncsu.edu/sfs/>. Don't forget about our monthly meetings scheduled for the first Tuesday of each month, Raleigh, NC.

Submitted by Jared Flowers and Kelsey Lincoln, SFS co-presidents

North Carolina's Imperiled Fish Fauna, Part X

Submitted by Bryn H. Tracy, Fred C. (Fritz) Rohde, Wayne C. Starnes, Ryan J. Heise, and Brena Jones on behalf of the NCWRC's Scientific Council of Fishes

As mentioned in the Chapter's 2010-2012 newsletters, there are approximately 215 indigenous, described, and undescribed species of strictly freshwater fishes in North Carolina. Of these, 26% are considered imperiled as 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 10th 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.

“Thinlip” Chub, *Cyprinella* sp. cf. *zanema* (an undescribed taxon)
Current Status: Special Concern, Proposed Status: Threatened



Photograph courtesy of Fritz Rohde.

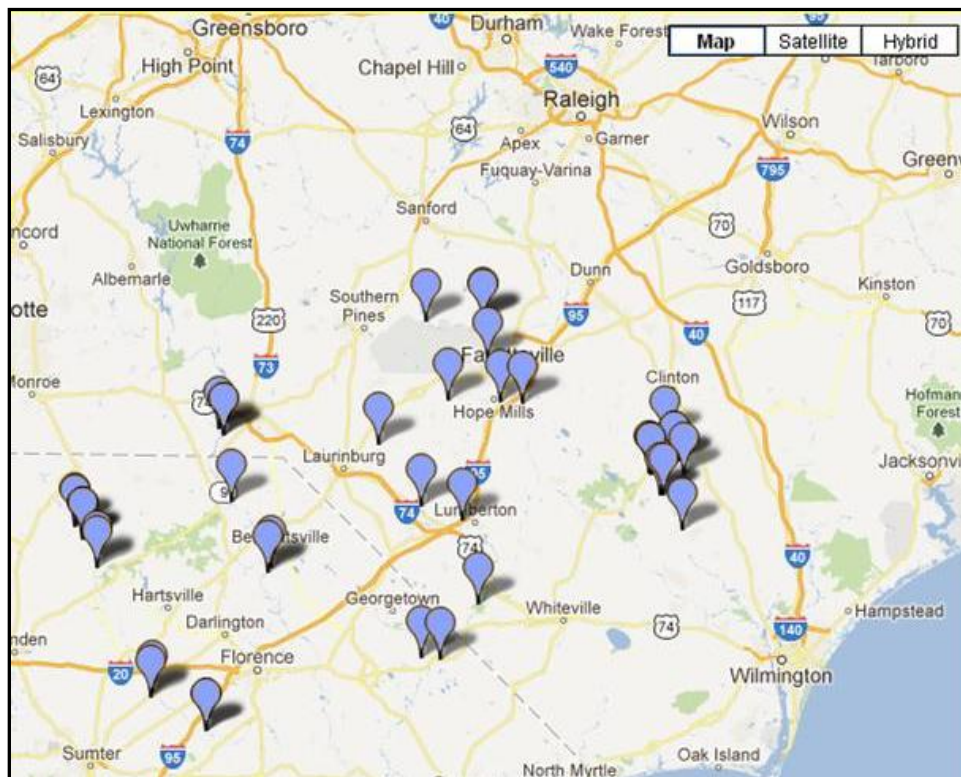
Type Specimen and Type Locality – This species of cyprinid has not been formally described, but has been known to researchers since the early 1970s (Menhinick et al. 1974; Jenkins and Lachner 1980). Upon scientific description, a type specimen and type locality will be so designated. The earliest known vouchered records at the North Carolina State Museum of Natural Sciences (NCSM) for the “Thinlip” Chub go back to 1962. During that year, specimens were collected from two sites on Rockfish Creek, a tributary to the Cape Fear River, in Cumberland County as part of the NCWRC’s state-wide survey of fishes (NCSM 5512 and NCSM 55864; Starnes and Hogue 2011). Two unvouchered specimens were apparently collected in 1961 and reported as Thicklip Chub, *Cyprinella labrosa*, (Louder 1962) from the Lumber River at Fair Bluff in Columbus County (Starnes and Hogue 2011).

Description – The “Thinlip” Chub is a barbeled *Cyprinella* with an inferior mouth. It is slender and elongate with a compressed body that is deepest at the nape and flattened below. It is pale with a dusky lateral stripe and the dorsal scales are lightly outlined with dark brown. The origin of the dorsal fin is behind the origin of the pelvic fin. It has large eyes, 8 anal rays, 38 or 39 lateral line scales, and 1,4-4,1 pharyngeal teeth. Adults range from approximately 45 to 85 mm total length (Rohde et al. 2009).

The “Thinlip” Chub is highly similar in appearance to the Santee Chub, *Cyprinella zanema*. However, the “Thinlip” Chub is confined to the Sand Hills and Coastal Plain of the Cape Fear and Pee Dee rivers, whereas the Santee Chub is found in the Piedmont and Eastern Blue Ridge Foothills of the Santee River drainage (Rohde et al. 2009). Tentatively considered to be a subspecies of the Santee Chub (Jenkins and Lachner 1980) based upon minor morphological differences, recent DNA work suggests that it deserves species status (Rohde et al. 2009).

Range – In North Carolina, the “Thinlip” Chub is endemic to upper Coastal Plain streams of the Cape Fear River drainage (Little River in Cumberland, Hoke, and Moore counties; Rockfish Creek in Hoke County; and the South and Black rivers in Bladen and Sampson counties), the Lumber River drainage from near Wagram downstream to near Fair Bluff near the state line, and the Pee Dee River below Blewett Falls Reservoir (Menhinick 1991; NCSM records). In South Carolina, the species is endemic to the Lumber River, Lynches River, Little Lynches River, the Little Pee Dee River, and the

Pee Dee River at the junction of Thompson Creek and downstream (Rohde et al. 2009: NCSM records). Its distribution shows an interesting parallel with that of the “Broadtail” Madtom (please refer to the Chapter’s September 2012 newsletter).



Distribution of the “Thinlip” Chub in the Carolinas. Map is based upon the North Carolina State Museum of Natural Sciences database, queried August 27, 2012.

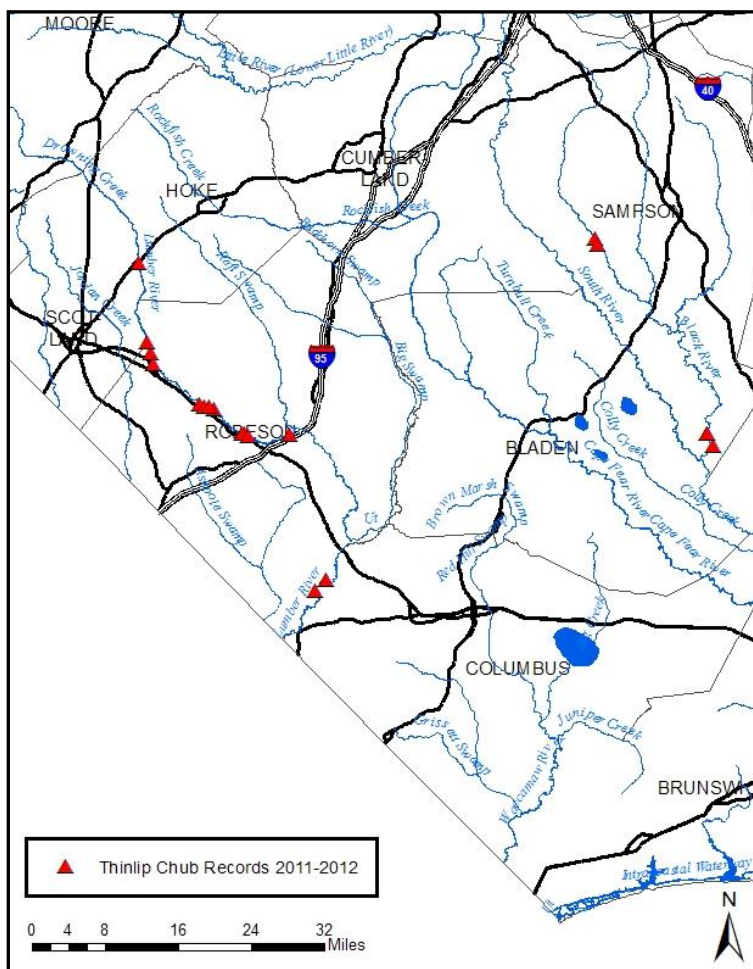
Habitat - Prefers pool areas of medium-sized streams with moderate velocity, over sandy substrate; it often schools near stumps or other cover. In the Lynches River, fish have been taken over gravel-bottom riffles and more commonly, in sand-bottom runs (Rohde et al. 2009).

Life History and Ecology - Little is known of the life history and ecology of the “Thinlip” Chub. Based upon nuptial coloration, it probably spawns from mid- to late summer (Rohde et al. 2009). Stomach contents of fish from the Lynches River in May 1996 contained primarily dipteran larvae; mayfly and stonefly nymphs and caddisfly larvae were of minor importance (Rohde et al. 2009).

Rationale for Designation - During the late 1970s, the “Thinlip” Chub was very common in the Black River in Sampson County. However, spills from concentrated animal feeding operations in the 1980s and 1990s may have been responsible for drastically reducing its numbers in this river (F. C. Rohde pers. com. July 2009). Abundance seems to vary widely in some other streams from which it has been recorded over the years and, in some years, considerable targeted efforts may fail to yield specimens, indicating that populations occasionally drop below detection levels and therefore

possibly to the brink of extirpation. This species is important to our understanding of the systematics and biogeography of *Cyprinella*. Because of its restricted distribution and habitat and water quality degradation in the Black River, the “Thinlip” Chub is assigned State Threatened status.

Recommendations - Appropriate systematic studies and research on its biology need to be undertaken. Status surveys have been recently conducted by Brena Jones and Ryan Heise with the North Carolina Wildlife Resources Commission. In addition, there should be an effort to enforce water quality standards for the South River and other streams where it occurs. Even though the Black River from its source to the Cape Fear River and the South River from Big Swamp to the Black River are supplementally classified as Outstanding Resource Waters by the North Carolina Division of Water Quality, there have been apparent declines of this species in those areas. Its occurrence in streams affected by increasing developmental pressure and runoff from confined animal operations, necessitates special steps be taken to control pollution in the South and Lumber rivers.



Extant populations of the “Thinlip” Chub in the Black River and Lumber River, North Carolina, based upon collections made by the North Carolina Wildlife Resources Commission (NCWRC) in 2011 and 2012. Sites where the “Thinlip” Chub was surveyed for, but not found, are not shown. Map is based upon the NCWRC database, queried by Brena Jones, September 21, 2012.

Literature Cited and Recommended Readings

- Harris, F. A., and 14 authors. 2010. 2010 reevaluation of status listings for jeopardized freshwater fishes in North Carolina. Report of the scientific council on freshwater fishes. Submitted to the Nongame Advisory Committee to the North Carolina Wildlife Resources Commission. November 2010. North Carolina Wildlife Resources Commission, Raleigh, NC.
- Jenkins, R. E., and E. A. Lachner. 1980. *Hybopsis zanema* (Jordan and Brayton), Santee Chub. Page 197. Lee, D. S., Gilbert, C. R., Hocutt, C. H., Jenkins, R. E., McAllister, D. E., and J. R. Stauffer, Jr. eds. Atlas of North American freshwater fishes. North Carolina State Museum of Natural History. Raleigh, NC. i-x + 854 pp.
- Louder, D. E. 1962. Survey and classification of the Lumber River and Shallotte River, North Carolina. Final Report, Federal Aid in Fish Restoration, Job I-C, Project F-14-R. North Carolina Wildlife Resources Commission, Raleigh. 12 pp plus figures and appendices.
- Menhinick, E. F., Burton, T. M. and J. R. Bailey. 1974. An annotated checklist of the freshwater fishes of North Carolina. The Journal of the Elisha Mitchell Scientific Society. 90:24-50.
- Menhinick, E. F. 1986. A numerical method for ranking of endangered species and its application to North Carolina freshwater fishes. The Journal of the Elisha Mitchell Scientific Society. 102:54-86.
- _____. 1991. The freshwater fishes of North Carolina. North Carolina Wildlife Resources Commission. Raleigh, NC. 227 pp.
- Rohde, F. C., Arndt, R. G., Foltz, J. W., and J. M. Quattro. 2009. Freshwater fishes of South Carolina. University of South Carolina Press, Columbia, SC. 430 pp.
- Starnes, W. C. and G. M. Hogue. 2011. Curation and databasing of voucher collections from the North Carolina Wildlife Resources Commission 1960s statewide survey of fishes. Final report. Federal Aid in Sport Fish Restoration Project F-91: Curate Fish Collection. July 2008-December 2010. Prepared for North Carolina Wildlife Resources Commission, Raleigh, NC. 1,035 pp.
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Spotlight on Students and Young Professionals

Laura Belica

Laura Belica is among the newest graduate students at NC State, but she's not new to the fisheries field — she's followed an interesting path to her current professional niche. Laura grew up on the Columbia River in Washington and water skied over those great white sturgeon, but didn't know back then that fish were to be her destiny. In college at Boston University, she skipped around majors awhile, settling in on the environmental sciences and earning that degree. She then returned west to Washington, completing internships, some university coursework, and various experiential jobs with amphibians, salmon, and wilderness ecology to hone her interests.

This new sense of direction led her to pursue and complete a Master's degree at the University of Wyoming. She was advised by Dr. Frank Rahel and studied habitat relations and migration of native nongame fish assemblages in high plains streams. Now a master, she was employed doing a number of interesting jobs, working on sustainable watershed management in Kenya (yep, that's in Africa!) with USAID, conservation assessments of mountain west native stream fishes with the U.S. Forest Service, as a fisheries biologist at Great Basin National Park in Nevada, and serving on the Bonneville Cutthroat Trout Conservation Committee. But if you like the outdoors and seek a good education in fisheries and aquatic ecology — all roads lead to North Carolina!

So Laura began her doctoral studies at NC State last fall. She's advised by Tom Kwak and Greg Cope (former and current Chapter presidents), and is pursuing research on the fascinating robust redhorse and contaminant ecology in the aquatic food web of the Yadkin-Pee Dee River basin. She's working on a collaborative project funded by the NC Wildlife Resources Commission studying the dynamics of both traditional pollutants (e.g., organic pesticides, heavy metals) and emerging contaminants (e.g., endocrine disrupters, pharmaceuticals) in the river ecosystem and how they affect sport fishes and imperiled nongame species.

When Laura's not pursuing her education or career in fisheries, you might find her taking photos of her beautiful 5-year-old daughter Elizabeth, while hiking in some wild place with her husband Zak and their dog Maddie. She's an avid outdoorswoman — working on trading in her skis for a canoe or kayak, and enjoying the diverse scenery from the mountains to the coast at her new Carolina home. Welcome to the NC Chapter, Laura!

Laura Belica hiking in the Snake Mountains of Nevada before coming to NC State for graduate school.

Rain gear in the high desert? Isn't that an outdoor oxymoron?



Submitted by Tom Kwak and Greg Cope

Education and Outreach Committee

The Education and Outreach committee was excited to have Dr. Tim King with the USGS come talk to the chapter about genetics and how they can be applied to the fisheries world during the 2013 annual meeting workshop. The workshop was attended by over 60 people and turned out to be a great success!! We really want the workshops to be focused towards interests of the chapter, so if any member has ideas for the 2014 annual chapter workshop please send me an email jessica.baumann@ncwildlife.org.

The committee would like to acknowledge and send a round of applause to Kim Sparks for her efforts on making our new chapter website live. Since some of the committee members barely know how to navigate the internet, creating a live website was a bit of a challenge until Kim took the reins so THANK YOU!!

The other new bit of news from the committee is the podcasting of the 2013 annual meeting presentations. For those of you that are unfamiliar with podcasting, you can check out the podcasts from the 2013 Southern Division meeting (<http://sdafs.org/spring-meeting-2013/podcasts-nashville-tn/>). The NC chapter podcasts will be formatted the same way and hopefully by the next newsletter we will be able to announce where they are located on the website.

Submitted by Jessica Baumann, NCAFS Education and Outreach Committee Chair

Prehistoric cupules - please be on the lookout

Tom Whyte, archaeologist at Appalachian State University, seeks knowledge of any unnaturally pitted boulders in or along the rivers of North Carolina. Prehistoric petroglyphs consisting of singular or multiple "cupules" have been found in and along the Hiwassee River in Clay and Cherokee Counties, on the Dan River in Stokes County, on the Mayo River in Rockingham County, and on the South Fork of the New River in Ashe County.



Whyte's goal is to locate and document these glyphs and obtain three-dimensional scans of them before they are further eroded. If you discover a boulder or rock outcrop with cupules, please take a photo and get GPS coordinates if possible, and send them to Tom Whyte (whytetr@appstate.edu). Thanks!

Submitted by Dave Coughlan, Duke Energy

2013 NCAFS Annual Meeting News

President Cope spoke earlier in the newsletter about the annual meeting. In addition to being a great meeting, we also had the pleasure of being visited by two famous individuals. For those of you not able to make this year's meeting, we wanted to share a couple of star studded photos to peak your interest for next year.



Dale Jr. made an appearance and had some interesting stories to tell, although he seemed a little duller than I would have imagined – almost two dimensional if you know what I mean.

Also, the group was given a tutorial on how to live in the wild and talk to animals by none other than James “Grizzly” Adams himself. Although Ben was detained by the TSA and not able to make the trip, it was still a real treat.



We wish Grizzly all the best on his future adventures in the wild northwest!

Meetings of Interest

2013 NCSU Student Fisheries Society- First Tuesday of each month, Raleigh, NC.
<http://clubs.ncsu.edu/sfs/>

143rd Annual Meeting of the American Fisheries Society- September 8-12, 2013,
Little Rock, AR. <http://afs2013.com/>

Wild Trout XI- October 1-4, 2013, Old Faithful Inn, Yellowstone National Park, USA.
<http://www.wildtroutsymposium.com/wildTroutXI.php>

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/>. You can subscribe to the NCAFS list serve at ncafs@lists.fisheries.org , and check out the podcasts from the 2013 SDAFS meeting at <http://sdafs.org/spring-meeting-2013/podcasts-nashville-tn/>
